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Anxiety and depression levels compered between LGBTQ+ and non-LGBTQ+ individuals in higher education.

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Abstract

Aims: The current study sought to assess levels of depression and anxiety in college students in Ireland. The study's focus was on determining whether there were higher levels of both depression and anxiety in LGBTQ+ college students compared to their non-LGBTQ+ peers. **Method:** A survey was administered to participants (n = 180) through the Microsoft forms platform. The survey consisted of questions from scales such as The Centre for Epidemiologic Studies Depression, The Becks Anxiety Inventory, The Internalised Homophobia Scale, and The Rugged Resilience Measure, along with general demographic questions. **Results:** Results indicate that those who identify as LGBTQ+ have higher levels of both depression and anxiety compared to their non-LGBTQ+ peers. However, those who did not identify as LGBTQ+ showed higher levels of resilience. **Conclusion** Findings from this study provide a greater understanding of the general mental health of LGBTQ+ college students. Importantly, these findings further show that LGBTQ+ individuals face many challenges in day-to-day life leading to the development of higher levels of depression and anxiety.

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Introduction

It has been shown repeatedly that individuals who identify as part of the LGBTQ+ community have higher levels of anxiety and depression than non-LGBTQ+ individuals. This is due to a range of events that are commonly experienced by LGBTQ+ individuals (Cochran et al., 2007; Dhejne et al., 2016; Hatzenbuehler, 2009; Livingston et al., 2020). In fact, LGBTQ+ individuals are 1.5 times more likely to report symptoms of depression than non-LGBTQ+ individuals (King et al., 2008). This is similar in symptoms of anxiety with LGB women being 3 times more likely to report generalised anxiety and, LGB men being 4.7 times more likely to experience panic disorders (Cochran et al., 2003). Individuals who identify as lesbian, gay, and bisexual not only have higher levels of mental health issues they also have a higher chance of developing these problems compared to non-LGBTQ+ individuals (Clarke et al., 2010; Yi et al., 2017). Previous research gives us an insight into the possible causes of these elevated levels of anxiety and depression within the LGBTQ+ population, as well as common risks that are unique to LGBTQ+ individuals.

Minority stress

The risks specific to the LGBTQ+ population have been identified and given the name “minority stressors.” Minority stressors refer to the unique events that occur in the life of LGBTQ+ individuals. The idea of minority stressors was proposed by Meyer (2003). This article explores the idea of a distal-proximal minority stress model. The model states that identifying with a minority population exposes an individual to higher chances of discrimination and harassment which then leads to additional stress. This additional stress is more internal for the individual (proximal stressors) and includes expectations of rejection, internalised homophobia, and concealment of identity. An individual’s proximal stressors stem from their external experiences of the world around them (distal stressors) (Meyer, 2003).

These external experiences include harassment, homophobia, and discrimination. Discrimination can lead to a knock-on effect of proximal stressors which impacts mental health (Eldahan et al., 2016; Mustanski et al., 2014; Rendina et al., 2018). It has been shown consistently within the literature that LGBTQ+ individuals are exposed to discrimination due to their sexual identity frequently, maybe even daily, throughout their lives (Hendricks & Testa, 2012; James et al., 2016; Livingston et al., 2016). These experiences of discrimination are linked with poor mental health states, such as higher levels of depression and anxiety, as well as increased health-risk behaviours (Hatzenbuehler et al., 2008; Lehavot & Simoni, 2011). It has also been suggested that individuals with high levels of anxiety are more likely to internalise discrimination (Mohr, 1999).

While discrimination in terms of the LGBTQ+ population is well explored, the proximal stressors such as identity concealment also play a significant role in anxiety and depression levels. More frequent concealment of identity leads to elevated levels of both depression and anxiety (Feinstein et al., 2022; Frost et al., 2007; Jackson & Mohr, 2016). There is also a higher risk for anxiety and depression with more frequent identity concealment (Pachankis et al., 2015). Identity concealment is a method by which LGBTQ+ individuals can keep themselves safe from threats, for example, harassment, discrimination, etc. (Legate et al., 2012). While concealment is used for protection the constant anticipation of distal stressors is seen to affect mental health (Pachankis, 2007). This evidence suggests that LGBTQ+ individuals who conceal their identity are at a higher risk for developing anxiety and/or depression.

Identity concealment may be caused by a fear of rejection. For example, it has been shown that LGBTQ+ individuals who have parents that are “rejecting” of their identity report higher levels of mental health issues (Puckett et al., 2015). The fact is, LGBTQ+ youth have to be careful who they share their identities with as they may create conflict within their

families upon sharing this information and this can have traumatic effects on the young person (McConnell et al., 2016). These negative experiences with family may set the individual up for elevated anxiety levels surrounding potential rejection, essentially creating a habit of expectation of rejection. It has been shown that if an individual has both high levels of anxiety around potential rejection and high expectations of rejection it leads to poor mental health outcomes (such as anxiety and depression) and poor connection with identity (London et al., 2012; Mendoza-Denton et al., 2002). The rejection LGBTQ+ youth face from peers and family members alike is shown to be associated with lower self-esteem, poor mental health, and higher levels of internalised homophobia (Herek et al., 2009a; Herek & Garnets 2007).

Internalised homophobia (IH) has been recognised through many research studies as having associations with poor mental health (Szymanski et al., 2008) specifically with depression and anxiety (Igartua et al., 2003; Rubino et al., 2018). IH has been defined as an individual taking in negative social beliefs about homosexuality as their own personal opinions (Meyer & Dean, 1998), and essentially believing these things about themselves. So, it can be assumed that IH is the most persistent of the minority stressors as it becomes part of the individual's own belief system. Overall, IH has been associated with many maladaptive psychological symptoms such as decreased self-esteem, increased suicidality, and elevated levels of depression (Herek et al., 1998; Meyer, 1995).

While minority stressors affect the LGBTQ+ population it does not affect all LGBTQ+ individuals in the same way. For example, bisexual individuals (as well as additional labels used for multi-gender attraction) are reported to be more likely to conceal their identities than gay and lesbian individuals (Balsam & Mohr, 2007; Mohr et al., 2017). This at large, is seen to be due to the fact that negative opinions of bisexual individuals and discrimination comes from both heterosexual and gay/lesbian populations (Feinstein & Dyar,

2017), suggesting possible increases in internalised homophobia for bisexual individuals. There are stressors specific to bisexual/pansexual individuals. For example, bisexual/pansexual individuals are stereotyped in unique ways, such as the idea of unfaithfulness (Dyar et al., 2019). This discrimination towards bisexual/pansexual individuals that is enacted by both heterosexual individuals and other sexual minorities has been described as "double discrimination" (Bostwick & Hequembourg, 2014; Roberts et al., 2015). This double discrimination of bisexual/pansexual individuals has been shown to be associated with a sense of isolation and invisibility for this population (Rust, 2002). Due to these factors, bisexual individuals tend to have higher levels of anxiety and depression than both gay/lesbian and heterosexual individuals (Ross et al., 2018).

Depression and anxiety

Minority stressors are quite disruptive to the daily lives of LGBTQ+ individuals and can often lead to poor mental health. This in combination with the literature that suggests college students, in general, have higher levels of depression and anxiety than the general population (Stallman, 2011) raises even more concern for LGBTQ+ students. Minority stress has also been seen to lead to social isolation and loneliness (Mereish & Poteat, 2015) which in turn can increase levels of depression and anxiety. Overall, LGBTQ+ students seem to be more susceptible to poor mental health and loneliness than their non-LGBTQ+ peers.

Loneliness, referring to lacking meaningful relationships (Mahon et al., 2006), is a negative effect caused by minority stressors. Loneliness has been consistently linked with poor mental health specifically depression (Hawkley & Cacioppo, 2010). It has also been shown that levels of loneliness are higher in LGBTQ+ individuals than in non-LGBTQ+ individuals (Yadegarfard et al., 2014), which may account for the elevated levels of anxiety and depression in the LGBTQ+ population. Loneliness as a result of depression often leads to more serious mental states such as isolation and suicidal thoughts. Depression, while being

very common in LGBTQ+ individuals, is also a major risk factor for suicide (Bostwick et al., 2010). This fact is reiterated when looking at the various research studies that report higher frequencies of suicidal behaviour among LGBTQ+ youth (Kann et al., 2011), with some studies showing that they are twice as likely to report suicide ideation and three times as likely to report an attempted suicide (Marshal et al., 2008). The results showing higher levels of suicidal behaviours in the LGBTQ+ population compared to the non-LGBTQ+ population suggest it is important to investigate the risks specific to LGBTQ+ individuals (such as minority stressors) (Puckett et al., 2016). These results also suggest a need to look at differences between the heterosexual and homosexual youth populations, specifically within an educational setting.

Poor mental health is increasing in third-level education with depression, anxiety, and stress all being common among third-level students (Cheung et al., 2020; Meckamalil et al., 2020). Mental health in education is cause for huge concern as poor mental health can have a significant effect on academic performance and even suicidality among students (Dyrbye et al., 2006; Stewart et al., 1999). A possible explanation for college students not completing their education is poor mental health (Ali et al., 2015). This suggests that the levels of anxiety and depression within an educational setting can be so debilitating that it inhibits students from dealing with the everyday stresses that college life may throw at them (Bassi et al., 2014; Bramness et al., 1991).

Similarly, to mental health, resilience has been studied in the context of college students. Resilience is the ability to overcome difficult situations, reducing the harmful effects of stress on health (Woodford et al., 2018). As well as developing the minority stress model, Meyer (2003) emphasises that through assets such as good coping mechanisms and resources like community connections, a buffering effect may occur for targeted individuals from the negative impacts of discrimination. Very little research has examined resilience

among both sexual and gender minority students. Woodford et al. (2018) suggest further research is needed in this area.

The Current Study

While good mental health should be a goal for all students, it is important to recognise the lack of research done on depression and anxiety specifically in LGBTQ+ students compared to non-LGBTQ+ students, within third-level education. With the additional stress that the LGBTQ+ population is subjected to such as minority stressors, it is only logical to suggest there would be significant differences in terms of mental health, particularly anxiety and depression, between LGBTQ+ and non-LGBTQ+ students. While there is a rationale behind this argument, it is not well-documented in the literature.

The current study aims to determine whether rates of self-reported anxiety and depression differ between LGBTQ+ students and non-LGBTQ+ students in third-level education. The question this study aims to address is: "Do LGBTQ+ students have higher levels of depression and anxiety than their non-LGBTQ+ peers?" It is hypothesised that sexual orientation and gender identity will have a significant effect on self-reported levels of depression and anxiety.

The current study will also examine secondary research questions such as: whether bisexual/pansexual individuals have higher levels of anxiety and depression than both gay/lesbian individuals and heterosexual individuals. As well as whether bisexual/pansexual individuals have higher levels of internalised homophobia than gay/lesbian individuals. This study also aims to examine whether there is a difference in resilience levels between LGBTQ+ individuals and non-LGBTQ+ individuals.

The current study is addressing a gap in the literature, as to date, there is very little research that examines the differences in anxiety and depression levels between the LGBTQ+

population and the non-LGBTQ+ population within third-level education. This is similar to the case of resilience and highlights the importance of further research in these areas.

Methods

Participants

Participants were recruited using a convenience sampling technique as the study required responses from college students. As independent samples t-test were conducted, G-Power: Statistical Power Analyses (Faul et al., 2009) was used to determine the sample size needed for this study, with an accepted 5% margin of error, a power of 95% and an expected medium effect size of (r = 0.5) of LGBTQ+ belongingness for depression and anxiety levels. The results indicated that a sample of 210 participants is required for a statistically powerful analysis. No incentives were used in recruiting participants.

The initial sample consisted of 210 individuals all over the age of 18. However, 30 individuals were excluded from the analysis as they were not currently enrolled in a college course in the Republic of Ireland. The final sample then consisted of 180 individuals (49 Men, 119 Women, 1 Trans-Man, 1 Trans-Woman, 8 Non-Binary, 2 Gender-Queer/Gender Non-Conforming) with a mean age of 21.38 (SD = 5.86) ranging from 18 to 56 who were currently attending college in the Republic of Ireland.

Design

The current study used a quantitative approach with a cross-sectional between-groups design. The study had two independent variables: gender, and sexual orientation. There were four dependent measures that were analysed separately: depression, anxiety, resilience, and internalised homophobia ratings provided by the participants. Participants identifying as LGBTQ+ took part in all sections of the survey. However, those who did not identify as LGBTQ+ did not take part in the Internalised Homophobia Scale.

Materials

The study questionnaire, which was comprised of demographic questions and four established scales, was developed using the Microsoft Forms platform.

Demographics.

Participants were asked to report their age, gender identity (man, women, trans-man, trans-women, non-binary, gender-queer, prefer to self-identify), sexual orientation (straight, gay, lesbian, asexual, bisexual, prefer to self-identify), college enrolment status, and LGBTQ+ community belongingness (See Appendix A). Participants were also asked to provide general information about their previous and current living conditions such as the country they were born in, the county in Ireland they were born in, and the county they currently live in.

Centre for Epidemiologic Studies Depression

The Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item, 4-point Likert scale which measures a person's depressive symptoms from the past week (See Appendix B). An example of an item from this scale is as follows: *I enjoyed life.* To score this scale, Items 1-3, 5-7, 9-11, 13-15, and 17-20 are scored "0 - Rarely or none of the time", "1 – Some or a little of the time", "2 – Occasionally or a moderate amount of the time", "3 – Most or all of the time". Whereas items 4, 8, 12, and 16 are reverse scored "0 – Most or all of the time", "1 - Occasionally or a moderate amount of the time", "2 - Some or a little of the time", "3 - Rarely or none of the time". The score of this scale can range from 0 to 60. A score of 0-16 is considered low to mild depressive symptomatology, 16-23 moderate depressive symptomatology, and 24-60 severe depressive symptomatology. Scores 16 or greater reflect individuals at risk for clinical depression. The Cronbach's alpha for this scale is .92.

Becks Anxiety Index

The Becks Anxiety Index (BAI; Beck et al., 1988) is a 21-item, 4-point Likert scale. The BAI measures the frequency of common anxiety symptoms (See Appendix C). An example of an item from this scale is as follows: *In the past week I've felt Numbness or Tingling.* Questions are answered "0 - Not at all", "1 – Mildly it didn't bother me much", "2 – Moderately it wasn't pleasant at times", "3 - Severely - it bothered me a lot". The items and summed to obtain a total score that can range from 0-63. A score of 0-7 is considered minimal, 8-15 is mild, 16-25 is moderate and 26-63 is severe. The Cronbach's alpha for this scale is .97.

Internalised Homophobia Scale

The Internalised Homophobia Scale (IHP; Herek et al., 2009b) is a 5-point Likert scale ranging from "1 – strongly disagree" to "5 – strongly agree" (See Appendix D). Scores are measured by summing responses and dividing them by the total number of items. An example of an item from this scale is as follows: *I wish I weren't a part of the LGBTQ+ community.* The scale was edited slightly in order to make it more suitable for this study, specifically, the last question was removed as it did not fit the research question and overall hypothesis. Due to this removal, the scale will instead be a 4-point Likert scale in order to carry out the same measure of scores. The Cronbach's alpha for this scale is .81.

Rugged Resilience Measure.

The Rugged Resilience Measure (RRM; Jefferies et al., 2021), a 5-point Likert scale, was used to determine the resilience levels of participants (See Appendix E). Individuals were asked to read 10 statements and rated them on a 5-point Likert scale from "1 - Not at all" to "5 - A lot". An example of an item from this scale is as follows: *I believe in myself.* Scores ranged from 10-50. A score of 10-27 indicates low resilience, a score of 28-41

indicates moderate resilience and a score of 42-50 indicates high resilience. The Cronbach's alpha for this scale is .90.

Procedure

The data for this study were collected through a survey using the Microsoft Forms platform. The survey was initially piloted on a sample of five individuals to ensure there were no issues and to determine the average length of the survey. The survey took an average of 8 minutes to complete, and no issues were detected within the pilot.

The survey was posted to various social media platforms including Instagram and Snapchat, along with a poster (see Appendix F) which contained information about the current study including eligibility criteria, as well as contact information and a QR code that linked the participants directly to the survey.

The first page of the survey contained the participation information sheet (see Appendix G) which detailed the nature and purpose of the study, as well as the eligibility criteria. Participants were informed that participation was voluntary, and that there would be no penalty to exiting the survey at any point before submission was permitted if they no longer wished to take part. Individuals were informed that as data is de-identified and there would be no way to withdraw data from the survey once submitted. Participants were also reminded that data from the survey may be held in accordance with the NCI data retention policy. The information form also contained the name of the researcher, institution, and supervisor, whom participants could contact if questions arise about their participation.

The second page of the survey contained the consent form (see Appendix H), which further outlined the nature of the study and reiterated that all data is anonymous and de-identified, reminding participants that once submitted data cannot be withdrawn. For participants to continue with the survey they were required to tick a box labelled yes, which indicated they give informed consent to voluntarily take part in the survey.

The third page of the survey asked the participant for demographic information such as age, gender identity, and sexual orientation. Within the demographic questions, participants were asked whether they attend a college course in the Republic of Ireland. The survey ended for those who answered no to this question, as they did not meet the eligibility criteria of the current study. Following this, the IHP, CES-D, BAI, and RRM were used to gather data.

After completion of the survey participants were met with a debriefing form (see Appendix I), which described the nature and aim of the current study while also thanking participants for taking part in the survey. Contact information was provided for both the researcher and supervisor if further questions or concerns arose while taking part in the survey. Additionally, the debriefing form listed numbers to serval helplines to provide support to any participant who may have experienced psychological distress while partaking in the survey.

Ethical Considerations

Ethical approval for the current study was granted by the National College of Ireland's Psychology Department's Ethics Committee. The study adhered to the ethical guidelines provided by the National College of Ireland and the Psychological Society of Ireland.

Consent was obtained from participants. The nature of the study was clearly outlined to participants through both the information sheet and consent form at the start of the survey. This ensured that all participants understood what would be involved in their participation. Within both of these forms, participants were informed of their right to withdraw consent at any point throughout the survey.

However, as the study aims to keep all participants anonymous, individuals were further informed prior to the commencement of the survey that all data provided would be de-

identified and that once data were submitted, there would be no way to withdraw from the study. As this study deals with some sensitive topics and may have caused psychological distress to participants, contact information for various helplines was provided in the debriefing form once the survey had been completed.

Results

Descriptive statistics for the variables Gender Identity, Sexual Orientation, LGBTQ+ Belongingness, Country Born, County Born, and County Live were run (see Table 1).

Table 1

Descriptive Statistics for Gender Identity, Sexual Orientation, LGBTQ+ Belongingness, Country Born, County Born, and County Live.

Variable	Frequency	Valid %
Gender Identity		
Man	49	27.2
Women	119	66.1
Trans-Man	1	0.6
Trans-Women	1	0.6
Non-Binary	8	4.4
Gender Queer / Gender Non-Conforming	2	1.1
Sexual Orientation		
Straight	93	51.7
Gay	8	4.4
Lesbian	13	7.2
Bisexual	49	27.2
Asexual	2	1.1
Pansexual	15	8.3

LGBTQ+ Belongingness		
LGBTQ+	85	47.2
Non-LGBTQ+	95	52.8
Country Born		
Ireland	156	86.7
Other	24	13.3
County Born		
Dublin	96	53.3
Cork	32	17.8
Louth	8	4.4
Offaly	5	2.8
Wicklow	5	2.8
Kildare	1	0.6
Galway	6	3.3
Meath	6	1.7
Outside Ireland	24	13.3
County Live		
Dublin	114	63.3
Cork	26	14.4
Louth	10	5.6
Offaly	11	6.1
Wicklow	11	6.1
Kildare	2	1.1
Galway	3	1.7
Meath	3	1.7

Descriptive statistics for the variables Total Depression, Total Anxiety, Total Internalised Homophobia, Total Resilience, and Age were run (see Table 2).

Table 2

Descriptive statistics for Total Depression, Total Anxiety, Total Internalised Homophobia, Total Resilience, and Age.

Variable	*M* [95% CI]	*SD*	Range
Total Depression	27.37	12.78	3-55
Total Anxiety	23.53	17.15	0-63
Total Internalised Homophobia	9.05	3.38	4-16
Total Resilience	32.88	8.08	14-50
Age	21.51	5.86	18-56

Inferential Statistics

Preliminary analyses were preformed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. As the assumptions of normality were violated for the variables Total Depression, Total Anxiety and Total Internalised Homophobia, three separate Mann-Whitney U tests were conducted. However, as there were no violations of the assumptions of normality, linearity, and homoscedasticity for Total Resilience, an independent samples t-test was performed.

A Mann-Whitney U Test was conducted to compare scores for Total Depression between LGBTQ+ and non-LGBTQ+ individuals. There was a significant difference in the scores between LGBT ($Md = 34$, $n = 85$) and non-LGBTQ+ individuals ($Md = 21$, $n = 95$), $U = 6135$, $z = 348$, $p < .001$, with a medium effect size ($r = .45$).

A second Mann-Whitney U Test was conducted to compare scores for Total Anxiety between LGBTQ+ and non-LGBTQ+ individuals. There was a significant difference in the scores between LGBT ($Md = 27$, $n = 85$) and non-LGBTQ+ individuals ($Md = 14$, $n = 95$), $U = 5778.50$, $z = 4.99$, $p < .001$, with a medium effect size ($r = .37$).

A third Mann-Whitney U Test was conducted to compare scores for Total Internalised Homophobia between gay/lesbian and bisexual/pansexual individuals. There was no significant difference in the scores between gay/lesbian (Md = 9, n = 21) and bisexual/pansexual individuals (Md = 9, n = 62), U = 641, z = -.11, p = .916.

An independent samples t-test was conducted to compare scores for Total Resilience between LGBTQ+ and non-LGBTQ+ individuals. There was a significant difference in the scores between LGBT (M = 31.39, SD = 7.73) and non-LGBTQ+ individuals (M = 34.22, SD = 8.18), $t(178) = 2.38$, p = .018 two-tailed. The magnitude of differences in the means (mean difference = 2.83, 95% CI [.48, 5.18]) was large (Cohen's d = .98).

A one-way between-groups ANOVA was conducted to determine if there were differences in depression scores determined by sexual orientation. Participants were divided into three groups according to their sexual orientation (Straight; Gay/Lesbian; and Bisexual/Pansexual). There was a statistically significant difference in levels of depression scored between the three groups, F (2, 175) = 19.65, p < .001. The effect size indicated a small difference in depression levels (eta squared = .18)

Post-hoc analyses using the Tukey HSD test indicated that the mean depression score for participants who identified as gay/lesbian (M = 34.38, SD = 12.37) was significantly higher (p < .001) than those who identified as straight (M = 22.00, SD = 11.97). It was also indicated that the mean depression score for participants who identified as bisexual/pansexual (M = 32.13, SD = 10.30) was significantly higher (p < .001) than those who identified as straight. There was no statistically significant difference (p = .714) between depression levels for participants who identified as bisexual/pansexual and who identified as gay/lesbian.

A second one-way between-groups ANOVA was conducted to determine if there were differences in anxiety scores determined by sexual orientation. Participants were divided into three groups according to their sexual orientation (Straight; Gay/Lesbian; and

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Post-hoc analyses using the Tukey HSD test indicated that the mean anxiety score for participants who identified as gay/lesbian (M = 31.86, SD = 19.95) was significantly higher ($p < .001$) than those who identified as straight (M = 17.74, SD = 15.41). It was also indicated that the mean anxiety score for participants who identified as bisexual/pansexual (M = 28.91, SD = 15.20) was significantly higher ($p < .001$) than those who identified as straight. There was no statistically significant difference ($p = .714$) between anxiety levels for participants who identified as bisexual/pansexual and who identified as gay/lesbian.

A third one-way between-groups ANOVA was conducted to determine if there were differences in resilience scores determined by sexual orientation. Participants were divided into three groups according to their sexual orientation (Straight; Gay/Lesbian; and Bisexual/Pansexual). There was no statistically significant difference in levels of resilience scored between the three groups, F (2, 175) = 2.75, $p = .067$.

Discussion

The objective of the current study was to examine the levels of depression and anxiety among both LGBTQ+ and non-LGBTQ+ college students. The current study aimed to determine whether individuals who identify themselves as LGBTQ+ have higher levels of depression and anxiety than their non-LGBTQ+ peers. As part of this study, levels of resilience and internalised homophobia were also analysed. The results showed that individuals who identified as LGBTQ+ had higher levels of depression and anxiety compared to their non-LGBTQ+ peers. Additionally, it was found that LGBTQ+ individuals had lower levels of resilience than their non-LGBTQ+ peers. However, there were no significant

differences in the levels of internalised homophobia between gay/lesbian or bisexual/pansexual individuals.

As expected, the results from the first and second Mann-Whitney U tests indicated that LGBTQ+ students had higher levels of both anxiety and depression compared to non-LGBTQ+ students. This supports the hypothesis of the current study, which predicted that those who identify as LGBTQ+ would experience higher levels of anxiety and depression than those who do not. This finding is also in line with prior research which looks at mental health disparities in LGBTQ+ individuals (Dhejne et al., 2016; Livingston et al., 2020). It is worth noting that the increased daily stressors faced by LGBTQ+ individuals, as outlined by Meyerhom (2003) in the minority stress model, may contribute to these heightened levels. This model is particularly relevant to understanding the mental health disparities experienced by LGBTQ+ individuals.

The findings of the current study are reiterated throughout the literature. For example, a study by Kerr et al., (2013) found many mental health disparities between lesbian/bisexual women and heterosexual women in undergraduate college courses, specifically with anxiety depression and suicide ideation/attempts. The study also found that lesbian/bisexual women engaged more with mental health services than heterosexual women. These findings, along with those in the current study, highlight the importance of mental health services tailored towards sexual minorities. Research also suggests that perceived social support from friends and family reduces emotional symptoms such as anxiety and depression in LGBTQ+ students (Chambi-Martínez et al., 2021). While this was not examined in the current study, further research on social support in combination with other factors is important to reduce anxiety and depression in LGBTQ+ individuals. Further research is also needed in identifying the exact factors which increase the risk of anxiety and depression in LGBTQ+ individuals.

The studies secondary research question of whether bisexual/pansexual individuals have higher levels of anxiety and depression than both heterosexual individuals and other sexual minorities was also addressed. It was found that bisexual/pansexual individuals have higher levels of anxiety and depression than heterosexual individuals, but there was no significant difference with gay/lesbian individuals. These results differ from the available research on this topic. This may be due to the large difference in the sample size between the aforementioned populations. Prior research describes the factors which contribute to these heightened levels of anxiety and depression such as double discrimination, and the heightened experience of violent victimisation compared to other sexual minorities. This is due to the discrimination coming from both heterosexual and gay/lesbian populations (Bostwick & Hequemboourg, 2014; Katz-Wise & Hyde, 2012). While the results from the current study do not correlate with previous findings, it is assumed to be due to sampling error. So, this suggests that bisexual/pansexual individuals face specific stressors which contribute significantly to increased anxiety and depression levels within these populations. Further research is required to identify these factors and address them.

Another secondary research question for the current study was whether individuals who identified as having multi-gender attraction (bisexual/pansexual) would have higher levels of internalised homophobia than those who identified as having a single-gender attraction to the same sex (gay/lesbian). The findings were not consistent with the current literature as no significant difference was found in IHP scores. This could be due to the low sample size in the gay/lesbian populations and the large difference in the number of participants between both groups. Despite this, the current study must reject the hypothesis that bisexual/pansexual individuals have higher levels of internalised homophobia than gay/lesbian individuals.

However, previous research suggests that bisexual/pansexual individuals have higher levels of internalised homophobia than gay/lesbian individuals (Chard et al., 2015). This could be in part due to the double discrimination that is faced by bisexual/pansexual individuals. The rejection from both heterosexual and other sexual minorities puts bisexual individuals at a unique disadvantage regarding mental health. It has also been shown that prejudice from heterosexual individuals towards bisexual individuals is higher than towards gay/lesbian individuals (Eliason, 1997). Even more recently, this prejudice towards bisexual individuals has been shown to remain consistent (Dodge et al., 2016). Further research in this area is needed to examine possible explanations for this prejudice.

The current study found that non-LGBTQ+ individuals had higher levels of resilience than LGBTQ+ individuals. There is little available research comparing resilience levels between LGBTQ+ and non-LGBTQ+ populations. However, Woodford et al., (2018) found that high levels of resilience is a protective factor that moderates the microaggression-suicide relationship within cis-gendered LGBQ+ individuals. While further research is necessary to establish this relationship it could be suggested that high resilience levels may also moderate anxiety and depression levels in the same way. With this in mind, the results from the current study are in line with the literature as LGBTQ+ individuals had lower levels of resilience and higher levels of both anxiety and depression. This suggests that there is importance in improving resilience in LGBTQ+ student populations. Further research is required to examine these concepts further and identify whether resilience truly is a factor in LGBTQ+ individuals' levels of depression and anxiety.

Practical Implications

The practical implications of this study are that it highlights the need for targeted interventions and support to improve the mental health outcomes of LGBTQ+ individuals, particularly those in third-level education. It is important for higher education institutes to

provide resources and support to meet the specific needs of LGBTQ+ students. Counselling services and mental health resources should be made easily accessible to all students. Additionally, it is important for educators and administrators to receive training and education on how to support and advocate for LGBTQ+ students in order to create a safe and inclusive environment for all students.

The study also emphasises the importance of creating safe and inclusive environments within colleges and universities. Educational institutions should work to create an inclusive atmosphere, where students can feel comfortable and supported, regardless of their sexual orientation or gender identity. This includes the need for policies and practices that promote diversity and inclusion, such as the use of gender-neutral language, and the provision of gender-neutral bathrooms.

Limitations and Future Research

While the current study addresses an important gap in the literature regarding the differences in anxiety and depression levels between LGBTQ+ students and non-LGBTQ+ students in third-level education, there are several limitations to consider.

Firstly, as the initial G* Power analysis indicated, a sample of 210 participants was needed for statistical significance. However, the exclusion of 30 participants that did not meet the eligibility criteria resulted in a small sample size ($N = 180$), which may have affected the statistical power of the study. Due to the low sample size there was a risk of a Type II error occurring resulting in no significant results being found. Despite this, five out of seven statistical analyses showed significant results. The low sample size may explain the non-normally distributed data. As a result, non-parametric tests were required meaning that the findings are not as accurate as they could have been with parametric tests.

Secondly, the study sample was recruited using a convenience sampling method. The use of convenience sampling may have limited the generalisability of the findings to other

countries or cultural contexts. The study only included participants from the Republic of Ireland, which may not be representative of the experiences of LGBTQ+ students in other countries. Additionally, the use of convenience sampling may have resulted in a non-random sample that may not accurately represent the larger population of LGBTQ+ students in third-level education. Therefore, it is important to acknowledge the limitations of the study and consider the potential impact of the sampling technique on the interpretation of the findings.

Thirdly, the current study's sample was comprised of 8 gay and 13 lesbian individuals, in comparison to 49 bisexual and 15 pansexual individuals. The difference in sample size among these groups may have contributed to the absence of differences in the levels of internalised homophobia between them. Contrary to the current study's findings, previous literature suggests that bisexual and pansexual individuals typically score higher on internalised homophobia measures than gay and lesbian individuals (Chard et al., 2015).

Lastly, the study relied on self-report measures to assess anxiety, depression, internalised homophobia, and resilience, which may be subject to biases or social desirability effects. Participants may have under or over-reported their mental health levels resulting in inaccurate data. Furthermore, the study did not take into account other potential factors that may contribute to anxiety and depression levels, such as previous mental health history or socioeconomic status, which may have affected the reported levels.

While the current study provides valuable insights into the mental health of LGBTQ+ students in third-level education, the limitations mentioned above highlight the need for further research to address these limitations and provide a more comprehensive understanding of the topic. Future research should aim to increase the sample size, use a more representative sampling method, and account for potential confounding factors to increase the reliability and generalisability of the findings.

Conclusion

The current study expands on the understanding of mental health in LGBTQ+ populations. Specifically, it examines the prevalence of depression and anxiety in both LGBTQ+ and non-LGBTQ+ college students while comparing these conditions between the two groups. The study provides support to previous literature by confirming that LGBTQ+ individuals experience higher levels of depression and anxiety than their non-LGBTQ+ peers. Moreover, the current study adds to the literature by exploring levels of resilience and internalised homophobia in LGBTQ+ individuals.

The study found no significant differences in the levels of internalized homophobia between gay/lesbian or bisexual/pansexual individuals, this contrasts with previous literature that has found those identifying as bisexual/pansexual to have higher levels of internalized homophobia. This highlights the need for further research in this area to clarify the relationship between different sexual identities and internalised homophobia.

Additionally, the current study is one of the first to compare levels of resilience in LGBTQ+ individuals to those of non-LGBTQ+ individuals. The findings reveal that LGBTQ+ individuals have lower levels of resilience than their non-LGBTQ+ peers. This highlights the need for further research exploring how resilience may impact the mental health of LGBTQ+ individuals, particularly young adults.

Overall, the results of this study have important implications for the mental health and well-being of LGBTQ+ college students. By identifying the higher levels of depression and anxiety and lower levels of resilience in this population, this study highlights the need for targeted interventions and support to improve the mental health outcomes of LGBTQ+ individuals.

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Appendices

Appendix A

Demographic Variables

What is your age?

What country were you born in?

What county were you born in?

What county in Ireland do you currently live in?

Are you currently enrolled in a college course (QQI level 5 - 10)?

□ Yes □No

What is your gender identity?

□ Man □ Women □ Trans-man □ Trans-woman □ Non-Binary □ Genderqueer / Gender non-conforming □ Prefer to self-identify (please specify)

What is your sexual orientation?

□ Straight □ Gay □ Lesbian □ Bisexual □ Asexual □ Prefer to self-identify (please specify)

Are you part of the LGBTQ+ Community?

□ Yes □No

Appendix B

Depression questionnaire (CES-D)

Below are possible ways you may feel have felt throughout the past week, please tick the box to indicate the right amount of time you have felt or behaved this way.

I was bothered by things that usually don't bother me.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I did not feel like eating; my appetite was poor.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt that I could not shake off the blues even with help from my family or friends.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt I was just as good as other people.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I had trouble keeping my mind on what I was doing.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt depressed.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt that everything I did was an effort.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt hopeful about my future.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I thought my life had been a failure.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt fearful.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

My sleep was restless.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I was happy.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I talked less than usual.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt lonely.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

People were unfriendly.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I enjoyed life.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I had crying spells.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt sad.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I felt that people dislike me.

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

I could not get "going".

□ Rarely / none of the time (less than 1 day) □ Some or a little of the time 1-2 days

□ Occasionally or a moderate amount of time (3-4 days) □ Most or all of the time (5-7 days)

Appendix C

Becks Anxiety Inventory (BAI)

Below are common symptoms of anxiety. Please indicate how much you have been bothered by these symptoms in the past months, including today.

Numbness or tingling

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Feeling Hot

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Wobbliness in legs

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Unable to Relax

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Fear of worst happening

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Dizzy or lightheaded

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Heart pounding / racing

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Unsteady

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Terrified or afraid

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Nervous

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Feeling of choking

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Hands trembling

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Feeling Shaky

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Fear of losing control

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Difficulty breathing

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Fear of dying

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Feeling scared

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Indigestion or discomfort in abdomen

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Feeling Faint

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Face flushed

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Hot/cold sweats

□ Not at all □ Mildly but it didn't bother me much □ Moderately – it wasn't pleasant at times □ Severely – It bothered me a lot

Appendix D

Internalised homophobia scale (IHP)

Below are possible ways you may feel about yourself. Please tick the box to indicate which answer you most agree with.

I wish I weren't part of the LGBTQ+ community

□ Strongly disagree □ Disagree □ Neither agree nor disagree □ Agree □ Strongly agree

I have tried to stop being attracted to the same sex in general

□ Strongly disagree □ Disagree □ Neither agree nor disagree □ Agree □ Strongly agree

If someone offered me the chance to be completely heterosexual, I would accept the chance

□ Strongly disagree □ Disagree □ Neither agree nor disagree □ Agree □ Strongly agree

I feel that being LGBTQ+ is a personal shortcoming for me

□ Strongly disagree □ Disagree □ Neither agree nor disagree □ Agree □ Strongly agree

Appendix E

Rugged Resilience Measure (RRM)

Below are common ways you may or may not feel about yourself on a day-to-day basis.

Please indicate how these following statements apply to you.

I Believe in myself

□ Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I can adapt to challenging situation

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I find solutions to problems I encounter

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I keep going despite difficulties

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I can cope with competing demands (for my time or attention)

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

Even when there are setbacks or obstacles, I am hopeful about my future

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I am generally in control of my emotions

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I take pride in things I have achieved

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

When faced with difficulties, I rise to the challenge

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

I can find meaning in my life

Not at all □ A little □ Somewhat □ Quite a bit □ A lot

Appendix F

Psychology Study About Mood Sexuality and Gender

What is this Study About?

- We are looking for volunteers to take part in a research study to examine the relationship between sexuality, gender and mood in college students

- Participants will be asked to carry out a brief survey on google forms which should take roughly 10 minutes of your time. If you think you would like to take part in this study simply use your phone to scan the QR code on this poster.

You are Eligible for This Study if:

- You are aged 18+
- You are enrolled in third level education in The Republic of Ireland

Contact

- Feel free to contact Keith Walker, at x20300501@student.ncirl.ie if you have any questions

Appendix G

You are invited to take part in a research study. Before deciding whether to take part, please take the time to read this document, which explains why the research is being done and what it would involve for you. If you have any questions about the information provided, please do not hesitate to contact me using the details at the end of this sheet.

I am a final year student in the BA in Psychology programme at the National College of Ireland. As part of our degree, we must carry out an independent research project.

For my project, I aim to investigate the links between the disruption of mood in day-to-day life, sexuality, and gender.

If you decide to take part in this research, you will be asked to take part in this google forms questionnaire. The questionnaire should take about 10 minutes to fully complete. Within this questionnaire, you will be asked questions regarding your mood from the past week. If you are LGBTQ+, you will be asked to complete questions about your identity and community. If you are not LGBTQ+, please tick the box stating you are not a part of the community for this section.

To take part in this research you must be aged 18+ and be in third-level education within the Republic of Ireland.

Whether you are part of the LGBTQ+ community or not you are welcome to take part as long as you reach the eligibility criteria above.

Participation in this research is completely voluntary. Any decision to not take part will have no consequences for you. If you do take part, you are still free to exit the survey at any time by simply closing your browser and your results will not be recorded.

As this survey deals with some sensitive topics within mood and sexuality it is possible that some participants may be upset or distressed by some of these questions. If you feel questions

of this nature may cause you to experience levels of distress, please feel free not to take part in this research.

This questionnaire is completely anonymous, all data collected for this study will be unidentifiable to the participant from the moment the questionnaire is submitted. Keeping this in mind once the survey is submitted it will not be possible to withdraw your data from the survey as it will be unidentifiable to you. The data from this survey will be held in accordance with the NCI data retention policy. Please note the anonymised data may be archived in an online data repository and may be used for secondary data analysis.

The results of this study will be presented in my final dissertation, which will be submitted to the National College of Ireland. The study may also be presented at conferences and/or submitted to an academic journal for publication.

Relevant contact information can be found at the end of this questionnaire for helplines if your participation does cause you distress.

If further information is required or you have any questions about this study, please feel free to contact me, Keith Walker, at x20300501@student.ncirl.ie and/or my supervisor for this research Amanda Kracen, PhD at amanda.kracen@ncirl.ie.

Appendix H

This study will require participants to complete questions about their daily mood and sexuality.

If you have any issues about participating in the study, simply exit this page and the study will come to an end.

All information provided by you is and will remain anonymous and confidential.

You may withdraw consent at any time before submitting this survey however, once the survey is submitted there will be no way to withdraw your information as there will be no way to identify which response is yours (we will not ask for your name or contact information). It will take approximately 10 minutes to complete the survey.

You must be at least 18 years of age or older and enrolled in a college course in the Republic of Ireland to take part in this study.

You may receive the results of the overall study upon request once the study has been completed.

You can reach out to me, Keith Walker, via email at x20300501@student.ncirl.ie and/or my supervisor for this research Amanda Kracen, PhD at amanda.kracen@ncirl.ie, with any questions or issues you may have throughout the study, and also to obtain the overall results from the study once it has been completed.

Please tick this box to indicate that you consent to take part in this survey and that in doing so you are aware once the survey is submitted you cannot request to have your results withheld from the study.

Do you consent to take part in this survey?

Yes ☐

No ☐

Appendix I

This study is aiming to find a relationship between high levels of anxiety and depression, and sexuality/gender identity among college students aged 18+.

How was this tested?

You were asked to complete the CES-D Depression Scale which measures possible ways you may have felt throughout the past week. The Beck's Anxiety Inventory, which measures the frequency of common symptoms of anxiety throughout the week., The Internalised Homophobia scale which measures possible ways you feel about your LGBTQ+ identity, and lastly, the Rugged resilience measure which measures your level of overall resilience.

What is this research expecting to find?

This study is aiming to determine whether there is a difference between levels of depression and anxiety in LGBTQ+ individuals compared to non-LGBTQ+ individuals.

Why is this research important?

This research is beneficial as, if the study finds anxiety and depression levels are in fact higher in LGBTQ+ individuals, it would call for more support to be given to those individuals in a college setting.

Confidentiality

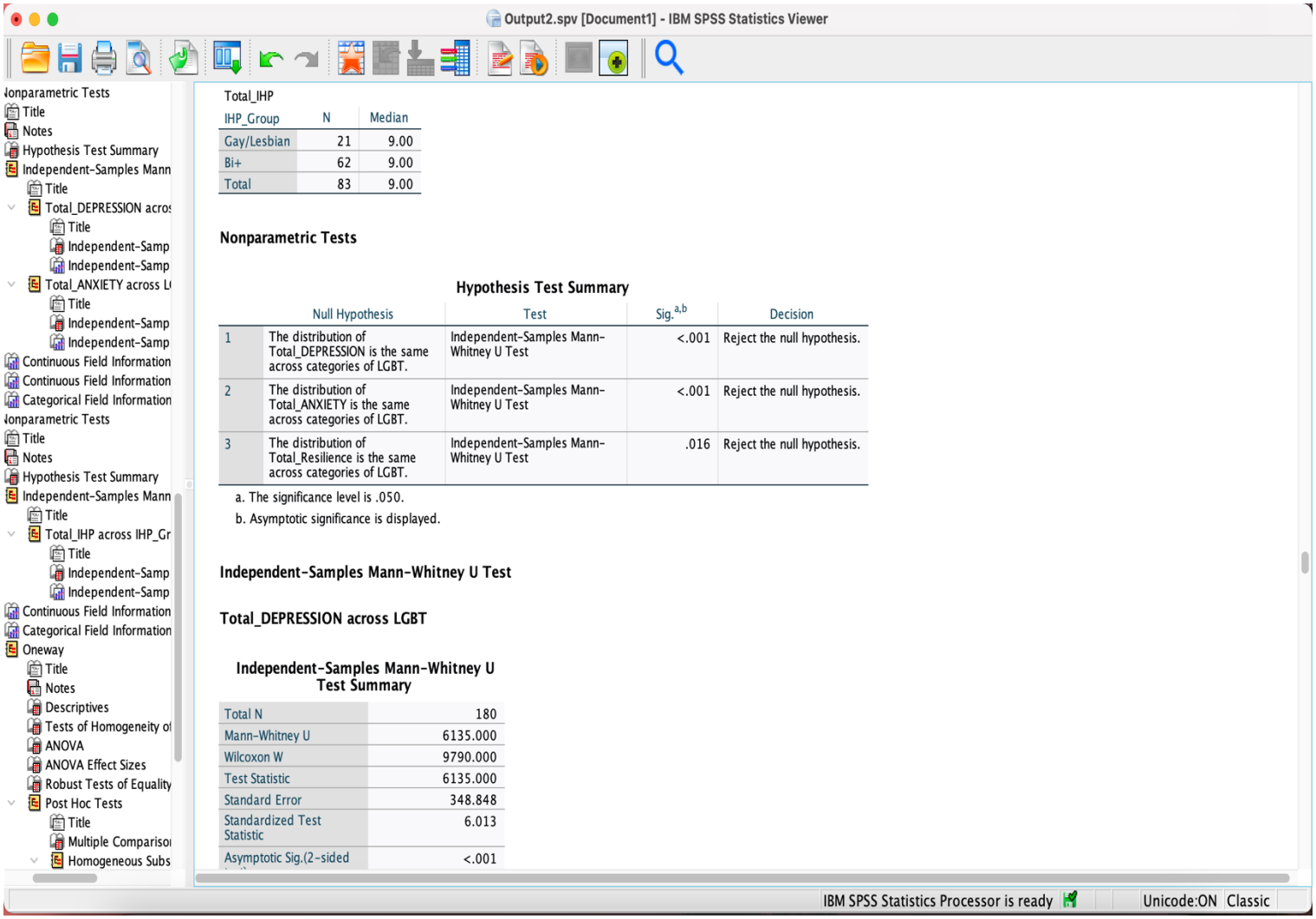
As previously assured, all information provided by you will remain completely anonymous and will be unidentifiable. Your results have now been submitted and there is no longer a way to withdraw them from the study.

If you are experiencing distress as a result of participation

Thank you for taking part in this research study. If there is anything you would like to discuss in relation to this study, please feel free to contact either myself, Keith Walker at x20300501@student.ncirl.ie, or my supervisor Amanda Kracen, PhD at amanda.kracen@ncirl.ie.

If throughout this questionnaire you felt in any way distressed, please feel free to contact support at the following numbers. The Samaritans: Call 116123. 50808 Crisis text line: Text HELLO to 50808. LGBT Dublin Helpline: Call 1800 929 539. Gay Switchboard Ireland: Call (01) 872 1055. BelongTo: Text LGBTI+ to 086 1800 280.

Appendix J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Nonparametric Tests
Title
Notes
Hypothesis Test Summary
Independent-Samples Mann
Title
Total_DEPRESSION acros
Title
Independent-Samp
Independent-Samp
Total_ANXIETY across L
Title
Independent-Samp
Independent-Samp
Continuous Field Information
Continuous Field Information
Categorical Field Information
Nonparametric Tests
Title
Notes
Hypothesis Test Summary
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Title
Total_IHP across IHP_Gr
Title
Independent-Samp
Independent-Samp
Continuous Field Information
Categorical Field Information
Oneway
Title
Notes
Descriptives
Tests of Homogeneity of
ANOVA
ANOVA Effect Sizes
Robust Tests of Equality
Post Hoc Tests
Title
Multiple Comparisor
Homogeneous Subs
Total_IHP
IHP_Group N Median
Gay/Lesbian 21 9.00
Bi+ 62 9.00
Total 83 9.00
Nonparametric Tests
Hypothesis Test Summary
Null Hypothesis Test Sig.a,b Decision
1 The distribution of Total_DEPRESSION is the same across categories of LGBT. Independent-Samples Mann-Whitney U Test <.001 Reject the null hypothesis.
2 The distribution of Total_ANXIETY is the same across categories of LGBT. Independent-Samples Mann-Whitney U Test <.001 Reject the null hypothesis.
3 The distribution of Total_Resilience is the same across categories of LGBT. Independent-Samples Mann-Whitney U Test .016 Reject the null hypothesis.
a. The significance level is .050.
b. Asymptotic significance is displayed.
Independent-Samples Mann-Whitney U Test
Total_DEPRESSION across LGBT
Independent-Samples Mann-Whitney U Test Summary
Total N 180
Mann-Whitney U 6135.000
Wilcoxon W 9790.000
Test Statistic 6135.000
Standard Error 348.848
Standardized Test Statistic 6.013
Asymptotic Sig.(2-sided <.001
IBM SPSS Statistics Processor is ready
Unicode:ON Classic