Factors that Affect or Influence College Students with Identified Mental Illness' Willingness to Receive Mental Health Services

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RESEARCH

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ABSTRACT

Objective: To explore factors that influence college students' mental health help-seeking behaviours.

Participants: Respondents (N=114,360) completed the American Health Association-National College Health Assessment II during Fall and Spring 2018.

Methods: A retrospective cohort study design was utilized with secondary data analysis.

Results: Mental illness positively and significantly affects the willingness to receive mental health services (B = 0.402, p<0.005), but the rate at which mental illness predicted help-seeking behaviours remain low (26.1%). Out of 47 factors tested, 31 factors were significant (p<0.01).

Conclusions: Those who sought mental health treatment following a mental health diagnosis were female, had sleep problems, reported abnormal aggressive behaviours, smoked frequently, used illegal drugs, had underlying health conditions, and were Whites. Those who did not choose or were less willing to engage in mental health treatment were males, had high alcohol-blood content, had speech or language disorder, reported lower finances, and were Blacks, Hispanics, or Asians. **Implications:** The identification of these variables can be used to support targeted mental health outreach and engagement services for college students with identified mental illness.

Key Words: College students, mental health, help-seeking behaviors, student services.

INTRODUCTION

The majority of students attending colleges are either in their late periods of adolescence or early adulthood. During this period, several biological changes are occurring in the life of the student. Students in their late adolescence and early adulthood seek self-identity within their social environment [1]. This stage requires proper management to help them undergo a safe transition into adulthood and manage other development phases. Students have high expectations for a fulfilling life when they join colleges and universities. They expect to enjoy peer interactions, academic success, and attain excellence in with personal goals. These expectations increase students' self-esteem and morale while they proceed from high schools to colleges [1]. However, upon the beginning of college life, students encounter new living situations, relationships, and experiences while exploring their sex, gender, and ethnic identities. The need to establish social class and status in the diverse student community presents new challenges and experiences that can trigger stress among them, leading to a rise in mental illness [2]. Therefore, college students are highly vulnerable to developing a wide range of mental health illnesses such as

anxiety, depression, and suicidality. Poor mental health decreases students' cognitive, social, and academic performance [3].

Over the years, researchers and college counselling departments have reported increased rates of mental illness symptomatology and severity. The vulnerability of developing mental illness has been detected across all American colleges. According to a study done by the American College Health Association (2018) [4], 42% of college students polled were depressed to the point of being unable to function. According to the same report, 63% of students felt extreme anxiety.

Given the age group in which most students are (between late adolescence and early adulthood), the challenges and new experiences they face in college expose them to stress that makes them show some mental illness symptoms. About a third of these students seek professional treatment, and institutions have seen an increase in students visiting counselling services, which is unsurprising. Student visits increased by 30% between 2009 and 2015, causing schools to dedicate additional resources to the problem [5]. Even more concerning is the fact that one in every five college students has contemplated suicide [6]. Indeed, among college students, suicide is currently the second highest cause of mortality [3].

Another study on the symptomatology and severity of mental illnesses revealed that 17% of college students suffered from depression, 10% of college students suffered from major depression, and 10% of college students suffered from anxiety disorder [7]. The prevalence of these mental problems occurs among students in all colleges and universities across the United States.

In the college population, certain subgroups are more vulnerable to developing mental illnesses than others. Male and female students in intimate relationships are vulnerable to developing mental health problems. As students develop into adults, their sexual relationships also grow. The failure to manage these relationships effectively can cause severe stress among them and may lead to suicide. Some students with stressful situations in their relationships undergo major depression and anxiety disorders that paralyze their mental health and consequently affect their academic performance. Male undergraduate students are at a higher risk of committing suicide than females. However, female undergraduates have shown a high prevalence of major depression and anxiety [7]. Students from low socioeconomic backgrounds have high vulnerability to mental problems. The need to establish one's social status and adjust to the standards of fellow students from rich backgrounds is the major stress affecting students from poor backgrounds. Low-income impacts individuals in several ways. They are unable to meet the demands of human and academic necessities, such as adequate food, housing, clothing, and reading materials that must be bought [8, 9]. When one is poorly fed, they lack the morale of participating in social programs with other students from diverse backgrounds [10]. Poverty denies them the morale to enjoy college life as their fellow students from families with high incomes. As a result, students from poor backgrounds are highly vulnerable to anxiety, depression, and suicide attempts. The poor mental health among these students is due to poor social support and alienation by other students with high social status.

Despite the large numbers of students suffering from identified mental illnesses, not all individuals present themselves for prognosis and treatment. Research has found that having a mental illness does not guarantee an individual's willingness to receive mental health services [10]. The willingness of college students with identified mental illness to utilize mental health services varies among various student minorities (sexual, gender, and ethnic minorities). Students of sexual minorities, such as bisexuals, gays or lesbians use mental health services more than heterosexual students [10]. On the other hand, students from ethnic minority groups do not effectively utilize mental health services due to inadequate culturally sensitive services, stigma, and other varied conceptions about mental health.

With the growing numbers of students suffering from identified mental illnesses, attention has been drawn to determine the numbers of individuals who are diagnosed

but not treated, treated with medication, treated with psychotherapy, treated with medication and psychotherapy, and treated with other forms of treatment [11, 12]. Generally, the population of students with mental illnesses is quite large but incomprehensible because not all individuals are willing to undergo screening for mental health symptoms. Consider that 30% of college freshman do not return for their sophomore year, which might be ascribed in part to psychological issues [13].

Researchers need to discover the best way of encouraging all students to embrace mental health services to ensure better student welfare in colleges and universities [13]. If this is not achieved, it would be difficult to establish the exact estimation of the severity of the prevalence of mental illnesses among students in colleges and universities.

Colleges and universities should be the place for academic, social, and career excellence for all students. Unfortunately, these institutions expose students to stressful factors that trigger the development of mental illnesses [13]. The problem is that most of the college students with identified mental illnesses are not willing to receive mental health services. Only with their willingness and use of mental health services can counsellors and mental health specialists get sufficient information to help formulate the right methods and strategies applicable to eradicate mental problems. Once these factors are identified early engagement, intervention, and treatment can be initiated which promotes better health outcomes. The outcomes include better academic performance and development of personal and professional goals appropriate to developmental level. Therefore, there is a need to determine the factors influencing college students with identified mental illnesses' willingness to receive mental health services.

Purpose of the Study

It is evident that having an identified mental illness cannot sufficiently predict willingness to receive mental health services. Instead, this study postulates that numerous predictors instigate a person's willingness to seek and receive appropriate mental health services. Thus, the purpose of this study is to identify such intermediating factors quantitatively.

Research Questions

- To what extent does having a mental health condition inform the willingness to seek or receive mental health services?
- Is there a significant difference between individuals diagnosed but not treated, treated with medication, treated with psychotherapy, treated with medication and psychotherapy, and treated with other forms of treatment?
- Which factors affect or influence the willingness of students with identified mental illness to seek and receive mental health services?

The study will quantitatively unveil factors that influence college students with identified mental illnesses' willingness to receive mental health services. This study's breakthrough will provide information to counsellors, mental health experts, and governmental and non-governmental agencies to develop suitable strategies and methods to curb mental health problems in colleges and universities.

Empirical Evidence

Mental health illness and the need for treatment is a growing concern in colleges and universities. A 2013 survey of directors from the Association for University and College Counselling Centre by the American Psychological Association found out that the number of students developing mental health disorders is dramatically increasing. The survey identified anxiety as the top mental disorder that presents a concern. The study revealed that 41.6% of college students suffer from an anxiety disorder, 36.4% suffer from depression, and 35.8% of students with identified mental disorder undergo relationship problems [14]. Of all students with a mental disorder, only 24.5% were on psychotropic medication. About 19% of interviewed directors reported having inadequate on-campus psychiatric services [14]. In the counselling centres,

40% of students had mild mental health concerns, while 21% exhibited severe mental health concerns.

Various factors influence college students with identified mental illnesses' willingness to receive mental health services. A study by Stolzenburg et al. [15] found out that personal stigma about mental illness reduces college students' willingness to access and receive mental health services. The researchers interviewed 207 individuals with untreated mental illnesses identified through a structured diagnostic interview. Based on findings, persons with identified mental illnesses feared experiencing stigma due to their health status. The fear of stigmatization and social discrimination by peers prevented college students from seeking and receiving mental health services [16].

There is a high rate of increase in the number of persons diagnosed with mental health disorders and a consequent rise in the utilization of mental health services. A report by Oswalt et al. [17] explored trends in diagnosing twelve mental illnesses and utilizing mental health services by college students between 2009 and 2015. Based on a national sample report, self-reported diagnosis and treatment of college students with identified mental health disorders significantly increased among college students. In addition, the number of college students willing to receive mental health services also increased significantly [17].

The availability of a formal network of campus mental health clinics, campus environment, and characteristics of students influence the willingness of college students with identified mental illnesses to seek and receive mental health services. According to Sontag-Padilla et al. [18], the unmet need for mental health service provision in campuses is a serious health concern. The study found out that despite having access to campus mental health providers, only one-third of college students with identified mental illnesses are willing to seek and receive mental health services. Treatment reduces the effects of mental health disorders [19]. However, students who are not willing to seek and receive mental health services are vulnerable to adverse and persistent problems leading to high rate of drug abuse, low academic performance, social impairment, low graduation rates, lower post-graduation participation, and consequently, lower income [18].

METHODS AND MATERIALS

Research Design

A retrospective cohort study design was selected to carry out the inquiry into the research questions. To determine the significance of the factors, the study begins by appraising the effect of the mental health illness on individuals' willingness to receive respective mental health services. This study hypothesizes that there is a significant difference among the mental health services that the students with mental illnesses receive. The factors that influence or affect the students' willingness to receive mental health services are introduced as mediators that bridge the link between the two main variables.

Data Source and Sample

Organized by the American College Health Association, ACHA-NCHA II is a national research survey aimed at collecting data on and examining changes in students' habits, perceptions, behaviours, and other health and wellness subjects [20]. Originally initiated in 2000, the body has grown to body currently provides the largest known comprehensive data on myriad social and health aspects of post-secondary students [20]. The data extracted from the ACHA-National College Health Assessment II were collected from 180 colleges in the United States and constituted a sample size of 114,360 college students from those institutions. This study's data were retrieved from American College Health Association (American College Health Association-National College Health Assessment, Fall and Spring 2018 [data file]. Silver Spring, MD: American College Health Association [producer and distributor]; (2020-07-10 of distribution).

Each institution recommended a random sample of enrolled students aged 18 and above to be included in the survey. The research was primarily completed through web-based options (See Table 1), with only 1.35% of the survey being completed through paperwork. Responding to any

question was fully voluntary. This explains the variances evident in the tables presented in the results section.

Measures

Dependent Variable: Willingness to Receive Mental Health Services

The researchers asked the participants whether they have received mental health services from a counsellor, therapist or psychologist, psychiatrist, other medical providers, or religious leader to assess the students' willingness to receive mental health services. They also asked the participants whether they have received psychological or mental health services from college-based counselling or health services. Finally, they asked the participants whether they are willing to seek help from a mental health professional in the future in case they have personal problems that are bothering them. In each of the questions, the participants were to provide their answers as either "No" or "Yes" coded as 1 and 2, respectively. The responses were collapsed into a single column through averaging to determine the actual willingness to receive mental health services.

Independent Variable: Mental Illness

The participants were asked whether they have been diagnosed or treated by a professional within the last 12 months for 15 mental health diagnoses. The diagnoses included anorexia, anxiety, bipolar disorder, attention deficit and hyperactivity disorder (ADHD), depression, insomnia, bulimia, other sleep disorder, panic attacks, phobia, schizophrenia, obsessive-compulsive disorder (OCD), substance abuse, other forms of addiction, and other mental health conditions (ACHA National College Health Assessment II, 2015). The responses were classified into six categories including "No (1)," "Yes, diagnosed but not treated (2)," "Yes, treated with medication (3)," "Yes, treated with psychotherapy (4)," "Yes, treated with medication and psychotherapy (5),” and “Yes, other treatment (6).” The conditions were then collapsed to create a category named "Mental Illness." The classification of responses remained unchanged.

Factors

This study tested seven key factors that instigate or amplify the willingness to receive mental health services among students living with an identified form of mental illness: demographic factors, safety, drug and alcohol, sleep behaviours, underlying conditions, race/ethnicity, academic impediments, and traumatic experiences. Most of these key factors had their elements. For instance, Race/ethnicity was further categorized into White, Black, Hispanic/Latino, Asian or Pacific Islander, American Indian, Alaska Native or Native Hawaiian, Biracial or Multiracial, and Other. Nine underlying conditions, six sleep behaviours, three drug and alcohol use behaviours, three safety behaviours, four demographic characteristics, and twelve traumatic experiences were considered for analysis.

Data Analysis

There were no cases of implausible data from the extracted dataset; hence no elimination of respondents was done. All the respondents, as recorded in the dataset, were college students, had heights between 3.94 feet and 6.89 feet, weighed between 77lbs and 397lbs, and had body mass indices of 16-65. Blank spaces within the dataset were corded as “missing.” Rows with no single data were eliminated. Thus, the total number of college students whose data qualified for the analysis were 114,360.

Data analysis was done using Statistical Package for the Social Sciences version 26 (SPSS v26). Descriptive analysis was completed using frequency tables and cross-tabulation. T-test analysis was used to test significant differences among students with mental illnesses’ diagnosis or treatment approaches which included diagnosis without treatment, treatment with medication, treatment with psychotherapy, treatment with medication and psychotherapy, and other forms of treatment. Linear regression was used to test the level of significance of the named factors in influencing or affecting students with

mental illnesses' willingness to receive mental health services. The analysis was done at confidence intervals (CIs) of the conventional 95%, while the significance level was set at $p<0.05$.

RESULTS

Descriptive Statistics

Table 2 presents a sample of the analysed characteristics. More than half of the respondents identified themselves as White, followed by Hispanics or Latinos and Asians or Pacific Islanders at 15% and 13%, respectively. 75% of the respondents were aged 18-23%. 82% of the respondents identified with either male or female gender, with only 6% identifying themselves as non-binary. 12% of the respondents preferred not to say anything concerning their sex and gender. 56% of the respondents had unhealthy weight, with 54% of them identifying with either overweight or obesity. Six in ten respondents reported that they had been at least diagnosed with mental illness within the last 12 months before the survey, with only 19% receiving full treatment with medication and psychotherapy.

Table 3 displays the extent to which individuals from various socio-demographic groups received psychological or mental health services from a counselor, therapist, or psychologist, psychiatrist, other medical providers, or a religious leader. The analysis shows that irrespective of the mental health provider, females were relatively twice more likely to seek and receive mental health services than males. For instance, among the participants who said that they had seen a counsellor, a therapist, or a psychologist owing to an underlying mental health condition, 73% were female, while males were only 22%. The difference is even higher when it comes to visiting other medical providers, such as nurse practitioners and physicians, where 77% and 18% of females and males reported attendance. While females reported high rates of appointments with professional health providers, males were most likely to book an appointment concerning their mental health with a minister, priest, rabbi, or any other clergy. Among the four mental health providers, the number of male appointments was highest with religious leaders while the number of females was lowest in the same category. Racial minorities showed high rates of appointments with religious leaders as compared to whites who mostly preferred psychiatrists or other medical health providers.

The majority of the respondents who visited the mental health service providers had never smoked. At least a third of the respondents had smoked but not in the last 30 days of the survey. Only about 10% of the respondents had smoked in 1-5 days within the month of consideration. The number of frequent smokers (those who smoked between 6 to 30 days within the last 30 days) were infinitesimal. Thus, more than 90% of college students are either non-smokers or non-frequent smokers. Those who exhibited some frequency in smoking exhibited a higher likelihood of seeing a psychiatrist. At least one in four of the college students had had a traumatic experience within the last 12 months before the survey. The greatest majority of those who sought help preferred a psychiatrist or other medical providers over religious leaders or psychologists. Generally, participants who had an estimated blood alcohol concentration (BAC) of 0.08 or higher were more likely to have an appointment with healthcare professionals (21%) that a religious leader (14%).

Inferential Statistics

Mental Illness vs. Willingness to Receive Mental Health Services

This study's first question aimed at determining the extent to which having a mental health condition informs the willingness to seek or receive mental health services. Using mental health condition as the independent variable and mental health services as the dependent variable, a linear regression was performed. Tables 4, 5, and 6 presents the results of the analysis. From Table 4, there is a moderate uphill relationship between mental health and willingness to receive mental health services ($R = 0.511$). The same table shows that having a mental illness can collectively predict 26.1% of college students' willingness to receive mental health services (R Square = 0.261), indicating weaker regression model fits. However, it is vital to note

that R-square whether a given regression model provides an adequate fit for a given dataset. As such, a good model can have low R-square (Jansson-Boyd, 2018). Field studies that exhibit greater amounts of unexplainable variations are highly likely to report lower R-square values. Generally, most studies that aim at explaining human behaviours have R-squares lower than 50% since it is difficult to predict behaviours in human subjects as compared to physical processes.

Table 5 shows that the regression model positively and significantly predicts the dependent variable ($p<0.0005$), indicating that despite the low predictability as evidenced by the R-square, the model is still significantly good.

Table 6 shows that mental illness among college students statistically significantly affects their willingness to receive mental health services ($p<0.005$).

As shown in Table 2, the respondents reported taking various measures to respond to their mental health illness: No response, diagnosed but not treated, treated with medication, treated with psychotherapy, treated with medication and psychotherapy, and treated with other forms of treatment. This study developed an interest in determining whether there was a significant difference in the students' willingness to resort to any of the six options. To attain this, a T-test analysis of the identified mental illnesses relative to the action taken was carried out. The mean of the Mental Illness dataset was 3.802, with a standard deviation of 0.3493 and a variance of 0.122 (See Table 7). The data was skewed to the right (Skewness = 4.071), indicating that its right tail is longer relative to the left. The kurtosis of a normal distribution is three. Thus, the high kurtosis reported in this analysis (Kurtosis = 25.07) confirms that the data have heavy tails or outliers. The high standard deviation, skewness, and kurtosis project great differences within the treatment options.

Table 8 presents the paired two-sample-for-means T-test to determine the statistical difference between treatment with medication, treatment with psychotherapy, and treatment with medication and psychotherapy. In an ideal situation, a mental health problem is treated through one of the three treatment approaches. Using these approaches allows the mentally ill individual not only to recover their wellness but also to develop approaches that would minimize the recurrences of such mental conditions. In the dataset, treatment with medication, psychotherapy, medication, and psychotherapy are coded as "3," "4," and "5," respectively. The hypothesized value was set at “3” to denote treatment with medication. With “3” as the hypothesized mean, the test reported a p-value (2-tailed) of 0.000 for each of the three treatment approaches, indicating that the treatment approaches used on students who were mentally ill were significantly different from each other.

As previously discussed, having a mental illness is not a perfect and sufficient determinant of college students with mental illness’ willingness to receive mental health services. Instead, this study projected that there are numerous factors that either exacerbate or buffer the willingness. Using linear regression, this study tested 47 individual factors presented in nine categories and sampled from the ACHA-NCHA II dataset, as shown in Table 9.

Demographic factors included in the analysis were age, sex and gender, body mass index, and US geographic regions. From the analysis, age in years positively and significantly affected the students’ willingness to receive mental health services ($B = 0.005$, $p<0.005$). Older students were more likely to be willing to receive the services compared to younger ones. Sex and gender inversely and significantly affected the model ($B = -0.065$, $p<0.005$). In the analysis, female was coded as "1," male as "2," and non-binary as "3." Thus, the inverse relationship suggests that female college students were more likely to report a higher willingness to seek and receive mental health services than other gender categories. There was also an inverse and significant influence of United States geographic regions on the students' willingness to receive the services ($B = 0.01$, $p<0.005$). the geographic regions included Northeast, Midwest, South, West, and outside the US coded in ascending order from "1" to "5." Thus, college students with mental illness from the Northeast and Midwest of the United States were more likely to exhibit a willingness to

receive the mental health services as compared to those from the South, West, and outside of the United States. Body mass index had no statistically significant effect on the students' willingness to receive the services ($p>0.05$).

All safety factors considered directly and significantly affected the students' willingness to receive mental health services (All $p<0.005$). The factors considered were road safety, safety from aggression, and safety of the immediate environments. Therefore, higher cases of unsafe road practices increased levels of aggressive behaviours, and the development of a feeling that immediate environments, such as campus and home are unsafe were more likely to augment the willingness to receive mental health services. When it comes to alcohol and drug use, the students' willingness to receive the services was positively and significantly influenced by smoking and illegal drug use. Increased levels of smoking and drug use would lead to an upturn in the willingness to receive mental health services. Alcohol use exhibited peculiar outcomes. Blood alcohol content had a significant but negative influence on the students' willingness to receive the services ($B = -0.142$, $p<0.005$). Thus, students with lower blood alcohol content were highly likely to be willing to receive services than those with high blood alcohol content.

All sleep-related factors exhibited a significant influence of the college students with mental illness' willingness to receive mental health services. The factors considered were lack of sleep, the problem with sleepiness, getting awakened too early in the morning and unable to get back to sleep, sleepiness during the day, the problem with staying awake, and difficulty in falling asleep. Generally, college students who had sleep-related problems were more likely to seek or willing to receive mental health services. The examination was also done on basic Carnegie classification. The classification consisted of associates colleges, baccalaureate colleges, Masters colleges and universities, research institutions, special focus institutions, miscellaneous or not classified, and baccalaureate or associate colleges coded in ascending order from "1" to "7." The results indicate that the Carnegie classifications inversely and significantly influence the willingness to receive mental health services ($B = -0.005$, $p<0.005$). This means that students in associate and baccalaureate colleges were more likely to be more willing to receive mental health services than those who are in research institutions and special focus institutions.

Nine underlying health conditions were tested against the students' willingness to receive mental health services. Only two had insignificant influence on the students' willingness to receive mental health services. Students who were mentally ill and are deaf or have hearing problems and those with morbidity or dexterity disabilities were insignificantly willing to receive mental health services. Partial sightedness or blindness and speech or language disorder had a negative and significant influence on the willingness to receive the services. Students with these two conditions exhibited low levels of willingness.

All considered racial groups, apart from the American Indians, Alaska Natives, or Native Hawaiian, significantly influenced the level of the students' willingness to receive the services. Whites and biracial or multiracial college students reported higher willingness to receive mental health services (B values are positive). Black, Hispanic or Latino, and Asian or Pacific Islander students with mental health illness were less likely to be willing to receive the relevant mental health services. Impediments to academic performance also positively and significantly influenced the students' willingness to receive services. The survey had considered numerous impediments to academic performance, including alcohol use, anxiety, physical and sexual assault, chronic pain, depression, and an eating disorder, amongst others.

The final examination was on traumatic experiences. All traumatic experiences had a significant positive effect on college students with mental illness' willingness to receive mental health services apart from career-related issues and health problems of a family member or partner, which were insignificant ($p>0.05$). Finances had a significant but negative influence. Students with lower finances, such as income, were more willing to receive mental health services than those with higher finances.

DISCUSSION

Mental health problems are increasingly becoming a challenge among students across the countries, prompting the need to strengthen mental health services. However, as exhibited in this study, the willingness of the students to access mental health services is significantly low. Although the results of this study indicate that mental illness should significantly inform the willingness to seek and receive the relevant mental health services, only 26.1% can be collectively predicted by having a mental health condition. This result is consistent with other researchers who have argued that despite the high and increasing prevalence of mental health problems among college students, help-seeking behaviours still remains significantly low [14, 21, 22, 3, 23]. According to the outcomes of this study, the kind of services that those college students who sought for mental health services received were significantly different from each other ($p<0.005$). This was as expected since treatment option greatly depends on the diagnosed mental health condition. An extensive mental health service should seek to treat the patient with both medication and psychotherapy [24].

The low rates of help-seeking behaviors among the students and the significant difference in the type of diagnosis and treatment preferred by most mental health service providers prompt the need to further explore factors that might contribute to the phenomenon. This study focused primarily on factors that are catalyzing on impeding help-seeking behaviors among college students who are mentally ill. The outcomes of the analysis were summarized in the model presented in Figure 1. The model excludes factors that were statistically proven to be of insignificant effect or influence on the dependent variable ($p>0.05$).

The results of this study are consistent with numerous research outcomes. In a systematic review to determine factors influencing help-seeking behaviours among people with major forms of depression, Magaard et al. [25] found socio-demographic factors and need factors that appeared to influence help-seeking behaviours. Researchers emphasized various factors including age, gender, ethnicity, education, number of depressive episodes, contextual factors, and comorbidity. However, the researchers held that cohort studies to confirm these factors were still lacking. Thus, this study greatly informs this gap by not only introducing quantitative measures of the factors but also casting a lens on each factor to determine embedded variances. A qualitative study based on interviews also found that social stigma, restrain from sharing one's problems with other people, the perception that personal problems should be kept secret, belief that people should solve their problems by themselves, and lack of trust in mental health care provision were likely to inhibit hep seeking behaviours among adults with mental health problems [26]. The study was completed with a sample size of 10 adults, which reduces the reliability of the outcomes. McAlpine and Mechanic [27] also discussed episodes of occurrence of mental illness symptoms, drug use, and physical illness as factors that can either instigate or impede the ability to seek mental health services. Thus, the outcomes of this research are of grave importance in statistically affirming the already existing assertions and introducing more factors.

LIMITATIONS OF THE STUDY

The study was based on a retrospective cohort study, which makes it difficult to avoid some limitations. Firstly, the outcomes of the study might be prone to selection bias. The organization which collected the data had no control over the recruitment of the participants as colleges were to provide a list of participants whom they have sampled. Secondly, the results are subject to confounding since the items assessed were only sampled, increasing the risk of leaving out some significant factors.

CONCLUSION

This study found that there are various demographic and social factors which bridge the relationship between having a mental illness and willingness to receive mental health services among US-based college students. The factors were categorized into nine classes: demographics, safety issues, drug and alcohol use, sleep,

basic Carnegie classification, underlying health condition, race and ethnicity, academic impediments, and traumatic experiences. A total of 47 factors under the nine classes were assessed, out of which 16 had insignificant influence or effect on college students with mental illness' willingness to receive mental health services. The Factors that are proven to be of significant effect on influence are as summarized in the model drawn under the discussion section.

The results of this study generate various implications for both mental health service provision and future research. This knowledge is relevant to design outreach programs to promote students' mental health and wellbeing among students with identified mental illness. The model suggests that there is a need to seriously consider demographic and social factors that influence the college students' willingness to seek and receive mental health services rather than collectively expecting those who exhibit symptoms of mental illnesses to have help-seeking behaviours. For instance, there is a serious need to create awareness of mental health services among college students from non-White ethnic groups. There is also a need to encourage male students to seriously consider mental health services as the ultimate solution to their mental health problems owing to low levels of help-seeking behaviors among this gender group. Students who are mentally ill and have high levels of alcoholism need assistance to receive the appropriate mental health services that they need since they are highly likely to exhibit restrain in seeking the services and might see drinking alcohol as a solution to problems. There is also a need to establish policies that would increase the income of students with mental illness as a way to boost their help-seeking behaviours. By better understanding factors that affect or influence college students with identified mental illness willingness to receive mental health services, health services may be able to develop tools and interventions designed to help students understand the consequences of a lack of mental health treatment, and how individuals may effectively engage in treatment. This may eventually improve students' cognitive, social, and academic performance.

This research has tested the link between the demographic and social factors and willingness to seek mental health services. Future research should, expand upon this study to explore whether mental illness affects these factors in any way so as to effectively complete the introduced model and target specific programs to promote academic and social health outcomes on college campuses.

CONFLICT OF INTEREST DISCLOSURE

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements of the United States. This research did not require Institutional Review Board approval.

The opinions, findings, and conclusions reported in this article are those of the authors and are in no way meant to represent the corporate opinions, views, or policies of the American College Health Association (ACHA). ACHA does not warrant nor assume any liability or responsibility for the accuracy, completeness, or usefulness of any information presented in this article.

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PEER REVIEW

Not commissioned. Externally peer reviewed.

TABLES

Table 1: Survey Modes

Survey Mode (PWNO)	Frequency	Percentage
Paper	1540	1.35%
Web	112970	98.65%
Total	**114360**	**100.00%**

Note. The survey was primarily completed through web options

Table 2: Sample Characteristics

	Characteristic	Frequency (n)	Percentages
Race/Ethnicity	White	66397	58%
	Black	5949	5%
	Hispanic or Latino/a	17066	15%
	Asian or Pacific Islander	15206	13%
	American Indian, Alaska Native, or Native Hawaiian	1912	2%
	Biracial or Multiracial	5016	4%
	Other	2813	2%
	Total	114360	100%
Age	0-18 yrs.	2468	2%
	18-23 yrs.	85446	75%
	24-29 yrs.	16420	14%
	30-35 yrs.	5072	4%
	36+ yrs.	4954	4%
	Total	**114360**	100%
Sex and Gender	Female	50698	44%
	Male	43701	38%
	Non-Binary	6496	6%
	Missing	13465	12%
	Total	114360	100%
Body Mass Index	<18.5 Underweight	1956	2%
	18.5-24.9 Healthy Weight	49516	44%
	25-29.9 Overweight	31105	27%
	30-34.5 Class I Obesity	16504	14%
	35-39.9 Class II Obesity	8367	7%
	40 Class III Obesity	6912	6%
	Total	114360	100%
Mental Illness	No	44591	39%
	Yes, diagnosed but not treated	8995	8%
	Yes, treated with medication	17421	15%
	Yes, treated with psychotherapy	12920	11%
	Yes, treated with medication and psychotherapy	21716	19%
	Yes, other treatment	8717	8%
	Grand Total	114360	100%

Table 3: Cross-tabulation on Preference for Psychological and Mental Health Providers across Socio-demographic Groups.

		Counselor, Therapist, Psychologist			Psychiatrist			Other medical providers (e.g., physician, nurse practitioner)			Minister, Priest, Rabbi, Other clergies		
		No	Yes	Total	No	Yes	Total	No	Yes	Total	No	Yes	Total
	Missing	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Sex and Gender	Female	63%	73%	67%	67%	70%	67%	65%	77%	67%	68%	65%	67%
	Male	34%	22%	29%	30%	23%	29%	32%	18%	29%	29%	30%	29%
	Non-Binary	2%	4%	3%	2%	6%	3%	2%	5%	3%	3%	4%	3%
		100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
	Never Smoked	67%	52%	61%	63%	46%	61%	63%	49%	61%	61%	61%	61%
Smoking	Smoked, but not in the last 30 days	28%	39%	33%	31%	42%	33%	31%	40%	33%	33%	31%	33%
	1-2 days	4%	8%	6%	5%	11%	6%	5%	9%	6%	6%	6%	6%
	3-5 days	1%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
	6-9 days	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	10-19 days	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	20-29 days	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Smoked daily	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
	No	83%	65%	75%	79%	57%	76%	80%	56 %	76%	77%	62%	76%
Traumatic Experience	Yes	17%	35%	25%	21%	43%	24%	20%	44%	24%	23%	38%	24%
		100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100%
	Less than .08	81%	79%	80%	80%	79%	80%	80%	79%	80%	80%	86%	80%
Estimated Blood Alcohol Concentration	.08 or higher	19%	21%	20%	20%	21%	20%	20%	21%	20%	20%	14%	20%
		100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
	White	53%	65%	58%	56%	67%	58%	56%	67%	58%	58%	59%	58%
	Black	6%	4%	5%	5%	4%	5%	6%	3%	5%	5%	6%	5%
	Hispanic	16%	13%	15%	16%	11%	15%	16%	12%	15%	15%	14%	15%
Race/ Ethnicity	Asian	17%	8%	13%	14%	7%	13%	15%	8%	13%	14%	9%	13%
	Indian	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
	Biracial	4%	5%	4%	4%	6%	4%	4%	6%	4%	4%	5%	4%

	Other	3%	2%	2%	2%	3%	2%	2%	2%	2%	2%	4%	2%
		100 %	100 %	100 %	100 %	100 %	100 %	100 %	100%	100%	100 %	100 %	100 %

Table 4: Model Summary on the Effect of Mental Illness on Willingness to Receive Mental Health Services.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511[a]	.261	.261	.20618
a. Predictors: (Constant), Mental Illness				

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Table 5: ANOVA on the Effect of Mental Illness on Willingness to Receive Mental Health Services.

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	p-value
1	Regression	1690.254	1	1690.254	3.976E4	.000[a]
	Residual	4774.970	112327	.043		
	Total	6465.223	112328			
a. Predictors: (Constant), Mental Illness						
b. Dependent Variable: Willingness to Receive Mental Health Services						

Table 6: Coefficients to Showcase the Effect of Mental Illness on Willingness to Receive Mental Health Services.

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	p-value
1	(Constant)	.851	.002		359.788	.000
	Mental Illness	.402	.002	.511	199.403	.000
a. Dependent Variable: Willingness to Receive Mental Health Services						

Table 7: Measures of Central Tendency on Diagnosis and Treatment Options

Statistics		
Mental Illness		
N	Valid	112412
	Missing	1948
Mean		3.802
Std. Deviation		.34934
Variance		.480
Skewness		4.071
Std. Error of Skewness		.007
Kurtosis		25.066
Std. Error of Kurtosis		.015

Table 8: Paired Two Sample for Means T-test Results.

	Treated with Medication	Treated with Psychotherapy	Treated with Medication and Psychotherapy
Mean	3.469	3.813	4.125
Variance	0.507	0.409	0.524
Pearson Correlation	0.754	0.772	0.470
Hypothesized Mean Difference	3.000	3.000	3.000
t Stat	-55.879	-73.848	-39.562
P(T<=t) one-tail	0.000	0.000	0.000
t Critical one-tail	1.669	1.669	1.669
P(T<=t) two-tail	0.000	0.000	0.000
t Critical two-tail	1.998	1.998	1.998

Table 9: Factors Influencing College Students with Identified Mental Illness' Willingness to Receive Mental Health Services.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	p-value
		B	Std. Error	Beta		
1	(Constant)	0.672	0.01		65.043	0.000
Demographics	Age in years	0.005	0	0.126	41.906	0.000
	Sex and Gender	-0.065	0.002	-0.126	-41.761	0.000
	Region	-0.01	0.001	-0.049	-16.851	0.000
	Body Mass Index	0	0	-0.004	-1.194	0.232
Safety	Unsafe Road Behaviors	0.002	0.001	0.006	2.197	0.028
	Aggressive behaviors	0.1	0.005	0.057	18.549	0.000
	Unsafe surrounding environment	0.011	0.001	0.025	8.356	0.000

Drugs & Alcohol	Smoking	0.049	0.002	0.111	31.498	0.000
	Blood Alcohol Content	-0.142	0.011	-0.041	-12.873	0.000
	Illegal Drugs	0.038	0.004	0.03	9.347	0.000
Sleep	Lack of enough sleep to feel rested	0.011	0	0.095	26.978	0.000
	Problem with sleepiness	0.012	0.001	0.049	12.38	0.000
	Awakened too early in the morning and couldn't get back to sleep	-0.002	0	-0.016	-4.929	0.000
	Felt tired, dragged out, or sleepy during the day	0.01	0	0.084	19.218	0.000
	Gone to bed because you just could not stay awake any longer	-0.001	0	-0.012	-3.735	0.000
	Had an extremely hard time falling asleep?	0.002	0	0.013	3.995	0.000
Basic Carnegie Classification	Carnegie Categories	-0.005	0.001	-0.016	-5.663	0.000
Underlying Conditions	Attention Deficit and Hyperactivity Disorder (ADHD)	0.1	0.003	0.112	39.038	0.000
	Chronic illness (e.g., cancer, diabetes, auto-immune disorders)	0.064	0.003	0.063	22.649	0.000
	Deafness/Hearing loss	0.007	0.005	0.004	1.427	0.154
	Learning disability	0.053	0.003	0.046	15.664	0.000
	Mobility/Dexterity disability	-0.01	0.007	-0.004	-1.474	0.140
	Partial sightedness/Blindness	-0.012	0.004	-0.008	-2.832	0.005
	Psychiatric condition	0.329	0.002	0.397	141.987	0.000
	Speech or language disorder	-0.049	0.007	-0.019	-6.838	0.000
	Other disability	0.081	0.004	0.055	19.655	0.000
Race/Ethnicity	White	0.048	0.002	0.096	21.14	0.000
	Black	-0.016	0.003	-0.016	-4.857	0.000
	Hispanic or Latino/a	-0.013	0.002	-0.02	-5.461	0.000
	Asian or Pacific Islander	-0.036	0.003	-0.054	-13.884	0.000
	American Indian, Alaskan Native, or Native Hawaiian	0.002	0.005	0.001	0.491	0.623
	Biracial or Multiracial	0.047	0.003	0.042	14.778	0.000
	Other	-0.018	0.004	-0.012	-4.229	0.000
Academics Impediments	Academic Impediments	0.257	0.002	0.334	119.694	0.000
	Academics	0.022	0.002	0.046	13.44	0.000

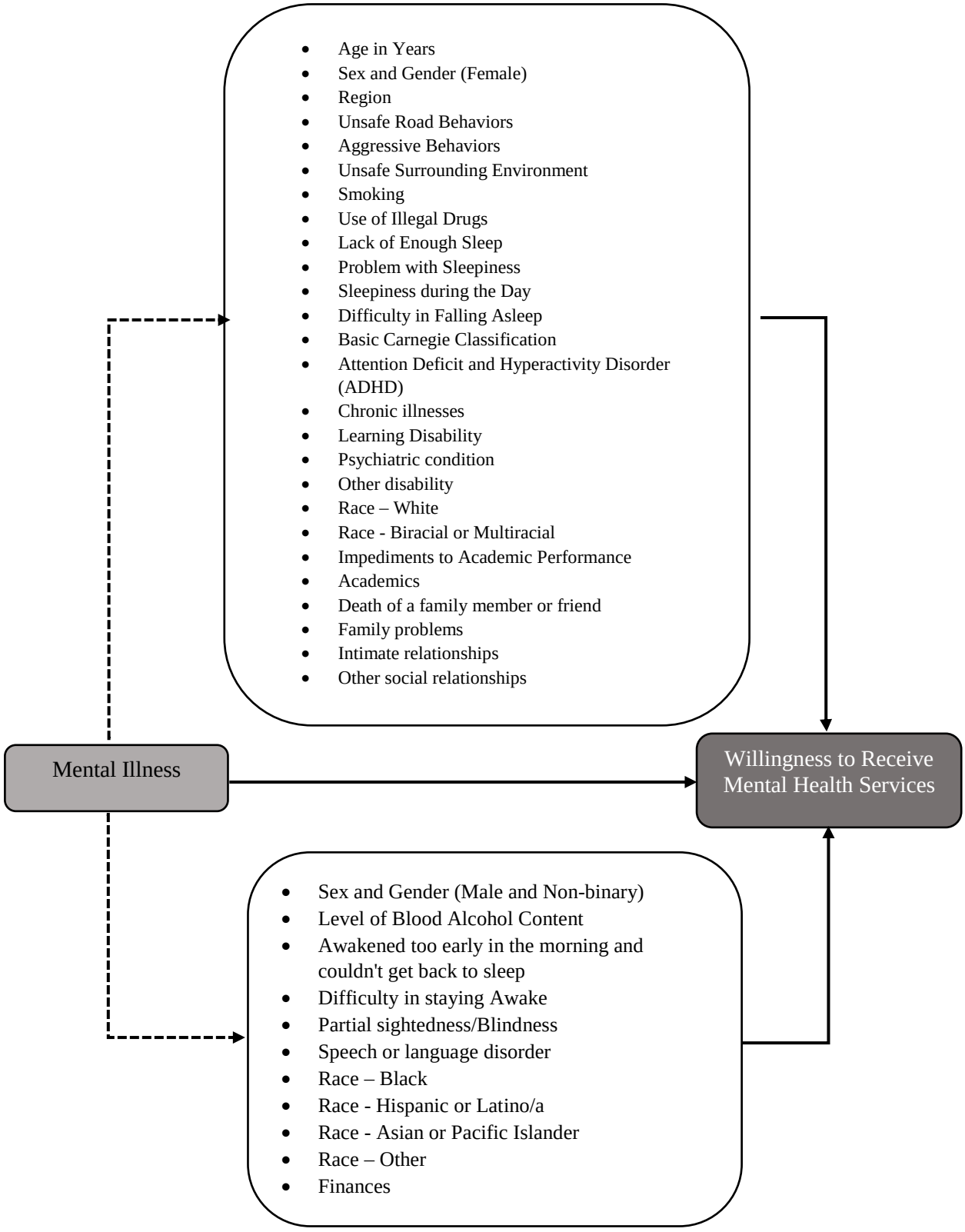
Traumatic Experience	Career-related issue	4.06E-05	0.002	0	0.023	0.981
	Death of a family member or friend	0.014	0.002	0.021	6.936	0.000
	Family problems	0.036	0.002	0.07	20.722	0.000
	Intimate relationships	0.04	0.002	0.076	23.759	0.000
	Other social relationships	0.041	0.002	0.078	22.79	0.000
	Finances	-0.012	0.002	-0.023	-6.956	0.000
	Health problem of a family member or partner	0.003	0.002	0.006	1.705	0.088
	Personal appearance	0.008	0.002	0.016	4.541	0.000
	Personal health issue	0.073	0.002	0.13	37.914	0.000
	Sleep difficulties	0.033	0.002	0.065	19.062	0.000
	Other	0.04	0.002	0.051	16.111	0.000

a. Dependent Variable: Willingness to Receive Mental Health Services

FIGURES

Figure 1

Factors Affecting or Influencing Students with Mental Illness' Willingness to Receive Mental Health Services



Note. Willingness to receive mental health services is not fully and collectively explained by mental illness. Instead, there are numerous factors that either positively or negatively influence the association.