Chapter #4

THE RELATION BETWEEN MOOD DISORDER AND MENTAL HEALTH CONSULTATIONS: THE ROLE OF FAMILY AND FRIEND SATISFACTION

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ABSTRACT
The purpose of this study was to examine the role of social support from family and friends in seeking mental health consultations in people with and without a mood disorder. Data from the 2017/2018 Canadian Community Health Survey were analyzed from individuals aged 12 to 80+ years (N = 26,448). The results indicated that stress predicted the presence of a mood disorder, but this relation was not moderated by family or friend support. Moreover, having a mood disorder significantly increased the likelihood of mental health consultations. Interaction terms between mood disorder and family satisfaction and mood disorder and friend satisfaction were examined. The linear effect of family satisfaction and friend satisfaction on mental health consultations for individuals with a mood disorder was positive, albeit non-significant. In contrast, the linear effect of family satisfaction and friend satisfaction on mental health consultations for individuals without a mood disorder was negative. Thus, in the absence of a mood disorder, higher satisfaction with family and with friends is associated with lower mental health consultations. Further research should continue to investigate the influence of friend and family support on seeking mental health consultation in people with mood disorders.

Keywords: mood disorders, friend, family, support, mental health consultations.

1. INTRODUCTION AND BACKGROUND

Mental health and wellness are worldwide concerns (World Health Organization [WHO], 2022a). According to the WHO, mental health conditions exist in all countries, and it is estimated that nearly 1 billion people worldwide experience some form of mental health disorder. Specifically, one in eight people are estimated to be currently living with a mental health disorder. In addition, approximately 20% of children and adolescents globally have a mental health condition, with suicide being the second leading cause of death for individuals aged 15 to 29 years (WHO, 2022b). The prevalence of mental health concerns is increasing globally and in the last decade there has been a 13% increase in mental health conditions and substance use disorders. The WHO (2022a) reported that people living with severe mental health conditions die on average 10 to 20 years earlier than the general population, often of preventable physical diseases.

In Canada, mental illness is one of the leading public health problems (Canadian Mental Health Association [CMHA], 2022). According to CMHA, 1 in 4 Canadians will be affected by a mental illness in their lifetime and 1 in 8 Canadians will develop a mental illness serious enough to require professional care. In addition, the Mental Health Commission of Canada (MHCC, 2013) found that 1 in 5 Canadians will personally experience a mental health problem or illness in any given year, accounting for more than 6.7 million people. By 40 years of age, about 50% of the Canadian population will have or have had a mental illness (MHCC, 2013).

Throughout the world and in Canada, mood and anxiety disorders are the most common types of mental illnesses (Government of Canada, 2016). Mood disorders include disorders that elevate or lower a person's mood while anxiety disorders are characterized by having excessive and persistent feelings of worry, apprehension, and fear. In 2013, an estimated 3 million Canadian adults (aged 18 years or older) reported having a mood and/or anxiety disorder (Government of Canada, 2014). Individuals diagnosed with a mood and/or an anxiety disorder often have major impacts on their lives. According to the Government of Canada (2014), 27% of people who reported having a mood or anxiety disorder in 2013 also reported that their disorder(s) had affected their life "quite a bit" or "extremely" in the past 12 months. In addition, 50% of the working Canadians who reported having a mood and/or an anxiety disorder also reported requiring a job modification to continue working because of their disorder(s). Moreover, approximately 35% reported having to stop working all together because of their disorder(s).

Despite the widespread prevalence of mental illnesses in Canada, some Canadians report that their mental health needs are not being met (Government of Canada, 2019). Approximately 5.3 million Canadians reported needing mental health care in 2018; however, only half found that their needs were fully met and 1.1 million reported that their needs were fully unmet. Moreover, almost a quarter of Canadians with mood and/or anxiety disorders (23%) in 2013 reported that they did not consult any mental health professionals about their disorder(s) (Government of Canada, 2014). In addition, of the 62% of respondents who were advised by a professional to seek psychological counselling services for their mood and/or anxiety disorder(s), only 20% of them reported receiving services within the past year. Due to the prevalence of mental illness and mood and anxiety disorders, it is of upmost importance to identify predictors of mental illness and mental health service use in Canada.

1.1. Stress and Mental Illness

Researchers have found that stress levels are related to the prevalence of mood disorders, including both anxiety and depression (Fan, Blumenthal, Watkins, & Sherwood, 2015; Lathren, Bluth, & Park, 2019; Nguyen, Fournier, Bergeron, Roberge, & Barrette, 2005). Nguyen and colleagues (2005) found a higher prevalence of anxiety and depressive disorders in Canadian youth under extreme stress compared to youth who experienced average stress. Research by Lathren and colleagues (2019) found significant associations between high perceived stress, anxiety, and depression scores among adolescents. In adults, population-based studies and systematic reviews also show that work stress is associated with an increased risk of mental illness, including anxiety and depression (Fan et al., 2015; Hoven, Wahrendorf, Goldberg, Zins, & Siegrust 2021; Kim & von Dem Knesebeck, 2015; Rugulies, Aust, & Madsen, 2017). Employees reporting high effort-reward imbalance (Hoven et al., 2021; Rugulies et al., 2017), job insecurity (Fan et al., 2015; Hoven et al., 2021; Kim & von Dem Knesebeck, 2015), and strenuous physical working conditions (Hoven et al., 2021) have been found to have an increased risk of developing anxiety and depression. Fan and colleagues (2015) also found that employees who reported having high home stress, such as high perceived family demands and personal conflict, also reported higher levels of depression and anxiety suggesting evidence for the influence of interpersonal stress on mental illness. Overall, stress appears to be an important predictor of mental illness and should be further investigated in relation to mood disorders.

1.2. Social Support and Mental Health Service Use

Social support has been identified to be an important predictor of seeking mental health services among individuals with mental illness. Research by Hom, Stanley, and Joiner (2015) found that family and friends are key gatekeepers for individuals contemplating suicide to seek mental health consultation. Since individuals often prefer to disclose suicidal thoughts to family or friends over a mental health care professional (Arria et al., 2011), family and friends can play a role in ensuring that an at-risk individual connects with care (Hom et al., 2015). Similarly, Marko, Linder, Tullar, Reynolds, and Estes (2015) found that individuals with serious psychological distress had a reduced likelihood of using mental health services if they reported lacking emotional support. Moreover, social support has been identified as an important predictor of mental health help-seeking in young adults (Gulliver, Griffiths, & Christensen, 2010; Lian, Wallace, Fullilove, 2020; Vogel, Wade, Wester, Larsen, & Hackler, 2007). Lian and colleagues (2020) found that intimate partners, friends, and parents, were reported to be important sources for mental health help-seeking by adolescents when encountering a mental-health related problem. On the contrary, other researchers have suggested that social support increases seeking general medical services but not for those with psychiatric conditions (Maulik, Eaton, & Bradshaw, 2009). LeCloux, Maramaldi, Thomas, and Wharff (2016) found that higher levels of parental support were associated with a lower likelihood of mental health service use among adolescents contemplating suicide. Overall, the literature regarding social support in relation to mental illness and seeking mental health consultations has been mixed and mostly limited to younger adults. Moreover, there is a lack of literature investigating the specific roles of friend support and family support on seeking mental health services in individuals with mental health concerns. Overall, research should investigate the influence of friend and family support on mental illness and seeking mental health consultations.

2. OBJECTIVE

The objective of the current study was to investigate mental health service use (i.e., consultation) in individuals with and without a mood disorder, and to examine whether this relation was moderated by family and friend support. The present study utilized population data to assess the influence of these predictors across ages.

3. METHOD

3.1. Data Source and Participants

The data source for the current study came from the 2017/2018 Canadian Community Health Survey (CCHS) conducted by Statistics Canada (the national statistical and census office). The CCHS is a cross-sectional survey that collects data on the health of Canadians, their determinants of health, and their healthcare utilization. The target population of the CCHS covers all 10 provinces and three territories for individuals 12 years of age and older.

We were able to access the public use microfile data for the 2017/2018 CCHS through our university. The CCHS contains both core content (questions asked of all participants) and optional content (select questions that provinces or territories can choose to include). Consequently, if researchers use optional content, the generalizability of a given study is no longer national. The current study used several questions from optional

modules in the CCHS and as such, only the provinces of Nova Scotia and Quebec were represented in all findings, with Alberta being represented in some findings as well. To be included in the current study, participants had to respond to all covariates of interest, all predictors of interest, and at least one outcome variable (see Table 1).

Based on these parameters, the total sample size was 26,448; 14,138 were women (53.5%) and 12,310 were men (46.5%). Ages ranged from 12 – 80+ years.

Table 1.
Descriptive Statistics as Percentages or Means/Standard Deviations for Demographic Variables of Interest.

	Female	Male
N =	14,138	12,310
Not an Ethnic Minority	87.8%	87.1%
Less than secondary school	18.4%	19.8%
Secondary school graduate	19.7%	18.7%
Post-secondary graduate	61.9%	61.4%
Married	34.0%	36.2%
Common-Law	22.9%	23.7%
Widowed/Separated/Divorced	15.7%	8.1%
Single	27.4%	32.0%
Income Decile	5.36/2.89	5.78/2.83
Self-Rated Health	2.76/0.98	2.79/0.97
Satisfaction with Family Support	4.36/0.77	4.37/0.73
Satisfaction with Friend Support	4.38/0.67	4.34/0.68
Presence of a Mood Disorder	8.2%	4.8%
Mental Health Consultation	18.1%	9.7%

3.2. Measures

3.2.1. Covariates

We controlled for sex (female = base; male), age (12-14 years = base; in blocks of 5-years), education (< high school = base; high school graduate, post-secondary graduate), marital status (married = base; common-law, widowed/separated/divorced, single), province (Nova Scotia = base, Quebec), subjective physical health (1 = *Poor*, 2 = *Fair*, 3 = *Good*, 4 = *Very good*, 5 = *Excellent*), and subjective mental health (1 = *Poor*, 2 = *Fair*, 3 = *Good*, 4 = *Very good*, 5 = *Excellent*).

3.2.2. Predictors

To measure stress, we used the question, “Thinking about the amount of stress in your life, would you say that most of your days are...” with responses ranging from 1 (*Not at all stressful*) to 5 (*Extremely stressful*). We measured family satisfaction with the question, “How satisfied are you with your relationships with family members?” with responses ranging from 1 (*Very dissatisfied*) to 5 (*Very satisfied*). We assessed friend satisfaction with the question, “How satisfied are you with your relationships with friends?” with available responses ranging from 1 (*Very dissatisfied*) to 5 (*Very satisfied*).

3.2.3. Outcomes

The CCHS had a question asking respondents to indicate whether they had a mood disorder including depression, bipolar disorder, mania, or dysthymia, to which respondents could respond either 0 (*No*) or 1 (*Yes*). We also used mood disorder as a predictor for mental health consultations. We were particularly interested in the comparison between people with or without mood disorders.

Finally, we looked at mental healthcare access using the question, "In the past 12 months, have you seen or talked to a health professional about your emotional or mental health?" Respondents could either answer in the negative (0 = *No*) or in the affirmative (1 = *Yes*).

3.3. Procedure

Telephone interviews and personal interviews were conducted by trained interviewers who obtained consent. The CCHS questionnaire can be completed in approximately 45 minutes.

4. RESULTS

4.1. Data Analysis

All data analysis was performed with Stata 15. The 2017/2018 CCHS contained both person-level weights for point estimates and bootstrap weights for variance estimation. Unfortunately, due to the research questions under consideration, the bootstrap weights could not be employed; we could not compare the coefficients of interest for Family Satisfaction and Friend Satisfaction when variance estimation employed bootstrap weighting. However, the omission of the bootstrap weights did not substantively change the results we reported. We used binary logistic regression for predicting Mood Disorder and Mental Health Consultations. Because of correlated error terms in all models (Statistics Canada used complex random sampling and not simple random sampling), we used HC1 error corrections to estimate standard error.

4.1.1. Stress and Mood Disorder

We examined the relation between stress and mood disorder and were particularly interested in whether this relation was moderated by either Family Satisfaction or Friend Satisfaction. We regressed Mood Disorder onto covariates in Block 1, $F(27, 38432) = 69.51$, $p < .001$, which improved the overall model. Stress was added in Block 2, $F(1, 38432) = 11.99$, $p < .001$, and it positively predicted the presence of a Mood Disorder, OR = 1.14, 95% CI [1.06, 1.23]. Family Satisfaction and Friend Satisfaction were added in Block 3, $F(2, 38432) = 4.00$, $p = .018$, which significantly improved the prediction of Mood Disorder. However, neither Family Satisfaction, OR = 0.92, 95% CI [0.84, 1.02], nor Friend Satisfaction, OR = 0.93, 95% CI [0.84, 1.04], significantly predicted Mood Disorder in themselves.

We then explored the interaction term between Stress * Family Satisfaction in Block 4, $F(1, 38432) = 1.33$, $p = .249$, but the overall model was not significant. We removed the interaction term from Block 4, and replaced it with the interaction term between Stress * Friend Satisfaction, $F(1, 38432) = 0.02$, $p = .886$, which was also not significant. These two non-significant interaction terms would suggest that neither Family Satisfaction nor Friend Satisfaction buffered the relationship between Stress and Mood Disorder.

4.1.2. The Role of Family and Friend Satisfaction in Mood Disorder

We explored the *relative* importance of Family Satisfaction and Friend Satisfaction in the prediction of Mood Disorder across the lifespan. We were specifically interested in whether all age categories (12-17, 18-34, 35-49, 50-64, and 65-80+) would report equivalent estimates for Family Satisfaction and Friend Satisfaction. Given the large volume of output associated with these analyses, we will adopt a more narrative approach to this component of the results. Family Satisfaction and Friend Satisfaction did *not* predict Mood Disorder across the lifespan. The odds ratios for Family Satisfaction and Friend Satisfaction were similarly sized across the lifespan. When comparing the magnitude of effect for Family and Friend Satisfaction across the various age categories, we generally observed that their relative importance did not change.

4.1.3. Mood Disorder, Family and Friend Satisfaction, and Mental Health Consultations

We examined the relation between Mood Disorder and Mental Health Consultation, and whether this relation was moderated by either Family Satisfaction or Friend Satisfaction. We regressed Mental Health Consultations onto the covariates in Block 1, $F(25, 26447) = 35.39$, $p < .001$, which significantly improved the overall model. Mood Disorder was added in Block 2, $F(1, 26447) = 857.89$, $p < .001$, and we found that having a Mood Disorder significantly increased the likelihood of Mental Health Consultation, OR = 15.18, 95% CI [12.66, 18.22]. Both Family Satisfaction, OR = 0.76, 95% CI [0.70, 0.83], and Friend Satisfaction, OR = 0.90, 95% CI [0.81, 1.00], were added in Block 3, $F(2, 26444) = 33.03$, $p < .001$, and both were significant negative predictors of Mental Health Consultation.

We then explored the interaction term between Mood Disorder and Family Satisfaction in Block 4, $F(1, 26447) = 29.48$, $p < .001$, which further reduced the deviance of the model. The linear effect of Family Satisfaction on Mental Health Consultation for the 'Mood Disorder' group was positive, albeit non-significant, OR = 1.12, 95% CI [0.96, 1.31]. In contrast, the linear effect of Family Satisfaction on Mental Health Consultation for the 'No Mood Disorder' group was negative and significant, OR = 0.70, 95% CI [0.64, 0.76]. In other words, Mood Disorder worked in conjunction with Family Satisfaction to predict Mental Health Consultation. However, the 'gap' between the two Mood Disorder groups *increased* as Family Satisfaction increased. At the low end of Family Satisfaction, the difference between the 'No Mood Disorder' group and the 'Mood Disorder' group was, $M_{diff} = 0.27$, $t = 4.16$, $p < .001$; but at the *high* end of Family Satisfaction, the difference between the two groups was $M_{diff} = 0.55$, $t = 19.18$, $p < .001$.

We removed variables from Block 4 and added the interaction term between Mood Disorder and Friend Satisfaction, $F(1, 26447) = 8.87$, $p = .003$, which improved the overall model. Friend Satisfaction was associated with a significant *decreasing* likelihood of Mental Health Consultation in the 'No Mood Disorder' group, OR = 0.85, 95% CI [0.76, 0.95], and was associated with a positive, albeit non-significant trend in seeking Mental Health Consultation in the 'Mood Disorder' group, OR = 1.13, 95% CI [0.96, 1.34]. When comparing the 'No Mood Disorder' group and the 'Mood Disorder' group at the *lowest* level of Friend Satisfaction, the difference between the groups was significant, $M_{diff} = 0.34$, $t = 4.89$, $p < .001$. However, when comparing the same groups at the *highest* level of Friend Satisfaction the gap between the groups was noticeably larger, $M_{diff} = 0.53$, $t = 17.91$, $p < .001$.

5. DISCUSSION

The current study investigated predictors of mood disorders and mental health service use (i.e., mental health consultations). The influence of stress and social support (i.e., friend and family support) were examined in relation to the presence of a mood disorder. In addition, we explored interaction effects to determine whether the relation between mood disorder and mental health consultations was moderated by family support and friend support.

The current study found a significant positive correlation between stress and the presence of a mood disorder, which is consistent with previous studies. For example, Lathren and colleagues (2019) found significant positive relations between reports of perceived stress and anxiety and depression scores among adolescents. Moreover, Fan and colleagues (2015) found that individuals who reported either higher work or at-home stress had an increased risk of developing depression and anxiety. Nguyen and colleagues (2005) found a higher prevalence of anxiety and depressive disorders in youth under extreme stress compared to youth who experienced average stress. These results suggest that interventions targeting stress management may be beneficial to minimize the risk of developing a mood disorder. These interventions should include strategies to minimize or cope with work stressors (Hoven et al., 2021; Rugulies et al., 2017) and at-home stressors (Fan et al., 2015). Rugulies and colleagues (2017) suggested that interventions should target the psychosocial working environments and focus on establishing an effort-reward balance. In young adults, efforts should be made to develop coping strategies, such as exercising self-compassion in high stress situations. These strategies may help mitigate the daily stressors associated with the challenges individuals face during adolescence and the transition to adulthood (Lathren et al., 2019; Nguyen et al., 2005).

Results of the current study also indicate that having a mood disorder significantly increases the likelihood of seeking mental health consultations. Wang (2005) found that major depressive episodes are strongly associated with mental health service use. Research by Wang and colleagues (2005) found that clinical factors are more strongly associated with conventional mental health service use than demographic and socioeconomic factors. Researchers have also found that the likelihood of seeking help for mental health related concerns increases with problem severity (Chen et al., 2013; Urbanoski, Rush, Wild, Bassani, & Castel, 2007). Therefore, it seems that individuals with mood disorders would be more likely to seek mental health consultation compared to those who do not have mood disorders.

Researchers have also found that social support is a positive predictor of seeking mental health services in individuals with mood disorders (Gulliver et al., 2010; Marko et al., 2015; Vogel et al., 2007). Marko and colleagues (2015) found that individuals with serious psychological distress had a reduced likelihood of using mental health services if they reported lacking emotional support. However, the current study found that friend and family satisfaction (i.e., support) were significant negative predictors of mental health consultation. Similar to other contrasting findings in the literature (LeCloux et al., 2016; Maulik, et al., 2009), this negative relation may be explained by social networks acting as another means of support and care for the individual with a mood disorder. For instance, supportive social networks can improve the mental health status and decrease the need for services. In addition, social supports can act as substitutes for formal treatment by providing emotional and/or instrumental support. Due to the contradiction in the literature regarding the influence of social support, future research should continue to investigate the

role of family and friend support in individuals with mood disorders and seeking mental health consultations.

The current study also investigated interaction effects between friend and family satisfaction on mental health consultations in people with and without a mood disorder. Results of the present study showed a positive, albeit non-significant relation between friend and family satisfaction on mental health consultations for individuals with a mood disorder. Hom and colleagues (2015) propose that family and friends are key gatekeepers for individuals with mental illness to seek mental health consultations as social supports may help the individual identify their mental health problems and help them to locate services. Similarly, Lian and colleagues (2020) found that intimate partners, friends, and parents, were reported to be significant sources for help-seeking and coping by adolescents when facing a mental health concern. Therefore, individuals with mood disorders who have higher friend and family support may be more likely to seek out mental health consultations because of their social supports. Although the results in the current study were not statistically significant, our data followed a similar positive relation. On the contrary, a significant negative relation was found between family and friend satisfaction and mental health consultations for individuals without a mood disorder. Thus, in this group, family and friend satisfaction was associated with a decreasing likelihood of mental health consultation. These findings support that mood disorder works in conjunction with friend and family satisfaction to predict mental health consultations; in the absence of a mood disorder, higher satisfaction with family and friends predicted lower mental health consultations.

5.1. Limitations and Future Research Directions

A limitation in the current study included the use of cross-sectional population data. Although Statistics Canada notes that 98% of the desired population is contained within the sampling frame, individuals living on Indigenous lands and Crown Lands, those who are institutionalized, those living on Canadian Forces bases, those living in foster homes, and those living in certain remote areas are excluded from the sample. Moreover, the current study explored items from the optional modules in the CCHS and further limited the data to respondents residing in Nova Scotia and Quebec.

Since the current study used population data, our ability to design the study was limited to the data and variables already collected. The most recent population data set available to us was from the 2017-2018 collection cycle. As such, the data analyzed in this study would not have been impacted by the COVID-19 pandemic because data collection had preceded the onset of the pandemic. However, since worldwide lockdowns went into effect, the influence of COVID-19 may have greatly impacted stress, the prevalence of mood disorders, and mental health service use. For example, researchers have found that being quarantined for 14 days during the COVID-19 pandemic was a significant predictor of stress, anxiety, and depression in young adults (Al Omari et al., 2020). Moreover, researchers also found that nearly half of individuals with psychiatric conditions, including mood disorders, experienced a worsening of their symptoms during the COVID-19 pandemic (Gobbi et al., 2020). Zhen, Li, Li, and Zhou (2023) argued that lockdowns isolated adolescents from their friends, so they had to rely on their mobile devices to maintain social contact. The lockdowns also brought parents and their adolescent children into close confines for long periods of time; this close contact could either improve or exacerbate the lines of communication between them. In a large sample of 683 students, Zhen et al (2023). found a relation between social isolation and cell phone dependence in adolescents, and this relation was mediated by loneliness. Moreover, parental

communication style had a moderating effect on this relation in that more maladaptive communication patterns had stronger, positive correlations between social isolation and loneliness. These findings encourage the assessment of the influence of the pandemic on the interaction between stress, mood disorders, and mental health consultations. The results of our study can serve as a pre-pandemic "baseline" to which future waves of data collection can be compared regarding mood disorders, mental health consultations, and the role of family and friends. In addition, future studies could use a longitudinal design to explore the potential risk factors of mood disorders and the predictors of mental health service use.

6. CONCLUSION

In conclusion, mental health conditions remain a worldwide concern (WHO, 2022a). Mood and anxiety disorders are the most common types of mental illness throughout the world and in Canada (Government of Canada, 2019). Despite their prevalence, many Canadians with mood and/or anxiety disorders report that their mental health needs are not being met (Government of Canada, 2019) and many continue to avoid seeking mental health services (Government of Canada, 2014). The present study examined predictors of mood disorder and mental health consultations. Results of the current study found that stress positively predicted the presence of a mood disorder, which is in conjunction with the literature (Fan et al., 2015; Lathren et al., 2019). Moreover, individuals with a mood disorder were more likely to seek mental health consultations than individuals without a mood disorder corroborating previous research findings (Chen et al., 2013; Urbanoski et al., 2007; Wang, 2005; Wang et al., 2005). The present study also examined the influence of friend support and family support in relation to seeking mental health consultations. Independently, friend support and family support were found to be significant negative predictors of mental health consultations. However, when examined using interaction effects, non-significant positive correlations were found between friend support and family support on mental health consultations for individuals with a mood disorder. In turn, a negative relation was found between friend and family support on mental health consultations for individuals without a mood disorder. Overall, the current results add to the growing body of literature on social support and mental health service use as it provides insight to the potential importance of family and friend support to individuals without a mood disorder. However, the research pertaining to social supports in relation to mood disorders and mental health service use is mixed and remains unclear. Future research should continue to investigate this relationship to broaden the understanding of the importance of friend and family support in individuals with mood disorders.

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