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Exploring the Mental Health of Performing Musicians in Hong Kong and Identifying How NPOs Can Intervene

Research Question: What are the risk and protective factors for mental health issues
affecting performing musicians in Hong Kong?

By Project H

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Declaration

We declare that we are the sole authors of this report, and it has not been submitted for any other degree. ALL content except for references, is entirely original and completed independently. We affirm that the research follows ethical guidelines and maintains the integrity of academic standards.

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Abstract

Music has long been recognized as an effective tool for psychological healing; however, the mental health of music performers has often been overlooked. Conducted with 184 participants, the first survey on performing musicians' mental health in Hong Kong shows that 62% reported experiencing depression or anxiety. Additionally, 45% of musicians suffered from music performance anxiety, 35% reported sleep disturbances, and 30% indicated drinking problems. Moreover, using the dual-continua model, our findings indicate that changes in these risk factors can lead to mental illness and are not directly associated with mental well-being outcomes. In contrast, protective factors such as psychological resilience and social support can significantly affect both mental illness and well-being. Therefore, to better improve the overall mental status of performing musicians in Hong Kong, it is suggested that NPO interventions prioritize enhancing protective factors and developing the accessibility, affordability, and perceived suitability of the intervention tools, thereby further improving the efficacy of the existing four NPO intervention models.

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CHAPTER 1: INTRODUCTION

Over the past two decades, the music industry, as an integral part of Culture and Creative Industries, has grown rapidly both globally and within local communities. Music helps listeners release and relieve negative emotions and plays an important role in emotional self-regulation and promotion (Saarikallio, 2011). However, as key stakeholders in the music industry, musicians have not received sufficient attention for their mental health and well-being (StGeorge et al., 2014). Studies suggest that they are more susceptible to mental disorders than the general population with high mortality risks, including drug overdoses and suicide (Vaag et al., 2016), and common mental disorders, such as depression and anxiety, are particularly prevalent among them (World Health Organization, 2017).

However, musicians are generally more proactive than professionals in other fields in seeking help for psychological issues, as suggested by Vaag et al. (2014). This tendency is largely linked to their urban living environments and naturally expressive and open personalities (Vaag et al., 2014). Similarly, Berg et al. (2018) argue that musicians, especially experienced ones with musical awareness, are more receptive to treatment and support. As a result, NPOs have a significant opportunity not only to provide social support but also to proactively prevent mental health issues among musicians.

Moreover, Visser et al. (2022) executed a scoping review examining the attitudes and behaviors of professional popular musicians towards mental health interventions. The study underscores

the necessity to recognize musicians as a distinct demographic characterised by particular requirements and circumstances that affect their mental health. The findings indicate that musicians show a noticeable preference for interventions that are not only tailored to their unique lifestyle but also cost-effective and readily accessible, thereby aligning with the unique demands of their profession (Visser et al., 2022).

In view of Frumkin's (2003) analytical model of nonprofit organizations, it is evident that the nonprofit sector is ideally suited to perform both instrumental and expressive roles, addressing the demand for services and aiding in their delivery. In the field of mental health support for musicians, NPOs typically play a key role. In particular, cultural NPOs, including music associations and foundations, understand their unique needs and challenges due to a closer connection with musicians. This close relationship enables them to provide targeted support and relevant advocacy that impacts musicians' mental health.

Despite a wide variety of research from overseas, local music industry practitioners argue that the absence of local data and research is unacceptable and that a local study is needed. This is because Hong Kong has a unique history in the music industry, business environment, and public policy. Studies focused on the musicians' mental health in Hong Kong can provide insight into their specific needs.

Hence, this research will be the first to examine performing musicians' mental health in Hong Kong and explore a variety of potential risks and protective factors. Moreover, this study will

scrutinize the possible localized and innovative interventions in Hong Kong by comparing our survey results with the practices of NPOs in Hong Kong.

CHAPTER 2: LITERATURE REVIEW

2.1 Performing Musicians

‘Performing musicians’ is defined as a person who performs as either a solo or a part of a group primarily in live performance settings (Williamson et al., 2021). This definition focuses on the musician's training, skills in interpretation and expression, and pursuit of both technical proficiency and artistic creativity. It will be employed to evaluate and filter the sample for the purpose of this investigation.

Meanwhile, in our survey design, we categorize performing musicians as professional, who earn the majority (>50%) of his or her living as a performing musician, and semi-professional, who earns a portion but not the majority ($\leq 50\%$) of his or her living as a performing musician (Gibbons, 1990).

2.2 Mental Health

World Health Organization (2004) defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to his or her community.” Similarly, Keyes (2002) argued that a combination of emotional, psychological, and social well-being to

be considered mentally healthy. These dimensions collectively represent the main variables of a comprehensive mental health evaluation, as depicted in *Figure 1*

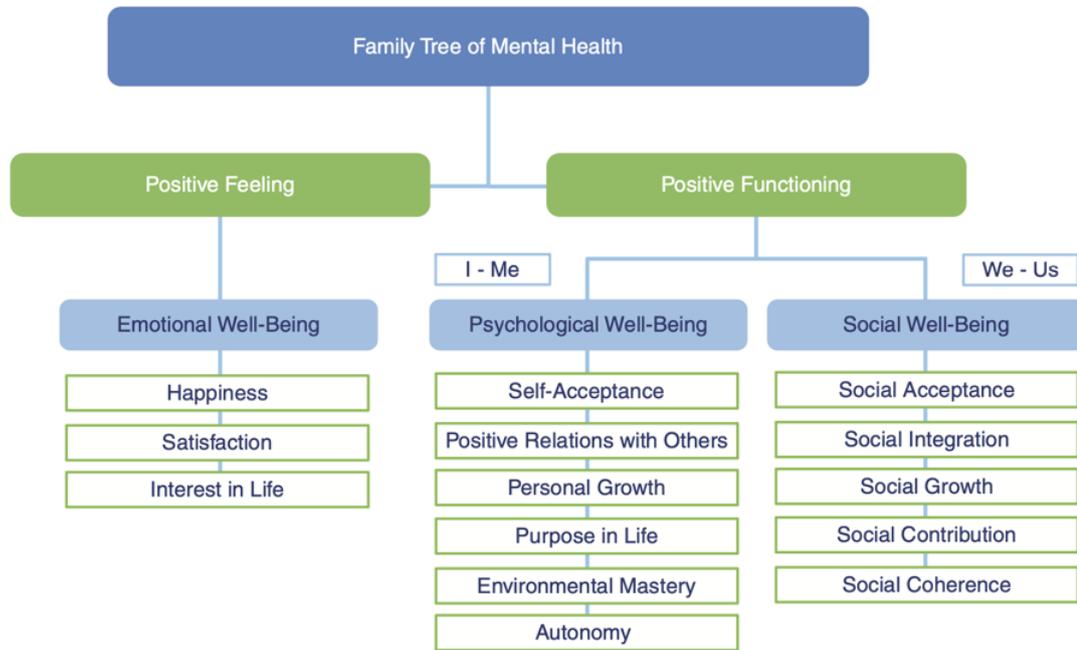


Figure 1. Family Tree of Mental Health (Mjøsund, 2021)

In this study, mental illness and mental well-being will be measured using Keyes’ dual-continua model of mental health (2002). Additionally, this study tests depression and anxiety as the most common symptoms of mental illness (World Health Organization, 2017).

2.3 Musicians’ Mental Health Status

The prevalence of depression and anxiety among musicians in the United Kingdom is approximately three times higher than among the general population (Gross & Musgrave, 2016). In addition, these artists have higher rates of dangerous alcohol use and substance abuse

compared to the general population (Krueger & Zhen, 2018; Parker, 2015). An analysis of more than 12,000 musicians revealed that their suicide rates are between two and seven times higher than the average rate in the country (Kenny, 2016).

During the past two decades, musicians' mental health has become an eminent research field of global interest. For instance, a comprehensive study in 2023 looked at the mental health and well-being of professional musicians throughout the European Union (Vermeersch et al., 2023).

In Hong Kong, two surveys were conducted in relation to the impact of COVID-19 on Hong Kong musicians by the Musicians Foundation. In the 2022 survey, 60.7% of respondents reported feeling “scared and worried,” and in particular, 55.7% indicated they experienced anxiety or depression, with 11.2% having considered suicide (Chau, 2022). However, as previously noted, musicians’ mental health and well-being in Hong Kong receive restrained attention with an absence of research in this area.

2.4 Risk Factors of Musicians’ Mental Health

King et al. (2022) revealed that musicians may confront mental health challenges that are enormously affected by socioeconomic determinants, including work-related stress and financial struggle. Furthermore, King et al. (2022) pointed out that musicians in popular genres had a greater likelihood of experiencing depression, anxiety, and alcohol usage as compared to the general population. Their investigation demonstrated that the correlation between

occupational and financial stress and the occurrence of depression and anxiety remained statistically significant. According to D  t  ri et al. (2020), musicians have greater job pressures, perceive less support, receive lower salaries and appreciation, face more work-family conflict, and have lower work motivation compared to the general workforce.

The profession of musicianship is characterized by its instability, including unpredictable work schedules, job insecurity, constrained opportunities for long-term career advancement, and financial uncertainties (Parker, Jimmieson, & Amiot, 2019; Vaag, Gi  ver, & Bjerkeset, 2014). In addition, performers may face challenges in relation to societal pressures (such as expectations from fans), frequent travel, social isolation, or limited opportunities for maintaining a social life (King et al., 2022). These stressors can potentially impede musicians' mental health (Aalberg et al., 2019; Parker et al., 2019; Vaag et al., 2014).

In particular, among the above work-related risk factors of mental health, this study focuses on three more severe for performing musicians in Hong Kong: performance anxiety, alcohol abuse, and sleep disturbance.

Music performance anxiety (MPA) is seen as one of the most frequently detected problems among performing musicians. The prevalence rate is estimated between 15-25% (Spahn et al., 2011). Performance anxiety is often characterized by intensified cognitive and somatic anxiety before, during, or after music performances. Some studies connected it to a highly demanding

work environment and social phobia (Kenny, 2011). Papageorgi et al. (2013) argue that performance anxiety is common in performing musicians across different genres.

Meanwhile, Paarup et al. (2011) indicated that half of the professional musicians in their study reported sleep disturbances. Normally, the symptoms are shorter sleep durations and problems with falling asleep (Virtanen et al., 2009). There are two key reasons why sleep disturbance is so common among musicians. First, music performances tend to require a maximum of concentration, both on the psychological and physical levels (Ohlendorf et al., 2017), and their workload is normally demanding (Sternbach, 1995). Second, the work traits of various musicians closely resemble shift work (Kenny & Ackermann, 2009) and long-time work, leading to poor sleep (Bannai & Tamakoshi, 2014). However, sleep disturbance is a widespread, common feature in many psychological and physical disorders, and it can be prevented and treated (Harvey, 2009).

Similarly, due to their work environment, performing musicians drink alcohol frequently, regarding it as a method of relieving pressure, including performance anxiety. The drinking problem is considered being associated with post-performance habits and behavior, particularly among these professional musicians (Orejudo Hernández et al., 2018).

2.5 Protective Factors of Musicians' Mental Health

Musicians may also be protected against mental health challenges by some protective factors besides risk factors (Vaag et al., 2014). Psychological resilience (Hu, Zhang, & Wang, 2015; Ungar & Theron, 2019) as well as social support (Thoits, 2011) have been identified as key defenses. Psychological resilience is the ability of individuals to handle or bounce back from adversity that might impair their functioning, growth, or well-being (Kegelaers et al., 2022; Masten, 2014). According to Fletcher & Sarkar (2013), psychological resilience is not a fixed characteristic but a dynamic process that varies depending on the positive interaction with personal and environmental assets. Psychological resilience functions (Kegelaers et al., 2020; Osborne, Greene, & Immel, 2014) and a sense of mastery (Ungar & Theron, 2020) are the key resources to underpin and control mental health. Studies have indicated the significance of resilience for both classical musicians (Kegelaers et al., 2020) and those in the pop and rock genres (Vaag et al., 2014). Bellis et al. (2007) pointed out that, for musicians, resilience and the ability to master occupational-related risks can resist the predisposition to mutual psychic vulnerabilities of genes and stressful environments. Studies have indicated the significance of resilience for both classical musicians (Kegelaers et al., 2020) and those in the pop and rock genres (Vaag et al., 2014).

Meanwhile, social support, defined as help in different forms received from others, has been significantly linked to reducing the harmful effects of stress, thereby positively influencing mental health (Thoits, 2011). This type of support has been correlated with lower levels of

emotional burnout (Parker et al., 2019) and depressive symptoms (Aalberg et al., 2019) within the musicians' community.

CHAPTER 3: ANALYTICAL FRAMEWORK

3.1 Dual-continua Model

The dual continuum model of mental health proposed by Keyes (2002) indicates the presence or absence of mental health, while the other indicates mental illness. Therefore, mental health should be viewed not only as the absence of mental illness, but also as the presence of mental health. Several aspects of mental illness and mental health continua reflect related, but essentially distinct dimensions, according to Keyes (2002) (see Westerhof & Keyes, 2010).

Keyes (2005) then categorized individuals into those with and those without mental illness and into those with languishing, moderate, and flourishing mental health. With regard to well-being and functioning, he differentiated individuals into three types: those who are flourishing in life (i.e., who experience a state of optimal well-being and functioning), those who are languishing in life (i.e., who experience a distinct absence of well-being and functioning), and those who have moderate mental health (i.e., neither flourishing nor languishing). Additionally, this model illuminates that individuals may think of themselves as having good mental health despite the presence of mental illness. Conversely, individuals may consider their mental health as poor despite the absence of any mental disorder, a phenomenon that has been validated by various international studies (Mjøsund, 2021).

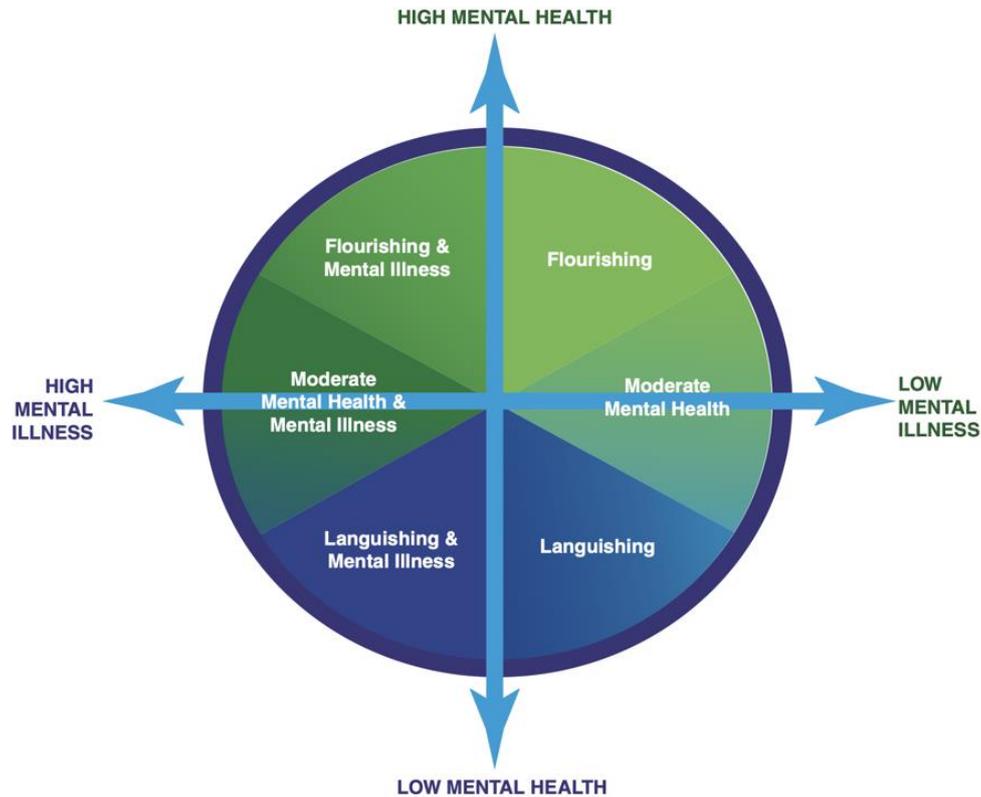


Figure 2. The Dual-continua Model of Mental Health (Mjøsund, 2021)

As depicted in **Figure 2**, the dual-continua model of mental health aligns with the World Health Organization's definition of health and holds particular importance for healthcare professionals in clinical environments. This approach expands the understanding of mental health to avoid the perpetuation of stigma and stereotypes that could further detrimentally affect musicians. Additionally, this broadened perspective is also essential for devising effective strategies to raise public awareness and enhance the efficacy of interventions by NPOs. Due to the intervention-oriented and practical purpose, this study will focus on both mental health and well-being and further develop from these categories to identify risk and protective factors for performing musicians.

This research adopts the dual-continua model examining the mental health of musicians and will consider both symptoms of mental illness and mental well-being and functioning as indicators of mental health. Moreover, this study explored some specific work-related risk factors of mental health for performing musicians, such as performance anxiety, sleep disturbance, and drinking problems, and protective factors, such as psychological resilience and social support.

3.2 NPO Intervention Models

This study will also explore the possible intervention gap in Hong Kong by comparing our research results and the practice of two NPOS, namely, New Life Psychiatric Rehabilitation Association and Kusala Education.

According to the global survey by Musgrave, Gross, and Carney in 2024, there are four main global mental health intervention models for musicians, with best-practice organizations examples: (1) Telephone helplines provide timely and anonymous crisis intervention for moments of extreme emotional distress regardless of time and place. It is worth mentioning that the effectiveness of such crisis interventions faces evaluation challenges; (2) Prevention through practices such as mentorship, coaching, or training; (3) Therapy and counselling; and (4) Peer support, which is providing social and emotional support through the transmission of experience in the form of group meetings.

It has been demonstrated that these models are not mutually exclusive and that a comprehensive and multifaceted approach is most effective when practiced simultaneously. The impact of nonclinical support networks, including friends, family, and colleagues within the industry, on the well-being of musicians has also been identified as a need.

Current research has identified relevant interventions for the mental health of musicians, but whether these interventions are truly tailored to the specific challenges, lifestyles, occupational needs, and complexities of the musician community (Visser et al., 2022; Berg & King, 2016), and whether it can include sources of stress throughout the musical career cycle (Raeburn, 1987) need to be further verified. As a result, we need to conduct interviews with Hong Kong NPOs to better understand their experiences regarding the current Hong Kong performing musicians' status.

CHAPTER 4: METHODOLOGY

4.1 Overview

This study employed a mixed-methods research approach, utilizing questionnaires to assess the mental health of performing musicians in Hong Kong and the factors influencing it, and interviews to investigate potential interventions by NPOs. As Creswell et al. (2018) suggest, integrating qualitative and quantitative methodologies enables a more robust empirical investigation.

4.2 Quantitative

4.2.1 Participants and Sampling

The quantitative component of this study employs a questionnaire method, particularly suited to the complex factors influencing musicians in Hong Kong, where referable data are scarce. Judgmental sampling was chosen for its simplicity and suitability. Our researchers' deep understanding of the population characteristics compensates for the unknown sample size. Recruitment of respondents leverages connections with partner NPOs, including Renaissance Foundation, and Everyone Is A Song. Data collection utilized Google Forms, distributed via email, with participants voluntarily completing the questionnaires.

4.2.2 Procedure

The questionnaire survey was conducted in three phases: a) Screening, b) Design and Distribution, and c) Data collection. The respondents were screened by their specialty in music, participation in performances, and work in the industry. The survey adopted questionnaires developed from previous studies and modified to the Hong Kong environment, and reliability was established through a pilot study. The final questionnaire content is detailed in **Appendix 1**. It consisted of 60 questions in multiple-choice format and was promoted through NPO partners' mailing lists, social media, and researcher contacts. Upon data collection, the use of SPSS 27.0 software in data cleansing produced 184 usable responses out of 193 responses.

Labels	Criteria
The level of musical specialization	The respondents should have relevant professional education or training, but need not be registered with a music organization or institution; Should have relevant experience in the industry in excess of 6 months, and need to be an adult.
The number of performances participated ever	More than 3 performances are required for each respondent.
Field and genre	The field does not include music composing, recording, publishing, or organizing. All genres are included (classical, contemporary, pop, rock, electronic, hip hop, jazz, folk, experimental, etc.).

Table 1. Participants Screening Criteria

4.2.3 Material

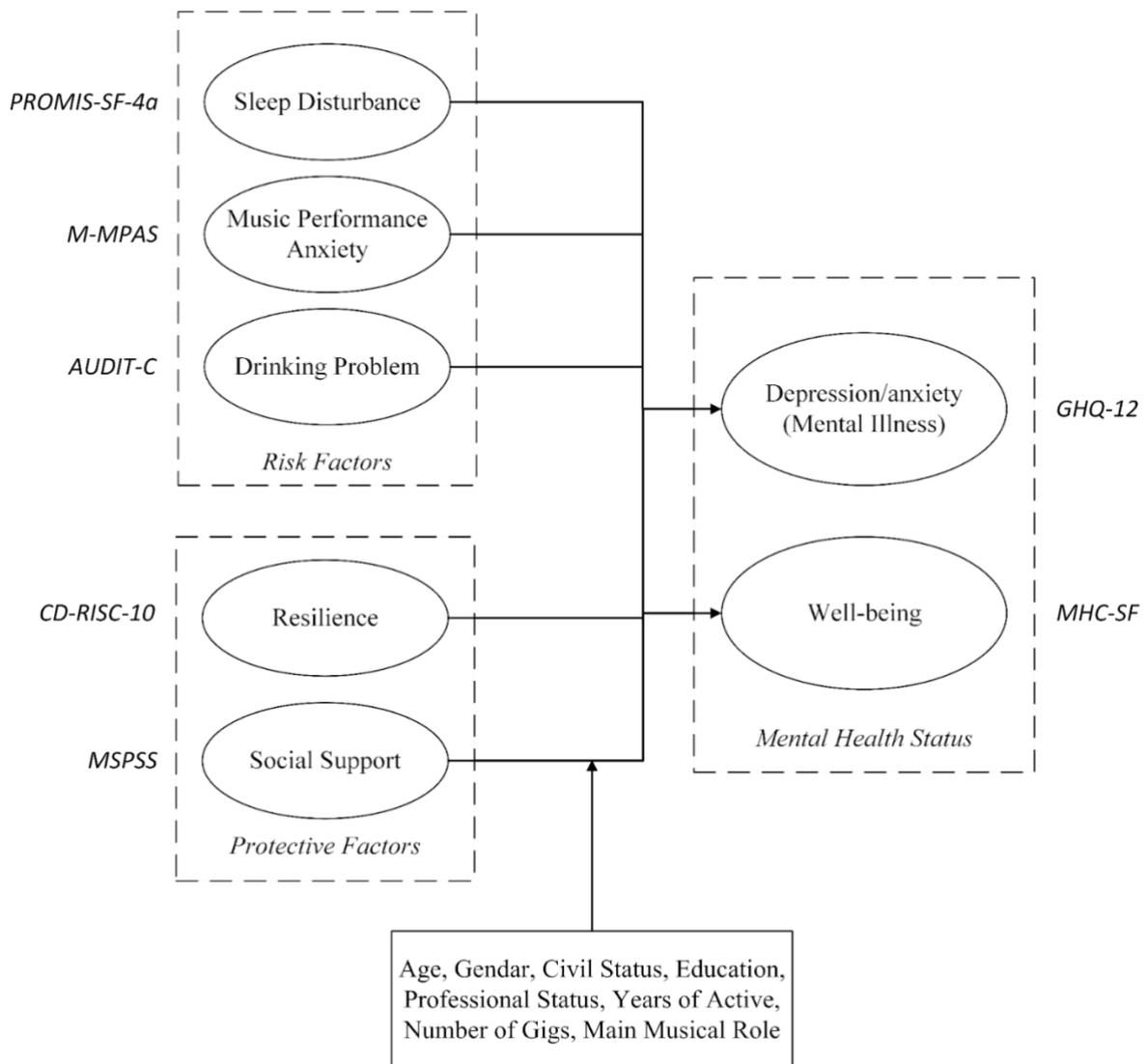


Figure 3. Variable Relationship Diagram

We used demographic questions and validated self-report questionnaires in our questionnaire to assess the mental health status of the participants and examined potential independent variables (risk and protective factors, respectively) accordingly. The measures used to obtain the different materials are summarized below.

Demographics. Participants were firstly asked a few demographic questions, including age, gender, civil status, education level, professional status, years active, number of gigs (in the past three months), and main musical role.

Depression/anxiety (Mental Illness). We used a 12-item General Health Questionnaire (GHQ-12) to assess depression/anxiety symptoms, as our study focuses more on general mental health, of which depression and anxiety are the most prevalent symptoms of mental illness (World Health Organization, 2017). It contains 12 items scored on a 4-point scale. We followed the convention of scoring on a 0-0-1-1 scale with a total score ranging from 0-12 and using a score of no less than 3 as a criterion for the presence of depression/anxiety symptoms (Goldberg et al., 1997; Lundin et al., 2016).

Well-being. We used the Mental Health Continuum - Short Form (MHC-SF; Keyes, 2009) to measure well-being and functioning. The questionnaire consists of 14 items divided into three modules: emotional well-being (EWB; 3 items), social well-being and functioning (SWB; 5 items), and psychological well-being and functioning (PWB; 6 items). Mental health status is categorized using a 6-point Likert frequency-based scale. For our assessment, the mental health status and the corresponding criteria are shown in the table below:

Mental Health Status	Criteria
Flourishing	Has no less than 1 of EWB, and 6 of SWB together with PWB answered <i>every day or almost every day</i>
Languishing	Has no less than 1 of EWB, and 6 of SWB together with PWB answered <i>never or once or twice</i>
Moderate	Neither languishing nor flourishing

Table 2. The mental health status and the corresponding criteria

To ensure that the positive and negative directions within the factors were consistent, for well-being, this study used reverse scoring when categorical coding. Higher scores are closer to languishing and represent lower well-being.

Sleep Disturbance. Indicators of sleep disturbance were measured using the four-item short form of the Patient-Reported Outcomes Measurement Information System (PROMIS-SF-4a; Buysse et al., 2010). Questions were scored on a 5-point Likert scale from 1 (not at all) to 5 (very much) with a cut-off score of 13 as the presence of sleep disorder symptoms (Pilkonis et al., 2011).

Music performance anxiety. We used the M-MPAS (Mazzarolo, 2022) to measure musicians' performance anxiety. In this study, we focused only on cognitive anxiety and somatic anxiety, which are most directly related to and easiest to intervene with. It consists of 11 items on a 7-

point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). We used a score of 11 or more as a range for diagnosing potentially high MPA.

Drinking Problem. We used the Alcohol Use Disorders Identification Test (AUDIT-C; Dawson et al., 2005) to measure potential alcohol misuse. The AUDIT-C consists of 3 questions scored on a 4-point scale; a total score of greater than or equal to 4 indicates problematic drinking for males and 3 for females (Bush et al., 1998; Dawson et al., 2005).

Psychological Resilience. Resilience was measured by the 10-item Connor-Davidson Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007). Questions in the CD-RISC-10 were rated on a 5-point Likert scale on an ascending scale from 0 (not at all correct) to 4 (almost always correct). Resilience was quantified by summing the items. We used the quartile range distribution as a criterion for determining high or low resilience.

Social Support. We used the Multidimensional Scale of Perceived Social Support to measure musicians' social support (MSPSS) (Zimet et al., 1988). It contains a total of 12 items on a 5-point Likert scale and uses the mean score for each question to represent the overall level. A mean score between 1 and 2.9 can be considered low support; 3 to 5 can be considered medium support; and 5.1 to 7 can be considered high support (Zimet, 2016).

4.2.4 Data Analysis

All statistical analyses were performed using IBM SPSS 27.0. First, we performed descriptive statistics for all variables. Based on the materials, we assessed the mental health indicator

outcomes (as shown in Figure 4.2.3). 95% confidence intervals (95% CI) were calculated for the categorical variables. Continuous data rather than categorical data were used for all further analyses (only well-being excluded), as recommended by Streiner (2002). Pearson's correlation coefficients were used to assess the direction and strength of potential relationships between variables. Based on it, two multiple regression analyses were conducted with depression/anxiety symptoms and well-being as dependent variables. Finally, we conducted variance analysis to identify differences in mental health status across demographic variables.

4.3 Qualitative

4.3.1 Participants and Sampling

Semi-structured interviews were used to obtain detailed information and as a way of looking at designs of interventions. Two members were selected based on specific criteria: employed in a Section 88 non-profit organization/charity in Hong Kong to musicians or mental health, working for more than 6 months, know about the mental health services for musicians, and at least 18 years old. There was no restriction on participants for this study. This is because purposive sampling was adopted by the limitation of sample size, the selection process was achieved by one of the group members with connection with the non-profit organizations.

4.3.2 Procedure

The expected semi-structured interview was divided into 3 steps.

Pre-communication: To commence, a group member sent the interview invitation and brief including the research purpose, procedure, and confidentiality statement. Meanwhile, we continuously communicated with the potential interviewees about their curious information. After receiving the consent, we propelled the procedure to the interview stage.

Interview: a) Scene: We carried out one interview via phone call and another in person. B) Setting: 1) Asked for consent and signed forms; 2) Communicated and wrote down some key points, following the interview structure; and 3) Ended the interview and expressed thanks to the interviewee.

Data organization: Considering flexibility and understandability in the interview, questions proposed in the structure were restricted to 15. Jiménez and Orozco (2021) suggest that delivering well-designed prompts before the interview is essential because, in qualitative analysis, personal experience and feelings are useful information for researchers to learn from. In the qualitative part, we used counterfactual prompts, and when sensitive information came up, we prudently used “no-Limits” prompts. We decided not to set fixed sequences for each question to emphasize openness and inspiration. However, the sequence of modules was followed due to the competency of the desired content and logic chain. The proposed questions are presented in the **Appendix 2**.

4.3.3 Data Analysis

This study applied content analysis as an analytical strategy for qualitative data. The information was primarily obtained through in-depth interviews. First, interviews were conducted, and the conversation's content was recorded on tape. Second, we transcribed it into original material. Third, the transcript was organized and analyzed. Finally, explorative interpretation was used to infer the qualitative findings.

CHAPTER 5: FINDINGS AND DISCUSSION

5.1 Preliminary Data Results

5.1.1 Demographics

In total, 184 performing musicians (47.8% male, 51.6% female, and 0.5% non-binary) completed the survey, including both professional (29.9%) and semi-professional (70.1%) musicians. Detailed demographics are presented in *Table 3*. Participants ranged in age from 18 to over 56 years old, with the majority (60.3%) falling between 26-40 years old. Musicians are dispersed rather evenly depending on the level of activeness, especially for professionals. Most participants had stable marital relationships. Professional musicians tended to be older, have more experience, and play more gigs compared to semi-professional musicians.

	Total	Professional	Semi-professional
n	184	55	129
Gender (%)			
Male	95 (51.6%)	32 (58.2%)	63 (48.8%)
Female	88 (47.8%)	23 (41.8%)	65 (50.4%)
Non-binary	1 (0.5%)	0 (0.0%)	1 (0.8%)
Age (%)			
18-25	40 (21.7%)	7 (12.7%)	33 (25.6%)
26-40	111 (60.3%)	33 (60.0%)	78 (60.5%)
41-55	29 (15.8%)	12 (21.8%)	17 (13.2%)
56 or above	4 (2.2%)	3 (5.5%)	1 (0.8%)
Years active (%)			
Less than 2 years	42 (22.8%)	5 (9.1%)	37 (28.7%)
2-5 years	57 (31.0%)	13 (23.6%)	44 (34.1%)
6-10 years	35 (19.0%)	13 (23.6%)	22 (17.1%)
11-19 years	26 (14.1%)	11 (20.0%)	15 (11.6%)
More than 20 years	24 (13.0%)	13 (23.6%)	11 (8.5%)
Education (%)			
High school or below	22 (12.0%)	5 (9.1%)	17 (13.2%)
Associate or diploma	45 (24.5%)	13 (23.6%)	32 (24.8%)
Bachelor or above	115 (62.5%)	37 (67.3%)	78 (60.5%)
Others	2 (1.1%)	0 (0.0%)	2 (1.6%)
Civil status (%)			
Single	120 (65.2%)	29 (52.7%)	91 (70.5%)
Married/couple	52 (28.3%)	22 (40.0%)	30 (23.3%)
Separated/divorced	4 (2.2%)	2 (3.6%)	2 (1.6%)
Others	8 (4.3%)	2 (3.6%)	6 (4.7%)
Main musical role (%)			
Instrumentalist	79 (42.9%)	37 (66.1%)	41 (31.8%)
Vocalist	41 (22.3%)	6 (10.7%)	35 (27.1%)
Do both	64 (34.8%)	13 (23.2%)	53 (41.1%)
Gigs in past 3 months (%)			
Less than 2	79 (42.9%)	10 (18.2%)	69 (53.5%)
3-6	67 (36.4%)	24 (43.6%)	43 (33.3%)
7-12	23 (12.5%)	10 (18.2%)	13 (10.1%)
13-19	6 (3.3%)	5 (9.1%)	1 (0.8%)
More than 20	9 (4.9%)	6 (10.9%)	3 (2.3%)

Table 3. Participants Demographic

5.1.2 Depression/ Anxiety

A cutoff score of 3 was used as an indicator for symptoms of depression/anxiety. The result of 184 participants' 12-item General Health Questionnaire (GHQ-12) showed that 62% of participants scored over are with symptoms of depression/anxiety. 70 participants scored 0 to 2, contributing to 38.1% of the total, suggesting that only a small percentage of musicians are unaffected by mental illness. Among respondents with depression/anxiety, 7 participants yielded a score of 11, and 2 participants reached the climax of 12, which signifies the existence of a severe mental illness. In addition, the mean score was 4.35, higher than the cutoff score adopted, revealing that anxiety and depression are common psychological issues among performing musicians in Hong Kong.

	Frequency	Percent	Valid Percent	Cumulative Percent
Without symptoms of depression/anxiety	70	38.0	38.0	38.0
With symptoms of depression/anxiety	114	62.0	62.0	100.0
Total	184	100.0	100.0	

Table 4. Validated Results of Depression/anxiety (GHQ-12).

5.1.3 Well-being

The MHC-SF findings are key in appraising the holistic mental health of the population. The data indicated that 13% of participants were flourishing in life, while more than 20% were languishing; and 66.8% were moderately in the middle situation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Flourishing	24	13.0	13.0	13.0
	Moderate	123	66.8	66.8	79.9
	Languishing	37	20.1	20.1	100.0
	Total	184	100.0	100.0	

Table 5. Validated Results of Well-being (MHC-SF).

5.1.4 Overall Mental Status

As **Table 6** describes, symptoms of depression/anxiety (GHQ-12) and well-being (MHC-SF) were moderately correlated with each other, $r=.442$, $p<.001$, meaning that higher depression/anxiety scores also present a more nearly languishing sense of well-being. The relationship between the mental health of performing musicians and other relevant influences will be presented in the next section.

	M	SD	1	2	3	4	5	6
1. Depression/anxiety	4.35	3.61	-					
2. Well-being	2.07	0.57	.442***	-				
3. Sleep disturbance	11.70	3.73	.384***	.209**	-			
4. Music performance anxiety	10.27	5.91	.318***	.128	.245***	-		
5. Drinking problem	2.33	2.08	.044	.054	.103	-.088	-	
6. Resilience	23.64	7.08	-.433***	-.541***	-.192**	-.244***	.015	-
7. Social support	4.54	1.24	-.263***	-.345***	-.183*	.035	-.028	.203**

* $p<.05$, ** $p<.01$, *** $p<.001$.

Table 6. Means, Standard Deviations, and Correlation Coefficients.

	Well-being and functioning			Total
	Flourishing	Moderate	Languishing	
Without symptoms of depression/anxiety	15 (8.2%) Flourishing	52 (28.3%) Moderately mentally healthy	3 (1.6%) Pure languishing	70 (38.0%)
With symptoms of depression/anxiety	9 (4.9%) Pure symptoms of depression	71 (38.6%) Pure symptoms of depression	34 (18.5%) Symptoms of depression and languishing	114 (62.0%)
Total	24 (13.0%)	123 (66.8%)	37 (20.1%)	184 (100.0%)

Table 7. Prevalence Rates and Cross-Classifications of Mental Health Status.

Prevalence rates and cross-classifications of mental health status based on the dual-continua model of mental health are shown in *Table 7*, according to the data of cross-classifications, 18.5% of the participants are with symptoms of depression/anxiety and languishing, which is a very serious outcome. Meanwhile, the fact that only 8.2% of the total are flourishing suggests a very small percentage of musicians enjoy true healthy mental status after reclassification. For the 73.3% of musicians outside the two cross extremes, where the situation may be relatively more moderate, the proportion of those with depression/anxiety (43.5%) is still greater than the proportion without it (29.9%). This supports the researchers' concern that the presence of mental illness is still prevalent even when considering only the so-called "majority," namely those musicians with a more average sense of well-being.

5.1.5 Sleep Disturbance

PROMIS-SF-4a scores range from 4 to 20, and a cut-off score of 13 is used as a sign of sleep disturbance. As shown in *Table 8*, 35.3% of the participants were evaluated above the threshold

to indicate sleeping disturbance. Moreover, according to Table 5, symptoms of sleeping disturbance were positively highly significantly correlated with depression/anxiety, $r = .384$, $p < .001$, and were very significantly correlated with well-being, $r = .209$, $p < .01$.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Without sleep disturbance	119	64.7	64.7	64.7
	With sleep disturbance	65	35.3	35.3	100.0
Total		184	100.0	100.0	

Table 8. Validated Results of Sleep Disturbance (PROMIS-SF-4a).

5.1.6 Music Performance Anxiety

Out of 184 samples, 45.1% of performing musicians reported music performance anxiety, while the mean score of 10.27 was close to the cut-off score of 11. This suggests that music performance anxiety is quite common. Details are presented in **Table 9**. In addition, there is a highly significant correlation between MPA and depression/anxiety among musicians, $r = .318$; $p < .001$. The finding highlights the importance of addressing MPA in managing and understanding the mental health perspectives of musicians, particularly in relation to depression and anxiety. However, there was no statistically significant correlation between MPA and well-being, $r = 0.128$, $p > 0.05$.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Without MPA	101	54.9	54.9	54.9
	With MPA	83	45.1	45.1	100.0
	Total	184	100.0	100.0	

MPA: Music performance anxiety.

Table 9. Validated Results of Music Performance Anxiety (M-MPAS).

5.1.7 Drinking Problem

Data in **Table 10** shows that although 17.5% of respondents had answered “I don't drink,” yet 30.4% of musicians were actually problem drinkers. There was a relatively even gender distribution of problem drinkers (49.6% female, 50.4% male). Interestingly, despite the presence of drinking problems in nearly one-third of the musicians, it had no correlation with either depression/anxiety ($r = .044, p > 0.05$) or well-being ($r = .054, p > 0.05$). Nonetheless, we included it in our subsequent regression analyses and comparative tests against demographics to further explore what makes it special.

	Frequency	Percent	Valid Percent	Cumulative Percent
Without drinking problem	128	69.6	69.6	69.6
With drinking problem	56	30.4	30.4	100.0
Total	184	100.0	100.0	

Table 10. Validated Results of Drinking Problem (AUDIT-C).

5.1.8 Psychological Resilience

Resilience levels of 184 participants ranged from 3 to 40. As shown in Table, the mean score was 23.64 with a standard deviation of 7.077. The quartiles were 0-19, 20-23, 24-28, and 29-40. According to Campbell-Sills et al. (2009), the quartiles of the general population's result are 0-29, 30-32, 33-36, and 37-40. The resilience of Hong Kong performing musicians is far below average, as seen through the quartile separation points.

N		184
Mean		23.64
Median		23.00
Std. Deviation		7.077
Minimum		3
Maximum		40
Percentiles	25	19.00
	50	23.00
	75	28.00

Table 11. Descriptive Statistics of Resilience (CD-RISC-10).

As **Table 11** shows, resilience has an extremely significant negative correlation with both depression/anxiety ($r = -.433, p < .001$) and well-being (negatively scored, $r = -.541, p < .001$). This implies that higher levels of resilience are associated with lower levels of depression/anxiety and better overall well-being. Therefore, resilience does play a crucial role in influencing mental ill-health outcomes among the individuals in the study.

5.1.9 Social Support

As **Table 12** illustrates, 8.7% of performing musicians had low social support; 53.8% had medium social support; and 37.5% of the total had high social support. This means that over 90% of the sample had relatively good social support. Compared to the results of all the risk and protective factors mentioned above, the results for social support were clearly the best. For this protective factor, it was also extremely significantly negatively correlated with both depression/anxiety ($r = -.263, p < .001$) and well-being (negatively scored, $r = -.345, p < .001$). This implies that musicians who are lonely, face social isolation, and lack effective support networks in their daily lives and work experience increased psychological stress and reduced well-being. If they receive help and support, it may help maintain their overall mental health.

	Frequency	Percent	Valid Percent	Cumulative Percent
Low social support	19	10.3	10.3	10.3
Moderate social support	96	52.2	52.2	62.5
High social support	69	37.5	37.5	100.0
Total	184	100.0	100.0	

Table 12. Descriptive Statistics of Social Support (MSPSS).

5.2 Mental Health Influencing Factors

	B	SE B	β	p	t	R ²	p
Depression/anxiety						.313	<.001
Sleep Disturbance	.237	.063	.245	<.001	4.162		
Music Performance anxiety	.117	.040	.192	.004	3.748		
Drinking problem	.063	.108	.036	.559	2.930		
Resilience	-.157	.033	-.307	<.001	.585		
Social support	-.469	.185	-.161	.012	-4.714		
Well-being						.340	<.001
Sleep disturbance	.010	.010	.068	.290	1.060		
Music Performance anxiety	.001	.006	.007	.914	.109		
Drinking problem	.013	.017	.048	.428	.794		
Resilience	-.039	.005	-.479	<.001	-7.511		
Social support	-.108	.029	-.234	<.001	-3.743		

SE B: Standard error.
Values in bold = p < .05.

Table 13. Multiple Regression Analysis for Mental Health Factors.

In order to further identify the mechanisms influencing the mental health of musicians, we used depression/anxiety symptoms and well-being as dependent variables; and sleep disturbance, music performance anxiety, drinking problems, resilience and social support as independent variables to conduct two multiple regression analyses. Both stepwise and enter regressions were carried out. The former method included predictor variables based on correlations with mental health outcomes. Therefore, drinking problems were excluded. After completing the regression in both methods, we found no differences in the predictive effects of the factors, thus we adopted the results of the enter regression as the final results. The results of the two regression models are presented in **Table 13**.

The multicollinearity was checked to ensure regression analyses could be performed. With variance inflation factor values between 1.025 and 1.144 and tolerance statistics between 0.874 and 0.976, multicollinearity was within acceptable limits. For depression/anxiety, a highly significant regression equation was found, $F(5, 178) = 17.686$, $p < .001$, explaining 31.3% of

the variance. In this regression model, sleep disturbance ($\beta = .245, p < .001$), music performance anxiety ($\beta = .192, p = .004$), resilience ($\beta = -.307, p < .001$), social support ($\beta = -.161, p = .012$) were significant predictor for depression/anxiety. The first two were risk factors, and the last two were protective factors. That said, excluding drinking problems, the other two risk factors in our hypothesis do play a positive role in causing mental illness. For performing musicians, sleep problems and music performance anxiety are risk sources that have to be paid attention to. And both of the protective factors in the hypothesis played a negative and debilitating role against mental illness. The protective role of resilience and social support was also corroborated. For the other dependent variable, well-being, a highly significant predictive model was also found, $F(5, 178) = 19.826, p < .001$, explaining 35.0% of the variance. It is worth noting that none of the risk factors are statistically predictive in this model. In contrast, the predictive effect of both protective factors is extremely significant, with $\beta = -.479, p < .001$ for resilience, and $\beta = -.234, p < .001$ for social support. This means that changes in all the risk factors do not affect the musician's well-being, while only the protective factors can contribute to it. In addition, drinking problems were not significant predictors in either model. We will discuss the possible causes of this result in the discussion section.

5.3 Differences by Demographics

5.3.1 Overview

As one of the main target outcomes of this study was to identify the traits of different individual performing musicians and to develop individualized, tailored interventions for them, variance analysis was conducted on the depression/anxiety as well as well-being mean outcomes of the different demographic variables. We first performed one-way analysis of variance (ANOVA) and independent samples t-tests based on the number of original groupings or intervals.

Using gender and professional status as the independent variable (non-binary gender was temporarily excluded due to insufficient sample size), and well-being as the dependent variable, no statistically significant differences were found. This suggests that there are no differences in well-being across different genders or professionalism. However, the situation is different, with marginally significance, while the dependent variable changes to depression/anxiety (presented in the next part).

Separate one-way ANOVA tests were conducted using age, civil status, educational level, main musical role, years active, and the number of gigs in the past three months as independent variables, with well-being as the dependent variable. The results indicated that there were no statistically significant differences among all groups. Similarly, when depression/anxiety becomes the dependent variable, significant or highly significant differences were found within years of activity (presented in the next part).

5.3.2 Gender, Professional Status

Group	N	Mean of depression/anxiety	t	p
Total	184	4.35±3.614		
Gender				
Female	88	4.78±3.712	1.493	.069
Male	95	3.99±3.487		
Professional Status				
Professional	55	3.73±3.589	-1.527	.064
Semi-professional	129	4.61±3.602		

One-tailed test. *p<.05, **p<.01, ***p<.001.

Table 14. Comparison of Depression/anxiety Levels with Gender, Professional Status

Based on the mean for depression/anxiety, Levene's Test for Homogeneity of Variances for the two gender groups and professional status respectively yielded an F-statistic of $F(1, 181) = .981$, $p = .323$, and $F(1, 182) = .002$, $p = .968$. This non-significant result indicates homogeneity of variances across the groups being compared, supporting the use of an independent samples t-test for further analysis.

Analysis showed that female musicians reported higher mean scores of depression/anxiety ($M = 4.78$, $SD = 0.712$) compared to male musicians ($M = 3.99$, $SD = 0.487$). This difference was marginally significant, with female musicians experiencing higher levels of depression/anxiety, $t(181) = 1.493$, $p = .069$ (one-tailed). In terms of professional status, professional musicians reported lower mean scores of depression/anxiety ($M = 3.73$, $SD = 0.589$) than their semi-professional counterparts ($M = 4.61$, $SD = 0.602$). This difference was also marginally significant, indicating that semi-professional musicians may experience higher levels of depression/anxiety, $t(182) = -1.527$, $p = .064$ (one-tailed).

The above two findings constitute the basic demographic differences. In this study, given the marginal significance of the differences and the impracticality of addressing these through targeted interventions, we only regard them as objective observations without further exploration.

5.3.3 Years Active

	(I) Years active	(J) Years active	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	Less than 2 years	2-5 years	-1.831**	.671	.007	-3.16	-.51
		6-10 years	-.376	.755	.619	-1.87	1.11
		11-19 years	2.117*	.824	.011	.49	3.74
		More than 20 years	2.310**	.844	.007	.64	3.98
	2-5 years	6-10 years	1.455*	.709	.042	.06	2.85
		11-19 years	3.948***	.781	<.001	2.41	5.49
		More than 20 years	4.140***	.803	<.001	2.56	5.72
	6-10 years	11-19 years	2.493**	.854	.004	.81	4.18
		More than 20 years	2.686**	.875	.002	.96	4.41
	11-19 years	More than 20 years	.192	.934	.837	-1.65	2.04

*p<.05, **p<.01, ***p<.001.

Table 15. The Influence of Years of Practice on Depression/Anxiety Levels.

When depression/anxiety was used as the dependent variable, years active was found to significantly impact the levels of depression/anxiety. Levene's test was used to evaluate the homogeneity of variances across the groups. The test results indicated no significant violations of the assumption of equal variances, as evidenced by Levene's statistical values for the mean score (.383, $p = .682$), suggesting that the equality of variances assumption was satisfactorily met for the GHQ scores. As shown in **Table 15**, it indicates that there are statistically significant

differences in depression/anxiety levels among different groups based on years of professional experience ($F(4, 179) = 10.107; p < .001; \eta^2 = 0.184$). Further Tukey multiple comparison tests revealed significant differences between the following groups: less than 2 years and 2-5 years ($MD = -1.831, p < .01$), less than 2 years and 11-19 years ($MD = 2.117, p < .05$), less than 2 years and more than 20 years ($MD = 2.310, p < .01$); 2-5 years and 6-10 years ($MD = 1.455, p < .05$), 2-5 years and 11-19 years ($MD = 3.948, p < .001$), 2-5 years and more than 20 years ($MD = 4.140, p < .001$); 6-10 years and 11-19 years ($MD = 2.493, p < .01$), 6-10 years and more than 20 years ($MD = 2.686, p < .01$), while differences between other groups were not significant.

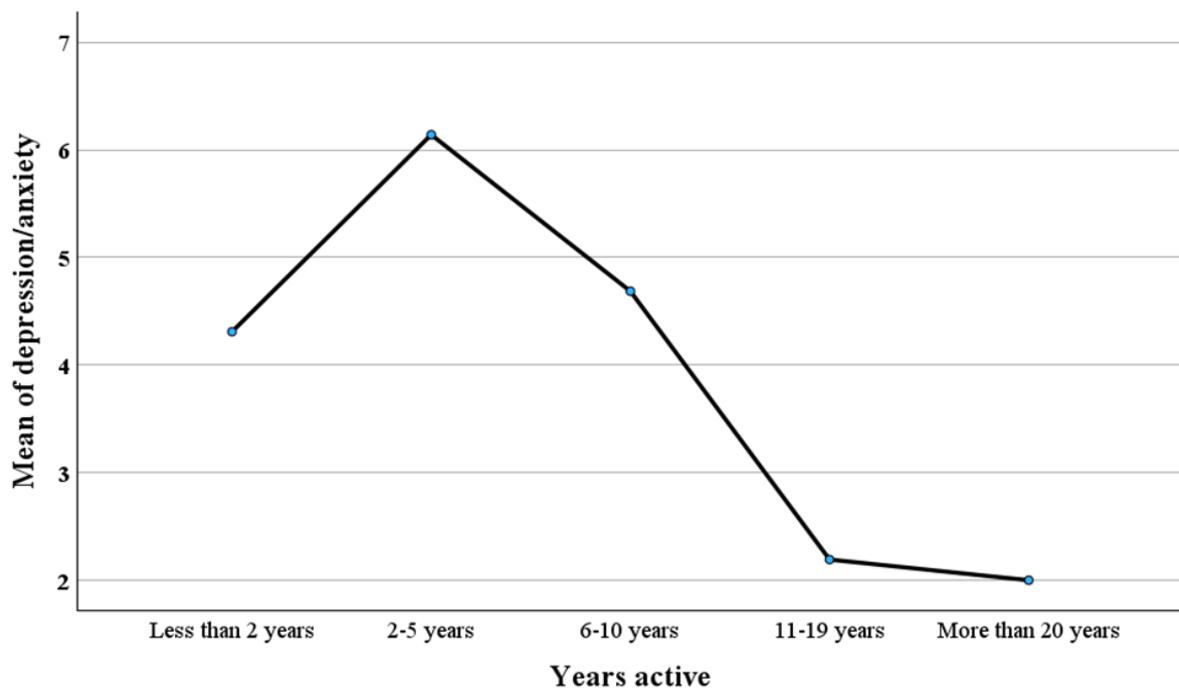


Figure 4. Trends Between Years Active and Levels of Depression/Anxiety.

Figure 4 graphically illustrates the differences among groups, showing that musicians with less than 2 years, 2-5 years, and 6-10 years of professional experience generally exhibit higher levels of depression/anxiety compared to those with 11-19 years and over 20 years of experience. In other words, musicians newer to the profession face more mental disorders and illness, with severity peaking within 2-5 years. To further substantiate this observation, we reclassified the demographic variable of professional experience into two groups: those with no more than 10 years and those with more than 10 years and conducted an independent sample t-test.

Group	N	Mean of depression/anxiety	t	p
Total	184	4.35±3.614		
Years active				
No more than 10 years	134	5.19±3.603	6.492	<.001***
More than 10 years	50	2.10±2.541		

One-tailed test. *p<.05, **p<.01, ***p<.001.

Table 16. Comparison of Depression/anxiety Levels with Years Active (10 years as a cut-off point).

Table 16 indicated a statistically significant lower level of depression/anxiety among musicians with more extended professional experience, $t(182) = 6.492, p < .001$. This finding suggests that longer duration in the profession is associated with lower levels of depression and anxiety. This suggests that a ten-year threshold may serve as a critical juncture, beyond which

performing musicians often experience a reduction in stress levels, whereas newcomers to the industry are more likely to encounter severe psychological distress.

5.4 Discussion

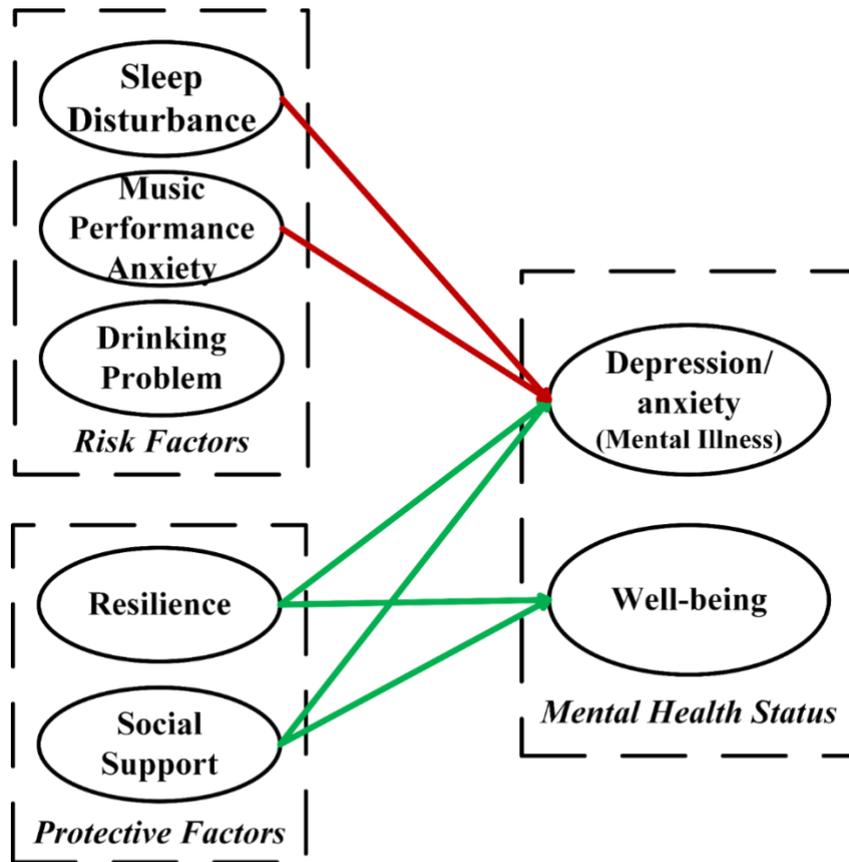
5.4.1 Outcomes

The first outcome of this paper is the measurement of the mental health status of performing musicians in Hong Kong. Our key finding is that compared to the 11.1% prevalence rate of mental illness in the Hong Kong population (The Mental Health Association of Hong Kong, 2024), as well as a rate of about 20% measured by GHQ-12 in musicians worldwide (Hoeymans et al., 2004; Vaag et al., 2015; van Fenema & van Geel, 2014), performing musicians exhibit a higher rate of illness. By synthesizing the results from GHQ-12 and MHC-SF, we also validated the dual-continua model of mental health, confirming that mental health or unhealthiness comprises various sub-dimensions and that the states of mental illness and well-being may alternate. In this context, a detailed categorical discussion on the overall mental health of Hong Kong performing musicians is essential, with particular attention to the poorer extreme – those who are both listless and exhibit symptoms of depression/anxiety.

Following our categorization of mental health, the best extreme accounted for only 8.2%, while those at the worst extreme constituted as high as 18.5%. The group that should have been the most common – those with moderate mental health – accounted for only 28.3%. The rest comprised the crossover group at 45%. Due to the lack of reliable academic benchmarks, we cannot unequivocally state whether such results are statistically or psychologically poor; however, based on our experience, this distribution indeed deviates from the baseline of

“overall health” or even “neither good nor bad.” Clearly, there is an excessive number of individuals with poor or contradictory mental health states and far too few truly well individuals. This finding confirms the researchers’ concerns and reflects the initial purpose of this study: the mental conditions of Hong Kong’s performing musicians lag behind the general population – a point overlooked by existing local literature or industry studies. The nonprofit sector, which should be prompted to take responsibility, may need to pay more attention to this issue and begin formulating effective targeted interventions.

The second outcome of this paper was to validate the primary research question, which concerns the factors influencing the mental health of performing musicians in Hong Kong. As shown in *Figure 5*, we identified significant positive effects of sleep disturbances and music performance anxiety on depression/anxiety, and significant negative effects of resilience and social support on these conditions. Additionally, resilience and social support also significantly boosted well-being. Thus, the roles of sleep disturbances and music performance anxiety as risk factors were validated, while resilience and social support were confirmed as highly significant and stable protective factors.



Arrows in Red = Validated Risk Factors.
Arrows in Green = Validated Protective Factors.

Figure 5. Validated Influencing Factors and Their Roles.

Moreover, based on these conclusions, it is evident that changes in risk factors can only lead to mental illness and are unrelated to the level of well-being. However, protective factors can affect both mental illness and well-being. Therefore, to better change the overall mental state of musicians, NPO interventions should focus more on developing and utilizing protective factors. For resilience, the primary goal should be to enhance musicians' ability to adapt well to adversity, trauma, tragedy, threats, or significant stress, enabling them to accept and overcome the complex or difficult realities they face, find the true essence of life during various

crises in their careers, and adapt flexibly to changing environments. The goal for developing social support should mainly be to expand the scope of NPO operations to include more musical communities, build more inclusive personal social networks and professional environments for musicians, and develop musicians' professional utilization levels of social support resources through social workers and professionals.

Interestingly, despite the drinking problem being consistently identified in field experience and the literature and commonly regarded within the industry as one of the most severe and primary concerns among performing musicians, the results showed no association with either mental illness or well-being. Even with the prevalent scenario of musicians resorting to drinking immediately after work, the data confirmed that it does not impair the musicians' well-being nor lead to illness. Hence, we can only interpret this lack of association as a peculiarity of the music industry, perhaps because musicians may need to drink to better stimulate creative inspiration or require alcohol to maintain good performance on stage. As researchers and industry practitioners, we know many musicians who enjoy occasional drinking and can control themselves well. This brings us an insight: in practical interventions, not every risk factor needs strict control or prohibition; particularly with alcohol, moderate consumption might be permissible, where a principle of moderation should be advocated. Researchers or NPOs might take note of this and delve deeper to determine under what conditions alcohol could assist in mental illness or well-being and which segments of musicians are more suited to benefit from alcohol's help.

The third significant outcome of this study was the exploration of different mental health statuses across various demographic variables, providing some reference for the void in local research findings and data support. It is known that regions like Europe and Australia, which are paying more attention to the mental health of musicians now, have a social environment vastly different from that of Hong Kong. Thus, the uniqueness of the results of Hong Kong undoubtedly has significant implications for the future development and construction of interventions in this industry. Speaking of results, we indeed noticed differences between genders and professional statuses; however, on the one hand, these differences are subtle and acceptable, not adversely affecting different groups – for instance, females are slightly more depressed/anxious than males; on the other hand, they are subtly formed and thus non-intervenable – for example, professional full-time musicians, due to their job and income stability, are naturally more relaxed and less troubled than semi-professional part-timers. Therefore, we do not deeply discuss it. But among all the demographic variables and mental health status, the association between years active and depression/anxiety is significant and worth discussing. Compared to musicians active for over 10 years, those in the industry for 10 years or less are more prone to depression/anxiety. This is understandable and also a natural trend. However, this industry-characteristic and career development-driven depression/anxiety is too significant and severe and should be attempted to be changed. Therefore, NPOs can take note of the fierce competition within the industry, try to provide more care to young musicians, and advocate for the music industry to offer broader opportunities to newcomers. Considering

Hong Kong's high living costs and pressure, NPOs could also advocate for more government policies that are favorable to the entire industry to nurture more newcomers. Moreover, the most direct means is for NPOs to pay more attention to the mental needs of new musicians and try more targeted intervention measures through the protective factors mentioned earlier in this article.

5.4.2 Intervention

Based on the above findings, NPO can develop and improve the four existing interventions by enhancing the use of protective factors, which are psychological resilience and social support. Indeed, all four NPO intervention models – helplines, therapy and counseling, prevention through practice, and peer support – can significantly contribute to these protective factors. In the following part, we will examine the outcomes of musician intervention in Hong Kong based on the interview findings so as to provide reference and practical recommendations for the future development direction of NPO intervention.

Firstly, for the telephone helpline, New Life considers it a common form of psychological support. Yet, there is no specialized hotline for any occupation in Hong Kong. Although Kusala Education runs a dedicated line for musicians, due to the limited size, resources, and short-handedness of the NPO, the result is ineffective and lacks professionalism. They are subject to realistic and potential problems such as occupied lines, low efficiency, and lack of professional training (Pirkis et al., 2016). Therefore, NPOs need to pay further attention to and ensure the

professionalism of the operators by providing relevant training and assessment while requiring them to maintain respect and understanding of the needs of the musicians. In addition, given the shortage of manpower and resources, NPOs in Hong Kong can consider utilizing cutting-edge technological techniques to upgrade and develop artificial intelligence (AI) psychological counseling channels, which can greatly improve the efficiency of mental health services while providing positive guidance and solutions in both daily counseling and crises, as well as greatly enhance the efficiency, effectiveness, and accessibility of mental health services (Erlin, Putri & Andesfi, 2024), thus making up the inadequate current mental health facilities to meet the needs of performing musicians.

Regarding intervention through practice, New Life and Kusala Education provide services in physical, social, educational training, and spiritual support, respectively. Unlike the conventional intervention goal of building psychological resilience, the two NPOs adopted a musicians-oriented approach to empower musicians to have better musical performance and interpersonal skills through spiritual support and communication training. Therefore, moving forward, NPOs in Hong Kong should pay more attention to training musicians' psychological resilience to have better adaptive and self-regulatory abilities in dealing with traumatic stress and adversity in the future. Additionally, there is a general lack of peer-reviewed evidence on the impact of the above methods on musicians' mental health and psychological resilience building (Musgrave, Gross & Carney, 2024), so the construction of feedback mechanisms and peer review will be the next step for NPOs.

Similarly, for peer support, in addition to basic services like walk-in meditation and 24-hour support groups, New Life organizes people in thematic workshops such as art and handcraft, thus creating opportunities for peers in the music industry to participate and interact. New Life's project manager said, "... we got peers, so we got support. When we sing and voice out, it is a kind of energy in and out. So, it makes things flow." Even though factors such as interpersonal relationships, shared life experiences, and responsibility are the core features that build up peer support (Bird et al., 2014; Mead & MacNeil, 2006), having specific trained and qualified peer support workers (PSWs) in the cohort remains critical to the success of the intervention (Repper & Carter, 2011).

While only Kusala Education provides therapy and counseling to musicians, it excels in localization and provides services from both physical and mental dimensions. Enabling musicians to understand the proximate relationship between their bodies, emotions, and music through cognitive therapy (chanting) and Chinese medicine treatment (body alignment). Kusala adopts a Buddhist counseling approach of separating inevitable suffering and optional suffering. Through 8-12 sections of counseling, musicians aim to achieve different therapeutic goals at each stage, such as building spiritual awareness, guiding expression, seeking help, and finally, being motivated to change independently.

Of the four intervention models explored above, and with reference to our interview findings on Hong Kong NPOs, we believe interventions can be combined to compensate for existing shortcomings and deficiencies to produce holistic outcomes. Still, in the future, it needs to work

with social policy and structure changes, such as the integration of music therapy and expressive arts therapy into formal and public medical resource systems in order to increase the accessibility, affordability, and perceived appropriateness of interventions (Berg et al., 2018).

5.5 Limitations and Further Research

The results achieved in the course of the study have to be considered with a certain degree of caution because of the following limitations. First, the use of judgmental sampling may have introduced bias since the partner NPOs mainly focused on pop/indie music, which could limit the diversity of the sample. To address this, during the collection process, links with other classical organizations were being made.

Additionally, the musician occupational stress survey (MOSS) was identified as a novel scale suitable for the present study, demonstrating good consistency and reliability. In future studies, questionnaires can be used to explore the impact of professional stress on musicians' mental health.

A key weakness lies in the overlap between scales, such as some items in MHC-SF and CD-RISC-10, which may interfere with the musicians' self-assessment, leading to recall bias.

Furthermore, qualitative research on musicians is lacking. Simply relying on NPO staff views may introduce stakeholder bias. In-depth interviews or focus groups with musicians are needed to gain a deeper understanding of their needs in the future.

The study raises questions for further investigation, such as differences in musicians' mental health across music genres, necessitating targeted interventions. Additionally, long-term studies are needed to capture trends over time, especially considering seasonal variations in the music industry. Also, counterfactors in the present study require further experimental investigations, such as drinking and sleeping problems. Drinking is relatively common; it doesn't significantly affect musicians' mental status, whereas sleeping disturbance contributes to depression/anxiety, and more sleep doesn't enhance well-being. Further research through interviews or focus groups is needed to explore the intention behind alcohol use and the causes of sleep problems in the future. Besides, AI psychological counselling is becoming a trend in existing practice in intervening with musicians. The possibility of AI psychological counselling especially for young musicians practicing no more than 5 years also needs to be looked into.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The present study was the first to investigate both mental illness and mental well-being among Hong Kong's performing musicians. Results indicated that 18.5% of the samples (N=184) are experiencing extremely awful mental status, and 45.1% have intersecting negative mental status. For mental illness, the roles of sleep disturbances and music performance anxiety as the risk factors were validated, while psychological resilience and social support were confirmed as highly significant and stable protective factors. However, only protective factors have a significant impact on well-being. Hence, from an applied perspective, this study highlights the need to prioritize enhancing these protective factors and developing related interventions in a more accessible, affordable, and suitable way.

6.2 Recommendations

This study identifies that Hong Kong performing musicians, our main observed group, need superior mental health intervention. Considering the work and intervention status of the Hong Kong nonprofit sector, the following recommendations are for NPOs:

Firstly, NPOs are suggested to design intervention services based on the protective factors of musicians' mental health. The questionnaire survey's findings on influencing factors have

suggested that alterations in risk factors (sleep disturbance, music performance anxiety, and drinking problems) can merely result in mental illness and are not correlated with well-being. In contrast, protective factors (such as resilience and social support) can affect both mental illness and well-being. Hence, it is suggested that NPOs employ protective factors with the aim of improving the overall mental state of musicians.

Secondly, the implementation of localized, innovative services is recommended to improve psychological resilience building. The research has shown that budding performing musicians exhibit a higher possibility of depression and anxiety. In the resilience-building process, interactive and intergenerational support among different generations and tools that are more acceptable to the young group can be attempted. The TransH game is recommended as a practical tool by this study, and it aims to heal musicians as a board game. NPOs should also try AI consultation technology as it has higher stability, convenience, and privacy than traditional methods and is more accepted by budding musicians. It is also recommended that forms such as chanting and body alignment related to Buddhist counseling and traditional Chinese medicine have wide application potential in Hong Kong.

Thirdly, NPOs should build comprehensive and professional mechanisms for staffing and intervention. Currently, some service quality issues happen in the mental health services of the nonprofit sector in Hong Kong due to insufficient resources and lack of professionalism, which potentially leads to musicians' negative experiences. To improve, it is necessary to introduce service providers with professional training and certificates, such as peer support workers and

intervention game facilitators. NPOs also need training systems for such talents. Furthermore, AI technology can also serve as a supplementary force for training approaches.

Fourthly, with the difficulties in applying for government grants due to the limited number of beneficiaries, musicians can take positive action to build mental health self-help groups focusing on protective factors. In this situation, NPOs can intervene as facilitators to offer voluntary professional services, venue, and management support.

Last but not least, partnerships between mental health service delivery NPOs, like New Life, and cultural NPOs can enhance both the efficiency and effectiveness of programs focused on musicians' mental health. They can also collaborate to apply for community subventions as part of larger projects that support diverse groups.

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Appendix 1 – Questionnaire

Part I: Basic Information		
1	age* <input type="checkbox"/> 18-25 <input type="checkbox"/> 26-40 <input type="checkbox"/> 41-55 <input type="checkbox"/> 56 above	
2	gender* <input type="checkbox"/> male <input type="checkbox"/> female <input type="checkbox"/> prefer not to say	
3	civil status* <input type="checkbox"/> single <input type="checkbox"/> married/couple <input type="checkbox"/> separated/divorced <input type="checkbox"/> others	
4	education* <input type="checkbox"/> high school or below <input type="checkbox"/> associate degree or diploma <input type="checkbox"/> bachelor degree or above <input type="checkbox"/> others	
5	professional status* <input type="checkbox"/> professional: the musician who earns the majority (>50%) of his or her living as a performing musician. <input type="checkbox"/> semi-professional: the musician who earns a portion (≤50%) but not the majority of his or her living as a performing musician.	
6	years active* <input type="checkbox"/> less than 2 year <input type="checkbox"/> 2-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11-19 years <input type="checkbox"/> more than 20 years	
7	number of gigs in the past 3 months* <input type="checkbox"/> less than 2 <input type="checkbox"/> 3-6 <input type="checkbox"/> 7-12 <input type="checkbox"/> 13-19 <input type="checkbox"/> more than 20	
8	main musical role* <input type="checkbox"/> instrumentalist <input type="checkbox"/> vocalist <input type="checkbox"/> do both	
Part II: Depression/anxiety <i>The next questions are about how you have been feeling over the last few weeks.</i>		
1	Have you recently been able to concentrate on whatever you're doing? <input type="checkbox"/> Better than usual <input type="checkbox"/> Same as usual <input type="checkbox"/> Less than usual <input type="checkbox"/> Much less than usual	12-item General Health Questionnaire (GHQ-12)
2	Have you recently lost much sleep over worry? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input type="checkbox"/> Much more than usual	
3	Have you recently felt that you were playing a useful part in things? <input type="checkbox"/> More so than usual <input type="checkbox"/> Same as usual <input type="checkbox"/> Less so than usual <input type="checkbox"/> Much less than usual	
4	Have you recently felt capable of making decisions about things? <input type="checkbox"/> More so than usual <input type="checkbox"/> Same as usual <input type="checkbox"/> Less so than usual <input type="checkbox"/> Much less capable	
5	Have you recently felt constantly under strain? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input type="checkbox"/> Much more than usual	
6	Have you recently felt you couldn't overcome your difficulties? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input type="checkbox"/> Much more than usual	
7	Have you recently been able to enjoy your normal day-to-day activities? <input type="checkbox"/> More so than usual <input type="checkbox"/> Same as usual <input type="checkbox"/> Less so than usual <input type="checkbox"/> Much less than usual	
8	Have you recently been able to face up to problems? <input type="checkbox"/> More so than usual <input type="checkbox"/> Same as usual <input type="checkbox"/> Less able than usual <input type="checkbox"/> Much less able	
9	Have you recently been feeling unhappy or depressed? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input type="checkbox"/> Much more than usual	

10	Have you recently been losing confidence in yourself? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input checked="" type="checkbox"/> Much more than usual
11	Have you recently been thinking of yourself as a worthless person? <input type="checkbox"/> Not at all <input type="checkbox"/> No more than usual <input type="checkbox"/> Rather more than usual <input type="checkbox"/> Much more than usual
12	Have you recently been feeling reasonably happy, all things considered? <input type="checkbox"/> More so than usual <input type="checkbox"/> About the same as usual <input type="checkbox"/> Less so than usual <input type="checkbox"/> Much less than usual

Part III: well-being

Please answer the following questions are about how you have been feeling during the past month. Place a check mark in the box that best represents how often you have experienced or felt the following:

		never	once or twice	about once a week	2or3 times a week	almost everyday	everyday	Mental Health Continuum-Short Form(MHC-SF)
1	happy							
2	interested in life							
3	satisfied with life							
4	that you had something important to contribute to society							
5	that you belonged to a community (like a social group, your school, or your neighborhood)							
6	that our society is a good place, or is becoming a better place, for all people							
7	that people are basically good							
8	that the way our society works made sense to you							
9	that you liked most parts of your personality							
10	good at managing the responsibilities of your daily life							
11	that you had warm and trusting relationships with others							
12	that you had experiences that challenged you to grow and become a better person							
13	confident to think or express your own ideas and opinions							
14	that your life has a sense of direction or meaning to it							

Part IV: Sleeping Disturbance

Please respond to each question or statement by marking one box per row.

In the past 7 days...	Very poor	Poor	Fair	Good	Very Good	Patient-Reported Outcomes Measurement Information System (PROMIS)
1 My sleep quality was...						
In the past 7 days...	Not at all	A little bit	Somewhat	Quite a bit	Very much	
2 My sleep was refreshing						
3 I had a problem with my sleep						
4 I had difficulty falling asleep						

Part V: Mazzarolo Music Performance Anxiety Scale (M-MPAS)								
The following statements will ask you about your experience with music performance anxiety. To what extent do you disagree or agree with each of the following statements?								
		strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
1	I experience strong nerves/anxiety before I perform							
2	I frequently experience nerves /anxiety before I perform							
3	I avoid performing in order to alleviate my nerves /anxiety							
4	I feel positive before my music performances							
5	I don't want to go ahead with my music performances because of my nerves /anxiety							
Part VI: Drinking Problems								
<i>Drinking alcohol is not something to be criticised. Please help us provide you with the best assessment by answering the following questions.</i>								
1	How often do you have a drink containing alcohol? <input type="checkbox"/> Never <input type="checkbox"/> Monthly or less <input type="checkbox"/> 2-4 times a month <input type="checkbox"/> 2-3 times a week <input type="checkbox"/> 4 or more times a week							Alcohol Use Disorders Identification Test (AUDIT-C)
2	How many standard drinks containing alcohol do you have on a typical day? <input type="checkbox"/> 1 or 2 <input type="checkbox"/> 3 or 4 <input type="checkbox"/> 5 or 6 <input type="checkbox"/> 7 to 9 <input type="checkbox"/> 10 or more							
3	How often do you have six or more drinks on one occasion? <input type="checkbox"/> Never <input type="checkbox"/> Less than monthly <input type="checkbox"/> Monthly <input type="checkbox"/> weekly <input type="checkbox"/> Daily or almost daily							
Part VII: Resilience								
<i>Please answer the following questions are about how you have been feeling during the past month.</i>								
		Not true at all	Rarely true	Sometimes true	Often true	True nearly all the time	Connor–Davidson Resilience Scale (CD-RISC-10)	
1	I am able to adapt when changes occur							
2	I can deal with whatever comes my way							
3	I try to see the humorous side of things when I am faced with problems							
4	Having to cope with stress can make me stronger							
5	I tend to bounce back after illness, injury or other hardships							
6	I believe I can achieve my goals, even if there are obstacles							
7	Under pressure, I stay focused and think clearly							
8	I am not easily discouraged by failure							
9	I think of myself as a strong person when dealing with life's challenges and difficulties							
10	I am able to handle unpleasant or painful feelings like sadness, fear, and anger							

Part VIII: Social Support

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree	Multidimensional Scale of Perceived Social Support (MSPSS)
1	There is a special person who is around when I am in need								
2	There is a special person with whom I can share joys and sorrows								
3	My family really tries to help me								
4	I get the emotional help & support I need from my family								
5	I have a special person who is a real source of comfort to me								
6	My friends really try to help me								
7	I can count on my friends when things go wrong								
8	I can talk about my problems with my family								
9	I have friends with whom I can share my joys and sorrows								
10	There is a special person in my who cares about my feelings								
11	My family is willing to help make decisions								
12	I can talk about my problems with my friends								

The full questionnaires with foreword and instructions can be found in the link below:

<https://forms.gle/52rGU4TRRzWeP2vq8>

Appendix 2 - Qualitative semi-structured interview questions

Module	No.	Questions	Prompts
Personal experience	1	Please introduce your work in the nonprofit sector or any personal experience you are willing to share with us.	Guided “Grand-Tour”
	2	Do you have any experience getting in touch with musicians in Hong Kong? Please talk about the most impressive one.	
	3	Why did you choose mental health protection as your career? And so far what do you think of it?	
	4	How would you describe your work in mental health protection?	
Understanding of mental health status	5	From your understanding, what do you think of the mental health status of musicians in Hong Kong?	
	6	Do you pay attention to the occupation of mental health support seekers? If so, what do you suppose are the occupations that have a higher tendency to present with mental health problems, especially in Hong Kong?	
	7	What do you think is the biggest mental health issue you would encounter, if you were a musician in Hong Kong?	Counterfactual prompts
	8	What do you think are the negative factors on the mental health of musicians in Hong Kong? (Follow up: What about positive factors?)	
Mental health intervention	9	How do you compare the mental health support for musicians to other occupations? Especially in Hong Kong.	Comparing states
	10	How do you and your organization identify the potential beneficiary in mental health support demand?	
	11	Could you please share with us the main focus of your organization intervening in mental health issues? Are there any categories for intervention or services?	
	12	Compared to other interventions, do you think there are any mental health interventions for mental health, or for musicians, that need special attention?	
	13	What do you think are the necessary elements of an intervention for musicians' mental health, ideally?	
	14	What are the gaps between the current situation of mental health intervention services in Hong Kong and the above ideal situation?	
	15	How do you and your organization determine that a person has received adequate help and what are the criteria for closing a case?	