Title: Readiness to change and barriers to treatment seeking in college students with a mental disorder

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ABSTRACT

Background; College students have high rates mental disorders and suicidal thoughts and behaviours, and low rates of treatment uptake. This study assesses treatment access, intentions to seek help, and perceived barriers to help-seeking, considering gender and suicidal thoughts or behaviours (STBs) as predictors.

Methods; Data is from the Ulster University Student Wellbeing study (2015) conducted in Northern Ireland (NI), as part of the WHO World Mental Health Surveys International College Student Project. Participants are 392 new college entrants (162 males (41.3%)/ 230 females (58.7%)), who all reported some lifetime mental disorder or STBs.

Results; Receipt of treatment was low (37.8%), particularly among males and those with no STBs. Males were less likely to intend to access external professional services and were less likely to rate embarrassment (OR=0.60) or worry about being treated differently (OR=0.63) as important reasons for not seeking treatment. Those with STBs rated wanting to handle things on their own as a more important barrier those with no STBs (OR=0.55 for non STBs group) and rated being unsure where to go as a less important barrier than those with no STBs (OR=1.80 for non STBs group).

Limitations; Data is correlational and concerns lifetime criteria for mental disorder, with no consideration of current mental status nor disorder type.

Conclusions; These findings have implications for the active screening and intervention for vulnerable college students, particularly males and those with mental disorders but no STBs.

Keywords; treatment; mental health; suicidal thoughts and behaviours (STBs); barriers; college students; gender.

Readiness to change and barriers to treatment seeking in college students with a mental disorder

Many mental disorders emerge in mid to late adolescence and early adulthood (Das et al., 2016), which often coincides with time at university. College students show high prevalence rates of mental disorders, often with high comorbidity (Auerbach et al., 2016, McLafferty et al., 2017, Steel et al., 2014) and suicidal thoughts and behaviours (STBs) (McLafferty et al., 2017, Mortier et al., 2017, O'Neill et al., 2018). The stress of university life may exacerbate psychopathology or lead to the development of problems for the first time (Bewick et al., 2010). Similar to general population studies (O'Neill et al., 2014, Sartorius, 2018, World Health Organisation, 2013), mental disorders in college students have a variety of physical, emotional and social/educational adverse consequences (Auerbach et al., 2016, Eisenberg et al., 2012, Mortier et al., 2015).

Despite early disorder onset, effective treatment is typically not initiated until years later (Reardon et al., 2017). Regardless of universities typically providing integrated support services (Eisenberg et al., 2012, Fernandez et al., 2016, Harrod et al., 2014), a major cause of concern, in this area is that students consistently show low levels of help seeking behaviours (Auerbach et al., 2016, Eisenberg et al., 2012, McLafferty et al., 2017). Similarly, although suicide is a leading cause of death among post-secondary students worldwide, many students at high risk of suicide are undiagnosed and untreated (Harrod et al., 2014). Service engagement and intervention during the early stages of a mental disorder may help reduce the severity and/or the persistence of the initial or primary disorder, and prevent secondary disorders (Dell'Osso & Altamura, 2015, Harrod et al., 2014, O'Neill et al., 2014, World Health Organisation, 2013).

Recent attention has been paid to the study of barriers to help-seeking amongst college students, particularly those who are at high risk due to profiles such as having mental disorders or STBs (Czyz et al., 2013), or males, due to their low help seeking (DeBate et al., 2018). Despite the prevalent belief about the negative role of stigma in help-seeking, and the

corresponding increased number of anti-stigma interventions, only 12% of vulnerable college students identified stigma as a barrier to seeking help (Czyz et al., 2013). The most commonly reported barriers were perception that treatment is not needed (66%), lack of time (26.8%) and preference for self-management (18%) (Czyz et al., 2013), although stigma may underlie these.

These findings are consistent with the Health Belief Model (Becker, 1974) wherein a behaviour such as help-seeking is best explained by perceived need, self-efficacy and cost/benefit evaluation of the help-seeking behaviour. It would appear that, students do not perceive the benefits of professional help for their difficulties as outweighing the perceived costs or perceived barriers of receiving treatment, considering self-management to be sufficient. Comparable findings were reported by DeBate et al. (2018). Applying the Information Motivation Behavioural skills model as a theoretical framework, help-seeking by male college students was underpinned by information and motivation (DeBate et al., 2018). Examples of information relevant concepts include recognizing their signs and symptoms of the mental disorder and holding positive beliefs about treatment, whilst examples of motivation relevant concepts include positive attitudes towards help-seeking and behavioural skills such as self-efficacy (DeBate et al., 2018).

The research above goes some way towards informing effective interventions through a clearer understanding of why high-risk college students do not seek treatment (Czyz et al., 2013, DeBate et al., 2018). However, Czyz et al. (2013) acknowledge themselves that their findings require replication before they can be generalized to other college settings. Participants were exclusively those who responded to a survey concerning barriers but also had screened positive for any two or more of the following: alcohol abuse, depression, past year suicidal ideation, lifetime history of suicide attempt. Previous suicide attempts represent a substantial risk factor for subsequent suicidal behaviour (O'Connor & Nock, 2014).

However, mental disorders, suicidal ideation and suicide plans are all more prevalent than suicide attempts (Auerbach et al., 2016, McLafferty et al., 2017, Mortier et al., 2017), and also represent elevated vulnerability to many adverse outcomes, including subsequent suicidal behaviours (O'Connor & Nock, 2014).

This study sought to replicate and expand the findings of Czyz et al. (2013) in two ways. The first is by the extension of the vulnerable group to include all students with mental disorders, regardless of whether these are accompanied by STBs. The second is by examining group differences in how the barriers are rated in terms of the presence or absence of STBs, in addition to gender differences as initially documented by Czyz et al. (2013). Consideration of gender is important because males typically have lower levels of help-seeking intentions and behaviours (Czyz et al., 2013, DeBate et al., 2018, Zochil et al., 2018).

Preliminary research from adolescents suggests that having more severe STBs may actually reduce the likelihood of seeking help (Hom et al., 2015). The ability to consider the potential benefits of professional intervention may be reduced (help negation) by the feelings of hopelessness or burdensomeness which typically accompany STBs (Hom et al., 2015). This impact may vary depending on whether the STBs are severe or mild therefore it is useful to study barriers amongst students with and without STBs in more detail.

The present study examines intentions to seek help and perceived barriers to help-seeking in a sample of first year undergraduate college students with a lifetime history of a mental disorder. Specific research questions were: (i) Are there gender differences in perceived need / readiness to change, intentions to seek help in the event of a difficulty arising, and barriers to seeking treatment amongst those who do not intend to seek help? (ii) Does presence versus absence of STBs relate to differences in perceived need / readiness to change, intentions to seek help in the event of a difficulty arising, and barriers to seeking treatment amongst those who do not intend to seek help? It is necessary to understand help

seeking barriers amongst college students of certain profiles, so that interventions can be tailor designed to increase service uptake, and decrease the burden of mental disorders in the population (Eisenberg et al., 2012). O'Connor and Nock (2014) identify "improved understanding of the barriers to help-seeking" as one of the key directions for research in this domain.

METHODS

Design

The Ulster University Student Wellbeing study (UUSWS) was conducted in September 2015 on four campuses across Northern Ireland. It is part of the World Health Organisation (WHO) World Mental Health International College Student Initiative(WMH-ICS) which uses an observational, longitudinal cohort study design. Ethical approval was obtained for the Northern Ireland study from the Ulster University Research Ethics Committee (REC/15/0004). Students were given a unique ID number, which they entered whilst completing the survey online. The current data is part of a larger project. Any identifying information was stored securely. The consent form stated that confidentiality would be broken if students were at a risk to themselves or others. Students who completed the survey were entered into prize draws to win one of a number of I-Pads.

Recruitment and sampling

One week prior to registration, prospective first year, undergraduate students at Ulster University, received a copy of the participant information sheet, outlining the study via email and asked to consider participating in the study. After completion of registration on the four university campuses across NI, trained researchers asked students if they would like to participate. Information sheets clearly outlined that their participation in the study was completely voluntary and was not part of the registration process, with their choice having no bearing on their time at university.

Students who agreed and completed consent forms were provided with a card containing their unique ID number and a link to complete the Qualtrics online survey in their own time. Survey details and ID reminders were also emailed to the students.

Participants

Participants were residents of the United Kingdom or the Republic of Ireland. The participants were 739 students, giving a completed response rate of 16.95% in relation to the total number of first year students registered. Full details of the overall sample in terms of their mental health and suicidal behaviours are reported in earlier papers (McLafferty et al., 2017, O'Neill et al., 2018). Basically, 346 (46.8%) of the sample did not meet the criteria for any lifetime mental disorder or STBs, 164 (22.2%) met the criteria for a lifetime disorder but did not report any STBs, and 229 (31.0%) met the criteria for a lifetime mental disorder and reported STBs.

As this paper analyses help seeking and related barriers, analyses focused exclusively on the latter two groups (N= 393). Transgender options were provided for gender reports. Only one transgender male to female participant was coded as female, one transgender female to male participant was coded as male, and there was one non-binary individual. As this paper focuses on gender, the non-binary individual was excluded from the sample (N= 392). Participants were aged 18–47 years with an average age of 21years (M= 21.21, SD = 5.88). Participants were 162 males (41.3%) and 230 females (58.7%). There were no participants who reported any STBs and had not met the criteria for a mental disorder.

Materials

Diagnostic Assessment

All survey measures were standardised across the WMH-ICS surveys. Lifetime mental disorders was considered to be meeting the criteria for any lifetime mood, anxiety or substance disorder, or meeting the criteria for Attention Deficit Hyperactivity Disorder (ADHD) in the past 6 months. The prevalence of mental disorders was assessed using an

adapted version of the WMH Composite International Diagnostic Interview (CIDI), version 3.0 (Kessler & Ustun, 2008). This instrument explores the prevalence of mental health problems in accordance with International Classification of Diseases (ICD) and Diagnostics and Statistical Manual of Mental Disorders (DSM-IV) criteria. Such self-reports are not suitable for assessment of psychotic disorders, but the screenings for depression, bi-polar disorder, anxiety disorders, and other serious emotional problems, are concordant with clinical assessments (Haro et al., 2006). ADHD was assessed via The World Health Organization Adult ADHD Self-Report Scale (ASRS) (Kessler et al., 2005). Alcohol disorders were determined using the Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1983) with either a total score of 8+ or a score of 4+ on the dependence questions (Babor et al., 2001). Although not a diagnostic tool, this scale has good concordance with clinical diagnoses (Reinert & Allen, 2002). It is used internationally by studies of the WMH-ICS (Auerbach et al., 2018). Lifetime and 12-month prevalence rates are reported in McLafferty et al. (2017).

Suicidal behaviours

Suicidal thoughts, plans and behaviours / attempts (STBs) were assessed using items from the Self-Injurious Thoughts and Behaviour Interview (SITBI) (Nock et al., 2007). Ideation, plans and attempts are considered, and questions are as outlined in other studies across the WMH-ICS (Mortier et al., 2015). Response options were ‘yes’ or ‘no’. The instrument has good psychometric properties (Nock et al., 2007), and this measure and these criteria are used across the WMH-ICS studies on this topic (Mortier et al., 2015). Information about support resources was provided to all participants at the end of the survey, and university helpline and counselling services were alerted, if a participant indicated that they had attempted or planned suicide in the previous year. These participants were subsequently contacted, and assessed by trained counsellors. Each question was

asked in relation to both lifetime and the past 12 months. The current paper uses lifetime reports. Lifetime and 12-month prevalences are both reported in O'Neill et al. (2018).

Help seeking and treatment for emotional problems

Questions from the WMH-CIDI services section assessed services accessed in terms of "Did you ever get psychological counselling or medication for an emotional or substance problem?". Those who answered "no" to both the receipt of psychological counselling or medication were asked to rate "readiness or willingness to change any emotional or substance use problems you are experiencing at this time" using one of five response options (see Tables 3 & 4).

All participants, regardless of whether or not they had accessed help or their readiness to seek help, were asked two questions concerning intentions to seek help if difficulties arose. These were "As you might know, the university has a Counselling Centre (Carecall) that provides help to students who have emotional problems. If during this coming year you developed an emotional problem that caused you a lot of distress and interfered with your work, how likely would you be to go to Carecall for help?" and "How likely would you be to go somewhere else for help, like to your doctor, a mental health professional or religious advisor?" Both of these questions were responded to using a five-point scale (definitely would go, probably would go, might or might not go, probably would not go and definitely would not go).

Except for those who indicated that they definitely would go, in response to either one of these questions, all others were asked about their barriers to help-seeking ("If you decided NOT to seek help if you developed such a problem, how important do you think each of these would be as reasons for NOT seeking help?"). These are listed in Tables 5 and 6 and were rated on a five-point Likert scale (very important, important, moderately important, of little importance and unimportant).

Data Analysis

Weights were created using the gender and age characteristics of the first year student population at Ulster University. Subsequently, these were applied to analyses to ensure that the study results were representative of the student population. Participants were grouped depending on whether or not they met the criteria for a lifetime mental health disorder, with group differences analysed by gender, and whether or not they reported lifetime STBs alongside this. SPSS automatically excludes cases with missing data. Chi-square analyses were used to examine differences across the groups concerning the receipt of treatment, willingness to change, and intention to seek help. For each barrier, a separate ordinal logistic regression analysis examined odds ratios for group differences in ratings of the importance of each barrier. For each barrier, both gender and STBs were included as predictors. Significant values of *p<.05, **p<.01, ***p<.001 are included. All analyses were conducted using SPSS (version 24).

RESULTS

Treatment access

Overall, only 37.8% of participants (n=148) had received treatment for an emotional or substance problem. Males were significantly less likely to have received treatment than females (Table 1). Treatment rates for participants with mental disorders and STBs were still low at only approximately half (50.7%), but they were more likely to have received treatment than those with a mental disorder alone (20.2%) (Table 2).

[Insert table 1]

[Insert table 2]

Readiness to change

Those who answered “no” to both the receipt of psychological counselling or medication were asked to rate “readiness or willingness to change any emotional or substance use problems you are experiencing at this time”. It must be remembered that these are participants who met the criteria for some lifetime mental disorder. There were no

statistically significant gender differences on readiness to change / willingness to seek help (Table 3). However, those who had STBs alongside their mental disorder(s) were also more likely to indicate "readiness or willingness to change any emotional or substance use problems you are experiencing at this time" compared to those with a mental disorder alone (Table 4). Nonetheless, 52.7% of those who had both a lifetime mental disorder and STBs did not consider themselves to have a problem that they needed to change.

[Insert table 3]

[Insert table 4]

Intentions to seek help if difficulties arose

These two questions were analysed in relation to all those who met the criteria for a lifetime mental disorder with or without STBs, regardless of whether they had previously accessed help or readiness to change (N=392). Questions were "As you might know, the university has a Counselling Centre (Carecall) that provides help to students who have emotional problems. If during this coming year you developed an emotional problem that caused you a lot of distress and interfered with your work, how likely would you be to go to Carecall for help?" and "How likely would you be to go somewhere else for help, like to your doctor, a mental health professional or religious advisor?"

There were no statistically significant differences between males and females with regards to intention to seek help from the internal university helpline and counselling service if they developed an emotional problem that caused them a lot of distress and interfered with their work ($\varkappa^2(4)=1.52$, $p>.05$). However, males were much less likely than females to intend to seek help from another source such as a doctor, a mental health professional or religious advisor ($\varkappa^2(4)=14.87$, $p<.01$). The proportion of males who indicated that they definitely would go to one of external services suggested (10.6%) was statistically significantly smaller than that amongst the female group (23.5%). Comparably, the proportions of males (28.1%

and 12.5%) at the lower levels of intention of availing of external services (probably would not go, and definitely would not go) were higher than those amongst females (18.3% and 9.6%).

There was no association between STBs and either intention to seek help from the internal university helpline and counselling service (n= 391, $\varkappa^2(4) = 3.92$, p> .05) or to seek help from another professional source such as a doctor (n= 392, $\varkappa^2(4) = 5.04$, p> .05). Only 13.4% of those with a mental disorder alone and 15.0% of those with a mental disorder and STBs would definitely go to internal services. Only 16.0% of those with a mental disorder alone and 19.7% of those with a mental disorder and STBs would definitely go to external services.

Overall rates of help seeking intentions were low. Only 89 (22.7%) said that they would definitely go to either the internal university helpline and counselling service or another professional source if a difficulty arose. The remaining 303 individuals did not indicate a definitive intention to seek help if a difficulty arose and were then asked to rate the importance of several barriers to help seeking.

Barriers to help seeking

Tables 5 & 6 illustrate the mean score on each barrier by gender and STBs profile, with lower scores reflecting the barrier being unimportant and higher scores reflecting importance. Results of a series of ordinal logistic regression analyses are also reported (Tables 5 & 6). These were undertaken to examine odds ratios of group differences in how important each barrier was rated (Tables 5 & 6). Each barrier was the dependent variable, with gender and STBs as predictors.

Males were significantly less likely (0.60 times) than females to rate the barrier “you would be too embarrassed” as important (Table 5). This corresponds to females being 1.67 times more likely to view this barrier as important. Males were also significantly less likely to

rate the barrier “you would worry that people would treat you differently if they knew that you were in treatment” as important (0.63 times) (Table 5). This corresponds to females being 1.59 times more likely to rate this barrier as important.

For STBs, significant differences were evident in how two barriers were rated. Those who had no STBs were significantly less likely (0.55) to rate “you would want to handle the problem on your own” as important (Table 6). This corresponds to those who had a mental disorder plus STBs to be 1.82 times more likely to have a higher score on this barrier in comparison with those who had a mental disorder only. Those who had a mental health difficulty with no STBs were significantly more likely (1.80) to have higher scores on “you are unsure of where to go or who to see” in comparison with those who had a mental health disorder plus STBs (Table 6).

[Insert table 5]

[Insert table 6]

DISCUSSION

This study examines service use and barriers to uptake of mental health services among students who met the criteria for a lifetime mental disorder. In keeping with the findings from other studies (Auerbach et al., 2016, Eisenberg et al., 2012), there was high unmet need with only 149 (38.01%) of those with a lifetime mental disorder having received treatment. As per previous studies (Eisenberg et al., 2012), males had lower levels of having received treatment. Males reported lower intentions to access treatment from professional services, with the exception of the university services. This is similar to Eisenberg et al. (2012), where educated young males were less likely to approach formal external services, compared with females. On a positive note, males and females were equally likely to express intention to access the internal university helpline and counselling service with the emergence of any difficulty.

In terms of understanding differences between the genders, males and females had comparable levels of perceived need / readiness to change. This suggests that different factors explain previous service uptake and also future intentions to seek help from external professional sources. Traditionally, the reluctance of males to access formal mental health services is said to reflect the stigma associated with mental health service use among males.

The current barriers failed to explain low past uptake of services and intention to seek external help from external services. The only gender differences were in instances where the barriers were endorsed to lesser extents by males. Relevant theoretical frameworks would suggest that other potential factors which may be useful to consider include mental health literacy, lack of perceived need, preference for self-management, maladaptive coping, help-negation, beliefs about treatment effectiveness, fear and mistrust of service providers, as well as the subtleties of stigma (Hom et al., 2015). These may benefit from being addressed from both a qualitative and quantitative perspective. Fear of being discriminated against in the workplace for revealing a mental disorder or psychiatric treatment is recognised as a barrier to people disclosing their own mental health history (Wheat et al., 2010), and this was endorsed more strongly by females in these results.

People who did not have STBs reported lower levels of having received treatment. In terms of understanding differences between the two groups, several differences were apparent. People who did not have STBs showed lower perceived need / readiness to change, highlighting further vulnerability. It is very important that people with STBs receive help as mental disorders and prior suicidal behaviour are amongst the strongest predictors of death by suicide (Franklin et al., 2017, O'Connor & Nock, 2014). However, it is important that all those with mental illness receive treatment and early intervention if possible, even if they do not have suicidal thoughts. This is because mental disorders are debilitating and people

benefit from intervention (Dell'Osso & Altamura, 2015, Harrod et al., 2014, O'Neill et al., 2014, World Health Organisation, 2013).

Despite group differences in having received treatment and readiness to change / perceived need, the two groups were comparable in terms of their intentions to access both university services and other external professional services if a difficulty arose in the coming year. However, across both groups the rates of intention to seek help were low. Furthermore, when those who did not indicate an intention to seek help were questioned about barriers to seeking help, group differences were again apparent. People who did not have STBs placed less emphasis on wanting to handle the problem on their own and more emphasis on being unsure of where to go as a barrier to obtaining treatment.

Those who had a mental health difficulty but no STBs, placed more emphasis on "you are unsure of where to go or who to see" in comparison with those who had a mental health disorder with STBs. Although there are other risk factors for suicidal thoughts and behaviours, they can accompany more severe mental disorders and could therefore be associated with help seeking for this reason. It is encouraging that people with suicidal thoughts were likely to know where to go. This may be a result of the promotion of suicide prevention helplines and services. It is worrying that our respondents without STBs were less likely to know where to go to receive treatment. This may result from poor mental health literacy whereby people with a mental disorder only may not identify their symptoms as indicative of an illness that could be treated (Hom et al., 2015). This might also be a result of negative views of the availability or quality of mental health services. Again, further qualitative research among students would help us understand the reasons for these patterns.

It is concerning that people with STBs were more likely to want to handle the problem on their own. This is in contrast to their higher levels of having received help, their increased readiness to change / willingness to seek help and their increased awareness of

where to go to get help. This finding may demonstrate the stigma and shame that can accompany suicidal thoughts, or shame associated with the problem that has contributed to the suicidal thoughts. It could also reflect a view that asking for help is a sign of weakness. Help-negation is considered to be a barrier to help seeking among people with STBs. STBs are associated with negative cognitions such as hopelessness, perceived burdensomeness and lack of positive future thinking (Hom et al., 2015). These may impair the individual's problem-solving skills and ability to consider the possible benefits of professional intervention (Hom et al., 2015). Low perceived need and a desire to handle the problem alone is a very common barrier (Andrade et al., 2014). It is one of the strongest predictors of both intention to seek help and help seeking behaviour (Eisenberg et al., 2012). The current questions explicitly assess stigma, embarrassment etc as barriers. However to fully understand the thought processes surrounding this matter, it may be useful to consider sub-components of stigma and also how they may subtly underlie other barriers (Hom et al., 2015).

Limitations:

While the study provides important information regarding student mental health and wellbeing, several methodological issues must be acknowledged. These findings are correlational and therefore causal relationships may not be inferred. As with any test of statistical significance it is possible that chance findings could occur. To mitigate this risk, we have carefully tried to interpret findings and relate them to existing findings from the literature. Groupings are based on those who had lifetime mental disorders or lifetime STBs, in order to correspond with the time frame on the service uptake question. Therefore, the exact current mental state of the participants is unclear. However, of the 392 individuals who had lifetime mental disorder, 351 (89.54%) met the criteria for a mental disorder within the

past 12 months. Of the 229 who reported lifetime STBs alongside their mental disorder, 135 (58.95%) reported some STBs within the past 12 months.

Sample size did not allow consideration of several sub-groups which would have been of potential interest. Psychiatric disorders are often discussed in terms of disorder severity, psychiatric comorbidity and disorder type. Disorder severity / psychiatric comorbidity does not relate to treatment odds (Bruffaerts et al., in preparation). However, disorder type is associated with service uptake in college students, with anxiety disorders showing slightly higher rates compared to either mood or substance disorders (Bruffaerts et al, in preparation). Sub group size did not allow consideration of sexual orientation nor gender minorities. Non-heterosexual orientation was a major predictor of mental disorder among students (McLafferty et al., 2017). Also sexual orientation minority groups show higher odds of treatment, possibly because of their increased levels of psychological distress (Bruffaerts et al., in preparation). Sample size also did not allow distinction between ideators, planners and attempters. Unfortunately, we do not have information on how the study participants differed from those who did not take part. However, all data was weighted to account for gender and age differences in relation to all those who had registered at Ulster University that year.

Methodologically, self-reports were used to assess prior suicidal thoughts and behaviours. Question format in terms of single-item assessments of suicide attempt history versus multi item surveys or interviews can influence reports, and which method conveys the truth is unknown (Hom et al., 2015). The treatment uptake question asked about receipt of treatment for emotion or substance problems and did not specifically mention STBs. However, in the current sample there were no participants who reported STBs who did not meet the criteria for a mental disorder.

The final consideration relates to the generalizability of the sample. As in several countries which have participated in the WHO World Mental Health Surveys International

College Student Initiative (Mortier et al., 2017b), and indeed other large-scale college student surveys (Eisenberg et al., 2012), the response rate was less than desirable. However, prevalence estimates of mental disorders in this sample align with both those of UK universities, and the Northern Ireland general population (McLafferty et al., 2017). Weights were applied to address the high proportion of females in the current study.

Conclusions and suggestions for further research:

This paper provides important evidence on helpseeking and treatments for mental health problems in students. The majority of students with mental health difficulties have not received treatment and do not intend to seek help if difficulties arose. This is particularly the case for males, and for those who have mental disorders without STBs. In order to address this, university representative groups should develop policies and promote strategies to improve wellbeing and service uptake among students. Individual universities should invest in routine screening for mental illness, provide technological low-cost and low-threshold interventions, and refer to external agencies where appropriate (Eisenberg et al., 2012, Harrer et al., 2018).

Notwithstanding the limitations noted above, these findings contribute to our understanding of the help seeking behaviours of college students and the thought processes that accompany these. Nonetheless, much remains to be understood. Those with mental disorders alone are less likely to seek help and are unlikely to know where to go. Amongst those with STBs, there appears to be knowledge of where to go, but a preference for self-management. Males reported lower help seeking behaviours, despite comparable readiness to change / willingness to seek help, and low endorsement of stigma as a barrier to help seeking. Understanding reasons for not seeking help are essential to reducing unmet need (Hom et al., 2015, O'Connor & Nock, 2014).

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Table 1; Q1 Gender and having ever received psychological counselling or medication for an emotional or substance problem (N=392)

Received help	Gender ($\chi^2(1)=11.74$, $p<.001$)			
	Male		Female	
	Obs (Exp)	Group Percentage	Obs (Exp)	Group Percentage
No	116 (99.8)	72%	127 (143.2)	55.0%
Yes	45 (61.2)	28%	104 (87.8)	45.0%

Table 2; STBs and having ever received psychological counselling or medication for an emotional or substance problem (N=392)

Received help	Mental disorders and STB ($\chi^2(1)=37.37$, $p<.001$)			
	Mental disorder(s) only		Mental disorders with STB	
	Obs (Exp)	Group Percentage	Obs (Exp)	Group Percentage
No	130 (101.0)	79.8%	113 (142.0)	49.3%
Yes	33 (62.0)	20.2%	116 (87.0)	50.7%

Table 3; Gender and readiness or willingness to seek help among students who answered "no" to previously receiving counselling or medication (n=284)

	Gender ($\chi^2(4)=4.21$, $p>.05$)			
	Male		Female	
	Obs (Exp)	Group Percentage	Obs (Exp)	Group Percentage
I do not have a problem that I need to change	91 (87.0)	71.1%	102 (106.0)	65.4%
I have a problem, but I am not yet sure I want to take action to change it	9 (7.2)	7.0%	7 (8.8)	4.5%
I have a problem and I intend to address it	3 (4.1)	2.3%	6 (4.9)	3.8%
I have a problem and I already am working actively to change it	13 (18.0)	10.2%	27 (22.0)	17.3%
I had a problem but I have addressed it and things are better now	12 (11.7)	9.4%	14 (14.3)	9.0%

Table 4; STBs and readiness or willingness to seek help among students who answered "no" to previously receiving counselling or medication (n=286)

	Mental disorders and STB (n=286) ($\chi^2(4)=34.67$, $p<.001$)			
	Mental disorder(s) only		Mental disorders with STB	
	Obs (Exp)	Group Percentage	Obs (Exp)	Group Percentage
I do not have a problem that I need to change	115 (93.3)	83.3%	78 (99.9)	52.7%
I have a problem, but I am not yet sure I want to take action to change it	4 (7.7)	2.9%	12 (8.3)	8.1%
I have a problem and I intend to address it	5 (4.8)	3.6%	5 (5.2)	3.4%
I have a problem and I already am working actively to change it	6 (19.7)	4.3%	35 (21.2)	23.6%
I had a problem but I have addressed it and things are better now	8 (12.5)	5.8%	18 (13.5)	12.2%

Table 5; Gender and barriers to treatment; descriptive statistics and ordinal regression (N=299)

Reason**;**	Gender (mean and sd)		Gender (males versus females)
	Males	Females	OR (95% CI)
You are not sure available treatments are very effective	2.56(1.65)	2.77(1.27)	0.76 (0.50-1.14)
You would want to handle the problem on your own	3.59(1.10)	3.59(1.12)	1.03 (0.68-1.56)
You would be too embarrassed	3.07(1.31)	3.41(1.30)	0.60 (0.40-0.90)**
You would talk to friends or relatives instead	3.20(1.40)	3.49(1.26)	0.69 (0.46-1.03)
You think it costs too much money	2.18(1.27)	2.30(1.23)	0.80 (0.53-1.21)
You are unsure of where to go or who to see	2.73(1.14)	2.82(1.25)	0.84 (0.56-1.26)
You anticipate problems with time, transportation, or scheduling	2.56(1.24)	2.60(1.33)	0.96 (0.64-1.44)
You are afraid it might harm your school or professional career	2.68(1.32)	2.95(1.43)	0.73(0.48-1.09)
You would worry that people would treat you differently if they knew that you were in treatment	3.03(1.39)	3.41(1.40)	0.63 (0.42-0.94)*

*=p<.05, **=p<.01

Table 6; STBs and barriers to treatment; descriptive statistics and ordinal regression (N=300)

Reason**;**	Lifetime mental disorder (mean and sd)		Lifetime mental disorder (no STB versus with STB
	No STB	STB	OR (95% CI)
You are not sure available treatments are very effective	2.72(1.10)	2.64(1.31)	1.22 (0.81-1.83)
You would want to handle the problem on your own	3.41(1.01)	3.72(1.17)	0.55 (0.36-0.84)**
You would be too embarrassed	3.40(1.20)	3.17(1.39)	1.42 (0.95-2.15)
You would talk to friends or relatives instead	3.44(1.21)	3.31(1.42)	1.15 (0.76-1.73)
You think it costs too much money	2.28(1.28)	2.22(1.22)	1.09 (0.72-1.64)
You are unsure of where to go or who to see	3.00(1.12)	2.61(1.24)	1.80 (1.19-2.73)**
You anticipate problems with time, transportation, or scheduling	2.60(1.24)	2.58(1.34)	1.10 (0.73-1.65)
You are afraid it might harm your school or professional career	2.70(1.28)	2.95(1.46)	0.77 (0.51-1.16)
You would worry that people would treat you differently if they knew that you were in treatment	3.08(1.40)	3.35(1.41)	0.72 (0.48-1.08)

Authors statements

Edel Ennis was responsible for ethical approval of the project, was involved in the data collection. She also was the lead author of this paper.

Margaret McLafferty was one of the team responsible for recruitment and data collection. She also contributed to the writing and analysis of this paper.

Elaine Murray is the co-principal investigator, was involved in the design and conceptualisation of this study and contributed to the review of the final manuscript.

Coral Lapsley was one of the team responsible for recruitment and data collection and contributed to the review of the final manuscript.

Tony Bjourson was involved in the design and conceptualisation of this study and contributed to the review of the final manuscript.

Cherie Armour was involved in the design and conceptualisation of this study, supervised the statistical analyses and contributed to the review of the final manuscript.

Brendan Bunting was involved in the design and conceptualisation of this study and contributed to the review of the final manuscript.

Sam Murphy supervised data collection and cleaning and contributed to the review of the final manuscript.

Siobhan O'Neill is the principal investigator on this project and oversees all liaisons on a worldwide basis. She also contributed to the writing and analysis of this paper.

Declarations of interest

None.

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