

Survey Analysis and Countermeasures Research on the Proportion of Sexual Minorities and Mental Health Status Quo of College Students in Guangxi Universities

Mingming Dong¹, Sarisak Soontornchai²

Supalak Fakkham³ and Xiaoqiang Qiu⁴

Suan Sunandha Rajabhat University, Thailand ^{1,2,3}

Epidemiological, School of Public Health, GuangXi Medical University⁴

Corresponding Author, E-mail: S64584949006@ssru.ac.th

Abstract

The purpose of this research is 1) To explore the proportion of sexual minorities and the overall mental health status of college students in Guangxi universities, 2) To provide a reference basis for good mental health services for this group.

The research methodology involved selecting eleven undergraduate colleges and universities in the Guangxi Zhuang Autonomous Region through convenience sampling. An online questionnaire survey was conducted, investigating students' general socio-demographic characteristics, sexual orientation, gender identity, and mental health status using the SCL-90 questionnaire. The study employed chi-square tests and t-tests to compare relevant variables among different groups. Network analysis identified core symptoms of mental health issues among sexual minority college students.

The research included 1,801 subjects, with sexual minorities comprising 26.56% of the sample. College sexual minorities scored significantly higher than non-sexual minorities across various factors, including stigmatization, compulsion, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychoticism, and sleep ($P < 0.05$). Additionally, the prevalence of suicidal ideation within the past six months was significantly higher among sexual minorities ($P < 0.05$), with anxiety identified as a central symptom in the mental health network of college sexual minorities.

In conclusion, sexual minorities in Guangxi universities represent a significant portion of students with poor mental health. Colleges and universities can enhance mental health support by strengthening school psychological counseling services, improving the multicultural competence of faculty, and enhancing psychosexual guidance education for students."

Keywords: Countermeasures Research; Sexual Minorities; Mental Health; College Students in Guangxi Universities

Introduction

According to WHO, the mental health of adolescents is a public health concern and accounts for 16% of the global burden of disease and injury in age 10-19 years (Kessler et al., 2007). Sexuality and its related issues, namely abuse and gender identity, are also examined as the potential risk factors of mental health (Liu, 2012).

Sexual minorities, because they are different from the traditional and mainstream situation, have become a marginal and vulnerable group in society, and suffer discrimination, insults and violence from society and others to varying degrees, and their mental health is lower than that of heterosexual and cisgender groups. College students, as a special group in the social composition and an important talent reserve of the country, have an important influence on the stable development of the society, such as their life value orientation and psychological state. It has been found that, compared with heterosexual and cisgender college students, sexual minority college students have more severe depressive symptoms, higher levels of anxiety, a higher risk of suicide, and lower levels of life satisfaction (Oswalt, 2011).

At present, domestic surveys on the proportion of sexual minorities among college students are basically conducted through the Internet or snowballing, and from the perspective of sampling methods, these surveys all have much room for improvement in terms of sample representativeness. A survey on the mental health of sexual minority college students in China shows that sexual minority college students score significantly higher on depression, anxiety and suicidal ideation than heterosexual college students (Yu-di & Fang, 2019).

To date, there have been no surveys on the proportion of sexual minorities among university students in Guangxi's colleges and universities and on the mental health of this group. In this study, we will try to investigate the proportion of sexual minorities and the overall mental health status of college students in Guangxi colleges and universities. This study will provide a reference basis for improving the mental health education of this group, enhance the social visibility of this group, promote the public's understanding of college students' sexual minorities, and encourage colleges and universities to formulate relevant policies and carry out relevant curricula and extracurricular activities to improve the mental health status of this group.

Research Objective

1. To explore the proportion of sexual minorities and the overall mental health status of college students in Guangxi universities.
2. To provide a reference basis for good mental health services for this group.

Literature Review

Sexual minorities, also known as sexual and gender minorities, include all groups whose sexual orientation, gender identity, and gender expression differ from the mainstream situation (Yu & Fang, 2019), mainly including homosexuals (lesbians, gays), bisexuals, other sexual orientations (asexual, pansexual), and transgender people (transwomen, transmen, nonbinary genders, gender-coolies, and transvestites). LGBT population size estimates vary considerably across countries and across studies. A survey in the United States (Pew Research Center, 2022) showed that about 17% of people between the ages of 18-29 identify as sexual minorities (gay or bisexual) and 5.1% are transgender or non-binary. A survey of sexual minority college students based on a Chinese sample showed that 88.45% were heterosexual,

2.05% were homosexual, 5.11% were bisexual, 0.91% were of other sexual orientations, and an additional 3.48% of subjects were unwilling to report sexual orientation (Yu & Fang, 2019).

Estimates of the size of the LGBT population vary depending on the measurement tool, sampling method, and survey population, the current ratio survey of sexual minority college students in China is basically conducted through the Internet. For example, Zhang Yudi (Yu-di & Fang, 2019) and others used online cluster sampling, distributing questionnaire links to WeChat or QQ groups of college students across China and inviting college students in the groups to participate in the survey, and the samples taken in this “willing participant” style may have a strong bias.

Tian Baowei (2016) and others used snowball sampling, and the representativeness of the sample is also difficult to be guaranteed. Compared to non-sexual minority college students, sexual minority college students have more severe depressive symptoms, higher anxiety levels, higher suicide risk, and lower life satisfaction (2014). A survey on the mental health status of sexual minority college students conducted by Yudi Zhang et al.

In 26 colleges and universities in 10 provincial administrative regions in China showed that sexual minority college students scored significantly higher on depression, anxiety, and suicidal ideation than heterosexual college students, while their mental health scores on sound personality orientation were significantly lower than those of heterosexual college students (Yu-di & Fang, 2019).

Research Methodology

1. Subjects of the study

In this study, the whole population sampling method was used to select 11 colleges and universities in Guangxi Zhuang Autonomous Region in January-February 2024, and students from the first to the fifth year of college were organized to fill in the questionnaires in classroom time with the assistance of counsellors, and the questionnaires were filled in by scanning the code on the site of the mobile phone in order to ensure the validity of the answers and the representativeness of the samples. A total of 1,801 questionnaires were obtained from the 11 universities, distribution of survey questionnaire sample and is shown in table 1.1, 792 valid questionnaires were obtained after excluding 9 questionnaires that were not completed or were filled out with obvious errors (e.g., age of 100 years). The study was approved by the Medical Ethics Committee of Guangxi Medical University (approval number: 2024KY0002).

2. Basic data collection

General demographic characteristics were collected using a structured questionnaire, including gender (male/female), ethnicity (Han ethnicity/Zhuang ethnicity/other ethnic minorities), grade (one/two/three/four/five), only child (yes/no), family type (nuclear family/single-parent divorced family/reorganized family/widowed family), place of birth (city/township/rural), per capita annual household monthly income (< ¥3,000 / ¥3,000-6,000 / ¥6,000-10,000 / >¥10,000), and the educational attainment of the mother and father respectively (primary school and below/junior high school/high school/college/undergraduate degree or above).

3. Sexual orientation and gender identity survey

This study used self-reported sexual orientation/gender identity to screen for sexual minorities and 2 separate questions were designed to ask respondents about their sexual orientation and gender identity. The question on sexual orientation was ‘Which of the

following options better describes your sexual orientation?’ The options were ‘Asexual/Homosexual/Heterosexual/Bisexual/Pansexual/Unlisted, and all options were included in the sexual minority scope except for the heterosexual and unlisted options; the question on gender identity was ‘If you could only choose one option, which of the following options do you think describes you best? you?’ The options were ‘Male/Female/Trans man/Trans woman/Queer/Non-binary/non-conforming/ Transvestite/Unlisted’ and all options were included in the sexual minority range except for the male, female, and not listed options. The main reason for including ‘not listed’ in the non-sexual minority category is that this group is included in the non-sexual minority category because there is no significant difference in the SCL_90 scores on the factors and total scores with the heterosexual group, but there is a significant difference with the sexual minority group.

4. Mental health status survey

Mental health status was measured using the Symptom Self-assessment Scale (SCL_90), which is a self-assessment scale of psychiatric symptoms based on Hopkin's Symptom Inventory (HSCL1973) compiled by Derogatis, containing 90 items rated on a 5-point scale. This scale includes the factors of somatization (SOM), obsessive-compulsive (OC), interpersonal sensitivity (IS), depression (DEP), anxiety (ANX), hostility (HOS), fear (PHOB), paranoia (PAR), and psychoticism (PSY). Using the Likert 5-point scale, the higher the score represents the more serious the mental health problems of the individual, the respondents in this study will be any one of the factor scores more than 2 points, to determine that it is a population with mental health problems, the higher the score, the more serious the mental health problems they have.

5. Statistical analysis

Statistical analyses were performed using SPSS 27.0, with $\bar{x} \pm s$ describing the quantitative data, and frequency and constitutive ratios describing the qualitative data; χ^2 test and independent samples t-test were used for one-way analyses, and $p < 0.05$ was the critical value to determine statistical significance. Network analysis was performed using R 4.3.2 to analyses the relationship between the factors of mental health problems using the Buglass function, the graphs package for network visualization and centrality index calculation, and the botnet package to assess the accuracy and stability of the network structure and centrality index estimation. Associations of specific symptoms between mental health problems among sexual minority college students were derived, and network core symptoms were identified.

Research Conceptual Framework

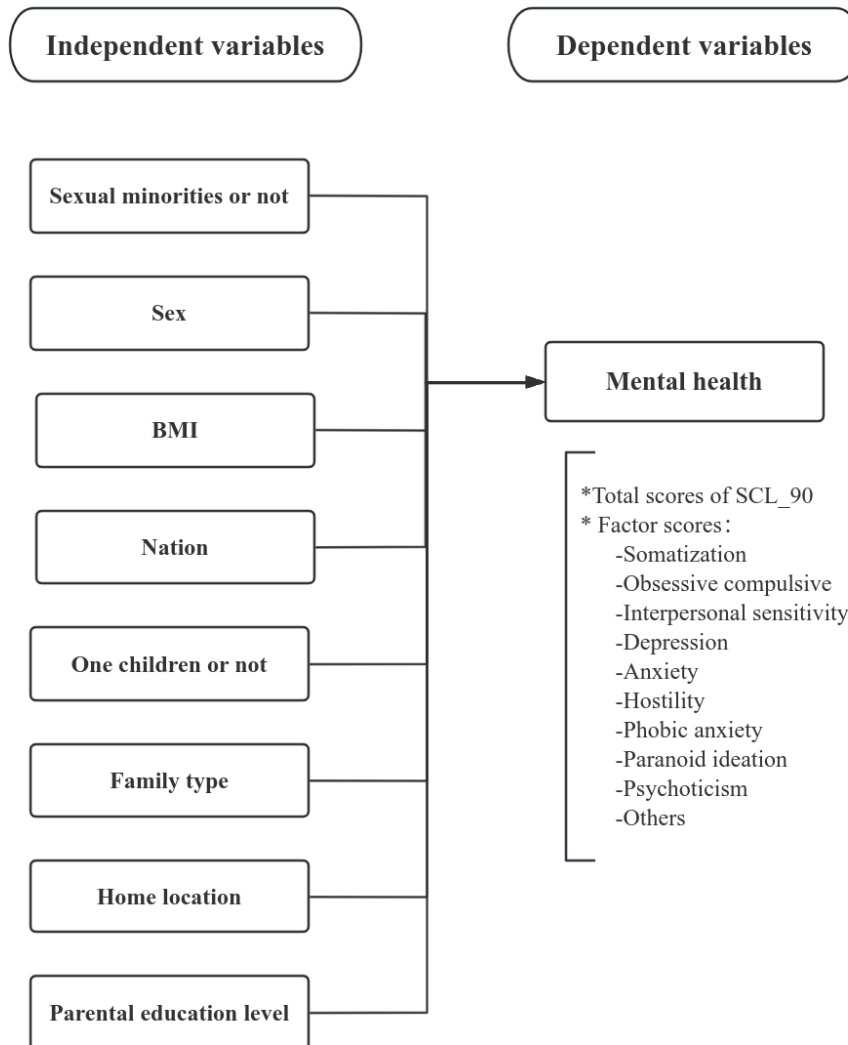


Figure 1 Research Conceptual Framework

Research Results

1 Explore the proportion of sexual minorities and the overall mental health status of college students in Guangxi universities.

1.1 General information

The 1792 survey respondents, 36.3% (650/1792) were male and 63.7% (1142/1792) were female. Self-reported heterosexuality accounted for 69.53% (1264/1792), homosexuality 3.18% (57/1792), bisexuality 8.87% (159/1792), and transgender 9.26% (166/1792); other sexual orientations and gender identities accounted for 5.25% (94/1792); and 52 people chose the word 'gender' for the topic of sexual orientation and gender identity. The other 52 people chose 'Unlisted' on the question of sexual orientation and gender identity. In summary, 73.44% (1,316/1792) of the survey's respondents were non-sexual minorities and

26.56% (476/1792) were sexual minorities; the distribution of sexual minorities is illustrated in Table 2. Significant differences between the two groups in terms of gender and type of family are shown in Table 3.

Table 1: Distribution of Survey Questionnaire Sample

Number	School Name	Number of Respondents
1	Guangxi University of Science and Technology	449
2	Guangxi Normal University	239
3	Guilin Medical University	183
4	Guilin university of technology	169
5	Faculty of Chinese Medicine Science Guangxi University of Chinese Medicine	141
6	Guangxi Medical University	123
7	Guangxi University	112
8	Nanning Normal University	107
9	Guangxi University of Chinese Medicine	98
10	Guangxi University of Finance and Economics	79
11	Youjiang Medical University for Nationalities	101
Total		1801

Table 2: Population Distribution

	Non-Minorities (n=1316)		Sexual Minorities (n=476)				
	Heterosexual	Unlisted	Lesbian	Gay	Bisexual	Transgender	Other Sexual Orientations
Number of Respondents	1264	52	33	24	159	166	94
Percentage (%)	70.54	2.90	1.84	1.34	8.87	9.26	5.25
Subgroup Percentage (%)	73.44		26.56				

Table 3: Comparison of Demographic Characteristics of Sexual Minority College Students and Non-Sexual Minority College Students

	Total	Non-sexual	LGBT	χ^2	P
	(N=1792)	(n=1316)	(n=476)		
Gender (%)				48.585	<0.001
Female	36.30	41.00	23.10		
Male	63.70	59.00	76.90		
Nation (%)				0.857	0.651
Han	67.30	67.20	67.40		
Zhuang	27.00	27.30	26.10		

	Total	Non-sexual	LGBT	χ^2	<i>P</i>
Others	5.70	5.50	6.50		
Grade (%)				1.640	0.650
One	41.50	41.80	40.80		
Two	35.40	35.00	36.60		
Three	16.60	16.30	17.20		
Four and five	6.50	6.90	5.50		
Only child (%)				1.042	0.307
Yes	20.00	19.50	21.60		
No	80.00	80.50	78.40		
Type of family (%)				9.901	0.019
Nuclear family	88.30	89.60	84.90		
Single parent divorced families	5.10	4.40	7.10		
Reorganized family	3.00	3.00	2.90		
Bereaved families	3.60	3.00	5.00		
Region (%)				1.880	0.391
City	27.50	26.70	29.80		
Townships	23.90	24.00	23.70		
Rural	48.50	49.30	46.40		
Income(monthly)				1.803	0.614
< ¥ 3000	40.00	39.30	42.00		
¥ 3000-6000元	37.00	37.50	35.50		
¥ 6000-10000元	14.70	15.10	13.70		
> ¥ 10000元	8.30	8.10	8.80		
Mother's education (%)				4.334	0.363
Elementary and below	37.90	38.70	35.90		
Middle School	36.50	37.00	35.10		
High School	10.20	9.90	11.10		
College	8.50	7.90	10.10		
Bachelor's degree or above	6.90	6.50	7.80		
Father's education (%)				8.353	0.079
Elementary and below	23.00	23.30	22.50		
Middle School	44.30	45.70	40.10		
High School	15.00	14.60	16.20		

	Total	Non-sexual	LGBT	χ^2	P
College	9.80	9.30	11.10		
Bachelor's degree or above	7.90	7.10	10.10		

Note. LGBT=lesbian, gay, bisexual and transgenders. Statistical significance at $p<0.05$.

2. Provide a reference basis for good mental health services for this group.

2.1 Mental health status

College students' non-sexual minorities and sexual minorities differed significantly in the 10 factor scores of somatization, compulsion, interpersonal sensitivity, depression, anxiety, hostility, horror, paranoia, psychoticism, and sleep, as shown in Table 4. There was also a significant difference between the two groups in the detection rate of the 10 psychological problems, with the highest rate of compulsion symptoms, as shown in Table 5. In addition, since suicidal ideation is closely related to college students' psychological crisis intervention, the researcher statistically analyzed the level of suicidal ideation of the respondents. The results found that among non-sexual minority college students, the levels of suicidal ideation were 88.7%, 5.8%, 5.8%, 4.4%, 0.4%, 0.8%, and 0.8% in the order of no, very mild, moderate, heavy, and severe; among sexual minority college students, the levels of the five categories of suicidal ideation accounted for 68.5%, 12.6%, 14.5%, 2.5%, and 1.9% in the order of the level of suicidal ideation. This shows that sexual minorities are nearly three times as likely as non-sexual minorities to have moderate or severe suicidal ideation, and nearly six times as likely as non-sexual minorities to have favored suicidal ideation. There was a significant difference between the two groups when asked if they had had suicidal ideation in the past six months, as detailed in Table 6.

Table 4: Comparison of non-sexual and sexual minorities in college students on mental health scores

	Total(N=1792)	Non-sexual(n=1316)	LGBT(n=476)	t	P
somatisation	1.376 ± 0.610	1.299 ± 0.518	1.587 ± 0.774	7.522	<0.001
obsessive-compulsive	1.813 ± 0.785	1.713 ± 0.715	2.089 ± 0.896	8.237	<0.001
depression	1.624 ± 0.737	1.529 ± 0.661	1.889 ± 0.862	8.291	<0.001
interpersonal sensitivity	1.580 ± 0.716	1.469 ± 0.626	1.888 ± 0.849	9.855	<0.001
anxiety	1.468 ± 0.672	1.383 ± 0.588	1.703 ± 0.820	7.813	<0.001
hostility	1.440 ± 0.639	1.346 ± 0.538	1.698 ± 0.804	8.862	<0.001
fear	1.426 ± 0.651	1.348 ± 0.565	1.641 ± 0.806	7.311	<0.001
paranoia	1.419 ± 0.634	1.328 ± 0.543	1.672 ± 0.784	8.859	<0.001
psychoticism	1.437 ± 0.634	1.346 ± 0.544	1.688 ± 0.781	8.821	<0.001
Others	1.507 ± 0.663	1.420 ± 0.579	1.747 ± 0.806	8.136	<0.001
Totals	136.530 ± 56.761	128.282 ± 49.060	159.334 ± 69.104	9.016	<0.001

Note. SD = standard deviation. LGBT=lesbian, gay, bisexual and transgenders. Statistical significance at $p<0.05$.

Table 5: Comparison of detection rates of psychological problems between non-sexual and sexual minorities among college students

	Total(N=1792)	Non-sexual(n=1316)	LGBT(n=476)	χ^2	<i>P</i>
psychological symptom (%)					
somatization	11.20	7.80	20.60	58.101	<0.001
obsessive-compulsive	31.40	26.40	45.20	56.879	<0.001
depression	23.20	18.20	36.80	67.431	<0.001
interpersonal sensitivity	21.00	15.60	35.90	87.286	<0.001
anxiety	15.60	11.20	27.50	70.435	<0.001
hostility	12.80	8.20	25.40	92.927	<0.001
fear	14.30	10.30	25.40	64.759	<0.001
paranoia	13.30	9.20	24.80	73.557	<0.001
psychoticism	14.90	10.30	27.50	81.433	<0.001
Others	17.40	12.50	30.70	80.147	<0.001
Totals	24.80	19.60	39.10	71.104	<0.001

Note.LBGT=lesbian, gay, bisexual and transgenders. Statistical significance at $p<0.05$.

Table 6: Comparison of Sexual Minority and Non-Sexual Minority College Students on Suicidal Ideation Scores

	Total(N=1792)	Non-sexual(n=1316)	LGBT(n=476)	χ^2	<i>P</i>
Have thought about ending your life in the past 6 months (%)				34.049	<0.001
Yes	6.31	3.95	12.82		
No	93.69	96.05	87.18		

Note.LBGT=lesbian, gay, bisexual and transgenders. Statistical significance at $p<0.05$.

2.2. Sexual Minority Mental Health Symptom Network

The mental health symptom network of sexual minority college students is shown in Figure 2. The results show that the strongest associations were found between paranoia (H8) and hostility (H6), suggesting a strong correlation, followed by obsession (H2) and depression (H4), and then somatization (H1) and anxiety (H5), with regularized bias correlation coefficients of 0.33, 0.32, and 0.3, respectively, and with confidence intervals as shown in Figure 3. The central standardized estimates of the sexuality indicators showed (see Figure 2) that anxiety (H5) had the maximum node Strength, Closeness, Betweenness, and

Expected Influence, suggesting that anxiety was the core symptom of the mental health problem network of this study's sexual minority college students. The stability coefficients of node strength, tightness and centrality of mediation are 0.517, 0.595 and 0.672, respectively, which are all above 0.5, indicating that the structure of this network has good stability, as shown in Figure 4.

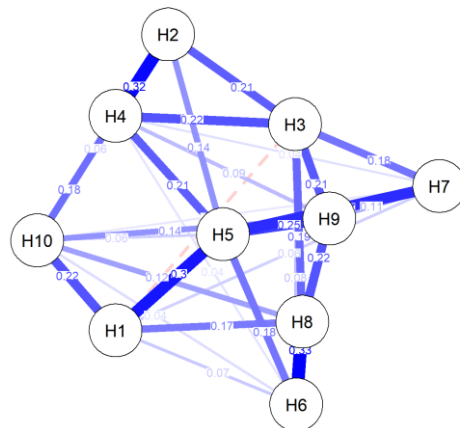


Figure 1: Network of mental health of sexual minority university students.

Source: Mingming Dong ,2024

H1: somatization, H2: obsessive-compulsive, H3: depression, H4: interpersonal sensitivity, H5: anxiety, H6: hostility, H7: fear, H8: paranoia H9: psychoticism, H10: Others

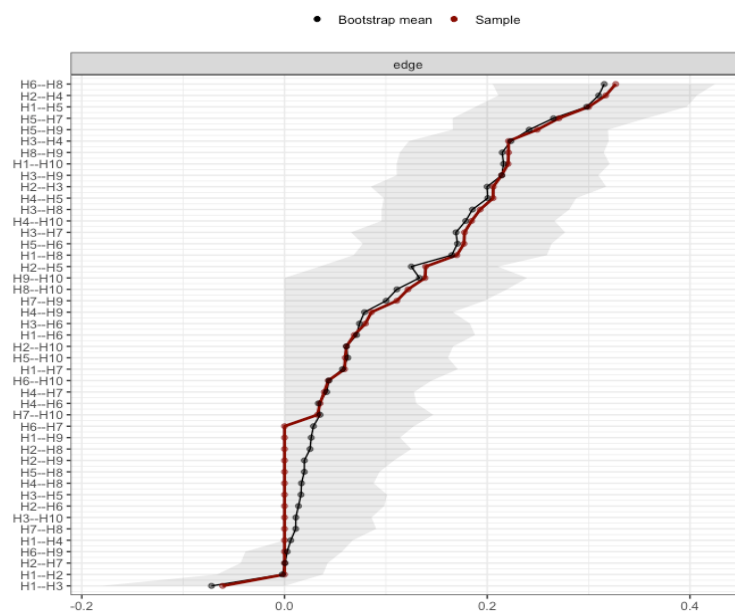


Figure 2: Bootstrapped confidence intervals of estimated edge-weights for the network of mental health symptoms of sexual minority university students

Source: Mingming Dong ,2024

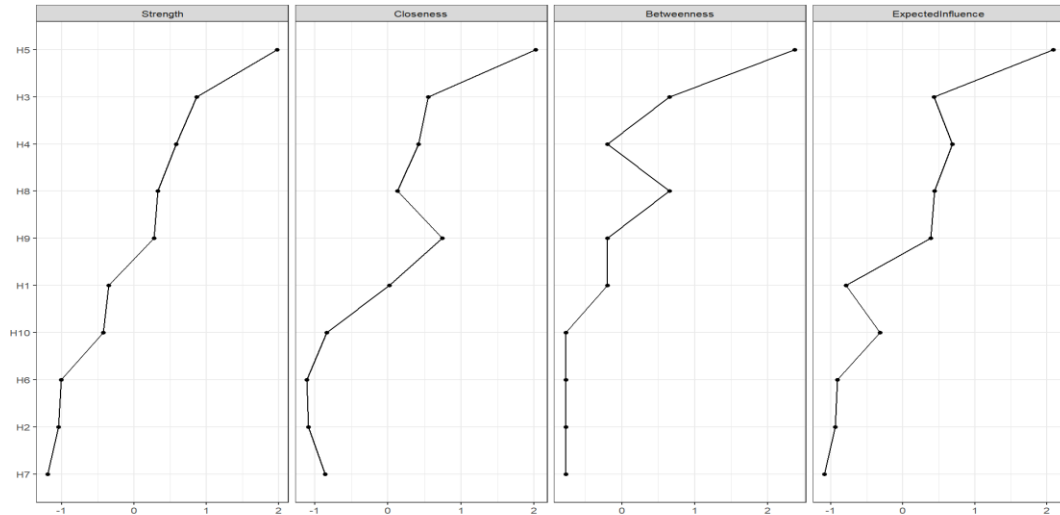


Figure 3: Centrality indices of mental health symptoms of sexual minority university students
Source: Mingming Dong ,2024

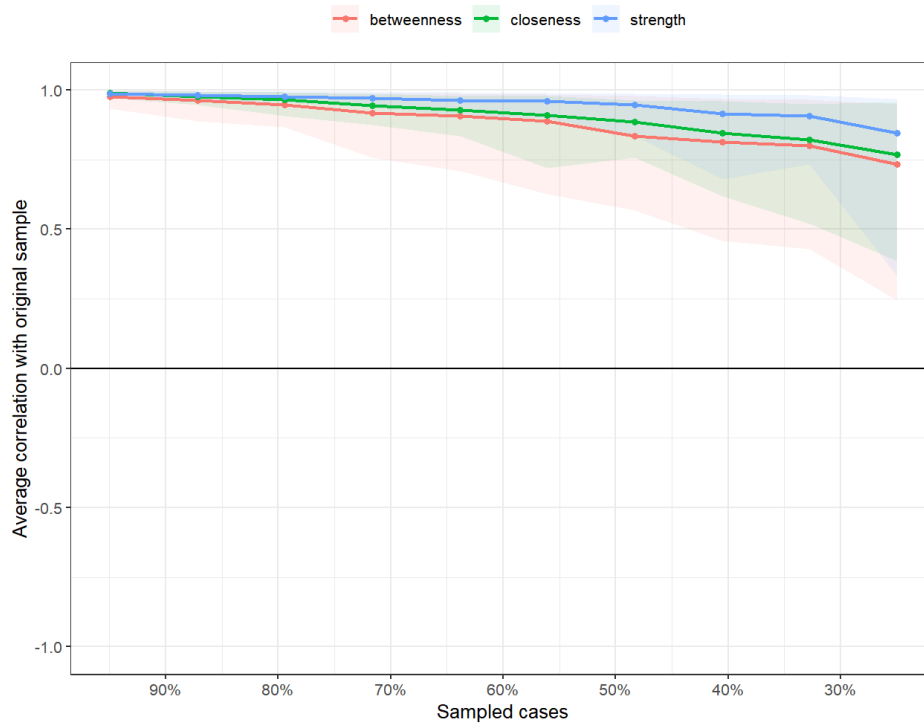


Figure 4: Average correlations between centrality indices of networks sampled with persons and dropped and the original sample
Source: Mingming Dong ,2024

Discussion

1. The phenomenon of sexual orientation and gender identity as a minority among college students in Guangxi universities is relatively common

Among the respondents in this study, the percentage of sexual minority college students was 26.56%, in Yudi Zhang's survey (Yu-di & Fang, 2019), the percentage of sexual minority college students (gay, lesbian, bisexual, and other sexual orientations) in the national sample was 11.55%, and in Zhang Peichao (ZHANG Pei-chao, 2012) et al. the percentage of those who perceived that their inner gender did not correspond to their biological gender (transgender) was 4.2%; a survey in the United States (Pew Research Center, 2022) showed that approximately 17% of people between the ages of 18-29 identify as sexual minorities (gay or bisexual) and 5.1% are transgender or non-binary. The results of this study are higher than the proportion of the national sample, and more convergent with the U.S. survey, but still higher than the proportion of sexual minorities in the U.S. survey, suggesting that the phenomenon of sexual orientation and sex ratio identifying as a minority is more prevalent among university students in Guangxi's colleges and universities. The reason why the proportion of sexual minorities in this survey is higher than the results of the existing domestic survey is considered to be the reason that the sampling method has been optimized. This study adopts the whole group sampling, through the counsellors to organize the students to fill in the questionnaire on the spot, which ensures the rate of filling in the questionnaire and the coverage of the sample, compared with the previous 'willing to take the bait' way of filling in the questionnaire, so that those who do not want to participate in filling in the questionnaire of the sexual minorities are also able to be 'exposed', and the survey results are more realistic. The results of the survey are more realistic. The proportion of bisexuals among sexual minority college students is high, as shown in Table 2, which is consistent with the results of domestic and international studies (Yu-di & Fang, 2019). There is a significant difference in the ratio of sexual minority college students to non-sexual minority college students in terms of gender and family type (Table 3), which indicates that there are a higher proportion of sexual minorities in female biological sex, single-parent divorced families and bereaved families.

2. College students' sexual minorities have lower mental health than non-sexual minorities

This study found that college students' sexual minorities have significantly higher scores than non-sexual minorities on all 10 factors, including somatization, obsession, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychoticism, and sleep, and that the detection rate of psychological problems is significantly higher than that of non-sexual minorities, and that the degree of the existence of suicidal ideation is also significantly higher than that of non-sexual minorities. This is consistent with the results of current related studies at home and abroad. A survey by Yudi Zhang (Yu-di & Fang, 2019) of 10,590 college students from 26 colleges and universities in 10 provincial administrative regions in China found that sexual minority college students scored significantly higher than non-sexual minority college students on depression, anxiety, and suicidal ideation. Some domestic scholars reviewed the influencing factors of mental health of sexual minorities, and found that the mental health of sexual minorities is negatively affected by both internal and external pressures. External pressures include prejudice, discrimination, and stigma, which are due to external stressors such as the social environment (relevant life events) and do not depend on the individual's self-perception and evaluation; and internal pressures include

identity, identity concealment, and coming out of the closet(HUANG Kaixin, 2023), which are caused by individuals' perception of their own sexual minorities. These are stressors caused by the degree to which an individual identifies with his or her sexual minority identity, and are triggered by the individual's cognitive bias. In addition, as can be seen from the detection rate of psychological problems, obsessive-compulsive, interpersonal sensitivity and depression are the three symptoms with the highest prevalence among college students' sexual minorities, which can be used as symptom indicators for identifying mental health problems in this group.

3. Anxiety is the core symptom of the network of mental health problems among sexual minority college students in Guangxi universities

The results of the network analysis show that anxiety is the central node of the network of mental health problems of the sexual minority college student group in this investigation, with the highest values of intensity, tightness, meditatively and predictability, indicating that anxiety plays an important role in the network, and that the alleviation of anxiety can lead to the change of the network of psychological symptoms of the group, which can lead to the alleviation or elimination of other symptoms. In interventions targeting the mental health of sexual minority college student groups, focusing on anxiety alleviation can enhance the effectiveness of interventions. In addition, the network analysis presented three pairs of closely related factors, with the highest correlation being the paranoia and hostility factor, suggesting that in the psychological symptoms of sexual minorities, projective thinking affects hostile thoughts, feelings, and behaviors, and conversely reinforces paranoid traits such as suspicion and delusion. The second is the obsessive-compulsive and depression factor, which has been shown to have a significant positive correlation between depression and the obsessive-compulsive factor(HUANG Kaixin, 2023), and obsessive-compulsive symptoms can have a certain degree of influence on depression(Chen Zhien Lu Zilu Mei Yintai, 2000), and obsessive-compulsive symptoms are now included in the clinically recognized Hamilton Depression Scale (HAMD) as a regular component in the assessment of depressive symptoms, which demonstrates a close connection between the two. The third pair is the somatization and anxiety factor, a correlation analysis study of anxiety and somatic symptoms(REN Yi, 2023; Yan et al., 2017) showed a positive correlation between somatic symptoms and anxiety, as well as some of the symptoms in somatization, which are influences on anxiety, which is basically the same as the results obtained in this study.

Recommendations

1.General Recommendations

The results of this survey show that there are no less than the national proportion of sexual minorities in universities in Guangxi., and their mental health level is also significantly lower than that of non-sexual minorities, which deserves the attention of the relevant departments of colleges and universities. A study(Yan et al., 2017) shows that although Chinese psychological counselling practitioners currently have better reception feelings and willingness to receive homosexuals, sexual orientation reversal therapy is still used in China, and the degree of knowledge about sexual minorities is not high. A study exploring the perceptions and experiences of school counselling among young sexual minorities in South Korea(Yi et al., 2022) showed that only about 11% of sexual minority students contacted school counsellors about their gender and gender identity, and many reported that the

counselling they received was not helpful. Strengthening the capacity of school counselling services, promoting the multicultural competence of university teachers, and making full use of the second classroom to carry out psychosexual guidance and education for university students can help to provide targeted support for sexual minorities among university students and improve the mental health of this group.

2. Recommendation for future research

Limitations of this study include the failure to analyze factors influencing mental health in sexual minorities. Adverse childhood experiences and life events are the risk factors that affect the mental health of this group. In addition, understanding the school counseling experience of sexual minorities in colleges and universities in Guangxi and obtaining their cognition and experience of current school counseling are helpful to improve the counseling service system of colleges and universities, improve the ability of counselors, and achieve the purpose of improving the mental health status of this group more targeted. To explore the risk factors and protective factors of the mental health of sexual minorities in Guangxi, and to propose methods and breakthroughs to improve their mental health status based on the investigation of the school counseling experience of this group, is research that can be conducted in the future.

Finding new knowledge: This study was funded by 2022 Guangxi University Young and Middle-aged Teachers' Basic Research Ability Improvement Project (No.2022KY0065).

References

- Chen, Z., Lu, Z., & Mei, Y. (2000). A study of the obsessive symptoms and their relationship with depressive symptoms in depression disorder [A study of the obsessive symptoms and their relationship with depressive symptoms in depression disorder]. *Chinese Journal of Nervous and Mental Diseases*. 26 (4), 218-221.
- Huang Kaixin, Y. T. H. B. (2023). Analysis of related factors in outpatient adolescent depression. *PSY*. 23 (1), 147-149.
- Liu, R. T. M. B. (2012). Suicidal Ideation and Self-Harm in Lesbian, Gay, Bisexual, and Transgender Youth. *American Journal of Preventive Medicine*. 42 (3), 221-228.
- Oswalt, S. B. W. T. (2011). Sexual Orientation and Differences in Mental Health, Stress, and Academic Performance in a National Sample of U.S. College Students. *Journal of Homosexuality*. 58 (9), 1255-1280.
- Ren Yi, L. G. G. T. (2023). Correlation analysis of anxiety, depression and somatic symptoms in healthcare workers during the outbreak. *Psy*. 18 (11), 56-63.
- Tian Baowei, H. X. (2016). The Effects of Perceived Stress, Perceived Discrimination and Social Support on the Mental Health of Gay College Students. *Chinese Journal of Special Education*. 12 (1), 91-96.
- Yan, L., Lingham, Z., Qiang, S., Yao, C., & Huiqing, L. (2017). Awareness and attitudes towards gender sexual minority among psychiatrists and psychologists. *The Chinese Journal of Human Sexuality*. 26 (1), 133-139.

- Yi, H. J., Shin, Y., Min, Y., Jeong, J., Jung, J., & Kang, Y. (2022). Perception and Experience of Sexual and Gender Minority Korean Youth in School Counseling. *International Journal for the Advancement of Counselling*. 45 (2), 189-209.
- Yu-di, Z., & Fang, F. U. (2019). Investigation on Mental Health Status of Sexual Minority College Students Based on National Samples of China [Investigation on Mental Health Status of Sexual Minority College Students Based on National Samples of China]. *Chinese Journal of Clinical Psychology*. 27 (5), 997-1002.