

**GECC 4130 Senior Seminar**

**THE EMOTIONAL MANAGEMENT OF UNIVERSITY STUDENTS IN HONG  
KONG AND THE FEASIBILITY OF INCORPORATING AI TOOLS INTO  
UNIVERSITY EMOTION SUPPORT SERVICES**

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## **1 Introduction**

Centre for Suicide Research and Prevention (2023) survey results showed that the suicide rate among the population aged 15 to 24 has doubled from 2014 to 2023, with university students accounting for more than a quarter (27.3%) of the suicides. In the context of the increasing frequency of news about suicides among university students in Hong Kong in recent years, this project aims to explore the changes and trends in emotional management among Hong Kong university students, identifying the factors influencing emotional management among Hong Kong university students and examine the extent and effectiveness of emotional support services provided by local universities to their students.

In recent years, the suicide rate of university students has remained high, and there are even data that have doubled in the past decade. Under this premise, there are fewer relevant news reports and studies than those related to primary and secondary school students, which makes us curious about the fact that under this premise, how the emotional management of stress and depression would be affected by what factors and how can universities help them.

Additionally, conventional emotional support services like counseling have their limitations. A recent survey showed that the main reason (30.0%) secondary school students do not seek outside emotional support is “fear of others knowing and being mocked” (HK Christian Service, 2023). Students may also be reluctant to share their troubles with a stranger and counseling services requiring appointments may be inconvenient to students seeking urgent emotional support.

AI chatbots may be the solution to this as they provide high privacy and have no manpower limitations. Students may be more accepting of AI as they are familiar with the technology. However, AI technology is still in its infancy, and its effectiveness in being a tool for emotional support is still unclear. Therefore, the project will also discuss potential assistance offered by AI in emotional management for Hong Kong university students.

### ***1.1 Purpose and Rationale***

With a great interest in understanding what is emotional management, how emotional management specific to stress and sadness, is affected by different factors, this project was designed to explore the current anxiety and stress state of Hong Kong University students, finding what support or services are lacking or not enough in Universities in Hong Kong and how Hong Kong Universities students' thoughts on their collage's emotional supporting services.

Emotional health and mental health of students in Hong Kong is always being a huge conversation in society. However, we found that most of the research on emotional health and related topics in Hong Kong are mainly focused on Secondary school students, although there are still some research papers on reaching to University students but seems that the emotional and mental healthiness of university students in Hong Kong has faced a dramatic focusing drop comparing with secondary school students. We would like to find out the current state of university students to see if they are having great attempts to their university life and any emotional changes after being university students.

Seeking emotional support in Hong Kong for university students might be hard and time-consuming, but we would like to know the shortcomings of Hong Kong University's emotional support services.

As media and technology become more familiar to students, we are curious about on AI chatbots providing emotional support services would work, and the different thoughts of Hong Kong University students on using AI emotional support services.

### ***1.2 Focus Questions***

Throughout this project, we aim to answer a few questions:

- What factors are affecting university students' emotions? What are their emotional management strategies?
- How effective are the emotional support services in universities in Hong Kong?

- Is integrating AI tools into emotional support services a possible prospect? How feasible is it?

Our methodology, as seen in 3 below, was thus designed to answer these focus questions.

## **2 Literature Review**

### ***2.1 Contemporary Phenomenon***

University students, especially those in Hong Kong, being troubled by high stress and emotional distress is not an unknown fact, nor is the fact that they do not get enough emotional support from any channel. 11.8% of university students are currently experiencing mental health problems, while 18.3% have experienced them in the past, and a staggering 33.9% have had suicidal thoughts (Pérez-Marín, et al., 2024). A significant cause of stress and anxiety in university students can be attributed to the emergence of adulthood, which is characterised by a significant change in emotional, social, academic, and work domains (Pérez-Marín, et al., 2024).

### ***2.2 University Emotional Support Services***

It is not uncommon for the full extent of a university's entire emotional support system to merely provide students with counselling services. Whether out of ignorance or malice, university counselling services are almost always inadequate or ineffective, being at the bare minimum. While studies have shown that emotional counselling can be an effective safety net for suicide prevention, its long-term sustainability is often overlooked, especially in the case of inadequate funding for staff (Diab & Andrews, 2024). Inadequate resources lead to counsellors having to consult with students with little downtime, leading to emotional exhaustion and burnout, in addition to them needing to be able to cater for the needs of each student effectively, decreasing counselling effectiveness. Counsellors are also sometimes required to take on tasks above and beyond the complexity they usually have to tackle (Diab & Andrews, 2024). In the case of the suicide of a student client, counsellors often suffer from grief, distress, and other long-lasting emotional impacts, undoubtedly affecting the counsellors themselves and their future clients (Diab & Andrews, 2024), which further diminishes the effectiveness of the counselling service. One can easily observe that this establishes a vicious cycle. Emotional counselling alone is insufficient to produce effective and sustainable emotional support.

Literature suggests that incorporating socio-emotional education and suicide prevention programmes into university curriculums can effectively destigmatise mental health issues and build resilience, in addition to directly improving students' mental health (Pérez-Marín, et al., 2024).

### ***2.3 Using AI Chatbots as an Emotional Support Channel***

Studies have revealed that AI chatbots can be an effective means of emotional support in text-based contexts. AI chatbots generally focus more on listening and avoid giving excessive practical suggestions, whereas humans, especially those who are untrained, like close friends or family members, tend to over-share thoughts and appear to be more judgemental (Yin, Jia, & Wakslak, 2024). AI chatbot was found to be superior in making the user feel heard, understood, and connected with high empathic accuracy, although the AI label can weaken these aspects; notably however, the overall effectiveness of AI chatbots is still higher than human responses (Yin, Jia, & Wakslak, 2024).

However, AIs lack the ability to share their backstory, given that no deception is employed. Reciprocal self-disclosure of past experiences by the counsellor to the counselee is an important part of the emotional support process and can facilitate stress reduction and perceived supportiveness (Meng & Dai, 2021).

These point to AI chatbots being a feasible means of emotional support, although with the drawbacks incurred by the AI label and the inability to share their past. However, this also raises an ethical dilemma of whether AIs should remove their AI label and pretend to be human or conjure artificial backstories to share to facilitate more effective emotional support.



### 3 Methodology

This research aims to examine the emotional management of university students in Hong Kong and assess the effectiveness of the emotional support services offered by local universities. Both quantitative research in the form of a survey and qualitative research in the form of interviews are included in this project research.

#### 3.1 Survey

##### 3.1.1 Sample

We gathered 102 responses to our survey from university students in Hong Kong, with 95 valid responses and 7 invalid ones. The mean age of the respondents is 21.07 years, with an SD of 1.79 years. A detailed breakdown of the sample distribution can be seen in the tables below.

*Table 1: Gender distribution of respondents.*

Gender	Male	Female	Did not disclose
Count	58 (61.1%)	33 (34.7%)	4 (4.2%)

*Table 2: Year of study distribution of respondents.*

Year of Study	1	2	3	4	≥5
Count	6 (6.3%)	6 (6.3%)	34 (35.8%)	28 (29.5%)	21 (22.1%)

*Table 3: University distribution of respondents.*

University	CUHK	PolyU	HKU	HKUST	CityU
Count	52 (54.7%)	19 (20.0%)	6 (6.3%)	5 (5.3%)	4 (4.2%)
University	HKBU	EdUHK	SFU	HPSHCC	
Count	4 (4.2%)	2 (2.1%)	2 (2.1%)	1 (1.1%)	

*Please refer to 7 Glossary and Abbreviations below as necessary.*

##### 3.1.2 Design

Our survey was split into two parts – mental healthiness measurement and emotional support services investigation. We also briefly asked our respondents for their personal information, including their gender, age, year of study, and university, to aid our analysis.

A list of the survey questions can be reviewed in 8.1 *Survey Questions* below.

### *3.1.2.1 Mental Healthiness Measurement*

For mental healthiness measurement, we used the Perceived Stress Scale (PSS) and the Positive and Negative Suicide Ideation (PANSI) inventory.

#### *3.1.2.1.1 Perceived Stress Scale (PSS)*

The PSS was devised to be a measure of the degree to which situations in one's life are appraised as stressful based on the perceptions of unpredictability, uncontrollability, and overload, it can also be used to determine risks of behavioural disorders (Cohen, Kamarck, & Mermelstein, 1983). We included the scale in our survey to measure the stress level of respondents in hopes of using the insights to aid our further analysis and interpretation of survey results.

The original scale was devised to be a 14-item scale (PSS-14); however, a 10-item scale (PSS-10) with an improved factor structure and internal reliability was later devised by eliminating the four items with the lowest factor loadings using factor analysis (Cohen & Williamson, 1988), which also enhanced its psychometric properties compared to PSS-14 (Lee, 2012). Considering these factors, in addition to its abridged nature, we have elected to employ PSS-10 for our survey.

It is also noteworthy that we have made some modifications to the PSS for our survey. The original version of PSS asks respondents to rate the frequency of each item on a subjective Likert-like 5-point scale (never, almost never, sometimes, fairly often, and very often). However, we considered that subjective scales might be difficult to interpret and compare between respondents since everyone has different thresholds that they might consider to be “often”, for instance; hence, we elected to modify our survey to use an objective frequency scale (fewer than monthly, monthly or more, weekly or more, and daily or more). Note that since the original PSS was designed to specifically ask about a shorter period of time (one month) compared to other scales to increase the recency of the measured stress (Cohen, Kamarck, & Mermelstein, 1983), we have also limited the frequency options of our scale, with the “fewer than monthly” option acting a similar role as the “never” option.

#### *3.1.2.1.2 Positive and Negative Suicide Ideation (PANSI) Inventory*

The PANSI inventory was devised to be a measure of the frequency of positive and negative thoughts related to suicidal behaviour (Osman, Gutierrez, Kopper, Barrios, & Chiros, 1998). We included the inventory in our survey to measure the suicidal tendency of our respondents, inspired by the abundance of student suicide cases.

### *3.1.2.2 Emotional Support Services Investigation*

For the emotional support services investigation, we asked the respondents about their utilisation and effectiveness ratings for various emotional support channels, with an emphasis on in-school support services, before asking about their preferred emotional support channel should they require one in the future.

### *3.1.3 Analysis Methods*

Throughout the survey, the PSS scores were used to cross-compare against other metrics to determine their correlation to stress levels. Most notably, we wanted to investigate the correlation stress levels have with suicidal tendencies and emotional support service utilisation.

To calculate the PSS scores, the responses for each item were summed together. Notably, some of the items use reverse scoring, meaning that their frequencies are scored in the reverse order. A higher PSS score indicates a higher stress level.

For PANSI, a two-factor structure was used to analyse the data since it was proven to fit significantly better than a one-factor structure (Osman, Gutierrez, Kopper, Barrios, & Chiro, 1998). The factor loadings provided by them were used to back-calculate our positive ideation (PI) and negative suicide ideation (NSI) scores after normalising each response to be within the range of 0 and 1. Despite there being similar studies on university students in more recent years (Aloba, Adefemi, & Aloba, 2018), the study by Osman et al. (1998) had a larger sample size ( $n = 450$ ) than most, and the values they acquired are similar to those of more recent studies; therefore, we thought it appropriate to use their factor loadings. An overall PANSI score was also acquired by subtracting PI from NSI. A higher PI score indicates more positive ideations, a higher NSI indicates more negative suicidal ideations, and a higher overall score indicates a higher suicidal tendency.

### *3.1.4 Hypothesis*

We hypothesised that stress levels correlate highly with suicidal tendencies.

We hypothesised that stress levels increase with the year of study due to increasing workload, worrying about career prospects, and uncertainties about the future.

## **3.2 Interviews**

### *3.2.1 Design*

Our interviews have also split into two parts; one is interviewing students on their views on how the university changed their emotional situation and how their emotional management was

affected after being a university student, views on the emotionally supported services provided by the Universities in Hong Kong and views on AI. The second part is the interview with a counsellor to get more professional information and how the workers view AI providing emotional support services. The questions of both interviews will be provided in the section on “Interview Findings”.

The result of the interview would be separately concluded and analyzed, to sparkle up the findings of the survey and get deeper understanding of how university students thoughts on the emotional support in Universities in Hong Kong and the changes that affected by the factors in the University.

## 4 Results

### 4.1 Survey Findings

#### 4.1.1 PSS vs PANSI

The relationship between stress levels and suicidal tendencies was investigated. As demonstrated in *Table 4* below, there is a significant positive correlation between PSS and PANSI (NSI) and PANSI (NSI-PI), and there is a significant negative correlation between PSS and PANSI (PI). This indicates that stress levels significantly correlate to one's lack of a positive outlook in life and an abundance of suicidal tendencies, confirming our hypothesis raised in *3.1.4 Hypothesis* above.

*Table 4: Linear regression analysis between PSS and PANSI scores (n=95).*

PSS	PANSI (NSI)	PANSI (PI)	PANSI (NSI – PI)
<b>Regression coefficient</b>	0.2503	-0.2438	0.4941
<b><math>R^2</math></b>	0.4577	0.5073	0.5336
<b>P-value</b>	$p = 5.29 \times 10^{-14}$	$p = 5.81 \times 10^{-16}$	$p = 4.44 \times 10^{-17}$

*See Figure 2, Figure 3, and Figure 4 in 8.2 PSS against PANSI below for scatter plots of the data points.*

#### 4.1.2 PSS vs Age and Year of Study

The relationship between stress levels and age and year of study was investigated. As demonstrated in *Table 5* below, no significant correlation can be found. This suggests that age and year of study have little effect on stress levels, disproving our hypothesis raised in *3.1.4 Hypothesis* above.

*Table 5: Linear regression analysis between PSS and age and year of study (n=95).*

PSS	Age	Year of Study
<b>Regression coefficient</b>	0.2503	-0.2438
<b><math>R^2</math></b>	$3 \times 10^{-6}$	0.5073
<b>P-value</b>	$p = 0.99$	$p = 0.63$

*See Figure 5 and Figure 6 in 8.3 PSS vs Age and Year of Study below for scatter plots of the data points.*

#### 4.1.3 PSS and PANSI vs Gender

The relationship between PSS & PANSI and gender was investigated. As demonstrated in *Table 6* below, while there is no significant difference in PSS scores across genders, there are significant differences in PANSI scores. This indicates that while stress levels are similar across genders, females exhibit higher suicidal tendencies than males.

*Table 6: T-test of PSS and PANSI scores across genders, assuming equal variances (n=91).*

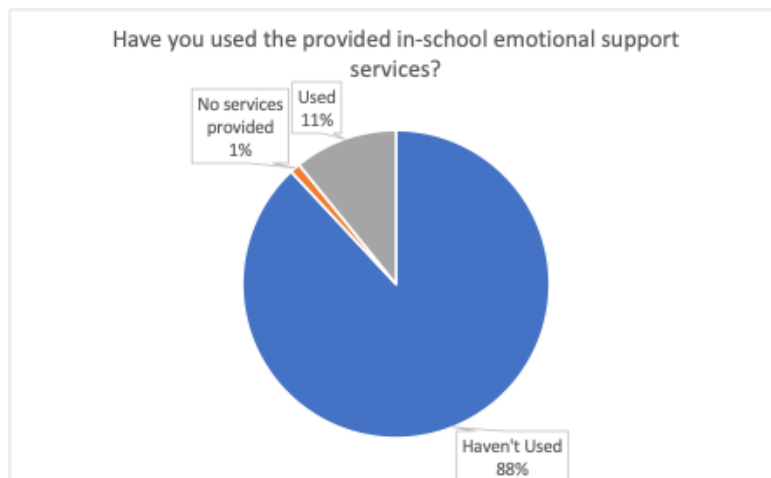
	PSS	PANSI (NSI)	PANSI (PI)	PANSI (NSI – PI)
<b>Male (n=58)</b>				
<b>Mean</b>	13.83	1.12	1.83	-0.70
<b>Variance</b>	16.57	2.66	2.31	8.77
<b>Female (n=33)</b>				
<b>Mean</b>	15.58	2.06	1.13	0.93
<b>Variance</b>	23.25	2.82	2.50	9.72
<b>P-value</b>	<b><i>p</i> = 0.069</b>	<b><i>p</i> = 0.010</b>	<b><i>p</i> = 0.042</b>	<b><i>p</i> = 0.014</b>

*See Figure 7, Figure 8, Figure 9, and Figure 10 in 8.4 PSS and PANSI vs Gender below for box and whisker plots.*

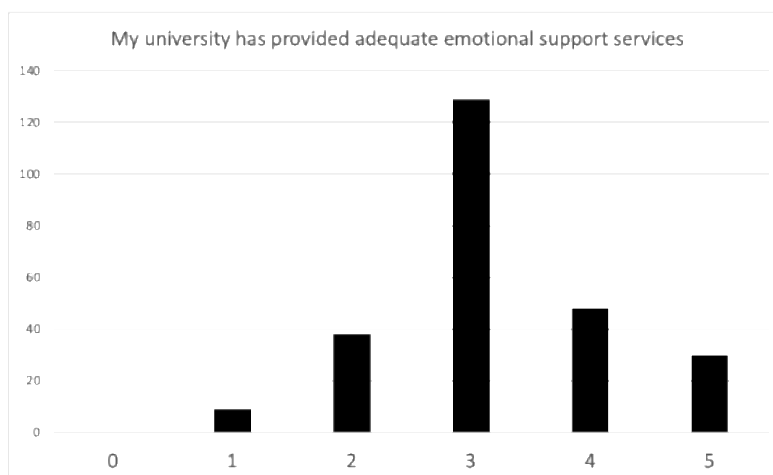
Our results aligned with similar studies, with a higher degree of emotional suppression being cited as the reason for males having lower apparent stress levels (Pérez-Marín, et al., 2024). Another study done on Hong Kong university students also showed that females suffer from mild to severe anxiety symptoms more commonly, but no strong association between gender and developing anxiety symptoms was observed ( $p = 0.059, 0.103$ ) (Lun, et al., 2018).

Despite emotional suppression intuitively being an ineffective means of emotional management, literature suggests otherwise. Utilising emotional suppression as an emotional regulation strategy can enhance overall life satisfaction in students, and this effect is more pronounced in Asian cultures (Schunk, Trommsdorff, Wong, & Nakao, 2021). This is a possible explanation for male students having lower overall suicidal tendencies in our survey.

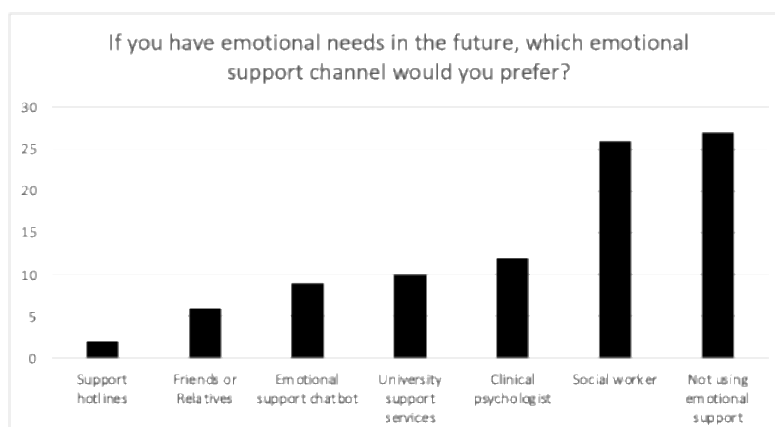
#### 4.1.4 Emotional Support Method Effectiveness and Preferences



Most students have not used the school's emotional support services.



Students gave emotional support services in university a passing grade.



Human, face-to-face and professional emotional support services are preferred.

#### 4.1.5 Miscellaneous

At the end of the survey, we encouraged respondents to share their thoughts openly.

One respondent from CUHK shared that it was difficult to make an appointment with the university counsellors and that they are compassionate, though unable to help them sufficiently. This alludes to the problem of inadequate resources faced by university counselling services, as mentioned in 2.2 *University Emotional Support Services* above.

### **4.2 Interview Findings**

The findings from our quantitative research reveal that a relatively small number of students seek assistance directly from their school. Their discomfort with in-person meetings with a counsellor is a significant reason for this reluctance. This aversion raises critical questions about the barriers students encounter when trying to access mental health support. Understanding these barriers is essential for developing effective interventions.

#### 4.2.1 Social Worker Interview

To further explore the underlying factors contributing to this hesitance, as well as to identify effective strategies for supporting students experiencing emotional difficulties without the need for direct involvement from a school counsellor, we conducted a qualitative interview with a social worker who possesses extensive counselling experience. This interview aimed to provide valuable insights into alternative support mechanisms that could be implemented within the school environment, thereby enhancing the overall accessibility of mental health resources for students.

##### *4.2.1.1 Interviewee Information*

The interviewee is a social worker in the public sector servicing youths between 10 and 25 years old.

##### *4.2.1.2 Interview Proceedings*

Detailed below are the proceedings of the interview.

###### *4.2.1.2.1 What do you think triggers the emotional challenges for university students?*

Freshmen who are transferring from high school to university are undergoing a very important transition period. This echoes the theory of the *Eight Stages of Psychosocial Development* proposed by Erik Erikson (Chung, 2018). The theory outlines eight stages across an individual's lifespan, each defined by a specific conflict crucial for healthy psychological growth. The first stage, *Trust vs. Mistrust*, involves establishing trust in infancy, followed by



*Autonomy vs. Shame and Doubt* in early childhood, where children develop personal control. As they grow, they encounter *Initiative vs. Guilt* during preschool and *Industry vs. Inferiority* at school age, where competence becomes key.

The adolescent stage, *Identity vs. Role Confusion*, is particularly significant for university freshmen as they seek to solidify their identity amidst diverse perspectives. This exploration can be overwhelming and lead to confusion about their beliefs and values. Social integration presents another challenge; freshmen often struggle to build relationships and may feel isolated, especially when connecting with peers proves difficult.

The transition to independence adds complexity as students navigate new responsibilities without parental guidance. Academic pressures can also contribute to feelings of inferiority, with many students comparing themselves unfavourably to others, leading to anxiety. Mental health issues, such as anxiety and depression, can arise from these compounded stresses, creating a sense of isolation.

4.2.1.2.2 According to your daily observation, is there anything special to be mentioned concerning youngsters' emotional management?

Social media significantly affects how young people manage their emotions today. For instance, the counsellor has observed several young individuals prefer sharing their emotional struggles on platforms like Threads rather than seeking help from professional counsellors. In fact, I have encountered members of Generation Z posting their DASS-21 results online, openly discussing their emotional challenges while showing little inclination to pursue counselling.

The DASS-21 is a self-report questionnaire designed to assess depression, anxiety, and stress through three subscales, each consisting of seven items. Respondents rate these items on a scale from 0 to 3 based on their experiences over the past week. This tool is valuable for identifying and monitoring psychological conditions in both clinical and research contexts.

Apart from this, there are online discussions advocating the usage of AI tools in emotional counselling, such as talking to an AI chatbot with initiating prompts like "Please chat with me as if you were a counsellor". Young people are constantly looking for solutions online in a way that is very different from the conventional way.

#### 4.2.1.2.3 Regarding the previous questions, do you think AI can actually be a solution to youngsters not seeking counselling help?

There are several key reasons why young people may be reluctant to seek help from counsellors, many of which are closely linked to traditional Asian or Chinese cultural attitudes. For example, there is a belief that emotional problems are family matters that should remain private and not be shared with outsiders. Additionally, some individuals feel that seeking help is a sign of weakness. To address this social stigma, artificial intelligence could offer a potential solution, as it allows individuals to seek support without needing face-to-face interaction with another person. This could create a more comfortable environment for those hesitant to seek help.

#### 4.2.1.2.4 Do you believe that AI chatbots can be an alternative to counselling?

There are still significant constraints to using AI chatbots for counselling purposes. For instance, body language plays a crucial role in the counselling process for both clients and counsellors. Micro-expressions and subtle gestures, which are often difficult for AI to detect, can provide valuable insights into a client's emotional state. Additionally, a motivated counsellor can use their own body language to convey to clients that their emotional needs are being acknowledged and addressed within the counselling setting. Nevertheless, it is beneficial for young people to engage with AI chatbots such as Pi about their emotional concerns rather than remaining silent. Such interactions can help them recognise the existence of their emotional issues, and with appropriate guidance, they may be encouraged to seek real counselling support.

#### 4.2.1.2.5 Do you think existing AI emotional chatbot projects like TourHeart+, developed by CUHK and Hong Kong Jockey Club, can help the counselling process significantly?

The current AI chatbot project provides a modest level of support, as it is easily accessible through social media and helps raise awareness among potential students in need. In conclusion, while AI chatbots effectively promote alertness to emotional issues, addressing the underlying emotional problems faced by young people ultimately requires the vital and inevitable step of consulting a real counsellor.

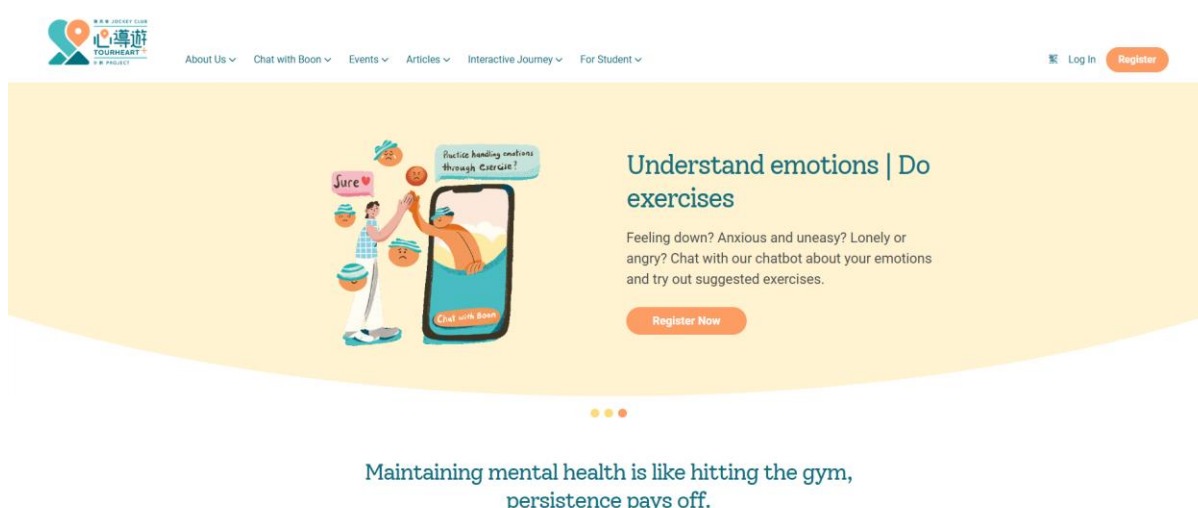


Figure 1: Promotional material for the TourHeart+ project (TourHeart+, n.d.).

4.2.1.2.6 Apart from what we have discussed, is there anything you want to add regarding an AI chatbot as an alternative to a counsellor? Is there any pros and cons?

According to current AI chatbot models, the risk of counsellors crossing professional boundaries and developing inappropriate client relationships should not exist. However, if the day comes when counsellors are replaced by AI chatbots, they need to reflect on the reasons behind this shift. Counsellors should consider the implications of this potential replacement and actively seek ways to enhance their practice to ensure they remain relevant. This reflection should prompt counsellors to explore how they can improve their skills and approach, not only to safeguard their jobs but also to evolve in ways that genuinely enhance their ability to help clients. By focusing on professional development and embracing new methods of support, counsellors can better meet the needs of their patients in an increasingly digital world.

## 4.2.2 Student Interview

The survey results have shown that over 80% of Hong Kong university students are under medium to high stress and anxiety. Interviewing with students helps us better understand the results of the survey and supports the results and findings of the survey.

### 4.2.2.1 *Interview Questions*

The interview questions are listed as follows.

- Are there any differences in your emotional status after being a university student?
- Do you think any of the factors at the university would affect your emotional management and overall situation?

- Have you ever known that your university has any emotional support services? If yes, do you know the details of the emotional support plan?
- Do you think the emotional services in universities in Hong Kong have enough promotion?
- Have you used any in-school emotional support services?
- Have you used any emotional support services?
- Do you think that you have good self-control over your emotions?
- What do you think about your emotional management?
- Do you agree that "mental health" and "emotional health" are issues that are easily being ignored in HK?
- What's your point of view that AI is being used in emotional support services? Would you like to give it a try?

#### *4.2.2.2 Interview Findings*

All five interviewees (1 male and 4 female) said that their stress and emotional conditions had deteriorated during their university years, including sudden changes in the learning environment, interpersonal relationships, and study pressure. Although other factors affect their emotional management, such as family and peer factors, the complexity of university is still physically and mentally exhausting.

In this interview, the five interviewees have different backgrounds, such as whether they have or had emotional problems, symptoms of emotional problems, patients with mental problems, and people who have recovered from mental problems. Still, they are unfamiliar with the emotional support services provided by universities in Hong Kong, and they believe that their publicity methods and efforts are slightly lacking. Universities in Hong Kong also routinely use the “self-help” format when providing and promoting emotional support services, requiring students who feel they require emotional support to seek help or confide in themselves. In the interviews, two respondents said that their university's emotional support hotline (indicating a 24-hour hotline) could not be reached after repeated calls and that face-to-face talk services required a long turn, making it impossible for them to receive appropriate emotional support.

All five interviewees felt that the provision of emotional support services and facilities within the university was inadequate, and some interviewees believed that the publicity of their university was limited to posters in the corners or poster board nearby road and that students in need could not effectively obtain information. For example, interviewees from CUHK said

that one emotional counselling event was advertised to be open to all university students to interact with “dog doctors”. However, the number of participants was limited to 15. Compared to the large number of university students, many students with emotional distress and support needs do not actually receive the help they need at university. Thus, students with highly depressed symptoms could hardly be noticed, leading to tragedy.

In the interviews, interviewees were not willing to use the emotional support services provided on their campuses, with some believing that they would still use the emotional support services provided by the university when necessary due to their financial situation and actual needs. The remaining respondents felt that they did not have this need or that their emotional problems did not need emotional support services and chose to talk to friends or digest them on their own. Male respondents are less likely than women to use emotional support services. They do not want to be known by their relatives and friends when they have no choice but to use them, which further reflects the incomplete education and promotion of emotional and mental health in Hong Kong universities and the prejudice and misconceptions about emotional and mental health in society. Coupled with the influence of traditional Chinese ideology and culture, the interviewees chose to refuse to answer the question and why they used emotional support services during the interview.

Under the influence of different situations and factors, respondents have different views and attitudes toward their emotional management. Most of them believe that their emotional management is not good, but they have a high degree of patience and acceptance. Some interviewees said that she is prone to falling into a low emotional ebb, but the recovery speed is faster, not that her emotional management is good. On the contrary, she thinks that her emotional management is not good, but she has become accustomed to the long-term emotional low tide and has turned the “low tide” into her own “normal” state.

When it comes to mental and emotional well-being, all five respondents believe that although there has been a trend towards increasing attention in recent years, it is still an easily overlooked issue. They believe that the education, popularisation, and promotion of mental and emotional problems in Hong Kong are still insufficient, and the ways to seek help are more often active and less passive due to the influence of stigma. Some people who are troubled by the above problems will refuse to accept any support and insist that they are mentally and physically healthy. Some respondents said that they were afraid of their mental issues being known by their families. A respondent was suffering from anxiety and depression and was afraid that her

family would blame her for failing to adapt to society and the environment. This allows us to see that Hong Kong university students tend to normalise their abnormal mental and emotional states and believe that the inability to adapt and regulate their emotions immediately is an abnormal state, reaffirming the result of our survey.

When asked about their use of AI in emotional support services, all five respondents had a negative view of AI. First of all, respondents believe that the current AI technology and the characteristics of AI make it impossible for it to fully understand and think about the complex emotions of human beings, and they think that AI cannot provide helpful emotional support services and truly effective therapy and that human support is better than AI. Second, under the thoughts that AI is a bunch of programs that calculate which answer is the most suitable, the interviewees think that this is so cold and without any empathy or emotion. This might worsen the user's emotions and situation.

Even though respondents were biased towards the use of AI in emotional support services or AI emotional support conversational chatbots, some respondents remained neutral. They believe that the AI online chat Chatbot has the opportunity to provide temporary help to some students who do not want to have contact with real people and need emotional support, or some students who are more withdrawn and unable to find a suitable person to talk to, can get immediate emotional comfort and help provide temporary help, but they still maintain a negative attitude towards long-term help. Second, respondents believe that there is an opportunity for online AI emotional support to provide college students with information and emotional assistance that is easy to access and affordable, as the counselling fee in Hong Kong is high and expensive, a faster with cheaper services can ease the temporary need of emotional support of Hong Kong University students.

### **4.3 Interpretation**

#### **4.3.1 Mismatch in expectation of using AI tool in counselling**

From the perspective of a social worker and counseling service provider, AI chatbots can serve as a valuable tool to initiate the counseling process at a moderate level. They can help raise awareness about emotional issues and encourage students to seek further assistance. However, a qualified counselor must carry out the actual counseling process to effectively address the emotional problems faced by students in need.

Despite this potential, interviews conducted with students reveal a noticeable reluctance to use AI chatbots as an alternative to traditional counselling. This hesitance suggests a disconnect

between the expectations of social workers and the perceptions of students regarding the role of AI in emotional health support.

For the social worker, the primary function of the AI chatbot is to serve as a preliminary resource, raising awareness and guiding students toward the next steps in seeking real counselling. In contrast, the students interviewed tend to compare the chatbot directly with human counsellors in terms of the quality of the counselling services provided. This comparison may lead them to undervalue the benefits of using AI as a starting point, as they seek the depth of understanding and personal connection that only a human counsellor can provide.

This mismatch in expectations highlights the need for clearer communication about the intended role of AI chatbots in the counselling process. By fostering a better understanding of how these tools can complement, rather than replace, human counsellors, both social workers and students may find more effective pathways to addressing emotional challenges.

#### 4.3.2 Necessity to use AI tools in counseling

It is important to recognise that AI operates as a learning model that requires continuous input to achieve optimal functionality. Encouraging more individuals to use AI tools will provide the necessary data for improvement, ultimately enhancing the effectiveness of these systems over time.

Simultaneously, counselors should focus on how they can incorporate AI tools into their existing practices rather than resisting their integration. According to the interview with the social worker, there are indeed significant benefits to utilising AI tools in the counseling process. By embracing these technologies, counselors can enhance their ability to support clients, streamline workflows, and potentially improve outcomes.

The integration of AI into counseling practices has the potential to elevate the overall process, allowing counselors to focus more on personal interactions while leveraging AI to handle routine tasks or facilitate initial assessments. This collaborative approach can create a more efficient and responsive counseling environment, ultimately benefiting both counselors and the individuals they serve.

#### 4.3.3 Normalising Abnormal Mental Health

Although university students are in high stress and have strong emotions, they think that this is a normal situation. During interviews, they think although their survey stress score is

moderate to high, they are still fine, and this is normal imagery in Hong Kong. This shows that University students in HK normalise the high-pressure environment, which would lead to the mental health problem in Hong Kong and turn it into Rheumatism. Under the cultural background and factors of traditional Chinese thoughts, students in Hong Kong are more likely to not seek support, and try to normalise the high-pressure situation due to the societal atmosphere. 69% of university undergraduates are currently showing common mental disorder symptoms, such as depression and anxiety. This shows that university students in Hong Kong are in a very stressful environment and brainwash themselves they are fine.

#### 4.3.4 Not Enough Support in University

Emotional support services are inadequate in Hong Kong universities, and although universities in Hong Kong basically have their own supporting emotional support centres or services, the number of university students in Hong Kong is still far from enough. Emotional support services in universities, such as face-to-face conversations, may not be available for appointment for a long time or require long waiting times, which may prevent some current students who are in urgent need of emotional support from receiving timely help, and the 24-hour emotional hotline of some institutions even has respondents who have made multiple calls during the interview but cannot be reached. In addition, the University's publicity of its emotional support services is also very insufficient, coupled with its passive support methods, such as requiring students to call, ask for help, and make appointments before they have the opportunity to deal with their own problems, which makes some students with serious emotional problems who are not aware of them miss the best opportunity to talk. The kind of learning environment established by the university plays a decisive role in the mental health of students. When there is a gap in policies, what can universities do is to add their services support to students and try to prevent it by add-on solution.

#### **4.4 Limitations**

Survey data and interview results provided insightful information about students' experience with the school's emotional support services, but it does have its limitations.

Firstly, the sample size of the participating students in our interviews may be insufficient (n=102). Another 30-50 respondents may yield different p-values for certain regression results and different conclusions might be drawn.

Secondly, our survey results indicated a low usage of emotional services. This could be attributed to students with emotional issues being more socially isolated and unwilling to share



it, even through an anonymous survey. This limited our dataset and impaired our accuracy in quantitatively assessing the effectiveness of the school's emotional support services.

Thirdly, due to the sensitive nature of the survey questions, which included topics on suicidal thoughts, the survey offered complete confidentiality to survey participants. Full privacy, while crucial in increasing participation rates, completely removed the opportunity to actively engage students for deeper qualitative insights through follow-up interviews. Therefore, peer networks were relied on to search for interviewees. This could introduce a risk of self-selection bias and interviewees might withhold sensitive information before friends.

Lastly, searching for male interviewees (Male: 1, Female: 4) proved particularly challenging likely due to societal expectations that discourage men from expressing emotional vulnerabilities, which may skew the qualitative research results.

#### ***4.5 Implications***

Additional time should be allocated to the survey process to collect more data and achieve a more balanced gender distribution among interviewees.

Moreover, our survey could have benefitted from pilot testing. Analysis of survey data showed some questions could use an extra "NA" option for students who do not know how to answer the question. Sending out a draft version of the survey to participants could help us root out the problems in our survey. Then, a more optimized survey can be released to make sure it can fully reflect participants opinions on issues to improves data collection.

#### ***4.6 Recommendations***

This study highlighted the importance of university emotional services in addressing students' mental health needs. The simplest solution is to invest more resources in providing emotional support. More counsellors can be employed to provide more human face to face support to students in need. However, this requires schools to have adequate funds.

Findings show AI could be part of the solution, but it is evident students are not interested in using AI to provide emotional support. Schools could slowly integrate AI into their emotional support services to help with preliminary diagnoses of students, with human counselors in charge of the main treatment. While AI technology is still in its infancy, it is a learning software. As more users engage in it, it can reflect on users' feedback and upgrade itself. It takes time and real users' inputs for the AI software to optimise itself. It is best to start early to complete

the optimisation process and to let the software improve. Schools should be cautious with using new technology on students and could start on a smaller scale.

Students are advised to actively seek out emotional support services in school. Users of emotional support services gave favorable ratings to the school's emotional support services. Students should also realise mental health issues are normal and seeking emotional help it is not an indication of weakness. Peers of mentally distressed students should also refrain from being overly anxious. Mental health issues are not uncommon for students and should not be seen negatively.

## **5 Reflection**

The research is done by students from different backgrounds. Each member's academic knowledge and experience proved indispensable in our research. Chan's background in biomed and experience in experiment-oriented paper writing helped lay the foundation of academically rigorous research. With Zhang's background in statistics, together they helped analyse survey data.

Tam's academic background in minoring in psychology provided insightful knowledge of the definitions and concepts used in psychology. This created an easier process for literature review as it is riddled with complex terms.

Long's peer network was valuable as the research lacked a professional's opinion. Her social worker friend helped provide more insights into the emotional support service work, which is crucial in understanding trends and causes of students' emotional problems.

The research was set out to help integrate AI into students' emotional management, an alternative to traditional face-to-face emotional support services. However, students showed high unwillingness to use AI as a mean of emotion management. Therefore, plans for an AI chatbot guide were cancelled.

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## **7 Glossary and Abbreviations**

CityU	The City University of Hong Kong
CUHK	The Chinese University of Hong Kong
EdUHK	The Education University of Hong Kong
HKBU	The Hong Kong Baptist University
HKU	The University of Hong Kong
HKUST	The Hong Kong University of Science and Technology
HPSHCC	The HKU SPACE Po Leung Kuk Stanley Ho Community College
PANSI	Positive and Negative Suicide Ideation
PANSI (NSI)	Positive and Negative Suicide Ideation (Negative Suicide Ideation)
PANSI (PI)	Positive and Negative Suicide Ideation (Positive Ideation)
PolyU	The Hong Kong Polytechnic University
PSS	Perceived Stress Scale
PSS-10	Perceived Stress Scale, 10-item version
PSS-14	Perceived Stress Scale, 14-item version
SD	Standard deviation
SFU	Saint Francis University

## 8 Appendix

### 8.1 *Survey Questions*

你是否現正就讀大學？ Are you currently an undergraduate student?

性別 Gender?

年齡 Age?

年級 Year of study?

就讀院校（可簡稱） University of study (Abbreviation is fine)?

Have you ever... ? [思考過自我結束生命 - Considered killing yourself]

Have you ever... ? [認為自己能掌控事情 - Felt you were in control]

Have you ever... ? [感到絕望和質疑自我 - Felt hopeless and wondered]

Have you ever... ? [因一段不愉快的關係想自我結束生命 - Felt unhappy about your relationship with someone that you wished you were dead]

Have you ever... ? [認為自己無法完成重要人生目標 - Thought you could not accomplish something important in your life]

Have you ever... ? [因事情順利而對未來充滿盼望 - Felt hopeful about the future because things were working out well for you]

Have you ever... ? [認為自己無法解決個人難題 - Thought you could not find solution to a personal problem]

Have you ever... ? [因在校或者工作中出色的表現而感到興奮 - Felt excited because you were doing well at school or at work ]

Have you ever... ? [認為自己是失敗者因而想結束自我生命 - Thought about killing yourself because you felt like a failure in life ]

Have you ever... ? [認為自我結束生命是解決難題的唯一辦法 - Thought problems were overwhelming that suicide was the only option for you]

Have you ever... ? [想自我結束生命解決寂寞與悲傷所帶來的痛苦 - Felt lonely or sad that you wanted to kill yourself so that you could end your pain ]

Have you ever... ? [對自己面對和處理生活中難題的能力有信心 - Felt confident about ability to cope with most of the problems in your life]

Have you ever... ? [認為生存是有價值的 - Felt that life was worth living]

Have you ever... ? [對自己的未來計劃有自信 - Felt confident about your plans for the future]

How often have you... ? [因突然發生的事感到不快 - Been upset because of something that happened unexpectedly]

How often have you... ? [認為自己不能控制人生中重要的事 - Felt that you were unable to control the important things in your life]

How often have you... ? [感到緊張及有壓力 - Felt nervous and stressed]

How often have you... ? [對自己解決個人問題的能力有信心 - Felt confident about your ability to handle your personal problems]

How often have you... ? [認為事情發展如你所想 - Felt that things were going your way]

How often have you... ? [發現自己未能關顧要做的事 - Found that you could not cope with all the things that you had to do]

How often have you... ? [能控制人生中的惱怒 - Been able to control irritations in your life]

How often have you... ? [認為自己能掌握事情發展 - Felt that you were on top of things]

How often have you... ? [被自身控制範圍外的事情觸怒 - Been angered because of things that were outside of your control]

How often have you... ? [認為自己無法克服重重難關而感到沮喪 - Felt difficulties were piling up so high that you could not overcome them]

Do you know if your university provides emotional support services?

Have you used the provided in-school emotional support services?

If you have used the provided in-school emotional support service, please rate the service.

My university has provided adequate emotional support services.

Have you used other emotional support services? [支援熱線 - Support hotlines]

Have you used other emotional support services? [社工 - Social worker]

Have you used other emotional support services? [臨床心理學家 - Clinical psychologist]

Have you used other emotional support services? [情緒管理對話框 - Emotional support chatbot]

Please rate the effectiveness of each support channel. [校內服務 - University support services]

Please rate the effectiveness of each support channel. [支援熱線 - Support hotlines]

Please rate the effectiveness of each support channel. [社工 - Social worker]

Please rate the effectiveness of each support channel. [臨床心理學家 - Clinical psychologist]

Please rate the effectiveness of each support channel. [情緒管理對話框 - Emotional support chatbot]

If you have emotional needs in the future, which emotional support channel would you prefer?

Anything you want to share?

## 8.2 PSS against PANSI

Figure 2: PSS score against PANSI (NSI) score ( $n=95$ ).

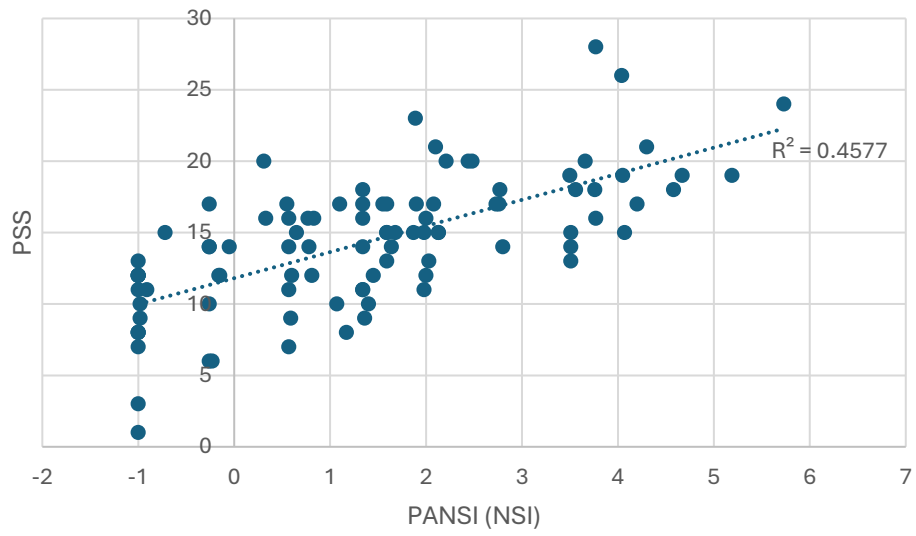


Figure 3: PSS score against PANSI (PI) score ( $n=95$ ).

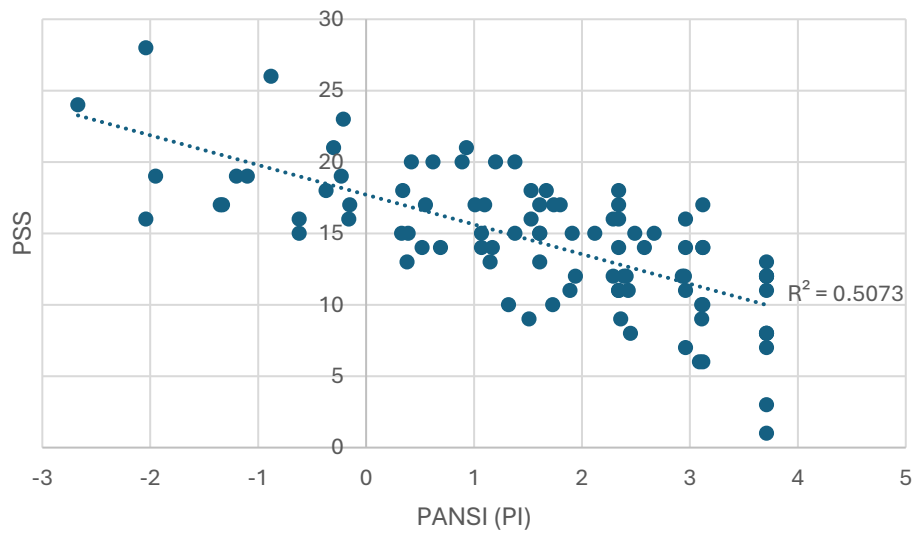
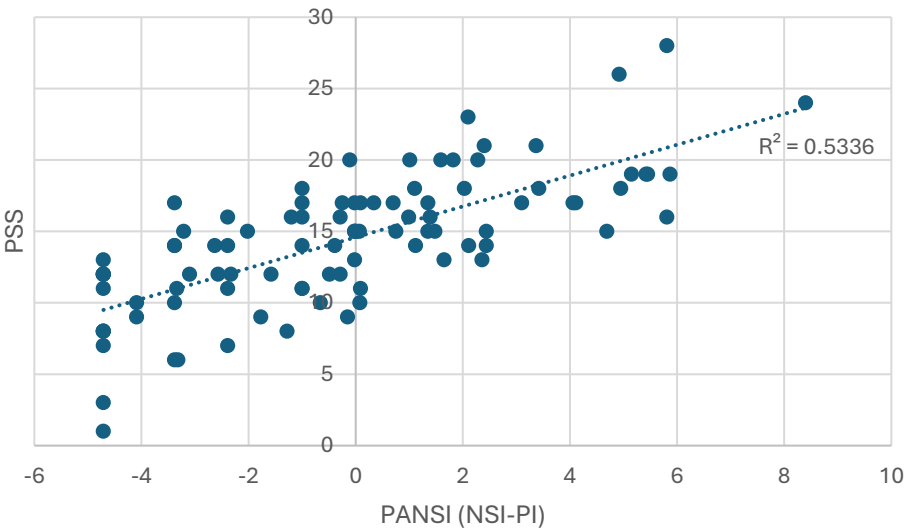




Figure 4: PSS score against PANSI (NSI - PI) score (n=95).



### 8.3 PSS vs Age and Year of Study

Figure 5: PSS score against age ( $n=95$ ).

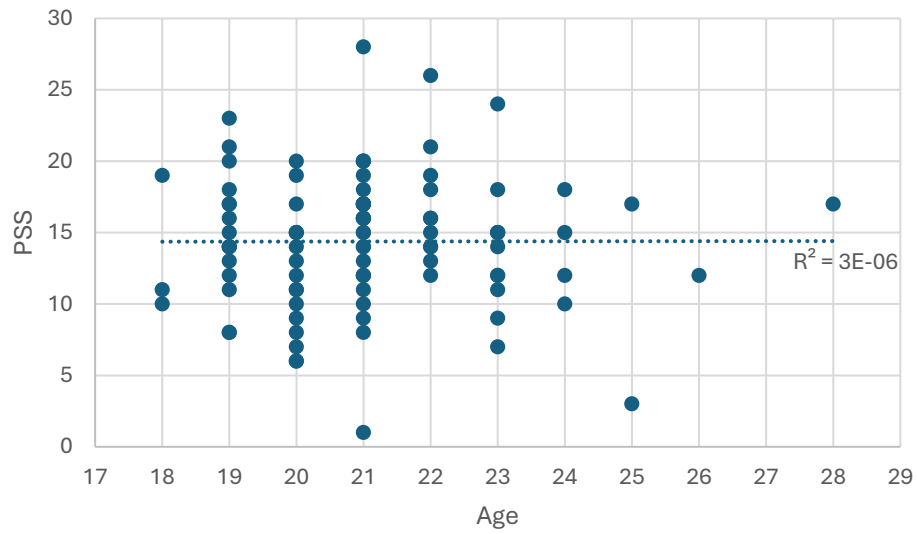
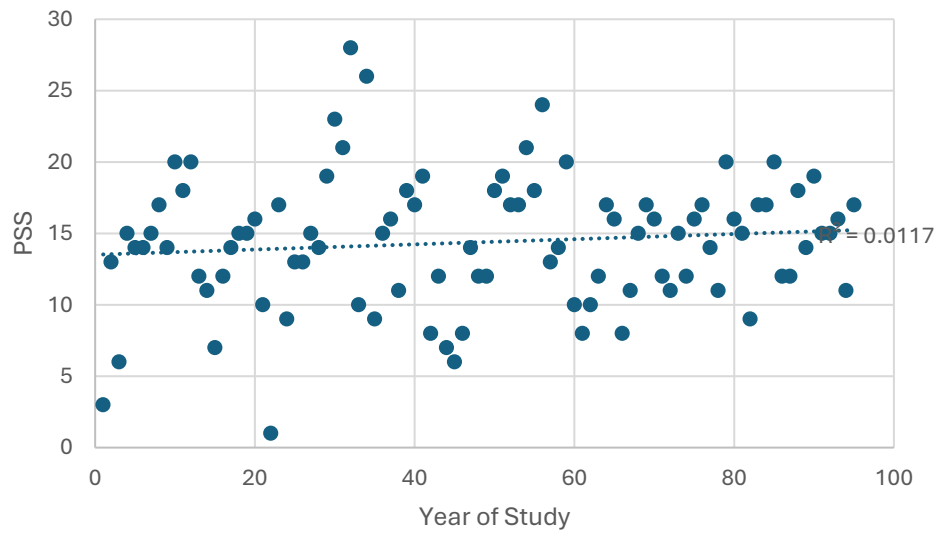


Figure 6: PSS score against year of study ( $n=95$ ).



#### 8.4 PSS and PANSI vs Gender

Figure 7: PSS score against gender (n=91).

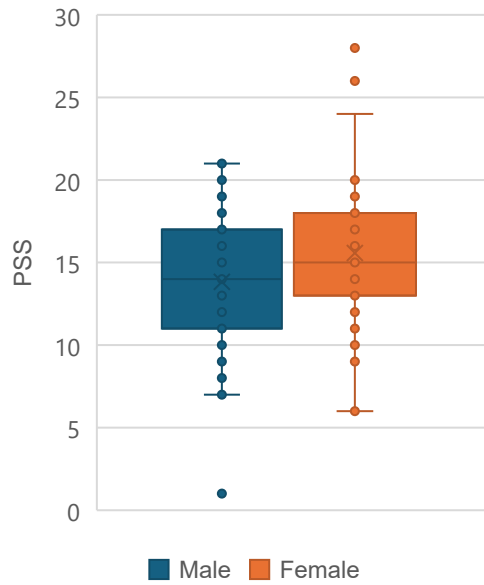


Figure 8: PANSI (NSI - PI) score against gender (n=91).

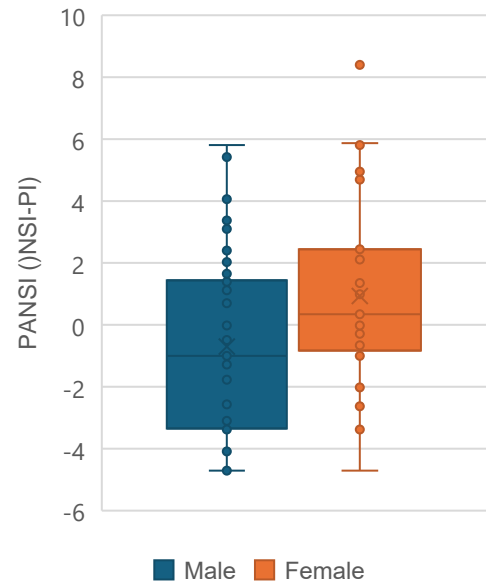


Figure 9: PANSI (NSI) score against gender (n=91).

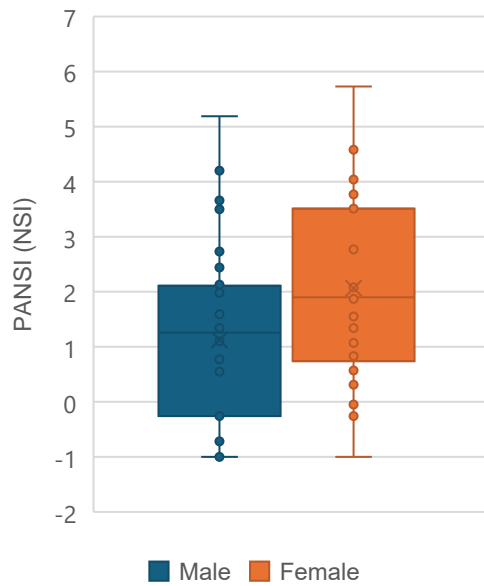


Figure 10: PANSI (PI) score against gender (n=91).

