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Increases in Stress and Adverse Childhood Experiences Are Associated With the
Co-occurrence of Anxiety and Depression in Oncology Patients

by
Catherine Coupe

THESIS
Submitted in partial satisfaction of the requirements for degree of
MASTER OF SCIENCE

in

Nursing

in the

GRADUATE DIVISION
of the
UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

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Acknowledgements

I would like to express sincere gratitude to:

- Dr. Christine Miaskowski, for your mentorship, guidance and breadth of knowledge.
- My thesis committee members, Dr. Sueann Mark and Professor Astrid Block for your continual encouragement and support.

Contributions

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- This study was funded by a grant from the National Cancer Institute (CA134900).

- Disclosure statement: The authors have no conflicts of interest to disclose

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Catherine Coupe

ABSTRACT

Purpose: Identify subgroups of patients with distinct joint anxiety AND depression profiles and evaluate for differences in demographic and clinical characteristics, as well as stress, resilience, and coping.

Design: Longitudinal study

Participants: Patients (n=1328) receiving chemotherapy.

Methods: Measures of state anxiety and depression were done six times over two cycles of chemotherapy. All of the other measures were completed prior to second or third cycle of chemotherapy. Latent profile analysis was used to identify the distinct joint anxiety and depression profiles.

Findings: Three classes were identified (i.e., Low Anxiety and Low Depression (57.5%); Moderate Anxiety and Moderate Depression (33.7%), High Anxiety and High Depression (8.8%)). For all of the stress measures, a dose response effect was seen among the profiles. Two worst profiles reported higher occurrence rates for a number of adverse childhood experiences.

Implications for Providers: Patients need referrals for stress reduction techniques and mental health and social services.

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INTRODUCTION

“Psychological distress” is a common term in the oncology literature and often includes the co-occurrence of anxiety and depression.¹ In the National Comprehensive Cancer Network’s Distress Management guideline,² anxiety and depression are listed as both risk factors for and symptoms of distress. Occurrence of anxiety and/or depression in oncology patients results in delays in treatment;³ reductions in treatment adherence; increased risk for disease recurrence and mortality, and an increased risk of suicide.⁴

Prevalence rates suggest that a large amount of inter-individual variability exists in the occurrence of one or both symptoms. For example, in one meta-analysis,⁵ pooled prevalence of depression, defined using the Diagnostic and Statistical Manual of Mental Disorders (DSM) or International Classification of Diseases (ICD) criteria, was 16.5%. Across studies, 9.6% of patients met the DSM criteria for minor and 14.3% for major depression. Overall prevalence rate for an anxiety disorder was 10.3%. While the exact prevalence rate was not reported, the authors noted that “combination diagnoses” were common.

In another meta-analysis,⁶ when a diagnostic interview was done, 13% of oncology patients had a clinical diagnosis of depression. However, when other assessment methods were used, prevalence rates for depression ranged from 4% to 49%. For example, while 14% of patients receiving active treatment had depressive symptoms, the rate ranged from 7% to 49% for patients receiving palliative care. While studied less frequently, in one systematic review,⁷ prevalence rates for anxiety in patients with ovarian cancer ranged from 19% prior to treatment to 26% during treatment.

Studies that evaluated the co-occurrence of anxiety AND depression, sometimes referred to as “mixed anxiety and depression” are limited. For example, in a large study of oncology outpatients,¹ 11.7% met the threshold criteria for anxiety, 6.0% for depression, and 12.4% for “mixed” anxiety and depression. Risk factors for membership in the mixed group

included: younger age, being white, and being male. In a study of patients with breast cancer,⁸ 45% had clinically meaningful levels of both symptoms. Risk factors associated with their co-occurrence included: younger age, being non-white, having a lower functional status, and receiving neoadjuvant or adjuvant chemotherapy. In addition, these patients reported less support from family members and friends to meet their needs and greater difficulty dealing with their disease and associated treatments.

In one review on depression and anxiety,⁶ the authors argued that, given the paucity of high-quality studies on the co-occurrence of anxiety and depression in oncology patients and survivors, research on this condition is a clinical priority. Limited evidence suggests that a variety of factors interact to influence the co-occurrence of anxiety and depression. Some of these risk factors include patient characteristics (e.g., age, gender); characteristics of the cancer (e.g., prognosis); cancer treatments (e.g., side effects, costs); prior psychological factors (e.g., personality); psychological responses to the cancer diagnosis (e.g., anger, coping behavior); and social and contextual factors (e.g., social support, stressful life events (SLEs)).

While a cancer diagnosis and associated treatments are known to be stressful experiences, research on the associations between anxiety and/or depression and stress are limited. In terms of anxiety, we used latent profile analysis (LPA) to evaluate for associations between distinct anxiety profiles and stress and resilience in patients receiving chemotherapy.⁹ Compared to patients with low levels of anxiety, patients with Moderate, High, and Very High anxiety profiles reported higher levels of global, cancer-specific, and cumulative life stress (including adverse childhood experiences (ACEs)) and lower levels of resilience. Using the same analytic technique, we evaluated for distinct depression profiles and associations with stress and resilience.¹⁰ Compared to the None class, patients in the Subsyndromal, Moderate, and High depression classes had higher levels of stress and lower levels of resilience. These findings provide the first evidence of associations between the single symptoms and three

distinct types of stress, as well as resilience. However, neither of these studies evaluated for associations between the single symptoms and specific SLEs and ACEs or coping behaviors.

Given the paucity of research on the co-occurrence of anxiety AND depression in oncology patients and its association with stress, resilience, and coping, study purposes were to identify subgroups of patients with distinct joint anxiety AND depression profiles and evaluate for differences in demographic and clinical characteristics, as well as stress, resilience, and coping.

METHODS

Patients and Settings

For this longitudinal study,¹¹ eligible patients were ≥ 18 years of age; had a diagnosis of breast, gastrointestinal, gynecological, or lung cancer; had received chemotherapy within the preceding four weeks; were scheduled to receive at least two additional cycles of chemotherapy; were able to read, write, and understand English; and gave written informed consent. Patients were recruited from two Comprehensive Cancer Centers, one Veteran's Affairs hospital, and four community-based oncology programs. A total of 2234 patients were approached and 1343 consented to participate (60.1% response rate). The major reason for refusal was being overwhelmed with their cancer treatment.

Instruments

Demographic and clinical characteristics

Patients completed a demographic questionnaire, Karnofsky Performance Status (KPS) scale,¹² Alcohol Use Disorders Identification Test (AUDIT),¹³ and Self-Administered Comorbidity Questionnaire (SCQ).¹⁴ The MAX-2 score was used to evaluate the toxicity of various chemotherapy regimens.¹⁵

State Anxiety and Depression

Spielberger State-Trait Anxiety Inventories (STAI-T and STAI-S) were used to evaluate anxiety.¹⁶ STAI-S measures a person's temporary anxiety response to a specific situation or how

anxious or tense a person is "right now" in a specific situation. STAI-T measures a person's predisposition to anxiety as part of one's personality. Cut-off scores of ≥ 31.8 and ≥ 32.2 indicate high levels of trait and state anxiety, respectively. Cronbach's alphas for the STAI-T and STAI-S were 0.92 and 0.96, respectively.

Center of Epidemiological Studies Scale (CES-D) evaluates the major symptoms in the clinical syndrome of depression.¹⁷ Total score can range from 0 to 60, with scores of ≥ 16 indicating the need for individuals to seek clinical evaluation for depression.¹⁸ Its Cronbach's alpha was 0.89.

Stress, Resilience, and Coping

Perceived Stress Scale (PSS) was used as a measure of global perceived stress according to the degree that life circumstances are appraised as stressful over the course of the previous week.¹⁹ Scores can range from 0 to 56. Its Cronbach's alpha was 0.89.

Impact of Event Scale-Revised (IES-R) was used to measure cancer-related distress.²⁰
²¹ Patients rated each item based on how distressing each potential difficulty was for them during the past week "with respect to their cancer and its treatment." Three subscales evaluate levels of intrusion, avoidance, and hyperarousal. Total score can range from 0 to 88. Sum scores of ≥ 24 indicate clinically meaningful post-traumatic symptomatology and scores of ≥ 33 indicate probable post-traumatic stress disorder (PTSD).²² Cronbach's alpha for the IES-R total score was 0.92.

Life Stressor Checklist-Revised (LSC-R) is an index of lifetime trauma exposure.²³ LSC-R assesses whether each stressful event occurred, at what ages the events occurred, how many times each event occurred, how dangerous the event was, and whether the individual had an intense emotional reaction to the event(s). Total LSC-R score is obtained by summing the total number of events endorsed (range of 0 to 30). If patients endorsed an event, they were asked to indicate how much that stressor affected their life in the past year. These responses were summed to yield a total "affected" sum score. PTSD sum score was created based on the

number of positively endorsed items (out of 21) that reflect the DSM-IV PTSD Criteria A for having experienced a traumatic event.

Connor-Davidson Resilience Scale (CDRS) evaluates a patient's personal ability to handle adversity.^{24, 25} Total scores range from 0 to 40, with higher scores indicative of higher self-perceived resilience. The normative adult mean score in the United States is 31.8 (± 5.4).²⁵
²⁶ Its Cronbach's alpha was 0.90.

Brief COPE was used to assess patients' use of 14 coping strategies.²⁷ Patients rated their use of each coping strategy "since beginning chemotherapy." Scores for each coping strategy can range from 2 to 8, with higher scores indicating greater use of each strategy. Engagement coping strategies included active coping, planning, positive reframing, acceptance, humor, religion, emotional support, and instrumental support.²⁸ Disengagement coping strategies included: self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame.

Study Procedures

Study was approved by the Institutional Review Board at the University of California, San Francisco and each of the study sites. Written informed consent was obtained from all patients. Patients completed the anxiety and depression measures six times over two cycles of chemotherapy (i.e., prior to chemotherapy administration (Assessments 1 and 4); one week following the administration of chemotherapy (Assessments 2 and 5); two weeks after the administration of chemotherapy (Assessments 3 and 6)). All of the other measures were completed at enrollment (i.e., prior to the second or third cycle of chemotherapy). Medical records were reviewed for disease and treatment information.

Data Analysis

LPA was used to identify subgroups of patients with distinct joint state anxiety AND depression profiles. Using Mplus version 8.4,²⁹ this LPA was done with the combined set of

variables over time (i.e., using the STAI-S AND CES-D scores obtained during the six assessments in a single LPA). This approach provides a profile description of these two symptoms with parallel profiles over time.

Model fit was evaluated to identify the solution that best characterized the observed latent class structure with the Bayesian Information Criterion, Vuong-Lo-Mendell-Rubin likelihood ratio test, entropy, and latent class percentages that were large enough to be reliable.³⁰ Missing data were accommodated for with the use of the Expectation-Maximization algorithm.³¹ Additional analyses were done using SPSS version 28 (IBM Corporation, Armonk, NY). Bonferroni corrected p-value of <0.017 was considered statistically significant for the three possible pairwise contrasts (i.e., .05/3).

RESULTS

Latent Class Solution

The rationale for the selection of the 3-class solution is described in Table 1. The classes were named based on clinically meaningful cutpoints for state anxiety and depression. As illustrated in Figure 1, of the 1328 patients, 57.5% were in the Low Anxiety and Low Depression class (Both Low); 33.7% in the Moderate Anxiety and Moderate Depression class (Both Moderate); and 8.8% in the High Anxiety and High Depression class (Both High).

Demographic and Clinical Characteristics

Compared to Both Low class, the other two classes were younger; more likely to self-report being of Hispanic, Mixed race or other ethnicity; more likely to live alone, and more likely to be unemployed (Table 2). Compared to Both Low class, Both High class was more likely to report a past or current history of smoking and self-reported having lung disease, ulcer or stomach disease, or anemia or blood disease.

Differences among the three classes in being unmarried or partnered and having a lower annual income followed the same pattern (Both Low < Both Moderate < Both High). In terms of

clinical characteristics, differences among the three classes in KPS scores (Both Low > Both Moderate > Both High) and number of comorbidities, SCQ scores, and the occurrence of depression and back pain (Both Low < Both Moderate < Both High) followed similar patterns.

Stress and Resilience

Differences among the classes in PSS, IES-R total and intrusion, avoidance, and hyperarousal subscales, and LSC-R total, affected sum, and PTSD sum scores followed the same pattern (i.e., Both Low < Both Moderate < Both High; Table 3). Differences among the three classes in CDRS scores were as follows: Both Low > Both Moderate > Both High.

Occurrence of Life Stressors

Compared to Both Low class, the other two classes reported higher occurrence rates for physical abuse at <16 years, physical abuse at ≥ 16 years, being forced to touch at < 16 years, and being forced to touch at ≥ 16 years (Table 4). Compared to the other two classes, Both High class reported higher occurrence rates for family violence in childhood and physical neglect. Compared to Both Low class, Both High class reported higher occurrence rates for sexual harassment, forced sex ≥ 16 years, having a family member in jail, having a serious physical or mental illness other than cancer, and caring for someone with a severe physical or mental handicap. Differences among the three classes in the occurrence rates for emotional abuse and serious money problems followed the same pattern (i.e., Both Low < Both Moderate < Both High).

Effects of Life Stressors

Compared to Both Low class, the other two classes reported higher effect scores for been in a serious accident, having serious money problems, being separated from a child, caring for someone with a severe physical or mental handicap, experiencing the sudden death of someone close, and experiencing the death of someone closed that was not sudden (Table 5). Compared to Both Low class, Both High class reported higher effect scores for family

violence in childhood, physical abuse at ≥ 16 years, forced to touch at < 16 years, seeing in a serious accident, being separated/divorced, and seeing a robbery/mugging. Differences among the three classes in the effect of emotional abuse was as follows: Both Low $<$ Both Moderate $<$ Both High.

Coping

In terms of the engagement coping strategies, compared to Both Low class, the other two classes reported lower scores for active coping, positive reframing, and acceptance (Table 6). Compared to Both Low class, Both High class reported lower scores for use of emotional support. In terms of disengagement strategies, compared to Both Low class, other two classes reported higher scores for the use of self-distraction and substance use. For the use of denial, behavioral disengagement and venting, the scores followed the same pattern (Both Low $<$ Both Moderate $<$ Both High).

DISCUSSION

This study is the first to identify subgroups of patients with distinct joint anxiety AND depression profiles and evaluate for differences among the classes in stress, resilience and coping. While albeit limited, the reported rates for “mixed anxiety and depression” in oncology patients range from 12.4%¹ to 45%.⁸ In the current study, 42.5% of the patients experienced moderate to high levels of both symptoms. Reasons for this wide range in prevalence rates may be related to differences in sample sizes; instruments used to assess anxiety and depression; and/or different definitions of caseness.

Longitudinal design allowed for an examination of changes in the trajectories of anxiety and depression during chemotherapy. For Both Low and Both Moderate classes, anxiety and depression scores remained relatively stable. However, for Both High class, while the depression scores remained relatively stable, anxiety scores decreased initially and then increased over time. Findings regarding changes in anxiety and depression in oncology patients

are inconsistent. For example, in a study that evaluated newly diagnosed patients on their first day of chemotherapy and again at the middle and end of treatment,³² clinically significant levels of anxiety and depression decreased from the beginning to the end of treatment. Authors suggested that the severity of both symptoms decreased as patients became more familiar with the treatment. In another study, that evaluated patients with ovarian cancer after the completion of their first cycle and at the end of chemotherapy,³³ while depression scores decreased, anxiety scores increased. Given these inconsistent findings, additional longitudinal research is warranted on the co-occurrence of both symptoms across the continuum of cancer care.

Global and Cancer-Specific Stress

All of the stress measures exhibited a dose response effect (i.e., as the anxiety AND depression profiles worsened, all of the stress scores increased; Table 3). In terms of global stress, no clinically meaningful cutoff score is available for the PSS. However, scores for our Both High class were comparable to those reported by patients who were assessed within three to six months following breast cancer surgery.³⁴ In terms of cancer-specific stress, patients in Both Moderate and Both High classes had IES-R total scores suggestive of PTSD symptomatology and probable PTSD, respectively. These high scores are of concern in patients receiving chemotherapy because in a sample of men with a past history of PTSD,³⁵ IES-R scores of ≥ 24 were associated with immunosuppression.

As noted in a meta-analysis,³⁶ prevalence rates for PTSD in oncology patients vary from 7.3% to 13.8%. This range is lower than the 20.6% to 66.1% found for patients in the Both Moderate and Both High classes. Plausible explanation for these higher rates of PTSD include that our patients were undergoing chemotherapy and were experiencing a high symptom burden of between 8 to 23 unrelieved symptoms (out of a total of 38).³⁷

Implications of the strong associations among anxiety, depression, and stress warrant careful consideration. In a review of neuroimaging studies that examined the relationships between “negative affect” (i.e., distress) and changes in metabolism or structure of brain

regions,³⁸ cancer patients showed changes in function and/or structure in key brain regions (e.g., prefrontal cortex, amygdala, thalamus, hippocampus, hypothalamus, insula, basal ganglia) that are associated with greater anxiety, depression, PTSD, and stress. The authors noted that knowledge of these inter-relationships provides insights into the effects of various psychological factors on peripheral stress-related pathways that are known to contribute to cancer progression and poorer long-term health outcomes. This information supports the need for the prescription of stress management interventions for a substantial number of oncology patients.

Stressful Life Events (SLEs)

In addition to the high levels of global and cancer-specific stress, particularly in Both High class, the number and effects of SLEs suggest that these patients were experiencing extremely high levels of stress. While the mean number of stressors reported by the Both High class was 8.0, 25% of these patients experienced between 11 and 23 stressors. Of note, occurrence rates for experiencing family violence in childhood, physical neglect, sexual harassment, having a serious mental or physical illness, caring for someone with a severe physical or mental handicap, or having a family member who was incarcerated were significantly higher in Both High class compared to Low class.

An examination of the specific SLEs, suggest trends in higher occurrence rates for specific stressors in Both Moderate and Both High classes. One specific trend is the higher occurrence rates for adverse childhood experiences (ACE's). These stressors are described as traumatic experiences that overwhelm an individual's ability to cope at the time of its occurrence. They are associated with negative physical and psychological health outcomes, as well as with difficulty developing positive coping behaviors.^{39, 40}

It is well established that exposure to ACE's increases the risk for major depression and anxiety in adulthood.⁴¹ The experience of SLEs results in increases in inflammation and allostatic load that are associated with the occurrence of a variety of chronic conditions including

cancer.⁴² As noted in one meta-analysis,⁴³ compared to patients with no ACEs, individuals with 2 or 3 kinds of ACEs or at least 4 ACEs had a 1.35 to 2.17 increased risk of cancer, respectively. Among the ACEs that were evaluated in this review and found in our sample, physical abuse, sexual abuse, exposure to intimate partner violence, and financial difficulties were associated with an increased risk for cancer in adulthood. Equally important, in one population-based study,⁴⁴ a synergistic effect was found between exposure to ACEs and being female and the occurrence of a major depression episode and an anxiety disorder.

Resilience

Resilience is defined as an individual's ability to maintain or restore relatively stable physical and psychological functioning when confronted with an adverse experience or SLEs.⁴⁵ Similar to the stress measures, resilience scores demonstrated a dose response effect. Patients in Both Moderate and Both High classes had CDRS scores that were below the normative score for the US population. As noted in one review,⁴⁶ cancer patients with lower levels of resilience had higher levels of psychological distress and poor adjustment to their cancer. In addition, in a review of resilience in survivors of critical illness,⁴⁷ estimates of the occurrence rates for lower levels of resilience ranged from 28% to 67% which is consistent with the 42.5% found in our study. In addition, lower levels of resilience were associated with higher levels of anxiety, depression, and post-traumatic stress.

Coping

Both Moderate and Both High classes reported higher utilization of disengagement and lower utilization of engagement type coping strategies. These findings are consistent with a study of women with breast cancer that reported that higher use of denial and disengagement strategies were associated with higher levels of distress.⁴⁸ Compared to Both Low class, Both High class had lower utilization of emotional support as a coping strategy. This result is consistent with a study of women with breast cancer that found that lower levels of social

support were associated with higher levels of anxiety and depression.⁴⁹ In addition, given that a higher percentage of patients in Both High class were less likely to be married/partnered and more likely to be living alone, as well as less likely to use emotional support suggests that loneliness may contribute to a higher psychological symptom burden. This hypothesis is supported by studies that found positive associations between loneliness and anxiety⁵⁰ and depression.⁵⁰

Demographic and Clinical Characteristics

Consistent with previous reports, younger age,⁵¹ identifying as female,³² and being single³³ were associated with membership in Both Moderate and/or Both High classes. In terms of younger age, this result is consistent with a study that evaluated for mixed anxiety/depression in cancer patients and found significant reductions in the co-occurrence of both symptoms with each 10-year increase in age.¹ As noted in one study,³² younger individuals may have less clearly established social networks; have less experience navigating the healthcare system; and have more challenges with transportation, finances, and child care that contribute to higher levels of depression and anxiety.

Patients in Both Moderate and Both High classes were less likely to be married/partnered and more likely to live alone. Our findings are consistent with the extant literature that demonstrates higher levels of anxiety and depression, as single symptoms, are associated with higher levels of loneliness and social isolation as well as decreases in social support.⁵²

Being unemployed and having a lower annual household income were additional risk factors for being in the two worst profiles. Of note, 23.6% of the patients in these two classes reported an annual income of <\$30,000. In addition, these patients reported higher occurrence rates for “having serious money problems” on the LSC-R. Our results are consistent with a study of ovarian cancer patients that found that lower income was an independent and the most

relevant risk factor for persistent depression following chemotherapy.³³ In addition, in one registry study, co-occurrence of socioeconomic deprivation and multimorbidity was associated with higher rates of depression and anxiety.⁵³

Lower functional status and higher comorbidity burden were found in Both Moderate and Both High classes. These findings are consistent with several reviews that noted positive associations between depression and anxiety and multimorbidity.⁵⁴⁻⁵⁶ Taken together, these demographic and clinical characteristics are often linked with other social determinants of health. While these risk factors are generally not modifiable, these patients warrant referrals to social services for assistance.

Limitations

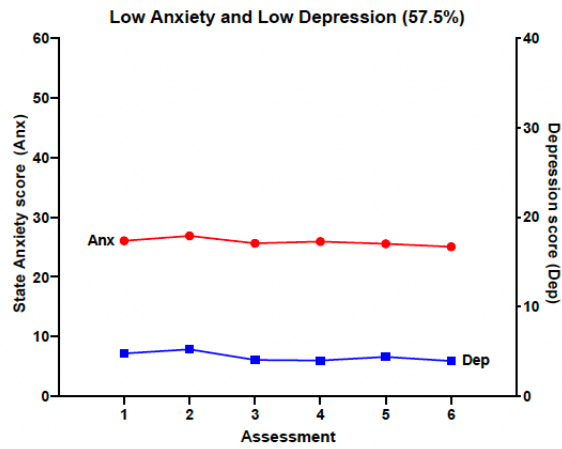
The majority of the sample was white, well-educated, and reported a moderate to high income. Therefore, future studies need to enroll a more diverse sample. Given that the mean age of the sample was in the mid 50's, the co-occurrence of anxiety and depression in younger patients warrants consideration. Finally, the primary reason for lack of participation was being overwhelmed with cancer treatment, which suggests that our findings may underestimate the co-occurrence of these two symptoms in patients receiving chemotherapy.

Implications for Practice

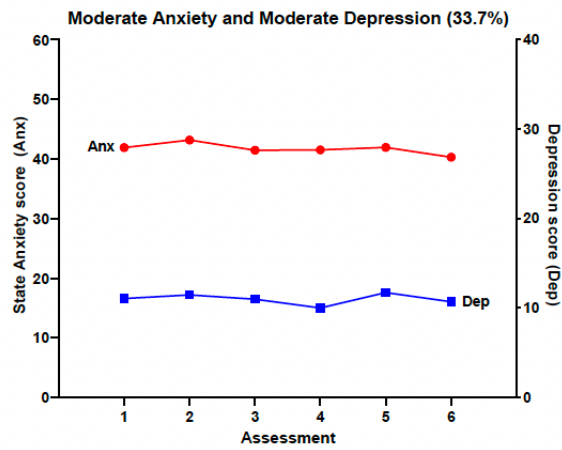
Findings from this study suggest that in addition to assessing for anxiety and depression, clinicians need to assess for SLEs and ACEs on a routine basis. Identification of high-risk patients will allow for the prescription of both pharmacologic and non-pharmacologic interventions for one or both symptoms, as well as for stress. Prescription of timely interventions is a priority because previous research found that while mortality rates were similar in patients with lung cancer who never reported or had treatment for depression, patients without treatment had higher mortality rates.⁵⁷ In addition, clinicians can provide education on the use of engagement coping strategies to reduce symptom burden and stress. High risk patients may

benefit from cognitive behavioral therapy and/or mindfulness-based interventions to establish and build their coping skills. Study findings add support for the need to integrate mental health and social services across the continuum of cancer care.²

A.



B.



C.

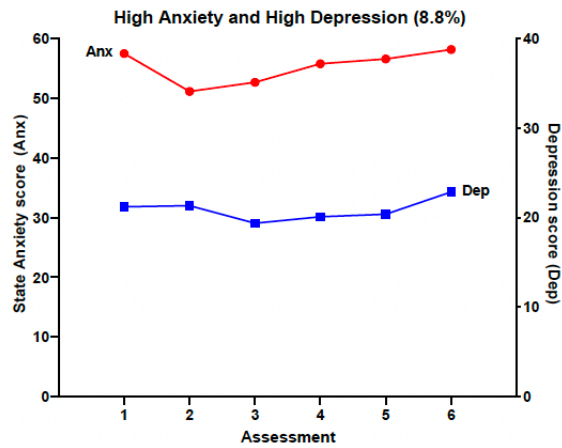


Figure 1 – A comparison of state anxiety and depression scores across six assessment time-points among the three classes. A, Low Anxiety and Low Depression; B, Moderate Anxiety and Moderate Depression; C, High Anxiety and High Depression

Table 1 – Latent Profile Solutions and Fit Indices for One through Four Classes for Spielberger State Anxiety and Center for Epidemiologic Studies Scale Scores

Model	LL	AIC	BIC	Entropy	VLMR
1 Class	-46591.90	93299.80	93600.90	n/a	n/a
2 Class	-45378.07	90898.13	91266.72	0.88	2427.67 ⁺
3 Class ^a	-44844.48	89856.96	90293.04	0.89	1067.17 ⁺
4 Class	-44648.70	89491.40	89994.97	0.87	ns

Baseline entropy and VLMR are not applicable for the one-class solution

+p < .00005

^aThe 3-class solution was selected because the BIC for that solution was lower than the BIC for the 2-class solution. In addition, the VLMR was significant for the 3-class solution, indicating that three classes fit the data better than two classes. Although the BIC was smaller for the 4-class than for the 3-class solution, the VLMR was not significant for the 4-class solution, indicating that too many classes were extracted.

Abbreviations: AIC = Akaike's Information Criterion; BIC = Bayesian Information Criterion; LL = log-likelihood; n/a = not applicable; ns = not significant, VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio test for the K vs. K-1 model

Table 2 – Differences in Demographic and Clinical Characteristics at Enrollment Among the Anxiety and Depression Latent Classes

Characteristic	Low Anxiety and Low Depression (0)	Moderate Anxiety and Moderate Depression (1)	High Anxiety and High Depression (2)	Statistics
	Mean (SD) 57.5% (n=764)	Mean (SD) 33.7% (n=448)	Mean (SD) 8.8% (n=116)	
Age (years)	58.7 (11.9)	55.4 (12.6)	53.6 (12.5)	F = 16.00, p < .001 0 > 1 and 2
Education (years)	16.3 (3.0)	16.1 (3.1)	15.8 (3.1)	F = 1.90, p = .150
Body mass index (kg/m ²)	26.0 (5.2)	26.1 (6.1)	27.3 (6.5)	F = 2.78, p = .062
Alcohol Use Disorders Identification Test score	2.9 (2.2)	3.0 (2.6)	3.4 (3.6)	F = 1.22, p = .295
Karnofsky Performance Status score	83.7 (11.6)	76.1 (12.0)	70.6 (10.9)	F = 96.36, p < .001 0 > 1 > 2
Number of comorbid conditions	2.2 (1.4)	2.5 (1.4)	3.3 (1.6)	F = 32.39, p < .001 0 < 1 < 2
Self-administered Comorbidity Questionnaire score	4.9 (2.9)	5.8 (3.2)	7.9 (4.0)	F = 50.76, p < .001 0 < 1 < 2
Time since diagnosis (years)	2.0 (3.6)	2.1 (4.0)	1.8 (4.7)	KW = 0.93, p = .628
Time since diagnosis (median, years)	0.42	0.42	0.42	
Number of prior cancer treatments	1.6 (1.5)	1.6 (1.5)	1.8 (1.6)	F = 1.02, p = .363
Number of metastatic sites including lymph node involvement ^a	1.3 (1.2)	1.3 (1.3)	1.2 (1.2)	F = 0.06, p = .943
Number of metastatic sites excluding lymph node involvement	0.8 (1.0)	0.8 (1.1)	0.7 (1.1)	F = 0.18, p = .837
MAX2 score	0.17 (.08)	0.18 (.08)	0.18 (0.9)	F = 3.43, p = .033 no significant pairwise contrasts
Gender (% female)	% (n) 74.6 (569)	% (n) 82.1 (368)	% (n) 83.6 (97)	X ² = 11.80, p = .003 0 < 1
Self-reported ethnicity				X ² = 19.82, p = .003
White	71.2 (537)	69.1 (306)	60.5 (69)	NS
Asian or Pacific Islander	12.6 (95)	12.2 (54)	12.3 (14)	NS
Black	8.1 (61)	5.9 (26)	7.0 (8)	NS
Hispanic, Mixed, or Other	8.1 (61)	12.9 (57)	20.2 (23)	0 < 1 and 2
Married or partnered (% yes)	69.4 (522)	60.9 (270)	44.7 (51)	X ² = 29.78, p < .001 0 > 1 > 2
Lives alone (% yes)	18.5 (139)	24.6 (109)	30.7 (35)	X ² = 12.32, p = .002 0 < 1 and 2
Currently employed (% yes)	40.8 (307)	27.8 (124)	24.1 (28)	X ² = 27.22, p < .001 0 > 1 and 2
Annual household income				
Less than \$30,000	12.9 (87)	21.7 (88)	42.5 (45)	KW = 40.76, p < .001 0 > 1 > 2
\$30,000 to \$70,000	20.1 (136)	23.9 (97)	17.9 (19)	
\$70,000 to \$100,000	19.1 (129)	15.3 (62)	9.4 (10)	
Greater than \$100,000	48.0 (325)	39.2 (159)	30.2 (32)	
Childcare responsibilities (% yes)	19.9 (149)	25.0 (109)	26.5 (30)	X ² = 5.59, p = .061
Elder care responsibilities (% yes)	6.6 (46)	10.2 (41)	7.6 (8)	X ² = 4.59, p = .101

Table 2 (Continued) – Differences in Demographic and Clinical Characteristics at Enrollment Among the Anxiety and Depression Latent Classes

Past or current history of smoking (% yes)	33.5 (753)	35.7 (156)	45.7 (53)	$\chi^2 = 6.62, p = .036$ $0 < 2$
Exercise on a regular basis (% yes)	73.8 (555)	67.4 (293)	64.9 (72)	$\chi^2 = 7.68, p = .022$ no significant pairwise contrasts
Specific comorbid conditions (% yes)				
Heart disease	5.8 (44)	6.0 (27)	3.4 (4)	$\chi^2 = 1.19, p = .551$
High blood pressure	31.4 (240)	27.2 (122)	34.5 (40)	$\chi^2 = 3.41, p = .182$
Lung disease	9.8 (75)	12.1 (54)	19.0 (22)	$\chi^2 = 8.68, p = .013$ $0 < 2$
Diabetes	9.0 (69)	8.3 (37)	11.2 (13)	$\chi^2 = 0.99, p = .609$
Ulcer or stomach disease	4.1 (31)	5.1 (23)	9.5 (11)	$\chi^2 = 6.45, p = .040$ $0 < 2$
Kidney disease	0.9 (7)	1.8 (8)	3.4 (4)	$\chi^2 = 5.18, p = .075$
Liver disease	6.7 (51)	6.5 (29)	5.2 (6)	$\chi^2 = 0.38, p = .829$
Anemia or blood disease	10.6 (81)	13.4 (60)	19.0 (22)	$\chi^2 = 7.33, p = .026$ $0 < 2$
Depression	8.8 (67)	26.3 (118)	60.3 (70)	$\chi^2 = 194.86, p < .001$ $0 < 1 < 2$
Osteoarthritis	11.9 (91)	11.4 (51)	15.5 (18)	$\chi^2 = 1.52, p = .468$
Back pain	19.9 (152)	30.4 (136)	45.7 (53)	$\chi^2 = 42.87, p < .001$ $0 < 1 < 2$
Rheumatoid arthritis	3.0 (23)	2.9 (13)	5.2 (6)	$\chi^2 = 1.69, p = .430$
Cancer diagnosis				
Breast cancer	39.7 (303)	39.3 (176)	49.1 (57)	$\chi^2 = 7.45, p = .281$
Gastrointestinal cancer	32.1 (245)	29.9 (134)	21.6 (25)	
Gynecological cancer	17.0 (130)	18.5 (83)	15.5 (18)	
Lung cancer	11.3 (86)	12.3 (55)	13.8 (16)	
Prior cancer treatment				
No prior treatment	26.4 (196)	23.9 (104)	20.9 (24)	$\chi^2 = 11.73, p = .068$
Only surgery, CTX, or RT	40.4 (300)	44.5 (194)	42.6 (49)	
Surgery and CTX, or surgery and RT, or CTX and RT	21.7 (161)	17.4 (76)	16.5 (19)	
Surgery and CTX and RT	11.6 (86)	14.2 (62)	20.0 (23)	
Metastatic sites				
No metastasis	31.9 (241)	32.4 (143)	35.7 (41)	$\chi^2 = 2.89, p = .823$
Only lymph node metastasis	21.4 (162)	22.2 (98)	24.3 (28)	
Only metastatic disease in other sites	22.5 (170)	20.0 (88)	17.4 (20)	
Metastatic disease in lymph nodes and other sites	24.2 (183)	25.4 (112)	22.6 (26)	
Receipt of targeted therapy				
Only chemotherapy	68.4 (514)	71.2 (311)	75.2 (85)	$\chi^2 = 3.74, p = .442$
Only targeted therapy	3.3 (25)	2.3 (10)	3.5 (4)	
Both chemotherapy and targeted therapy	28.2 (212)	26.5 (116)	21.2 (24)	
Cycle length				
14-day cycle	43.2 (329)	41.0 (181)	35.1 (40)	KW = 1.63, p = .444
21-day cycle	49.3 (375)	51.5 (227)	59.6 (68)	
28-day cycle	7.5 (57)	7.5 (33)	5.3 (6)	
Emetogenicity of the CTX regimen	18.9 (144)	19.7 (87)	23.7 (27)	KW = 1.34, p = .512

Table 2 (Continued) – Differences in Demographic and Clinical Characteristics at Enrollment Among the Anxiety and Depression Latent Classes

Minimal/low Moderate High	63.2 (481) 17.9 (136)	58.4 (258) 21.9 (97)	57.0 (65) 19.3 (22)
Antiemetic regimen	7.9 (59) 20.4 (152) 49.6 (370) 22.1 (165)	6.3 (27) 20.3 (87) 46.9 (201) 26.6 (114)	5.4 (6) 23.4 (26) 36.9 (41) 34.2 (38)
None			
Steroid alone or serotonin receptor antagonist alone			
Serotonin receptor antagonist and steroid			
NK-1 receptor antagonist and two other antiemetics			
			X ² = 12.03, p=.061

^aTotal number of metastatic sites evaluated was 9.

Abbreviations: CTX = chemotherapy, kg = kilograms, KW = Kruskal Wallis, m² = meters squared, n/a = not applicable, NK-1 = neurokinin-1, NS = not significant, RT = radiation therapy, SD = standard deviation

Table 3 – Differences in Stress and Resilience Measures at Enrollment Among the Anxiety and Depression Latent Classes

Measures ^a	Low Anxiety and Low Depression (0) 57.5% (n=764)	Moderate Anxiety and Moderate Depression (1) 33.7% (n=448)	High Anxiety and High Depression (2) 8.8% (n=116)	Statistics
	Mean (SD)	Mean (SD)	Mean (SD)	
PSS total score (range 0 to 56)	14.2 (6.0)	22.8 (6.2)	30.4 (6.8)	F = 498.12, p <.001 0 < 1 < 2
IES-R total sum score (≥24 – clinically meaningful PTSD symptomatology) (≥33 – probable PTSD)	13.2 (8.6)	23.4 (11.7)	38.7 (16.9)	F = 332.68, p <.001 0 < 1 < 2
IES-R intrusion	0.6 (0.5)	1.2 (0.6)	1.9 (0.9)	F = 305.91, p <.001 0 < 1 < 2
IES-R avoidance	0.8 (0.6)	1.1 (0.7)	1.5 (0.8)	F = 85.79, p <.001 0 < 1 < 2
IES-R hyperarousal	0.4 (0.4)	0.9 (0.6)	1.8 (0.9)	F = 444.15, p <.001 0 < 1 < 2
LSC-R total score (range 0–30)	5.5 (3.4)	6.6 (4.3)	8.0 (4.9)	F = 21.59, p <.001 0 < 1 < 2
LSC-R affected sum score (range 0-150)	9.6 (8.1)	13.8 (12.6)	20.5 (14.6)	F = 53.63, p <.001 0 < 1 < 2
LSC-R PTSD sum (range 0-21)	2.6 (2.6)	3.6 (3.4)	4.8 (3.7)	F = 32.15, p <.001 0 < 1 < 2
CDRS total score (31.8 (±5.4) – normative range for the United States population)	32.3 (5.2)	27.6 (6.5)	24.9 (6.6)	F = 139.94, p <.001 0 > 1 > 2

Abbreviations: CDRS = Connor Davidson Resilience Scale, IES-R = Impact of Event Scale – Revised, LSC-R = Life Stressor Checklist-Revised, PSS = Perceived Stress Scale, PTSD = post-traumatic stress disorder, SD = standard deviation

^aClinically meaningful cutoff scores or range of scores

Table 4 - Differences Among the Anxiety and Depression Latent Classes in the Percentage of Patients Exposed to Specific Stressors

Stressful Life Event	Low Anxiety and Low Depression (0) 57.5% (n=764)	Moderate Anxiety and Moderate Depression (1) 33.7% (n=448)	High Anxiety and High Depression (2) 8.8% (n=116)	Statistics
	% (n)	% (n)	% (n)	
Interpersonal Violence, Abuse, and Neglect Stressors				
Family violence in childhood	20.3 (125)	26.1 (83)	39.3 (35)	$X^2 = 17.05, p < .001$ $0 \text{ and } 1 < 2$
Emotional abuse	16.1 (100)	26.2 (84)	44.0 (40)	$X^2 = 41.77, p < .001$ $0 < 1 < 2$
Physical neglect	2.9 (18)	6.0 (19)	14.1 (13)	$X^2 = 23.28, p < .001$ $0 \text{ and } 1 < 2$
Sexual harassment	15.3 (94)	21.0 (67)	28.4 (25)	$X^2 = 11.43, p = .003$ $0 < 2$
Physical abuse - <16 years	11.0 (68)	17.5 (56)	25.6 (23)	$X^2 = 17.38, p < .001$ $0 < 1 \text{ and } 2$
Physical abuse - ≥ 16 years	9.5 (59)	19.1 (61)	20.7 (18)	$X^2 = 20.79, p < .001$ $0 < 1 \text{ and } 2$
Forced to touch - <16 years	8.3 (51)	15.8 (50)	19.8 (18)	$X^2 = 17.93, p < .001$ $0 < 1 \text{ and } 2$
Forced to touch - ≥ 16 years	3.7 (23)	9.1 (29)	11.0 (10)	$X^2 = 15.01, p < .001$ $0 < 1 \text{ and } 2$
Forced sex - <16 years	3.1 (19)	6.0 (19)	7.7 (7)	$X^2 = 6.71, p = .035$ no significant pairwise contrasts
Forced sex - ≥ 16 years	4.7 (29)	8.5 (27)	11.0 (10)	$X^2 = 8.33, p = .016$ $0 < 2$
Other Stressors				
Been in a serious disaster	41.6 (256)	39.1 (125)	42.6 (40)	$X^2 = 0.66, p = .718$
Seen serious accident	34.1 (210)	29.4 (95)	35.1 (33)	$X^2 = 2.38, p = .305$
Had serious accident or injury	22.8 (140)	25.8 (82)	28.3 (26)	$X^2 = 1.88, p = .391$
Jail (family member)	18.6 (115)	21.6 (69)	30.8 (28)	$X^2 = 7.49, p = .024$ $0 < 2$

Table 4 (Continued) - Differences Among the Anxiety and Depression Latent Classes in the Percentage of Patients Exposed to Specific Stressors

Jail (self)	5.5 (34)	8.4 (27)	9.8 (9)	$X^2 = 4.28, p = .118$
Foster care or put up for adoption	2.1 (13)	2.5 (8)	4.3 (4)	$X^2 = 1.75, p = .416$
Separated/divorced (parents)	19.6 (122)	23.6 (76)	29.3 (27)	$X^2 = 5.39, p = .068$
Separated/divorced (self)	35.2 (219)	35.3 (114)	45.1 (41)	$X^2 = 3.47, p = .177$
Serious money problems	15.2 (94)	23.3 (75)	40.2 (37)	$X^2 = 34.85, p < .001$ $0 < 1 < 2$
Had serious physical or mental illness (not cancer)	15.8 (98)	21.7 (70)	30.9 (29)	$X^2 = 14.35, p < .001$ $0 < 2$
Abortion or miscarriage	43.4 (204)	45.9 (123)	43.3 (33)	$X^2 = 0.45, p = .798$
Separated from child	1.5 (9)	2.6 (8)	4.6 (4)	$X^2 = 4.08, p = .130$
Care for child with handicap	4.3 (26)	2.6 (8)	5.7 (5)	$X^2 = 2.54, p = .280$
Care for someone with severe physical or mental handicap	22.0 (134)	25.7 (81)	36.3 (33)	$X^2 = 9.19, p = .010$ $0 < 2$
Death of someone close (sudden)	50.6 (312)	45.5 (142)	54.4 (49)	$X^2 = 3.14, p = .078$
Death of someone close (not sudden)	78.9 (480)	80.6 (253)	74.2 (66)	$X^2 = 1.73, p = .421$
Seen robbery/mugging	18.7 (116)	27.8 (89)	24.2 (22)	$X^2 = 10.46, p = .005$ $0 < 1$
Been robbed/mugged	24.8 (153)	29.4 (93)	29.7 (27)	$X^2 = 2.81, p = .246$

Table 5 - Differences Among the Anxiety and Depression Latent Classes in the Effect of Stressor On Life In The Past Year^a

Stressful Life Event*	Low Anxiety and Low Depression (0)	Moderate Anxiety and Moderate Depression (1)	High Anxiety and High Depression (2)	Statistics
	Mean (SD)	Mean (SD)	Mean (SD)	
Interpersonal violence, abuse, and neglect stressors				
Family violence in childhood	1.7 (1.1)	2.0 (1.3)	2.4 (1.2)	KW = 11.45, p = .003 0 < 2
Emotional abuse	2.2 (1.3)	2.7 (1.3)	3.3 (1.2)	KW = 20.44, p < .001 0 < 1 < 2
Physical neglect	2.5 (1.5)	2.7 (1.1)	3.3 (1.4)	KW = 2.81, p = .245
Sexual harassment	1.4 (0.9)	1.6 (1.0)	1.6 (1.0)	KW = 3.29, p = .193
Physical abuse - <16 years	1.7 (1.1)	2.1 (1.4)	2.1 (1.0)	KW = 4.52, p = .105
Physical abuse - ≥16 years	1.6 (1.0)	1.9 (1.2)	2.5 (1.3)	KW = 7.95, p = .019 0 < 2
Forced to touch - <16 years	1.6 (1.0)	2.1 (1.4)	2.8 (1.5)	KW = 10.24, p = .006 0 < 2
Forced to touch - >16 years	1.6 (0.8)	2.0 (1.4)	2.4 (1.4)	KW = 2.78, p = .249
Forced sex - <16 years	1.6 (0.9)	2.3 (1.5)	2.4 (1.4)	KW = 3.28, p = .194
Forced sex - ≥16 years	1.6 (1.1)	1.9 (1.2)	2.0 (1.6)	KW = 1.36, p = .506
Other stressors				
Been in a serious disaster	1.2 (0.7)	1.5 (1.0)	1.7 (0.9)	KW = 21.40, p < .001 0 < 1 and 2
Seen serious accident	1.4 (0.8)	1.5 (0.8)	1.9 (1.2)	KW = 10.82, p = .004 0 < 2
Had serious accident or injury	1.5 (0.9)	1.7 (1.1)	1.9 (1.2)	KW = 5.89, p = .053
Jail (family member)	1.8 (1.3)	1.9 (1.4)	2.4 (1.5)	KW = 4.78, p = .092
Jail (self)	1.6 (1.1)	2.0 (1.3)	1.7 (1.4)	KW = 1.75, p = .417
Foster care or put up for adoption	2.2 (1.5)	2.7 (1.7)	2.0 (1.2)	KW = 0.78, p = .678
Separated/divorced (parents)	1.6 (0.9)	2.0 (1.2)	1.9 (1.4)	KW = 7.39, p = .025 0 < 1
Separated/divorced (self)	1.9 (1.3)	2.2 (1.4)	2.8 (1.5)	KW = 18.39, p < .001 0 < 2
Serious money problems	2.2 (1.5)	3.0 (1.7)	3.5 (1.5)	KW = 20.09, p < .001 0 < 1 and 2
Had serious physical or mental illness (not cancer)	2.2 (1.3)	2.7 (1.4)	2.7 (1.3)	KW = 7.69, p = .021 no significant pairwise contrasts
Abortion or miscarriage	1.4 (0.9)	1.6 (1.0)	2.1 (1.3)	KW = 14.25, p < .001 0 < 2
Separated from child	1.7 (1.1)	3.6 (1.1)	4.3 (1.5)	KW = 9.81, p = .007 0 < 1 and 2
Care for child with handicap	3.4 (1.4)	2.7 (1.1)	3.6 (1.5)	KW = 2.03, p = .362
Care for someone with severe physical or mental handicap	2.2 (1.4)	2.8 (1.5)	3.4 (1.5)	KW = 17.19, p < .001 0 < 1 and 2
Death of someone close (sudden)	2.0 (1.3)	2.3 (1.3)	3.0 (1.5)	KW = 24.45, p < .001 0 < 1 and 2
Death of someone close (not sudden)	1.9 (1.2)	2.4 (1.3)	3.2 (1.4)	KW = 60.42, p < .001 0 < 1 and 2

Table 5 (Continued) - Differences Among the Anxiety and Depression Latent Classes in the Effect of Stressor On Life In The Past Year^a

Seen robbery/mugging	1.4 (.9)	1.6 (1.1)	2.1 (1.3)	KW = 6.73, p = .034 0 < 2
Been robbed/mugged	1.4 (0.9)	1.8 (1.2)	2.1 (1.5)	KW = 10.33, p = .006 0 < 1

Abbreviations: KW = Kruskal Wallis, SD = standard deviation

*Range = 1 “not at all” to 5 “extremely”

^aThese data are reported for those patients who reported the occurrence of the stressor (see Table 4)

Table 6 - Differences Among the Anxiety and Depression Latent Classes at Enrollment in the Brief COPE Subscale Scores

Subscale*	Low Anxiety and Low Depression 57.5% (n=764) (0)	Moderate Anxiety and Moderate Depression 33.7% (n=448) (1)	High Anxiety and High Depression 8.8% (n=116) (2)	Statistics
	Mean (SD)	Mean (SD)	Mean (SD)	
Engagement coping strategies				
Active coping	6.2 (1.6)	5.8 (1.7)	5.5 (1.6)	F = 11.87, p < .001 0 > 1 and 2
Planning	5.2 (1.9)	5.4 (1.6)	5.5 (1.7)	F = 2.50, p = .083
Positive reframing	5.6 (2.0)	5.2 (1.9)	5.1 (1.9)	F = 5.91, p = .003 0 > 1 and 2
Acceptance	6.9 (1.2)	6.5 (1.4)	6.3 (1.5)	F = 24.73, p < .001 0 > 1 and 2
Humor	4.4 (2.0)	4.2 (1.9)	4.3 (2.1)	F = 2.12, p = .121
Religion	5.0 (2.4)	4.9 (2.2)	5.3 (2.2)	F = 1.25, p = .288
Using emotional support	6.4 (1.7)	6.3 (1.6)	5.9 (1.7)	F = 3.45, p = .032 0 > 2
Using instrumental support	5.2 (1.8)	5.5 (1.7)	5.4 (1.7)	F = 3.10, p = .045 no significant pairwise contrasts
Disengagement coping strategies				
Self-distraction	5.3 (1.8)	5.7 (1.5)	5.8 (1.5)	F = 6.50, p = .002 0 < 1 and 2
Denial	2.3 (0.7)	2.6 (1.2)	3.4 (1.9)	F = 61.29, p < .001 0 < 1 < 2
Venting	3.6 (1.6)	4.2 (1.6)	5.1 (1.5)	F = 55.92, p < .001 0 < 1 < 2
Substance use	2.2 (0.6)	2.3 (0.8)	2.5 (1.0)	F = 8.83, p < .001 0 < 1 and 2
Behavioral disengagement	2.1 (0.5)	2.3 (0.9)	2.9 (1.3)	F = 60.98, p < .001 0 < 1 < 2
Self-blame	2.4 (0.8)	3.2 (1.3)	4.3 (1.8)	F = 169.95, p < .001 0 < 1 < 2

Abbreviation: SD = standard deviation

*Each item was rate on a 4-point Likert scale that ranged from 1 (“I haven’t been doing this at all”) to 4 (“I have been doing this a lot”). Each coping strategy is evaluated using 2 items. Scores can range from 2 to 8 with higher scores indicating greater use of each of the coping strategies.

Table 7 - Characteristics Associated with Membership in the Moderate and High Anxiety and Depression Latent Classes

Characteristic ^a	Moderate anxiety and moderate depression	High anxiety and high depression
Demographic Characteristics		
Younger age	■	■
More likely to be female	■	
More likely to be Hispanic, Mixed, or other ethnicity	■	■
Less likely to be married or partnered	■	■
More likely to live alone	■	■
Less likely to be employed	■	■
More likely to have a lower annual household income	■	■
More likely to have a current or past history of smoking		■
Clinical Characteristics		
Lower functional status	■	■
Higher number of comorbidities	■	■
Higher comorbidity burden	■	■
More likely to self-report lung disease		■
More likely to self-report ulcer or stomach disease		■
More likely to self-report anemia or blood disease		■
More likely to self-report depression	■	■
More likely to self-report back pain	■	■
Stress Characteristics		
Higher Perceived Stress Scale score	■	■
Higher Impact of Event Scale-Revised total score	■	■
Higher Impact of Event Scale-Revised intrusion score	■	■
Higher Impact of Event Scale-Revised avoidance score	■	■
Higher Impact of Event Scale-Revised hyperarousal score	■	■
Higher Life Stressor Checklist-Revised total score	■	■
Higher Life Stressor Checklist-Revised affected sum score	■	■
Higher Life Stressor Checklist-Revised PTSD sum score	■	■
Lower Connor Davidson Resilience Scale total score	■	■
Higher Occurrence of Life Stressors		
Family violence in childhood		■
Emotional abuse	■	■
Physical neglect		■
Sexual harassment		■
Physical abuse - <16 years	■	■
Physical abuse - ≥16 years	■	■
Forced touch – <16 years	■	■
Forced to touch - ≥16 years	■	■
Jail (family member)		■
Serious money problems	■	■
Had serious physical or mental illness (not cancer)		■
Caring for someone with a severe physical or mental handicap		■
Seen robbery/mugging	■	
Higher Effect of Life Stressors		
Family violence in childhood		■
Emotional abuse	■	■
Physical abuse- <16 years		■
Forced to touch - <16 years		■
Been in a serious disaster	■	■

Table 7 (Continued) - Characteristics Associated with Membership in the Moderate and High Anxiety and Depression Latent Classes

Seen serious accident		■
Separated/divorced (parents)	■	
Separated/divorced (self)		■
Serious money problems	■	■
Abortion or miscarriage		■
Separated from child	■	■
Caring for someone with severe physical or mental handicap	■	■
Death of someone close (sudden)	■	■
Death of someone close (not sudden)	■	■
Seen robbery or mugging		■
Been robbed/mugged	■	
Use of Coping Strategies		
Lower use of active coping	■	■
Lower use of positive reframing	■	■
Lower use of acceptance	■	■
Lower use of emotional support		■
Higher use of self-distraction	■	■
Higher use of denial	■	■
Higher use of venting	■	■
Higher use of substance use	■	■
Higher use of behavioral disengagement	■	■
Higher use of self-blame	■	■

Abbreviation: PTSD = post-traumatic stress disorder

^aComparisons done with the Low Anxiety and Low Depression class.

■ – Indicates the presence of the risk factor compared to the Low Anxiety and Low Depression class

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