

IDENTIFYING FACTORS THAT PREDICT HELP SEEKING AMONG
INDIVIDUALS WITH EATING DISORDERS: RESULTS FROM A NATIONALLY
REPRESENTATIVE STUDY

BY

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Abstract

Eating disorders (EDs) are characterized by the highest mortality rate of any psychiatric disorder, yet as many as 45% of individuals with EDs never receive help for their eating-related problems. There are numerous barriers to help seeking for individuals with EDs. Poor mental health literacy, perceived and actual stigma, social and racial stereotypes, cost, and attitudes toward help seeking have emerged as the most prominent barriers, whereas high ED symptom severity (e.g., high frequency of bingeing or purging), medical complications, and body image concerns have been shown to significantly promote help seeking. The present study sought to identify whether psychopathological factors (i.e., comorbidity, suicidality), social stressors (i.e., acculturative stress, discrimination, income), social cohesion factors (i.e., family cohesion, marital status, religious belongingness), and ED-specific factors (i.e., body mass index, lifetime eating disorder diagnoses) promoted help-seeking behavior in relation to EDs in a nationally representative sample ($N=595$; 77.8% female; 72.4% ethnic minority). Structural equation modeling was used to identify significant predictors of help seeking in individuals with EDs. Among ethnic racial minorities, body mass index (BMI) and lifetime history of binge eating disorder emerged as significant predictors of help seeking; no variables were significant predictors of help seeking among Caucasian persons. To the extent that BMI is associated with medical complications and body image concerns, these results are consistent with prior studies that have sought to understand factors that lead individuals with EDs to seek help. Findings also suggest a need for improved education and outreach to public health workers and targeted public health campaigns aimed at improving recognition of binge eating disorder as a serious condition that affects individuals in ethnic-racial minorities.

Keywords: CPES, eating disorders, help seeking, treatment seeking

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Factors that Promote Help-Seeking Behavior in Individuals with Eating Disorders in an
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INTRODUCTION

Eating disorders are characterized by the highest mortality rate of any psychiatric disorder (Harris & Barraclough, 1998), and are associated with significant psychiatric and medical morbidity (Bulik, Sullivan, & Kendler, 2002; Grilo, White, Barnes, & Masheb, 2012), and impairments in quality-of-life (Mitchison, Mond, Slewa-Younan, & Hay, 2013; Mond, Hay, Rodgers, & Owen, 2012). The *Diagnostic and Statistical Manual of Mental Disorders—Fifth Edition (DSM-5; APA, 2013)* recognizes four eating disorders: anorexia nervosa, bulimia nervosa, binge eating disorder, and “other specified feeding or eating disorder.” Anorexia nervosa is a self-starvation syndrome in which an individual has a body weight that is less than minimally expected for his or her height. Bulimia nervosa is characterized by recurrent binge eating in the presence of inappropriate compensatory behaviors (e.g., self-induced vomiting, diuretic misuse, and excessive exercise). Finally, binge eating disorder is characterized by recurrent binge eating, in the absence of inappropriate compensatory behaviors. In contrast to those with anorexia nervosa, individuals with bulimia nervosa or binge eating disorder must have a weight that is at (or above) minimally normal. Clinically significant eating disorder behaviors that cause significant distress, impairment, or increased risk for death or disability, but do not meet full criteria for one of the three disorders mentioned above, fall into the OSFED category (previously labeled “Eating Disorder Not Otherwise Specified”). For example, a normal weight individual who repeatedly self-induces vomiting, but does not have binge episodes would be diagnosed with an OSFED.

Despite substantial morbidity and mortality, many individuals with eating disorders do not receive help for their eating-related problems (Evans et al., 2011; Hepworth & Paxton, 2007; Hudson, Hiripi, Pope Jr, & Kessler, 2007). Indeed, it is estimated that only 45% of those with eating disorders ever seek eating-disorder-focused care (Cachelin & Striegel-Moore, 2006). The majority of prior studies in the field of eating disorders have focused on *treatment seeking*, which involves formal service utilization (i.e., treatment services sought from a mental health professional). Some individuals with eating disorders seek help from other outlets, however (e.g., family members, pastoral assistance), which is referred to as *help seeking*. Throughout the current manuscript, I will use the term *help seeking* more broadly to refer to both formal and informal help-seeking behaviors. Previous research has shown that several factors impact an individual's decision to seek help for an eating disorder, and these factors can be conceptualized under three general themes (see **Figure 1**): Psychopathological factors, social stressors, and social cohesion factors. Below I review the existing literature under this framework.

Psychopathological Factors

Previous studies have identified several significant predictors of help seeking in individuals with eating disorders, including: high eating disorder symptom severity (e.g., high frequency of bingeing or purging), medical complications, and body image concerns (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2001; Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007; Schoen et al., 2012). These findings are likely due to the fact that greater symptom severity, concomitant physical health problems, and body dissatisfaction increase an individual's psychological distress and social/occupational role impairment. Indeed, increased psychological distress, related to the subjective sense of loss-of-control over eating episodes, and interference with life roles have been shown to significantly predict help seeking among individuals with

eating pathology (Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007). Disordered eating cognitions (e.g., fear of weight gain or perceived lack-of-control over eating disorder behaviors) have also been shown to negatively predict help-seeking attitudes; namely, higher levels of disordered eating cognitions are associated with less favorable attitudes toward help seeking (Dotson, Masuda, & Cohen, 2011). Barriers to help seeking include myriad factors, such as poor mental health literacy and distorted perception-of-need (Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007). Poor mental health literacy includes lack of knowledge of mental health and mental disorders, risk factors for (and causes of) mental disorders, available and appropriate treatments, and treatment effectiveness. Distorted perception-of-need refers to a lack of awareness that one's disordered eating behavior is problematic, or the perception that one's behaviors are not "serious" enough to warrant treatment. In a study testing pathways that promote help-seeking (Hepworth & Paxton, 2007), low mental health literacy and distorted perception-of-need emerged as two of the most salient barriers to help seeking. This included lack-of-awareness of existing treatment options for reducing problematic eating behaviors.

Although poor mental health literacy may contribute to lack of help seeking for some individuals, many individuals are aware of their eating disorder, and have knowledge of available eating-related treatment options. What are the barriers to help seeking among these individuals? Lack-of-motivation-to-change (i.e., low desire to change one's behaviors or lack of confidence that one will be able to change his or her own behaviors) may reduce an individual's willingness to seek help (Evans et al., 2011). Conversely, some individuals may be motivated to change their behaviors, yet desire to avoid perceived (and actual) stigma and feelings of shame that may accompany help seeking (Becker, Hadley Arrindell, Perloe, Fay, & Striegel-Moore, 2010; Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Evans et al., 2011; Hackler,

Vogel, & Wade, 2010; Hepworth & Paxton, 2007; Schoen et al., 2012). Relatedly, social anxiety has been posited as a potential barrier to help seeking among individuals with eating disorders (Goodwin & Fitzgibbon, 2002), because it is hypothesized to increase fear-of-rejection and humiliation.

Variables that promote help seeking have also been tested in individuals with non-eating-disordered forms of psychopathology. While many predictors of help seeking overlap with those previously discussed for individuals with eating disorders (e.g., interference with life roles, increased symptom severity), several other indicators have emerged. For example, the presence of comorbidity (i.e., the presence of two or more psychiatric disorders) has been shown to promote help seeking in general psychiatric samples (Bland, Newman, & Orn, 1997; Galbaud du Fort, Newman, & Bland, 1993), with the likelihood of seeking help increasing as the number of comorbid diagnoses increased (Bland et al., 1997). Presence of comorbidity was also positively associated with suicidality (Hawton, Houston, Haw, Townsend, & Harriss, 2003; Milos, Spindler, Hepp, & Schnyder, 2004), and indeed, suicidality has been shown to promote help seeking (Arria et al., 2011; Pagura, Fotti, Katz, & Sareen, 2009).

Social Stressors

Social and racial stereotypes may also serve as potent barriers to help seeking. Social stereotypes regarding eating disorders prevent individuals from receiving needed care because their symptoms may be misinterpreted, unrecognized, or dismissed based on social stereotypes of who is “supposed” to suffer from an eating disorder (Becker et al., 2010). For example, in a study using identical vignettes to portray a fictional female character with an eating disorder, medical professionals were significantly more likely to describe the character as suffering from an eating disorder when she was described as Caucasian vs. African American or Hispanic

(Gordon, Perez, & Joiner, 2002). In another study, of those seeking help for an eating disorder, European American women were more likely to be diagnosed with, and treated for, an eating disorder than Mexican American women (Cachelin & Striegel-Moore, 2006). Moreover, a community-based study of individuals with binge eating disorder demonstrated that African American women—as compared to Caucasian women—were significantly less likely to have received eating-disorder-focused care (Striegel-Moore et al., 2000). Yet, interestingly, these studies did not find ethnic or racial disparities in actual help-seeking behavior for an eating disorder (Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Striegel-Moore et al., 2000). Conversely, in a nationally-representative survey (that had substantial power to test for ethnic-racial differences), Marques et al. (2011) found significant differences in service-utilization between individuals with an eating disorder who were either ethnic-racial minorities or non-Latino Whites; namely, of the individuals who had an eating disorder, individuals in ethnic-racial minorities were significantly less likely than non-Latino White persons to have utilized mental health services, despite having comparable or *higher* rates of eating disorders. Taken together, these findings suggest that while discrepancies may exist in actual help received, rates of *treatment-seeking* behavior may be similar across ethnic and racial groups. These studies highlight an important need for additional studies to identify the reasons for differential treatment receipt among ethnic and racial minorities.

Perhaps the most cited reason for not seeking help for eating-disorder-related problems is cost (Becker et al., 2010; Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Evans et al., 2011; Hepworth & Paxton, 2007). Individuals who are not covered by health insurance may not be able to afford out-of-pocket treatments. Moreover, insurance companies often enforce stringent criteria regarding who may be eligible to receive treatment coverage (e.g., many

individuals with severe anorexia nervosa have been denied inpatient treatment; Dakss, 2006). As a result of insurance companies' coverage decisions, many individuals with clinically significant eating disorders, who would have sought (or tried to seek) treatment, are unable to afford quality eating-disorder care.

Social Cohesion

Prior help seeking and personal attitudes toward help seeking can serve to operate as either barriers or promoters of help seeking (Dotson et al., 2011; Hackler et al., 2010; Schoen et al., 2012). For example, one study found that individuals who previously sought help had more favorable help-seeking attitudes overall, compared to those who never sought help (Dotson et al., 2011); however, other studies have found that negative attitudes toward treatment (Schoen et al., 2012), and negative treatment experiences, such as feeling that the treatment professional did not allot adequate time to address relevant issues (Evans et al., 2011), are significant barriers to future help seeking. Positive attitudes regarding the anticipated benefits of treatment, and negative attitudes regarding anticipated costs, have been shown to affect overall attitudes regarding help seeking. For example, greater anticipated risks and fewer anticipated benefits are associated with more negative attitudes regarding seeking help (Hackler et al., 2010).

Social factors such as family support and religiosity are also related to help seeking. In a nationally representative study of U.S. adults, the presence of a good social support system (e.g., family, spousal relationship) served to reduce the likelihood of help seeking; the probability of seeking treatment in the presence of a good support system was increased, however, if the presenting psychiatric condition was more severe (Thoits, 2011). Never being married or the presence of marital separation or divorce has shown to positively predict help seeking (Andrade, Viana, Tófoli, & Wang, 2008; Koenen, Goodwin, Struening, Hellman, & Guardino, 2003).

Finally, religious involvement has been shown to be positively associated with help seeking in adults with schizophrenia spectrum disorders (Smolak et al., 2013), and religious or spiritual figures are often an outlet for help seeking for individuals with general mental health concerns (Cinnirella & Loewenthal, 1999; Loewenthal, Cinnirella, Evdoka, & Murphy, 2001; Wamser, Vandenberg, & Hibberd, 2011).

Hypotheses

In summary, there are numerous barriers to help seeking for individuals with eating disorders. Poor mental health literacy, perceived and actual stigma, social and racial stereotypes, cost, negative attitudes toward help seeking, and fears of weight gain have emerged as the most prominent barriers, whereas higher severity of eating disorder behaviors (e.g., high frequency of bingeing or purging), medical complications, and body image concerns have been shown to significantly promote help seeking. However, evidence related to this issue is limited by the use of small and unrepresentative samples. In addition, most studies define treatment seeking as receiving formal services from a mental health professional, yet numerous individuals may prefer to seek out pastoral counseling or their family physician in lieu of more formalized treatments. The purpose of this study was to identify variables most predictive of help seeking (including seeking help from mental healthcare professionals, religious counselors, and general medical practitioners) in a nationally representative sample of individuals with eating disorders. Based on the results of previous literature, I hypothesized that three sets of variables would predict help seeking: psychopathological factors, social stressors, and social cohesion (see **Figure 1**). Psychopathological factors included suicidality and the presence of non-eating disorder comorbidity (i.e., the presence of more than one co-occurring disorder)—which has been shown to be associated with increased functional and social impairment (Heo, Pietrobelli,

Wang, Heymsfield, & Faith, 2009; Newman et al., 1996). I hypothesized that the presence of comorbidity and suicidality would increase odds of help seeking. Social stressor factors included acculturative stress (e.g., hardship experienced in relation to conflict between one's culture of origin and the host culture), discrimination, and income. I hypothesized that higher levels of acculturative stress and discrimination would serve to decrease odds of help seeking, and that income would be positively related to help seeking (i.e., individuals with higher income would be more likely to seek help). Social cohesion factors included positive family relationships (e.g., good family cohesion), religious belongingness, and presence of marital relationship, which I hypothesized would increase the odds of help seeking in individuals with eating disorders. I also included body mass index (BMI) as a predictor in the model because it has high diagnostic relevance to eating disorders and may affect help seeking. Because prior studies have not explicitly included this variable, I did not have an a priori hypothesis regarding its relation to help seeking. Finally, although no prior studies have tested whether predictors of help seeking differ across ethnic and racial groups, some studies have found that rates of treatment seeking were similar across ethnic-racial groups. I, therefore, hypothesized that predictors of help seeking would not differ significantly between individuals in ethnic-racial minorities and Caucasian persons.

METHOD

Procedure and Participants

This study included participants from the Collaborative Psychiatric Epidemiology Surveys (CPES). Data were collected by the University of Michigan Survey Research Center (SRC). Respondents were adults aged 18 or older residing in households across the United States. Individuals were excluded if they were institutionalized, residing on a military base, or if

they were non-English speakers. The CPES is a merged dataset ($N=20,130$) that included three nationally representative samples: The National Comorbidity Survey Replication (NCS-R), The National Survey of American Life (NSAL), and The National Latino and Asian American Study (NLAAS), each briefly described below. The NCS-R is comprised of 9,282 respondents and was designed to identify the prevalence and correlates of the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) (APA, 2004) mental disorders. The NSAL is a study of 6,199 African American and Afro-Caribbean populations in the United States, and the NLAAS is a survey of 4,649 Latina/o and Asian Americans in the United States. The CPES was based on probability sample procedures common to the University of Michigan SRC's National Sample design. For further description of the sampling methods and design of each study, see Heeringa et al. (2004).

Participants ($N=595$; 77.8% were female) were included in the present study analyses if they participated in the CPES and were diagnosed with a lifetime eating disorder. Participants were diagnosed with anorexia nervosa (29.7%), bulimia nervosa (32.3%), and binge eating disorder (48.1%). Of the individuals who had a lifetime eating disorder, 2.6% were currently underweight (BMI < 18.50), 31.1% were currently normal weight (BMI between 18.50 and 24.99), 26.8% were currently overweight (BMI between 25.00 and 29.99), and 39.5% were currently obese (BMI \geq 30). Participants' mean (SD) age was 37.69 (SD=13.03). The majority of participants with eating disorders were employed (62.0%) or not in the labor force (29.1%), and few participants were unemployed (8.9%). The self-reported marital status of individuals with any lifetime eating disorder was: 48.4% married/cohabiting, 22.2% divorced/separated/widowed, and 29.4% never married. Participants self-reported their race as Caucasian ($n= 164$) or as belonging to an ethnic or racial minority group ($n=431$). Individuals in ethnic-racial minorities

self-reported the following races and ethnicities: Vietnamese (1.5%), Filipino (3.5%), Chinese (3.2%), “other” Asian race (3.0%), Cuban (4.7%), Puerto Rican (4.4%), Mexican (8.7%), “other” Hispanic ethnicity (8.2%), Afro-Caribbean (7.7%), African American (25.9%), non-Latino white (27.6%), or “other” race or ethnicity (1.5%).

Measures

The main assessment used in the CPES was an expanded version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). The CIDI was developed for the World Mental Health Survey Initiative (Kessler & Üstün, 2004) and provides diagnoses consistent with the *DSM-IV* (APA, 2004) and *International Classification of Diseases* (ICD; Organization, 2004) diagnostic criteria. Validity studies demonstrate significant correlations between WMH-CIDI diagnoses and those made by clinicians who re-interviewed a portion of the sample (Kessler & Üstün, 2004). To aid in the complex interview process, structured interviews were administered using a computer-assisted program.

Questions regarding help seeking were included in the eating disorder module of the WMH-CIDI. Participants with eating disorders were asked “Did you ever in your life talk to a medical doctor or other professional about problems with your eating or weight?” (dependent variable). “Other professional” was defined as psychologist, counselor, spiritual advisor, herbalist, acupuncturist, and “other” healing professional. Participants with eating disorders in the NSAL sample were also asked whether, when, why, and from whom, they sought help regarding their eating/weight problems (e.g., medical doctor, psychiatrist, family members), and whether or not that person was helpful. Sample responses from these variables are presented in **Table 1** to provide qualitative information regarding help seeking.

Independent variables were grouped according to their hypothesized associations to help seeking (see **Figure 1**), and included the following:

Psychopathological independent variables

Comorbidity: Number of lifetime non-eating disorder comorbid diagnoses as measured by the *DSM-IV* (e.g., major depressive disorder, generalized anxiety disorder, etc.). This was a count variable (range=0-16, $M=4.39$, $SD=3.72$). Other studies of both eating-disorder and non-eating-disorder comorbidity have used similar approaches to measure comorbidity (e.g., Bland et al., 1997; Galbaud du Fort et al., 1993; Hudson et al., 2007; Ibáñez et al., 2014).

Suicidality: This variable indicated the presence of any suicidal ideation or suicidal behavior. Questions comprising this variable were “Have you ever seriously considered committing suicide?” “Have you ever made a plan for committing suicide?” and “Have you ever attempted suicide?” This variable was constructed such that endorsement of suicidal ideation or suicidal behavior was coded one and the absence of suicide-related cognitions and behaviors was coded zero.

Social stressor independent variables

Acculturative Stress: Acculturative stress was defined as hardship experienced due to conflict between one’s culture-of-origin and host culture. These questions were only asked of NLAAS participants. The original acculturative stress section included nine dichotomous variables (e.g., “Have you been questioned about your legal status?”) that were summed to create a composite variable representing overall acculturative stress level (range=0-9, $M=3.24$, $SD=1.71$), where higher values indicated greater subjective acculturative stress.

Discrimination: Given that the NCS-R consists mainly of Caucasian individuals, who theoretically experience less discrimination based on race, racial discrimination questions were

only asked of individuals in the NLAAS and NSAL samples. The original discrimination section included nine variables (e.g., “Have you ever been treated unfairly due to your race?”), which were coded on a six-point frequency scale, ranging from “never” to “almost every day.” Individual discrimination variables were summed to create a composite variable representing overall discrimination levels (range=0-54, $M=12.75$, $SD=9.13$), where higher values indicated greater subjective discrimination.

Income: Household income was used as a proxy variable to assess financial burden associated with help seeking. The mean yearly household income for this sample of persons with eating disorders was \$47,089.94 ($SD=\$46,304.03$; range=\$0-200,000.00). This variable was right censored (i.e., top-coded), meaning values exceeding \$200,000 were treated as equal.

Social cohesion independent variables

Family Cohesion: These questions were only asked of the NLAAS and NCS-R samples. Items within this section include questions such as, “How often do you let relatives know about your problems?” Variables representing family cohesion were used as observed indicators of a latent family cohesion factor in structural equation modeling analyses (see Statistical Analyses, below), because family cohesion items were not coded on similar scales and could not be summed to create a composite variable (i.e., some questions were coded on a one- to four-point scale, other questions were coded on a one- to five-point scale).

Marital Status: This was a three-level categorical variable (married/cohabiting, divorced/separated/widowed, or never married). Structural equation modeling path comparisons were made using “never married” as the comparison group (i.e., never married vs. divorced/widowed/separated, *and* never married vs. married/cohabiting).

Religious Belongingness: Variables within this section included questions such as “How important are religious or spiritual beliefs in your everyday life?” Variables representing religious belongingness were used as observed indicators of a latent religious belongingness factor, because questions in the religion section were not coded on similar scales (i.e., some questions were coded on a one-to four-point scale, others were coded on a one- to five-point scale), and could not be summed to create a composite variable.

Statistical Analyses

The majority of analyses were carried out using Mplus Version 7 (Muthén & Muthén, 2012). Other analyses were completed in SPSS 21 (IBM, USA) or R version 3.0.2 (Buuren & Groothuis-Oudshoorn, 2011; R Core Team, 2013). Due to minor design differences among the three survey samples (i.e., NCS-R, NSAL, NLAAS), the combined CPES dataset had some missing data for certain variables. For example, the family cohesion questions were not asked of individuals in the NSAL sample, although there is no obvious theoretical reason these questions would not apply to individuals in this sample. For this type of missing data, multiple imputation was used. Other types of missing data were deemed inappropriate for imputation; these data included psychiatric diagnoses, discrimination, and suicidality. Note: Analyses of acculturative stress were not completed due to the large amount of missing data and insufficient sample size ($n=88$) to carry out appropriate structural equation modeling analyses. Only individuals in the NLAAS sample were asked acculturative stress questions and because members of the other samples theoretically did not experience acculturative stress, it would not be appropriate to impute these missing data.

Multivariate imputation using chained equations (MICE) in R was carried out to recover missing data. MICE was chosen because it is appropriate for categorical data. Specifically, the

MICE approach allowed for the specification of the distributions of binary and ordinal variables, and for the imputation of categorical data using other variables in the dataset as predictors to create 100 imputed datasets. The imputed datasets were pooled in Mplus, which provided point estimates (based on the average of the 100 imputed datasets) and standard error values (which accounted for between- and within-imputation variability). Because the study over-sampled certain demographic groups to obtain a sufficient number of individuals in ethnic and racial minorities to ensure adequate statistical power, study analyses included appropriate sampling weights and adjustments to take into account non-independence and stratification due to cluster sampling.

Prior to testing study hypotheses, family cohesion items and religiosity items were tested to identify whether they formed one or more separate, coherent latent factors using exploratory factor analysis (EFA) with oblique rotation, which allows for correlated factors. Next, structural equation modeling (SEM) was carried out in Mplus to identify significant predictors of help seeking among individuals with eating disorders. Predictors of help seeking included two latent factors (Religion and Family Cohesion) and nine observed variables (suicidality, comorbidity, discrimination, marital status, income, BMI, lifetime anorexia nervosa, lifetime bulimia nervosa, and lifetime binge eating disorder). Finally, multiple group analysis (MGA) was used to test whether the SEM factor configuration, factor loadings, and intercepts were invariant between Caucasian persons and individuals in ethnic-racial minorities. MGA provided a test of whether predictors of help seeking represented comparable constructs in individuals who self-identified as Caucasian vs. an ethnic-racial minority. SEMs and MGAs were analyzed using the multivariate weighted least squares means and variances adjusted (WLSMV) estimator. SEMs and MGAs were evaluated using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI),

and Root Mean Square Error of Approximation (RMSEA) using conventional recommendations for determining “good” model-data fit (Hu & Bentler, 1999).

RESULTS

The original model demonstrated poor fit, as indicated by CFI and TLI values $< .90$ (Hu & Bentler, 1999). Results from EFAs suggested that the latent family cohesion factor split into two latent family cohesion factors, labeled “Friend Support” and “Family/Friend Support” (see **Table 2** for a listing of these items). All Family/Friend Support, Friend Support, and religious belongingness observed indicators loaded significantly on their latent factors in all groups. Including the two latent family cohesion factors improved model fit (full sample: RMSEA = .04; CFI = .96; TLI = .95). Thus, we tested SEMs to predict help seeking with three latent factors (Religion, Friend Support, and Family/Friend Support) and nine observed variables (Suicidality, Comorbidity, Discrimination, Marital Status, Income, BMI, Lifetime Anorexia Nervosa, Lifetime Bulimia Nervosa, and Lifetime Binge Eating Disorder; see **Figure 2**). All models tested below had good fit to the data (RMSEA $< .05$, CFI $> .94$, and TLI $> .93$).

Results of MGAs showed evidence for strong psychometric invariance between Caucasian and ethnic-racial minority groups for factor configuration, factor loadings, and “intercepts.” These findings suggested that help seeking constructs can be interpreted in the same way (i.e., have the same meaning) between groups (see results below).

Full Sample. BMI emerged as the only significant (positive) predictor of help seeking in the full sample of individuals with eating disorders (see **Table 3**).

Caucasian Sample. All variables (i.e., suicidality, comorbidity, marital status, discrimination, income, BMI, lifetime anorexia nervosa, lifetime bulimia nervosa, lifetime binge

eating disorder, religious belongingness, family/friend support, and friend support) were non-significant predictors of seeking help for an eating disorder (see **Table 3**).

Ethnic Minority Sample. In contrast to results in Caucasian persons, BMI was associated with a significantly higher probability of seeking help for an eating disorder. Conversely, having a lifetime diagnosis of binge eating disorder was associated with a significantly lower probability of seeking help among individuals in ethnic or racial minorities. Results indicated that having a lifetime diagnosis of anorexia nervosa or bulimia nervosa was associated with lower probability of help seeking in ethnic minorities, yet these predictors failed to reach statistical significance. Being married or cohabiting was associated with a lower probability of help seeking in the ethnic minority group, but not at a statistically significant level (see **Table 3**).

DISCUSSION

The purpose of this study was to identify variables predictive of help seeking in a nationally representative sample of individuals with eating disorders. I hypothesized that three sets of variables would predict help-seeking behavior: psychopathological factors, social stressors, and social cohesion. Psychopathological factors included suicidality and the presence of non-eating-disorder psychiatric comorbidity. I hypothesized that the presence of comorbidity and suicidality would increase the likelihood that individuals would seek help for an eating disorder. Contrary to my hypothesis, the present study did not find that comorbidity or suicidality predicted help-seeking behavior. Although previous studies found that comorbidity predicted help-seeking behavior in samples of general psychiatric patients (Bland et al., 1997; Galbaud du Fort et al., 1993), to my knowledge, the results of the current study are the first to indicate that comorbidity does not promote help seeking among persons with eating disorders. Given that non-eating-disorder psychiatric comorbidity is extremely common among individuals with eating

disorders (Herzog, Keller, Sacks, Yeh, & Lavori, 1992; Kaye et al., 2014; Telch & Stice, 1998; Wonderlich & Mitchell, 1997), the number of comorbid syndromes may not have served as a good proxy indicator for severity in this population. Thus, future studies are needed to test the impact of “severity” using primary (eating-disorder-related) and tertiary (non-eating-disorder-related) measures of psychiatric disability.

Few studies have examined help-seeking differences between individuals with a history of suicidal ideation (with no suicide attempts) versus those with a past suicide attempt. In a Canadian study of over 30,000 participants, Pagura et al. (2009) found that individuals with suicidal ideation or a past suicide attempt were more likely than those with “mental illness only” (i.e., no suicidality) to seek help and to perceive a need for psychiatric care. On the other hand, Pagura also noted that a significant portion of individuals with suicidal ideation or suicidal behaviors did not seek help, nor did these individuals perceive a need for mental health services. Discrepant findings between the current study and Pagura’s research may be due to issues with statistical power (this study included nearly 600 participants vs. 30,000) and/or sample composition differences. Pagura et al.’s (2009) sample was comprised of persons with “general mental health concerns” (i.e., their study did not test an eating-disorder-specific sample) and demographic information about sex and ethnicity-race were not reported. Given that rates of suicide attempts differ between sexes and among ethnic-racial groups (Garlow, Purselle, & Heninger, 2005; Hawton, 2000; Oquendo et al., 2014), it is possible that I had different findings due to the large proportion of women and ethnic-racial minorities in the present study. Finally, I combined suicidal ideation, plans, and attempts into one variable representing “suicidality.” Because suicidal ideation is widespread among those with eating disorders, collapsing suicidality

into one variable may have reduced the variance of this indicator, which may have contributed to the lack of significance of suicidality in predicting help seeking.

I also hypothesized that certain social stressors, including income, acculturative stress, and discrimination, would serve to decrease odds of help seeking in individuals with eating disorders. Income was not significantly related to help seeking in this sample, which is in contrast to existing research, which suggested that cost was a barrier to help seeking (Becker et al., 2010; Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Evans et al., 2011; Hepworth & Paxton, 2007). In the current study, I assessed whether individuals with eating disorders had sought help from an array of providers (e.g., physician, religious provider, etc.); some of these resources were free-of-cost, which would obviate inadequate finances as a help-seeking barrier. Additionally, the research studies cited above assessed individuals' financial standing using generic questions (e.g., asking participants whether "financial difficulties" prevented them from seeking help). I used household yearly income as a measure of "financial burden," rather than directly asking participants whether financial burden prohibited them from seeking help, which may have been a more objective measure of financial barriers to help seeking.

As noted earlier, analyses including acculturative stress were not performed due to missing data and sample size issues. Discrimination, however, was not significantly related to help seeking; this finding contrasts prior literature that suggested perceptions of racial discrimination were barriers to help seeking in individuals with eating disorders (Becker et al., 2010; Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Striegel-Moore et al., 2000). A potential explanation for this discrepancy is the way in which discrimination was assessed in the present sample. In this study, questions pertaining to discrimination were asked separately from help seeking and eating problems. Previous research demonstrated a negative association

between discrimination and help seeking in individuals with eating disorders, but participants in prior studies were asked whether they perceived that they were discriminated against *when they were seeking help for an eating disorder* (Becker et al., 2010; Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Striegel-Moore et al., 2000). Thus, the results of the current study can be understood as providing some of the first evidence to suggest that general discrimination experienced in *day-to-day life* is not related to help-seeking for an eating disorder.

Finally, I hypothesized that social cohesion factors—including positive family relationships, religious belongingness, and the presence of a marital relationship—would positively predict help seeking. Contrary to my hypothesis, no social cohesion variables emerged as significant predictors of help seeking (see **Table 3**). Previous studies of the influence of social cohesion on treatment seeking have been conducted in general psychiatric samples. It could be that the association between social cohesion and treatment seeking functions differently in persons with eating disorders. Indeed, less than a quarter of individuals with eating disorders in the NSAL sample endorsed going to family or friends with their eating and weight concerns (see **Table 1**), suggesting that there may be high levels of shame, guilt, and stigma associated with talking to friends and family about one's eating disorder. Consistent with this notion, research indicates that individuals perceive persons with an eating disorder more negatively than individuals with other forms of mental illness, such as schizophrenia (Crisp, 2005; Stewart, Keel, & Schiavo, 2006). Specifically, Stewart et al. (2006) found that people tended to think that individuals with eating disorders were most to blame for their own condition, could pull themselves “out of it” if they wanted to, and that eating disorder behaviors were efforts to gain attention. It may have been difficult to share concerns regarding one's eating disorder with friends and family due to guilt and shame associated with these negative perceptions.

In terms of other social cohesion factors, it is noteworthy that the trend-wise significance of marital status for ethnic minorities—in which persons who were married or cohabiting were less likely to seek help—is consistent with existing literature (Andrade et al., 2008; Koenen et al., 2003). Specifically, previous studies suggested that being divorced, separated, or never married (vs. being married) was associated with greater likelihood of seeking help for general psychological problems (Arria et al., 2011; Pagura et al., 2009; Smolak et al., 2013; Thoits, 2011), which may be because never married/divorced individuals do not have a partner to immediately rely on for help with psychological issues.

Body Mass Index and lifetime diagnosis of binge eating disorder were significant predictors of help seeking in individuals who are in the ethnic-racial minority. Specifically, higher BMI was associated with a higher probability of seeking help for one's eating or weight problems in this sample. It may be that increased weight is a catalyst for people to seek help; indeed, obese persons who sought treatment for an eating disorder reported greater psychopathology and more frequent binge eating than obese individuals who had not sought treatment and normal weight controls (Fitzgibbon, Stolley, & Kirschenbaum, 1993). Another study comparing obese individuals who sought treatment had more general physical health problems than those who had not sought treatment (Fontaine, Cheskin, & Barofsky, 1996). And finally, as mentioned previously, several studies have found eating disorder symptom severity, medical complications (possibly due to eating pathology) and body image concerns to predict help seeking (Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007; Schoen et al., 2012). Taken together, these results suggest that persons at a higher BMI may seek help for their eating and weight problems because they are experiencing greater physical and psychological problems; in other words, BMI may serve as a moderator in

predicting help seeking in individuals with eating disorders. Future research is needed to test this proposed mechanism.

Lifetime diagnosis of binge eating disorder was associated with a significantly lower probability of help seeking for ethnic minority individuals. These results should be understood in the context of potential suppressor effects. In other words, these findings likely reflect the fact that direct effect of binge eating disorder on BMI is positive and the direct effect of BMI on help seeking is positive. However, the indirect effect (binge eating disorder to help seeking, controlling for BMI) is negative. Another explanation for these findings may be that shame associated with large eating episodes in the context of obesity prevents those with binge eating disorder from seeking help for their eating problems. Indeed, eating disorders are often accompanied by shame (Goss & Allan, 2009; Jambekar, Masheb, & Grilo, 2003; Keith, Gillanders, & Simpson, 2009; Sanftner, Barlow, Marschall, & Tangney, 1995), which might also explain why lifetime diagnoses of anorexia nervosa or bulimia nervosa were negatively associated with help seeking at a trend-level. Another possibility is that individuals with binge eating disorder do not realize they have a diagnosable problem. This could be due to absence of more “objective” eating-disorder markers, such as low weight or purging behaviors. Future studies are needed to fully tease apart the complex associations among body weight, shame, binge-eating behavior, and help seeking for an eating disorder.

Study results should be interpreted in the context of several limitations. First, due to the scope and scale of the CPES, skip-out rules were implemented to allow for coverage of multiple domains, which necessarily came at the expense of depth. For example, most participants were only asked one suicidality question, because if they did not endorse the first question, the interviewer was prompted to “skip-out” of the section. While this certainly makes sense for

reducing participant burden (i.e., individuals who have not thought about suicide are less likely to have attempted suicide), a recent study indicated that approximately 30% of participants endorsed symptoms that would have been missed if skip out rules were applied (Swanson, Brown, Crosby, & Keel, 2014). Thus, skip-out rules utilized in the CPES may have reduced power to detect significant associations for certain variables. I attempted to address this issue through multiple imputation, when possible. Second, I was not able to include acculturative stress in the present manuscript due to the low sample size for this variable. Future research to test whether acculturative stress predicts help seeking among persons with eating disorders is needed. Finally, studies of the prevalence of eating disorders in a recent large-scale community study found that OSFED represents the most common form of eating disorder (Stice, Marti, Shaw, & Jaconis, 2009). OSFED diagnoses include purging disorder, night eating syndrome, and sub-threshold versions of anorexia nervosa, bulimia nervosa, and binge eating disorder. I was not able to test whether individuals with a lifetime OSFED were more or less likely to seek help for their eating disorder because this diagnosis was not included in the CPES. Predictors of help seeking may be different for persons with an OSFED, and research identifying these predictors is warranted. Identification of factors that are significantly associated with help seeking in individuals with any eating disorder diagnosis (full- or sub-threshold) may highlight important targets for eating disorder outreach services aimed at providing assistance to those who suffer from eating disorders.

Despite these limitations, this study has several notable strengths. With a nationally representative sample size of over 20,000, the CPES is one of the largest nationally representative datasets to-date, and provides information on a variety of mental disorders and other demographic constructs. Despite the low prevalence of eating disorders in the general

population (3.10% in this sample), the CPES allowed adequate power to explore predictors of help seeking in a large sample of individuals with eating disorders ($N=595$). To my knowledge, this was the largest sample to look at predictors of help seeking in people with eating disorders, and provided sufficient power to test the model separately in participants in ethnic and racial minorities.

In conclusion, the current study findings suggested that binge-eating behavior may represent a key target to promote greater help seeking in individuals with eating disorders, particularly among individuals in ethnic and racial minorities. Ethnic-racial minorities with binge eating disorder had a significantly lower likelihood of seeking help for their eating or weight problems. Previous research has documented significant ethnic-racial disparities for receiving treatment for an eating disorder (Marques et al., 2011; Striegel-Moore et al., 2000). Findings from the current study, in combination with other research, suggest a need for improved eating disorder education and outreach. For example, it may be useful to provide referral resources, screening tools for binge eating, and educational materials about eating disorders in ethnic-racial minorities to public health workers (e.g., physicians, nurses, social workers). Public health campaigns aimed at improving recognition of binge eating disorder in ethnic and racial minority groups and reducing shame and stigma associated with eating disorders may prove to be useful for promoting help seeking in people who may not ask for help on their own.

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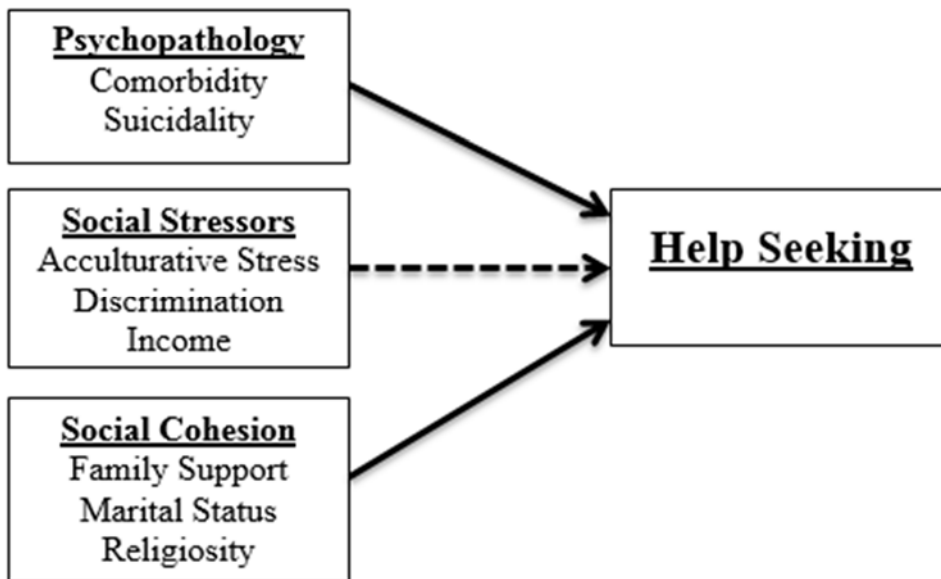


Figure 1. *Hypothesized influence of psychopathological, social stressor, and social cohesion groups of variables on help seeking in individuals with eating disorders.* Solid arrows indicate hypothesized increased odds of help seeking, whereas dashed arrows indicate hypothesized decreased odds of help seeking.

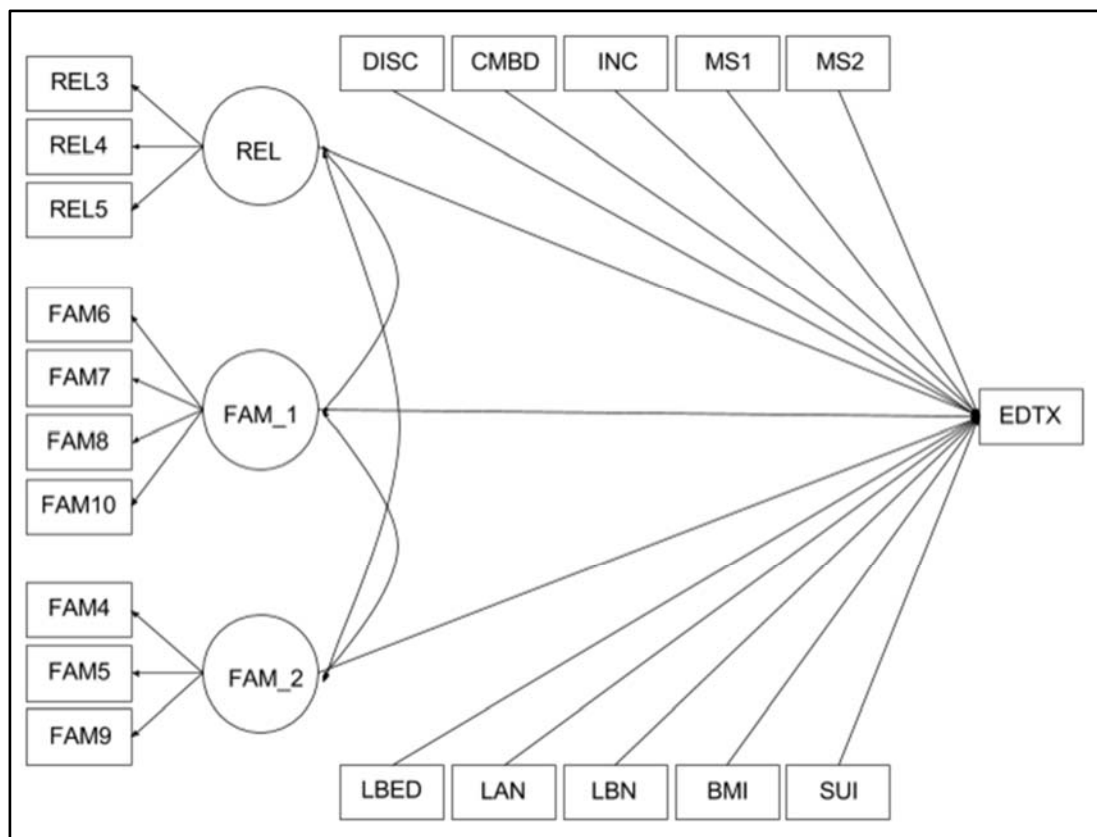


Figure 2. Structural equation model examining predictors of help seeking in individuals with eating disorders.

Note: REL=Religious belongingness; FAM_1=Family/Friend support; FAM_2=Friend support; DISC=Discrimination; CMBD=Comorbidity; INC=Income; MS1=Marital status dummy code comparing Married to Divorced/Separated/Widowed; MS2=Marital status dummy code comparing Never Married to Divorced/Separated/Widowed; LBED=Lifetime binge eating disorder; LAN=Lifetime anorexia nervosa; LBN=Lifetime bulimia nervosa; BMI=Body mass index; SUI=Suicidality; EDTX=Help seeking for eating-related problems.

Table 1. *Help-seeking variables from the NSAL sample.*

	%
From who did you receive help?	
<i>Psychiatrist</i>	15.46
<i>Other mental health professional</i>	16.49
<i>Family doctor</i>	77.32
<i>Other medical doctor</i>	29.90
<i>Other health professional</i>	28.87
<i>Religious/spiritual provider</i>	9.28
<i>Other healer</i>	6.19
<i>Family/friends</i>	23.64
Were any of these professionals helpful?	72.16
Type of help received:	
<i>None</i>	20.62
<i>Individual Therapy</i>	31.96
<i>Group Therapy</i>	3.09
<i>Meds/drugs</i>	19.59
<i>Other</i>	24.74
If did not receive professional help, why not?	
<i>Problems not very distressing</i>	29.03
<i>Would get better on own</i>	25.16
<i>Did not need help/did not think had problem</i>	12.90

Note: These questions were only asked of participants in the NSAL sample who had lifetime eating disorders ($n=97$).

Percent shown above represents valid percent who positively endorsed the question.

Table 2. *Item listings for Family Cohesion latent factors.*

Family/Friend Support

*“How much can you open up to relatives who do not live with you if you need to talk about your worries?”

“How often do your relatives make too many demands on you?”

“How often do your relatives argue with you?”

“How often do your friends make too many demands on you?”

“How often do your friends argue with you?”

*“When you have a problem or worry, how often do you let your (husband/wife/partner) know about it?”

Friend Support

*“How much can you rely on your friends for help if you have a serious problem?”

*“How much can you open up to your friends if you need to talk about your worries?”

Note: Variables that are *starred were reverse-coded to match all other family cohesion variables (i.e., recoded so that higher scores indicated higher levels of support). After recoding, higher scores on all Family/Friend Support and Friend Support variables indicate higher levels of support.

Table 3. Model results of predictors of help seeking.

<i>Full Sample</i>	<i>Estimate</i>	<i>S.E.</i>	<i>Estimate/S.E.</i>	<i>Two-tailed p-value</i>
Religion	.086	.070	1.231	.218
Family/Friend Support	.375	.203	1.851	.064
Friend Support	.013	.098	.127	.899
Discrimination	.002	.017	.121	.904
Comorbidity	.004	.035	.123	.902
Suicidality	.149	.268	.557	.578
Lifetime BED	-.092	.313	-.293	.770
Lifetime AN	.099	.325	.305	.760
Lifetime BN	-.043	.290	-.149	.882
Income	.001	.001	.625	.532
BMI	.032	.016	2.033	.042*
Married/Cohabiting	-.098	.249	-.394	.694
Not Married	-.042	.302	-.138	.890
<i>Caucasian</i>	<i>Estimate</i>	<i>S.E.</i>	<i>Estimate/S.E.</i>	<i>Two-tailed p-value</i>
Religion	.121	.082	1.468	.142
Family/Friend Support	.166	.242	.683	.495
Friend Support	-.026	.107	-.242	.809
Discrimination	.002	.022	.100	.920
Comorbidity	.012	.051	.232	.816
Suicidality	.052	.403	.128	.898
Lifetime BED	.311	.486	.640	.522
Lifetime AN	.479	.519	.922	.356
Lifetime BN	.361	.399	.904	.366
Income	.001	.002	.394	.694
BMI	.026	.026	1.001	.317
Married/Cohabiting	.168	.382	.439	.661
Not Married	.140	.479	.291	.771
<i>Ethnic Minority</i>	<i>Estimate</i>	<i>S.E.</i>	<i>Estimate/S.E.</i>	<i>Two-tailed p-value</i>
Religion	-.021	.083	-.258	.797
Family/Friend Support	.641	.806	.794	.427
Friend Support	.058	.108	.537	.592
Discrimination	.009	.018	.483	.629
Comorbidity	-.031	.047	-.660	.509
Suicidality	.383	.296	1.292	.196
Lifetime BED	-.841	.383	-2.193	.028*
Lifetime AN	-.582	.349	-1.665	.096
Lifetime BN	-.701	.373	-1.882	.060
Income	.000	.003	-.128	.898
BMI	.063	.019	3.378	.001*
Married/Cohabiting	-.586	.327	-1.792	.073
Not Married	-.202	.337	-.600	.549

Note: S.E.=standard error; BED=Binge Eating Disorder; AN=Anorexia Nervosa; BN=Bulimia Nervosa; BMI=Body Mass Index; *items are statistically significant at the $p<.05$ level.