

Mental Health and Mindsets among Hong Kong Students with Academically High Achievements

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Abstract

Students' mental health is closely associated with the pressure to achieve academic excellence. This study explored the level of mental distress among academically high-achieving students in Hong Kong and examined the relationship between their mental health and mindsets. Eight hundred and four primary and secondary school students (with mean age as 12.13, standard deviation as 2.75) who were viewed as high academic achievers by their school teachers completed a one-off survey on mental health and mindsets. The results indicated girls and secondary students have higher means for all the variables than boys and primary students, respectively. Significant gender differences were found in depression, somatization, and mindsets towards depression, as well as differences across grades in anxiety and depression among the students. In addition, mental distress was found significantly and positively associated with fixed mindsets towards mental health. Fixed mindsets towards mental health were associated with anxiety and depression symptoms among the high-achieving students. Implications for research and school practices, as well as limitations of the current study, are discussed.

Keywords: Mental health, Mindsets of mental health, High-achieving students

Introduction

Mental health refers to a condition of mental wellness that enables individuals to manage life stressors, develop their potential, study and work effectively, and contribute to their communities (World Health Organization, 2022). During the COVID-19 pandemic, youth and adolescents encountered numerous restrictions in society and changes in learning environments and methods, and the resulting unpredictability in their day-to-day lives directly or indirectly affected their mental health (Costa et al., 2022). In Hong Kong, a notable increase in mental health problems such as depression and anxiety was reported among students. Compared with the year prior to the pandemic, the

official figure given by the Hong Kong Education Bureau showed that the number of students who diagnosed with mental illness in the senior grades of primary schools (P.4-P.6) rose from 30 to 86. In secondary schools, the number of junior grade (S.1-S.3) students with mental health disorders rose from 117 to 272, and the situation was worse in students in senior grades (S.4-S.6), with the number increased from under 200 to over 500 (Yiu, 2023). Mental distress such as depression could be a major risk factor for children and adolescents' suicide or suicidal behaviour (Isumi et al., 2020). It is found that the suicide cases among Hong Kong children and adolescents have shown a notable increase in recent years. Based on the most recent Hong Kong suicide data released by the Hong Kong Jockey Club

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Centre for Suicide Research and Prevention (2023), the suicide rate for children and young adolescents under the age of 15 years old rose from 1.2 per 100,000 in 2020 to 1.3 per 100,000 in 2021. While the suicide rate for adolescents from age of 15-24 expanded from 9 per 100,000 in 2020 to 12.2 in 100,000 in 2022.

Mindsets and Mental Health

From the perspective of the implicit theories of intelligence (Dweck et al., 1995), which refer to individuals' underlying beliefs regarding whether their intelligence and abilities are malleable, two key categories of attitudes are growth mindsets and the fixed mindsets. A growth mindset refers to the belief that certain traits, such as intelligence, personality, and mental health status, are flexible and can be improved over time; in contrast, a person with a fixed mindset views their inherent attributes as fixed and believes that they cannot be improved (Dweck et al., 1995). Studies have consistently demonstrated the benefits of growth mindsets over fixed mindsets. One study found that a growth mindset was more beneficial to early adolescents' mental health than a fixed mindset (Schleider & Weisz, 2016). Another study showed that a growth mindset resulted in lower levels of depression, anxiety, and stress among university students (Huang et al., 2022). A growth mindset was also found to be a protective factor against childhood and adolescent suicidality, and it helped reduce depression caused by cyberbullying among adolescents (Niu et al., 2020). In contrast, a meta-analysis of 17 research reports, which in total examined 6,543 people between the ages of 4 and 19, suggested that youth and adolescents who held a fixed mindset showed more pronounced mental health problems than others (Schleider et al., 2015).

Mental Health among High Achievers

The factors causing mental health issues among high achievers in academics include high levels of academic pressure and their intentions to meet the expectations of others such as their parents (Ma et al., 2018). High achievers are also prone to perfectionism or a general fear of failure (Luthar et al., 2020; Stoeber & Yang, 2015). A study in the Hong Kong context suggested that 30% of the primary and 51% of the secondary school students surveyed might have developed symptoms of mental disorders (Save the Children Hong Kong, 2020). Furthermore, the severity of the depression and anxiety symptoms reported by students in Hong

Kong increased from 1995 to 2017 (Yuen et al., 2019). A recent survey in 2023 showed that more than half of 5,500 Hong Kong secondary school students possess depressive symptoms, such as having difficulties to focus on things; about 40% of them worry about deterioration of academic achievements (The Hong Kong Federation of Youth Groups, 2023). Considering the emphasis placed on academic achievement throughout the school years, special attention must be given to the mental health of students who strive to achieve academic excellence to meet their own and others' expectations. In this context, in addition to the academic stress that students face, their mindsets towards mental distress (especially among academically high-achieving students) may be an important factor to consider (Luthar et al., 2020).

The Present Study

The present study explored the mental distress experienced by Hong Kong school children who were academically high achievers and their mindsets towards this distress, and examined whether these mindsets were associated with symptoms of mental distress. This study also investigated potential differences across gender and grades in the relationship between mindsets and mental distress.

Method

Participants and Procedures

A total of 804 Hong Kong students (425 boys and 379 girls) aged between 8 and 18 years ($M = 12.13$, $SD = 2.75$), coming from around 170 primary schools and 150 secondary schools in Hong Kong voluntarily participated in this study. The students were identified by their own schools as "high academic achievers," that is, they demonstrated remarkable performance in academic subjects or outstanding abilities in other areas (such as leadership skills) when compared with their peers. Among them, 422 (52.5%) were grade 3 to grade 6 primary school students and 382 (47.5%) were secondary school students, including 196 (24.4%) in the lower grades (Secondary 1-Secondary 3) and 186 (23.1%) in the higher grades (Secondary 4-Secondary 6) of secondary school. The study was approved by the research ethics committee of the university to which the authors were affiliated. The recruitment of participants was based on a convenience sample. All students (including their parents) gave written informed consent to take part in this

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study. The participants were asked to complete a questionnaire that included demographic questions and items related to psychological symptoms and mindsets in relation to mental health. The questions and scales were written in both English and Chinese. The Chinese version was obtained via translation from the English version by the researchers who were fluent in both Chinese and English and had backgrounds in education and psychology.

Instruments

Brief Symptom Inventory (BSI-18)

The BSI-18 (Derogatis, 2000) is a brief self-report version of the 53-item BSI (Derogatis, 1993). It was designed as a self-administered questionnaire in the form of a list of 18 psychological symptoms, and has been widely used to assess global psychological distress. BSI-18 has been applied in research with over 2,000 high school and college students (Lancaster et al., 2016). Each of the 18 symptoms belongs to one of three psychological distress subscales: anxiety (e.g., nervousness or shakiness inside; six items), depression (e.g., feeling no interest in things; six items), and somatization (e.g., heart or chest pain; six items). The participants were instructed to determine the intensity with which each of the psychological symptoms affected them during the past 7 days on a 5-point Likert scale, ranging from 1 (not at all) to 5 (extremely). Their points for each subscale were then summed to calculate a score ranging from 6 to 30. A higher score corresponded to stronger psychological symptoms. Acceptable internal consistency estimates were reported by Derogatis (2000) from a sample of 1,134 individuals (.79 for anxiety, .84 for depression, and .74 for somatization).

Mindsets of Depression, Anxiety, and Stress Scale (MDASS)

The MDASS (Zhu et al., 2022) is a 12-item scale for measuring adolescents' beliefs about their ability to change their mental health situation. The 12 items are equally divided between three domains: anxiety, depression, and stress. An example item is "When you have a certain amount of anxiety, you really cannot do much to change it." The participants were instructed to indicate their agreement with these statements on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), where a higher score indicated a

more strongly fixed mindset. High internal consistency estimates were reported by Zhu et al., (2022) from a sample of 1,735 individuals (.89 for mindset towards anxiety, .91 for mindset towards depression, and .90 for mindset towards stress).

Data analysis

Statistical analyses were performed using the IBM SPSS 28.0. First, descriptive statistics were used to summarise demographic data of the 804 students. Independent t-tests were then applied to test the differences across gender and grades regarding the variables and Pearson correlation tests were used to test the relationship between mental health symptoms and mindsets. With reference to the reliability, the measures used in this study were reported to have good internal consistency, ranging from 0.79 to 0.91. The consistency of anxiety, depression and somatization were .85, .84, and .79 respectively in the BSI-18. Whereas the consistency of mindset of anxiety, mindset of depression, and mindset of stress were .88, .91, and .89 respectively in the MDASS.

Results

Descriptive Statistics and Differences across Gender and Grades

Table 1 shows the descriptive statistics of the reported levels of psychological symptoms and mental health mindsets across gender and grades. Girls and secondary students reported higher means for all the variables than boys and primary students, respectively. Independent t-tests showed statistically significant differences in depression, somatization, and mindset towards depression between boys (depression: $M = 9.56$, $SD = 3.85$; somatization: $M = 8.33$, $SD = 2.96$; mindset towards depression: $M = 9.09$, $SD = 4.88$) and girls (depression: $M = 10.30$, $SD = 4.48$; somatization: $M = 8.83$, $SD = 3.47$; mindset towards depression: $M = 9.97$, $SD = 4.97$), with the differences being -0.74 for depression ($t(802) = -2.53$, $p = .012$), -0.50 for somatization ($t(802) = -2.22$, $p = .026$), and -0.88 for mindset towards depression ($t(802) = -2.54$, $p = .011$). Moreover, there were statistically significant differences in both anxiety and depression between primary students (anxiety: $M = 9.64$, $SD = 4.22$; depression: $M = 9.46$, $SD = 4.21$) and secondary students (anxiety: $M = 10.40$, $SD = 4.05$; depression: $M = 10.40$, $SD = 4.07$), with the differences being -0.76 for anxiety ($t(802) = -2.59$, $p = .010$) and -0.94 for depression ($t(802) = -3.22$, $p = .001$).

Table 1.
Differences in BSI-18 and MDASS between groups of different gender and grades (n = 804)

	Boys (n = 425)		Girls (n = 379)		Significance	Primary (n = 422)		Secondary (n = 382)		Significance	Total (n = 804)	
	Mean	SD	Mean	SD	<i>p</i>	Mean	SD	Mean	SD	<i>p</i>	Mean	SD
<i>Psychological Symptoms (BSI-18)</i>												
Anxiety	9.88	4.04	10.13	.269	.410	9.64	4.22	10.40	4.05	.010*	10.00	4.15
Depression	9.56	3.85	10.30	.011*	.012*	9.46	4.21	10.40	4.07	.001*	9.91	4.17
Somatization	8.33	2.96	8.83	.310	.026*	8.44	3.26	8.71	3.17	.242	8.57	3.22
<i>Mindsets of Mental Health (MDASS)</i>												
Mindset of Anxiety	10.39	4.87	10.76	4.77	.269	10.35	5.25	10.80	4.31	.179	10.56	4.83
Mindset of Depression	9.09	4.88	9.97	4.97	.011*	9.26	5.32	9.78	4.47	.133	9.51	4.94
Mindset of Stress	9.98	5.10	10.34	4.91	.310	10.06	5.51	10.26	4.40	.568	10.15	5.01

Correlation between Mental Health Symptoms and Mindsets

Table 2 shows the Pearson correlations among the variables, including anxiety, depression, somatization, mindset towards anxiety, mindset towards depression, and mindset towards stress. The table shows that there were statistically significant positive correlations between these variables, and the strengths of these relationships varied between moderate and strong, with the Pearson’s *r* values ranging from .33 to .78. The findings suggest that the higher the levels of mental distress that the students experienced, the more strongly fixed were their mindsets towards mental health.

Simple regression analyses were conducted to examine whether mindset towards anxiety and mindset towards depression predicted the level of anxiety and depression, respectively. The outcomes revealed that mindset towards anxiety was a statistically significant predictor of anxiety ($F(1, 802) = 227.303, p < .001, R^2 = .221$) and explained 22.1% of the variance in

anxiety scores. Mindset towards depression was a statistically significant predictor of depression ($F(1, 802) = 314.992, p < .001, R^2 = .282$) and explained 28.2% of the variance in depression scores. These results suggest that mindsets towards mental health can predict psychological distress among academically high-achieving students.

Discussion

The current study explored the correlations between mental health and mindsets towards mental health among high-achieving students in Hong Kong and the differences in these variables among subgroups of these students. The results showed that mental distress and fixed mindsets towards mental health were stronger among the female (versus male) and secondary school (versus primary school) high-achieving students in Hong Kong. Furthermore, fixed mindsets towards mental health were associated with anxiety and depression symptoms among the high-achieving students.

Table 2.
Bivariate Correlations between variables (n = 804)

	1	2	3	4	5	6
1. Anxiety	--					
2. Depression	.700**	--				
3. Somatization	.638**	.603**	--			
4. Mindset of Anxiety	.470**	.509**	.386**	--		
5. Mindset of Depression	.403**	.531**	.374**	.777**	--	
6. Mindset of Stress	.399**	.431**	.330**	.712**	.701**	--

*Correlation is significant at the 0.01 level (2-tailed). ***

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The findings that the female students were not only more likely to experience symptoms of depression and somatization than the male students but also more likely to possess fixed mindsets are consistent with previous research that has identified gender as a significant predictor of mental health problems in both Western and Asian populations (Ho, 2023; Huang et al., 2019; Özdin & Bayrak Özdin, 2020; Yoon et al., 2022; Yu et al., 2021; Zhu et al., 2021). Epidemiological research has indicated that female may be more likely to develop depression due to their particular biological and socioeconomic characteristics (Albert, 2015). Furthermore, the finding that the female high achievers more strongly exhibited a fixed mindset (towards depression) in this study is in alignment with the findings from the International Student Assessment (PISA) 2018 that in general female students are more likely to have fixed mindsets than male students in Hong Kong (OECD, 2019). This finding from our study may also provide some insight into how high-achieving female students process and deal with the pressure to achieve. For example, girls are more likely to somatize the pressure experienced by them than boys.

The finding of significant differences in anxiety and depression between the high-achieving students in primary and secondary schools is consistent with the findings of previous research that, in Hong Kong, students in the upper grades are more likely to experience symptoms of anxiety than students in the lower grades (Ho, 2023; Law et al., 2023). A possible explanation for this phenomenon is that high-achieving secondary school students experience increased academic and social pressures that are related to their ambitions and goals. Secondary students perhaps consider academics and their future professional options more seriously, leading to pressure to perform well to meet their targets. Stress, worry, sadness, feelings of being overburdened, and burnout might result from these demands.

The significant positive relationships between the variables of psychological distress and fixed mindsets found in this research are consistent with previous findings that fixed mindsets towards mental health, specifically the perception of mental health issues as being stigmatizing, are positively associated with anxiety and depression symptoms among students (Schroder et al., 2019). In contrast, a study showed that a growth mindset could motivate people to deal with challenges proactively and adaptively, such as by asking for help, which could reduce and prevent psychological issues (Schleider et al., 2019). High achievers, such as gifted or talented students, were more likely to have a fixed mindset than typical students (Dweck et al., 1995),

implying that high-achieving students are more likely to experience mental health issues.

Implications

The findings of this research highlight the need to increase awareness and enhance understanding regarding the mental health of high-achieving students in Hong Kong. The findings suggest that female and secondary school students could be more prone to experiencing mental distress than other students. Previous research has indicated that students in Hong Kong might be unaware of their needs, fear the stigma associated with mental health issues, and do not know how to seek help (Save the Children Hong Kong, 2020). Because high-achieving secondary school students may experience more emotional difficulties than other students (Ho, 2023), educators and social workers should proactively support them and advise them to seek help if they experience mental health issues. Teachers should also provide more support and care to female students. Interventions for students such as training in coping strategies and stress reduction could be offered at schools, facilitating a safe and supportive environment to address academic stress and psychological distress.

In addition, this study highlights the importance for students to avoid holding a fixed mindset and cultivate a growth mindset. A growth mindset enables students to view mental health difficulties as opportunities for learning and progress rather than as insurmountable obstacles. However, it is uncommon for teachers in Hong Kong to introduce the concept of mental health and mindsets to students in primary and secondary schools. Teachers should therefore educate students about mental health, how it impacts individuals, and techniques to address mental health challenges through services such as counseling, and thus promote growth mindsets regarding mental health. This education can help students understand that mental health challenges are common and can be overcome. Such education does not limit to schools. Parents can play a significant role in developing their children's mindsets. For example, giving process praise for working hard promotes a growth mindset as such messages emphasise the effort made. As parents, they can also discuss with their children about viewing challenge as an "opportunity" and shift the perspective to make the challenge a sort of adventure for new experiences. Parents can also teach children that mistakes are a natural part of their learning process and encourage them to view mistakes as opportunities for growth and learning. Calming the fear of trying new things is, in fact, a key aspect of building a growth mindset.

Limitations

The study has several limitations that should be acknowledged. The participants were recruited based on recommendations from their schools suggesting that they were high achievers. Future studies could adopt a more objective definition of high achievers to more precisely identify this target group. In addition, the students in the primary school grades in the present study may not have been able to accurately perceive the extent to which they struggled with psychological symptoms, which may have affected the accuracy of the data. Finally, because the data were self-reported, the participants may have tended to provide socially desirable responses.

Conclusion

Despite the limitations mentioned above, this study provides valuable insights for researchers and practitioners into the mental health of high-achieving students in Hong Kong. Future studies can include the perspectives of parents or conduct interviews with students to explore the mental health issues experienced by this group of students in a holistic manner.

摘要

高學術成就學童的精神健康與心態

學生的心理健康與追求學術卓越的壓力密切相關。本研究旨在探討香港學術成就較高的學生的心理困擾程度，並研究他們的心理健康與心態之間的關係。本研究採用一次性調查的方法，對八百零四名被學校教師認為具有高學術成就的小學和中學學生（平均年齡為 12.13 歲，標準差為 2.75）進行了心理健康和心態的調查。結果表明女生和中學生在所有變量的平均值都高於男生和小學生。學生在抑鬱、身心症和抑鬱心態方面存在明顯的性別差異，不同年級的學生之間在焦慮和抑鬱方面也存在明顯差異。此外，心理困擾與對心理健康的固定心態呈現顯著的正相關，尤其於焦慮和抑鬱症狀。本研究討論了研究和學校實踐的意義，以及當前研究的局限性。

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