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Mental Disorders Associated With Subpopulations of Women Affected by Violence and Abuse

Courtenay E. Cavanaugh¹, Silvia S. Martins², Hanno Petras³, and Jacquelyn C. Campbell⁴

¹Department of Psychology, Rutgers University, Camden, New Jersey, USA

²Department of Epidemiology, Columbia University, New York, New York, USA

³JBS International, Inc., North Bethesda, Maryland, USA

⁴School of Nursing, Johns Hopkins University, Baltimore, Maryland, USA

Abstract

Violence against women is a major public health problem associated with mental disorders. Few studies have examined the heterogeneity of interpersonal violence and abuse (IVA) among women and associated mental health problems. Latent class analysis was used to identify subpopulations of women with similar lifetime histories of IVA victimization and to examine 10 associated past-year mental disorders. Participants were 19,816 adult women who participated in Wave 2 of the National Epidemiologic Study on Alcohol and Related Conditions (NESARC). The 3-class model was best supported by the data. Class 1 (6.7%) had a high probability of witnessing domestic violence as a child. Class 2 (21.8%) had a low probability of all events except lifetime sexual assault. Class 3 (71.5%) had a low probability for all events. Mental disorders were more common among members of Classes 1 and 2 than Class 3. For example, members in Class 1 were approximately 8 and 9 times more likely than members in Class 3 to have had posttraumatic stress disorder or a drug use disorder, respectively, during the past year. Of the 10 mental disorders, 5 were more common among members of Class 1 than of Class 2. Findings suggest the mental health consequences of IVA among women are extensive and interventions should be tailored for distinct subpopulations affected by IVA.

Violence against women, which includes any act of psychological, physical, or sexual aggression perpetrated against a female of any age (United Nations, 1993), is a major public health problem (Krantz & Garcia-Moreno, 2005) associated with mental disorders (Briere & Jordan, 2004). Approximately one in two to three women in the United States experience childhood physical assault (Tjaden & Thoennes, 2000) or physical intimate partner violence (IPV; Black et al., 2011) and one in five have been raped (Black et al., 2011). Many women also experience other types of interpersonal violence or abuse (IVA; Black et al., 2011;

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Correspondence concerning this article should be addressed to Courtenay Cavanaugh, Rutgers University, Department of Psychology, 311 North Fifth Street, Camden, NJ 08102. cocavana@camden.rutgers.edu.

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Hussey, Chang, & Kotch, 2006). Mental disorders are more common among women who have experienced IVA than those who have not (Briere & Jordan, 2004; Molnar, Buka, & Kessler, 2001), and risk for mental disorders is greater among women experiencing more types of IVA (Edwards, Holden, Felitti, & Anda, 2003; Follette, Polusny, Bechtel, & Naugle, 1996).

Many women experience more than one type of IVA (Hedtke et al., 2008) and subpopulations of women affected by distinct patterns of IVA may have different treatment needs. Interventions targeting women affected by a specific type of IVA (e.g., IPV) that fail to recognize the heterogeneous nature of IVA may overlook different treatment needs of subpopulations and be ineffective (Grych & Swan, 2012). Specific types of IVA, such as IPV, are more chronic and overlapping (Thompson et al., 2006). Specific types (e.g., rape) are also more strongly associated with specific disorders (e.g., posttraumatic stress disorder [PTSD]; Kessler, 2000) and outcomes. For example, women who experience sexual victimization are also at risk for experiencing sexual revictimization (Classen, Palesh, & Aggarwal, 2005; Walsh et al., 2012), contracting sexually transmitted infections, and having unwanted pregnancies. Thus, clinicians treating women with such victimization profiles should assess and address these problems if needed in addition to survivors presenting mental health problems. A better understanding of the profiles of IVA associated with various outcomes like mental disorders may also inform related prevention strategies.

Cluster and latent class analysis (LCA) are person-centered, data-driven approaches (Macy, 2008) that have been used to examine the heterogeneity of IVA and provide information about the number and types of IVA typologies. Related studies have revealed between three to six distinct patterns or subgroups of IVA among women (Campbell, Greeson, Bybee, & Raja, 2008; Carbone-Lopez, Kruttschnitt, & Macmillan, 2006; Cavanaugh et al., 2012; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005) and documented mental health problems and substance use associated with distinct subpopulations (Campbell et al., 2008; Carbone-Lopez et al., 2006; Cavanaugh et al., 2012; Dutton et al., 2005). Mental health problems have been associated with subpopulations characterized by similar histories of IVA, but different probabilities of experiencing those types of violence (e.g., low IPV or high IPV; Dutton et al., 2005), and very different types of IVA (e.g., childhood abuse vs. IPV; Cavanaugh et al., 2012). For example, when compared to a subgroup of women with low IVA, a subgroup of women characterized by IVP were significantly more likely to screen positive for PTSD than a subgroup characterized by childhood abuse (Cavanaugh et al., 2012).

Only a few mental health problems—namely posttraumatic stress, depression, and substance use—were studied in the above cluster or LCA studies even though the consequences of IVA may be extensive (Briere & Jordan, 2004; Molnar, et al., 2001). This study used LCA to identify subpopulations of women affected by IVA and 10 past-year mental disorders associated with distinct subpopulations. We anticipated the following results: (a) there would be distinct subpopulations of women affected by IVA, (b) all mental disorders would be more common among subpopulations of women characterized by greater IVA exposure than low/no IVA, and (c) mental disorders would be significantly more common among the subpopulation characterized by the greatest IVA than the other subpopulations.

Method

Participants and Procedure

This cross-sectional study used data from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) because certain mental disorders (e.g., PTSD) and IVA were only assessed in Wave 2 (Grant & Dawson, 2006). The NESARC is a longitudinal study that received ethical review and approval from the U.S. Census Bureau and U.S. Office of Management and Budget (Grant & Dawson, 2006). The institutional review board of Rutgers University also approved an expedited protocol for this study. The NESARC consisted of noninstitutionalized, adult civilians (18 years or older) who consented to participate and completed face-to-face interviews with extensively trained interviewers during Wave 1 in 2001–2002 ($N = 43,093$). All possible eligible respondents from Wave 1 (e.g., those who were not on active duty in the armed forces throughout the follow-up period) were reinterviewed at Wave 2 in 2004–2005 ($N = 34,653$). The Wave 2 response rate was 86.7%. Data were reweighted at Wave 2 to account for differential loss to follow-up and to be representative of the target population. Of the 34,653 participants who completed the Wave 2 interview, 20,089 were female. Due to missing data, which is described in more detail below, the final analytic sample consisted of 19,816 female participants.

Measures

IVA Indicators—The following seven types of IVA were assessed and used to comprise the latent classes: (a) childhood physical abuse, (b) childhood neglect, (c) witnessing domestic violence during childhood, (d) lifetime physical IPV, (e) lifetime other physical assault, (f) lifetime sexual assault, and (g) lifetime stalking. Participants were asked whether before age 18 a parent or caregiver had physically attacked, beaten, injured, or seriously neglected them. They were also asked if they had ever seen serious fights at home before age 18; if an intimate partner or anyone else had physically attacked, badly beaten, or injured them; if they had ever been sexually assaulted, molested, raped, or experienced unwanted sexual activity; or if they had been stalked by anyone (Grant, Dawson, & Hasin, 2001). Negative and positive endorsements of these types of IVA were coded as 0 and 1, respectively.

Mental disorders—The Alcohol Use Disorder and Associated Disabilities Interview Schedule (AUDADIS-IV; Grant et al., 2001; Ruan et al., 2008) was used to assess past-year mental disorders according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994). This study included the following: (a) major depressive episode, (b) dysthymic episode, (c) manic or hypomanic episode, (d) PTSD, (e) panic disorder with or without agoraphobia, (f) social phobia, (g) specific phobia, (h) generalized anxiety disorder (GAD), (i) alcohol abuse and/or dependence, and (j) drug abuse and/or dependence. The past-year drug abuse and/or dependence variable was comprised of individuals who met past-year abuse and/or dependence criteria for the following substances: sedatives, tranquilizers, opioids, amphetamines, cannabis, hallucinogens, cocaine, inhalants, heroin, or other drugs. The absences of these past-year mental disorders were coded as 0, and a positive past-year history of these disorders was

coded as 1. The psychometric properties for the AUDADIS-IV, including good reliabilities for mental disorders and violence, are reported elsewhere (Ruan et al., 2008).

Sociodemographics—Because IVA may differ according to individual demographics (Briere & Jordan, 2004), we tested for demographic differences among the distinct patterns of IVA and accounted for demographics while testing the associations between patterns of IVA and mental disorders. The demographic variables (covariates) included in this study were participants' age, race/ethnicity (i.e., Black, Hispanic, Asian, Native American or White [reference]), marital status (not married or living as such versus married or living as such [reference]), parent status (Parent versus not a parent [reference]), and poor family social support (lack of family support versus family support [reference]). The latter was assessed with a question asking participants whether before age 18 years, they felt that their family was a source of strength and support. This variable was included given evidence that social bonds may protect against the negative impact of IVA (Bal, De Bourdeaudhuij, Crombez, & Van Oost, 2005). Age was recoded into the following three categories used in other research (Shay et al., 2012) and representing stages of development: young adults (20–39 years old), middle aged adults (40–64) and older adults (65 years or older; reference).

Data Analysis

Variables were created as described above and missing data was assessed. There were 273 participants with missing data on one of the following variables: the number of children they had ($N = 110$), family social support during childhood ($n = 165$), or all seven violence indicators ($N = 100$). However, Mplus Version 6 (Muthén & Muthén, 2010), the statistical program used for the main analyses, accounts for missing data on latent class indicators using the full information likelihood estimation, but does not account for missing data on covariates. No information was available for some participants on any of the seven IVA indicators; therefore, the 273 female participants of the original sample of 20,089 women (1.4%) were removed from the study resulting in a final analytic sample of 19,816. Comparisons were made between those with missing data described above ($N = 273$) and the final analytic sample ($N = 19,816$) on variables of interest. When comparing those with missing versus those without on the demographic and IVA indicator variables, those with missing data were more likely to be older, Asian or Native American, or not married or living as such than the women in the final analytic sample.

LCA (Hagenaars & McCutcheon, 2002) was used to examine (a) the heterogeneity of IVA, (b) the prevalence of the different IVA patterns, and (c) demographic characteristics and mental health problems associated with distinct patterns of IVA. The indicator variables in this study were whether women had experienced seven types of IVA. LCA has been used to identify adverse experiences associated with mental disorders (Copeland, Shanahan, Costello, & Angold, 2009). The final sample was randomly split in half so that latent class models could be built on one half of the sample ($n = 9,908$) and validated on the second half of the sample to increase the validity of the inferences ($n = 9,908$). The split samples were compared to one another on the variables of interest, which are shown in Table 1, and there were 10 significant differences. Significantly more individuals in sample 1 were between the ages of 20–39 years; were Asian; had experienced childhood physical abuse; or had

witnessed domestic violence during childhood. Significantly more individuals in Sample 2 were between the ages of 40–64; were Black; met criteria for depression, GAD, or drug abuse/dependence in the past year; or had experienced physical IPV. As shown in Table 1, the differences in the prevalence of these variables between the two samples were marginal and do not appear to be meaningful.

To determine the most parsimonious model, models were run with 1–8 classes on the first half of the sample and the preferred model was selected using both fit statistics (Nylund, Asparouhov, & Muthén, 2007) appropriate for mixture models and substantive and feasibility criteria. Model fit was evaluated based upon the lowest Bayesian information criterion (BIC; Schwarz, 1978) and adjusted BIC (Magidson & Vermunt, 2004), as well as a significant Lo–Mendell–Rubin test (Lo, Mendell, & Rubin, 2001). Using the second sample, two models were estimated. The first model was freely estimated; in the second model, the parameter estimates were constrained to value from the model estimated in the first sample. A better-fitting constrained model compared to the freely estimated model was used as evidence of replication. Latent class regression (Bandeem-Roche, Miglioretti, Zeger, & Rathouz, 1997) was then used to test the candidate model validated on the second half of the sample, while regressing class membership onto the covariates separately and together. The models from these analyses were examined for instability and misspecification due to the influence of the covariates (Nylund et al., 2007).

The last step involved using the auxiliary command (Petrus & Masyn, 2010) to examine whether the LCA classes of IVA differed in their prevalence of past-year mental disorders. The resulting output provided information about the prevalence of mental disorders for each latent class of IVA and whether pairwise comparisons of classes of IVA significantly differed in terms of the prevalence of past-year mental disorders. The class means for past-year mental disorders were used to calculate odds ratios for the pairwise class comparisons of past-year mental disorders. These comparisons allowed us to determine whether classes characterized by greater IVA had greater risk for past-year mental disorders, and thus test our third anticipated result. To control for inflation of Type I error given the number of pairwise class comparisons made with respect to the 10 mental health disorders studies, the Bonferroni correction was used. The sample weight, stratum, and principal stratification units were included in the descriptive statistics and LCAs.

Results

Demographics for the entire sample as well as the two halves of the sample are shown in Table 1. In the past year, 11% of the sample had a major depressive episode and 6% met criteria for PTSD. The most prevalent type of IVA was sexual assault. Table 2 shows the fit statistics for latent Classes 1–8. The 3- and 4-class solutions were chosen as the candidate models based upon the fit statistics. These models were then each evaluated with the covariates added. The 3-class model showed more stability when the covariates were added; therefore, it was chosen as the preferred model, which provided support for our first anticipated result that there would be distinct patterns of IVA. The entropy for the 3-class model was .71, indicating sufficiently high classification accuracy.

The 3-class model validated on the second half of the sample and regressed onto the covariates simultaneously is shown in Figure 1. Class 1 was characterized by high probabilities (i.e., above .7) of witnessing domestic violence during childhood and was comprised of 6.7% of the sample. Class 2 was characterized by low probabilities (i.e., .30) on all types of IVA except lifetime sexual assault; this class was comprised of 21.8% of the sample. Class 3 was characterized by low probabilities of childhood physical abuse, childhood neglect, witnessing domestic violence during childhood, lifetime physical IPV, lifetime other physical assault, lifetime sexual assault, or lifetime stalked and comprised 71.5% of the sample. As shown, Class 1 has the greatest IVA exposure followed by Class 2, then Class 3.

Table 3 shows the significant associations between the latent classes and study covariates when all covariates were tested simultaneously. Although the smallest class only included 6.7% of the sample, the absolute frequency was 661, which provides a sufficient sample for latent class regression analysis. When compared to Class 3, members in Classes 1 and 2 had significantly greater odds of being in young or middle adulthood, not being married or living as such, having children, and reporting that their families were poor sources of support during childhood. When compared to Class 3, members in Class 1 had 2.58 times greater odds of being Native American than White whereas members in Class 2 had lower odds of being Hispanic or Asian than White.

Table 4 shows the means for past-year mental disorders for Classes 1–3 of IVA; this table also shows the odds ratios for past-year mental disorders between Classes 1 and 2, Classes 1 and 3, and Classes 2 and 3. As shown, the class means for past-year mental disorders were greatest among members in Class 1 followed by members in Class 2 then Class 3. Compared to Class 3, which was characterized by low IVA, the classes characterized by IVA, Classes 1 and 2, had significantly greater odds of all past-year mental disorders, which provides support for our second anticipated result. For example, compared to Class 3, members in Class 1 had 7.46 greater odds of having PTSD and 8.90 greater odds of having a drug use disorder in the past year. Whereas Class 1, which was the class characterized by the greatest IVA, had significantly greater odds of all 10 mental disorders compared to Class 3, members in Class 1 only had significantly greater odds of five of the 10 past-year mental disorders (e.g., MDE and PTSD) compared to Class 2, which provides partial support for our third anticipated result.

Discussion

This study examined the heterogeneity of seven types of IVA affecting women across their lifespan and 10 mental disorders in the past year associated with distinct patterns of IVA. As anticipated, distinct patterns of IVA were revealed and mental health problems were more common among the subpopulations characterized by greater IVA than the low or no IVA. Three distinct patterns of IVA were revealed and all 10 mental disorders were more common among the two classes characterized by greater IVA than the low IVA subgroup. Class 1, however, which was characterized by the greatest IVA, was only associated with significantly greater odds of five of the 10 mental disorders compared to Class 2. Thus, we only found partial support for our third anticipated result that mental health problems would

be significantly more common among the subpopulation characterized by the greatest IVA than the other subpopulations.

Findings suggest the need for interventions targeting a range of psychopathology among two distinct subpopulations of women affected by IVA (Classes 1–2). Thus, clinicians treating individuals with manic or hypomanic episodes and other mental disorders such as social phobia, specific phobia, and GAD should be equally vigilant to how IVA may impact the development or maintenance of these mental health problems as clinicians treating disorders more typically associated with IVA (e.g., PTSD, depression, and substance use disorders). Furthermore, because mental disorders were more common among members in Classes 1 and 2 and nearly one third of the sample comprised these two patterns of IVA, there should be prevention interventions aimed to particularly reduce the types of IVA characterizing those subpopulations to reduce women's risk for developing mental disorders.

Different mental disorders were associated with Class 1, which was characterized by a high probability of witnessing domestic violence as a child, and Class 2, which was characterized by low probability of experiencing all types of violence except lifetime sexual assault. This suggests different etiologies in mental disorders and these patterns of IVA. These findings are consistent with other work suggesting differential associations between patterns of IVA with mental disorders (Cavanaugh et al., 2012) and underscore the need for research to better understand the etiology of specific mental disorders in the context of distinct IVA patterns. Currently, it is unclear why women in Class 1 compared to Class 2 would have greater risk for some past-year mental disorders (i.e., major depressive episodes, manic or hypomanic episodes, PTSD, social phobia, and GAD), but not others (e.g., dysthymic episode, panic disorder, specific phobia, alcohol use disorders, or drug use disorders).

This study adds to other national studies in the United States examining cumulative IVA (Cisler et al., 2012; Walsh, Danielson, et al., 2012) and IVA clusters (Pimlott-Kubiak & Cortina, 2003) or classes (Carbone-Lopez et al., 2006) in relation to mental health problems. The findings from this study focus solely on women. However, work from Pimlott-Kubiak and Cortina (2003) indicates that although there may be gender differences in some patterns of IVA, there do not appear to be gender differences in the patterns of IVA associated with adverse problems. Furthermore, although findings from this study regarding the associations of IVA and mental disorders were cross sectional, another national and longitudinal study of adolescents provides evidence that cumulative IVA is associated with subsequent mental health problems (Cisler et al., 2012).

Findings should be considered in light of the study limitations. This study used single-item questions to assess different types of IVA and IVA was assessed in terms of its occurrence and not severity, chronicity, or duration. Future LCA studies of IVA should use comprehensive instruments assessing different types of IVA and assess IVA characteristics to further elucidate our understanding of the nature of IVA in relation to mental disorders among women. Given increased risk for PTSD among three national populations of girls and women experiencing sexual revictimization (Walsh, Danielson, et al., 2012), future work examining different types of IVA in terms of chronicity may be particularly salient in better understanding how patterns of IVA contribute to subsequent health problems. Furthermore,

temporal associations between IVA and mental disorders cannot be determined given this study's cross-sectional nature, so future longitudinal studies examining patterns of IVA and mental disorders are needed. In addition, findings may not generalize to women nationally, given differences between the participants excluded or included in this analysis.

Given the utility of LCA and regression in the study of IVA (Macy, 2008; Nurius & Macy, 2008), future studies employing these methods will continue to advance the field of traumatic stress in terms of informing the epidemiology of IVA occurrence and associated outcomes. Intervention studies employing these methods are particularly needed, as the efficacy of trauma interventions may be greater among specific subpopulations of clinical trials than others. There is also a need for future latent class studies modeling other adverse outcomes associated with IVA including risky sexual behavior (Cavanaugh, Hansen, & Sullivan, 2010) as well as suicidal ideation and attempts (Cavanaugh, Messing, Del-Colle, O'Sullivan, & Campbell, 2011). Although there has been preliminary work addressing patterns of IVA associated with risky sexual behavior among women attending a sexually transmitted disease clinic (Walsh, Senn, & Carey, 2012). Finally, additional studies are needed that model possible mediators and moderators of the associations between latent classes of IVA and adverse outcomes including mental disorders.

The strengths of this study outweigh its limitations. This study responds to calls for research elucidating interconnections among types of abuse (Scott-Storey, 2011). To our knowledge, it is the largest epidemiologic study of patterns of IVA associated with women's mental disorders. Results reveal heterogeneous patterns of IVA and show a number of mental health problems associated with the distinct patterns of IVA among a large sample of women. Findings inform our epidemiologic understanding of the nature of IVA and mental disorders among women as well as related intervention strategies. Targeted interventions to treat mental health problems among the subpopulations of women affected by IVA reported here may have a significant public health impact on improving women's mental health.

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Figure 1.

Percentages of seven types of violence for the three retained classes ($N = 9,908$). CPA = childhood physical abuse; CNGLCT = childhood neglect; CWDV = witnessing domestic violence during childhood; PIPV = physical intimate partner violence; OPHYSSLT = other physical assault; SEXASSLT = sexual assault; Stalked = stalked.

Table 1

Unweighted Count and Weighted Percentage for Variables of Interest

Variable	Total sample (N = 19,816)		Split sample 1 (n = 9,908)		Split sample 2 (n = 9,908)	
	n	% positive	n	% positive	n	% positive
Age: Young adult (20–39 years old)	6,665	33.9	3,381	34.6	3,284	33.1
Middle aged adult (40–64 years old)	8,823	45.0	4,381	44.2	4,442	45.7
Older adult (age 65 years or older)	4,328	21.2	2,146	21.3	2,182	21.1
Race: White	11,169	70.7	5,599	70.5	5,570	70.9
Black	4,209	11.9	2,064	11.5	2,145	12.4
Hispanic	3,582	10.9	1,797	11.0	1,785	10.8
Asian	523	4.1	274	4.5	249	3.8
Native American	333	2.3	174	2.4	159	2.2
Not married or living as married	9,828	39.4	4,920	39.4	4,908	39.3
Has children	15,977	80.5	7,982	80.3	7,995	80.8
Poor family support during childhood	3,774	18.4	1,883	18.5	1,891	18.2
Past-year mental disorders: Major depression	2,183	10.9	1,065	10.6	1,118	11.2
Dysthymic episode	337	1.5	166	1.5	171	1.6
Hypomanic/manic episode	765	3.6	373	3.7	392	3.6
PTSD	1,242	6.0	620	5.9	622	6.1
Panic disorder	700	3.4	342	3.2	358	3.5
Social phobia	609	3.0	307	2.9	302	3.0
Specific phobia	2,043	10.0	1,043	10.2	1,000	9.8
Generalized anxiety disorder	993	5.1	483	4.9	510	5.3
Alcohol Abuse/dependence	1,043	5.3	509	5.2	534	5.4
Drug Abuse/dependence	257	1.5	117	1.3	140	1.7
Lifetime IVA: Childhood physical abuse	817	3.9	416	4.1	401	3.7
Childhood neglect	771	3.5	389	3.5	382	3.5
Child witness of domestic violence	2,369	11.1	1,219	11.4	1,150	10.8
Physical intimate partner violence	2,203	9.7	1,114	9.4	1,089	10.0
Physical assault by nonintimate partner	813	3.8	415	4.0	398	3.7
Sexual assault	2,870	14.2	1,447	14.2	1,423	14.1

Variable	Total sample (N = 19,816)		Split sample 1 (n = 9,908)		Split sample 2 (n = 9,908)	
	n	% positive	n	% positive	n	% positive
Stalked	1,660	7.9	834	7.8	826	8.0

Note. Significant differences between Samples 1 and 2 reported in text. % = weighted percent; PTSD = posttraumatic stress disorder.

^a N = unweighted count.

Table 2

Fit Statistics for Latent Class Models of Seven Types of Violence

Classes	Log-likelihood	Parameters	BIC	Adjusted BIC	Entropy	Frequency for smallest class	
						Absolute	Relative
1	-18236.54	7	36537.49	36515.25	—	—	—
2	-16310.66	15	32759.33	32711.66	0.78	1,639.73	16.6
3	-16135.82	23	32483.26	32410.17	0.71	578.02	5.8
4	-16067.41	31	32420.06	32321.55	0.75	253.88	2.6
5	-16045.52	39	32449.89	32325.95	0.74	258.10	2.6
6	-16029.37	47	32491.19	32341.83	0.82	170.41	1.7
7	-16021.04	55	32548.14	32373.36	0.80	19.16	0.2
8	-16015.18	63	32610.03	32409.82	0.81	9.87	0.1

Note. $N = 9,908$. The log-likelihood was not replicated in the 8-class model even with a 1,000 random starts indicating this model was not supported by the data. The p value for the Lo-Mendell Rubin was 0.00 for all models tested. BIC = Bayesian information criterion.

Table 3

Comparisons of Demographics Between Three Latent Classes

Variables	Estimate	SE	Adjusted OR	95% CI
Class 1 vs. Class 3				
Age (65+ = reference category)				
20–39	1.72	0.26	5.60**	[3.38, 9.26]
30–64	1.39	0.25	4.03**	[2.49, 6.53]
Race (White = reference category)				
Native American	0.95	0.36	2.58*	[1.26, 5.26]
Marital status (married or living as such = reference category)				
Not married or living as married	0.46	0.16	1.59**	[1.16, 2.18]
Parent status (not a parent = reference category)				
Parent	0.56	0.19	1.75**	[1.20, 2.55]
Family support during childhood (source of support = reference category)				
Poor family support	3.644	0.250	38.23**	[23.43, 62.38]
Class 2 vs. Class 3				
Age (65+ = reference category)				
(20–39)	2.17	0.24	8.77**	[5.44, 14.16]
(30–64)	1.96	0.23	7.12**	[4.51, 11.22]
Race (White = reference category)				
Hispanic	– 0.77	0.19	0.46**	[0.32, 0.68]
Asian	– 1.74	0.50	0.18**	[0.66, 0.47]
Marital status (married or living as such = reference category)				
Not married or living as married	0.57	0.13	1.77**	[1.38, 2.27]
Parent status (not a parent = reference category)				
Parent	0.40	0.15	1.49*	[1.10, 2.01]
Family support during childhood (source of support = reference category)				
Poor family support	1.12	0.27	3.05**	[1.80, 5.18]

Note. $N = 9,908$. Only significant associations are shown. OR = odds ratio.

*
 $p < .05$.

**
 $p < .01$.

Table 4

Class Means and Comparisons for Past-Year Mental Health Problems

Variable	Class <i>M</i> s			<i>OR</i> s for class comparisons		
	1	2	3	1 vs. 2	1 vs. 3	2 vs. 3
MDE	.280	.186	.073	1.70*	4.94*	2.90*
DYST	.049	.027	.009	1.86	5.67*	3.06*
MHE	.122	.063	.020	2.07*	6.81*	3.29*
PTSD	.203	.111	.033	2.04*	7.46*	3.66*
PANIC	.102	.068	.019	1.56	5.86*	3.77*
SOC	.094	.054	.016	1.82*	6.38*	3.51*
SPEC	.197	.144	.075	1.46	3.03*	2.07*
GAD	.150	.091	.033	1.76*	5.17*	2.93*
AUD	.095	.086	.041	1.12	2.46*	2.20*
DUD	.051	.043	.006	1.20	8.90*	7.44*

Note. Bonferroni correction used to control for 30 pairwise class comparisons and inflation of Type I error. *M*s = means; *OR*s = odds ratios; MDE = major depressive episode; DYST = dysthymic episode; MHE = manic or hypomanic episode; PTSD = posttraumatic stress disorder; Panic = panic disorder; Soc = social phobia; SPEC = specific phobia; GAD = generalized anxiety disorder; AUD = alcohol use disorder (i.e., abuse and/or dependence); DUD = drug use disorder (i.e., abuse and/or dependence).

* $p < .002$.