



Exploring Student Wellness And Intervention Programs: A Preliminary Assessment In A Hong Kong Secondary School

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Abstract

Adolescent mental health has emerged as a pressing public health priority in Hong Kong, where academic competitiveness and post-pandemic adjustment have intensified psychological distress among secondary students. This preliminary assessment explored the perceived wellness status of secondary students and their engagement with school-based intervention programs in a Hong Kong secondary school. The study aimed to: (i) measure baseline levels of stress, depressive symptoms, and resilience, and (ii) examine students' awareness, participation, and perceived effectiveness of available wellness intervention programs. A descriptive cross-sectional design was adopted with 220 students from Forms 1–6 selected through stratified random sampling. Validated tools including the CES-D, DASS-21, and Resilience Scale-14 were used alongside a structured wellness-program questionnaire. Hypothesis: students participating in school-based intervention programs report better wellness indicators than non-participants. Results showed that 38.6% of students exhibited depressive symptoms, while participants of structured wellness programs reported significantly higher resilience and lower stress ($p < 0.05$). The discussion situates findings within Hong Kong's three-tier mental health policy and suggests strengthening universal-level promotion. The study concludes that whole-school, multi-tiered wellness frameworks are essential for sustaining adolescent psychological well-being in academically demanding contexts.

Keywords: *Student wellness, school-based intervention, adolescent mental health, Hong Kong secondary school, resilience*

Introduction

Adolescence represents a developmental window in which approximately half of all lifetime mental disorders begin, with most onset cases occurring before the age of 20 (Wong et al., 2023). In Hong Kong, the convergence of academic pressure, examination-driven culture, post-pandemic readjustment, and rapid social transformation has rendered secondary school students particularly vulnerable to psychological distress. A representative epidemiological survey conducted by the Chinese University of Hong Kong reported that 24.4% of children and adolescents aged 6–17 experienced at least one mental disorder over the past 12 months, and approximately half of them exhibited two or more co-occurring conditions. Anxiety disorders (6.1%) and depressive disorders (5.4%) were among the most prevalent clinical concerns, and student suicide reports submitted by primary and secondary schools rose from 25 cases in 2022 to 32 in 2023 (Education Bureau, 2024). Equally alarming is the trajectory of self-reported distress. The Hong Kong Federation of Youth Groups (2024) found that Form 6 students preparing for the Hong Kong Diploma of Secondary Education examinations reported an average CES-D score of 22.3, well above the depressive-symptom cut-off of 16, while even Form 1 students averaged 17.0. These signals indicate that



wellness-related challenges begin early and persist throughout the secondary years. In response, the Hong Kong government and the Education Bureau have promoted a Whole School Approach organized around three tiers Universal, Selective, and Indicated and recently introduced the 4Rs Mental Health Charter, which emphasizes Rest, Relaxation, Relationship, and Resilience to support psychological well-being (Education Bureau, 2024). Despite policy momentum and a wide menu of school-based programs such as Project P.A.T.H.S., Healing Space, mindfulness curricula, and gatekeeper training, school-level evidence on whether students are aware of, engage with, and benefit from these interventions remains uneven (Shek & Sun, 2012; Lau et al., 2023). Most evaluations focus on multi-school randomized trials rather than localized program assessments. Therefore, a preliminary site-specific assessment offers indispensable insight into the lived wellness profile of students within a single secondary school. The present study addresses this gap by examining one Hong Kong secondary school as a case context, integrating quantitative wellness indicators with student feedback on intervention programs. The findings are intended to inform school-level planning, support evidence-based refinements, and complement Hong Kong's territory-wide adolescent mental health agenda by articulating practical, classroom-level pathways to enhance student wellness through structured school programming.

Literature Review

International scholarship has consistently positioned schools as key settings for promoting adolescent mental health under the World Health Organization's Health Promoting Schools framework (Langford et al., 2014). Whole-school interventions targeting curriculum, environment, and community partnerships demonstrate measurable population-level benefits, including reductions in cyber-bullying, smoking, and aggressive behavior. Universal social and emotional learning (SEL) programs have shown some of the strongest cross-cultural evidence: Durlak et al. (2011), in a meta-analysis of 213 programs involving more than 270,000 students, reported significant gains in social-emotional skills, attitudes, prosocial behavior, and academic performance, equivalent to an 11-percentile-point achievement gain. In the Hong Kong context, scholarship on adolescent mental wellness has evolved along three converging streams. First, epidemiological work has identified persistent and rising rates of depression, anxiety, and suicidal ideation among secondary students, often correlated with academic stress and high parental expectations (Leung et al., 2023; Liu et al., 2022). Second, school-based prevention research has demonstrated that universally delivered programs such as Project P.A.T.H.S. implemented across more than 200 schools — produce measurable improvements in resilience, social competence, and positive identity among junior secondary students (Shek & Sun, 2012). Third, mindfulness-based interventions and experiential learning programs have shown promise in reducing stress and enhancing life satisfaction during periods of crisis, including the COVID-19 pandemic (Lau et al., 2023). Researchers have also examined the structural determinants of adolescent stress. Liu et al. (2022) found that perfectionism, social-oriented achievement motivation, parent-child relationships, and academic emphasis in school significantly predicted academic stress in 1,804 Hong Kong secondary students. Similarly, Lin et al. (2022) reported that academic stress was significantly associated with mental distress and reduced parental self-disclosure, with gendered patterns of vulnerability. Resilience has been identified as a critical buffer; the Resilience Scale-14,



validated for Hong Kong adolescents by Tam et al. (2020), is now widely used in school assessments. In the recent Transformative Resilient Youth-Led Gym evaluation involving 80 students from eight secondary schools, significant pre–post improvements were documented in social, cognitive, and emotional competence. Despite these advances, four gaps remain. School-level studies that assess the perceived effectiveness of specific intervention components are scarce; engagement with universal versus selective tiers is poorly mapped; and research on student-perceived barriers to participation is limited. Furthermore, post-pandemic mental health surveillance suggests escalating distress, with HKFYG (2024) reporting historic stress levels among secondary students. A preliminary, site-specific assessment, therefore, offers timely insight into how policy-mandated intervention programs translate into lived student experience and whether they meaningfully reach those most in need within a typical Hong Kong secondary school context.

Objectives

To assess baseline wellness indicators stress, depressive symptoms, and resilience among secondary students in a Hong Kong school.

To examine students' awareness of, participation in, and perceived effectiveness of school-based wellness intervention programs.

Methodology

The study employed a descriptive cross-sectional design supplemented by a brief comparative component to evaluate wellness indicators in relation to participation in school-based intervention programs. The setting was a co-educational, government-aided secondary school in Kowloon, Hong Kong, selected for its active engagement with the Education Bureau's Whole School Approach and its participation in at least two recognized wellness programs (Mental Health@School Universal-tier resources and a school-organized mindfulness initiative). The sample comprised 220 students drawn from Forms 1 to 6 using stratified random sampling, with proportional representation across grade levels (approximately 35–40 students per Form). Inclusion criteria required active enrolment, parental consent, and student assent; students currently receiving clinical psychiatric treatment for acute illness were excluded. Data collection took place over four weeks during regular school hours under the supervision of the school counsellor. Three validated instruments were administered: the Center for Epidemiologic Studies Depression Scale (CES-D, 20 items; cut-off ≥ 16), the Depression Anxiety Stress Scale-21 (DASS-21), and the Traditional Chinese Resilience Scale-14 (RS-14; Tam et al., 2020). A structured Wellness Program Engagement Questionnaire was developed by the researcher to capture awareness, participation frequency, and perceived effectiveness of intervention programs offered in the school, including assemblies, mindfulness sessions, peer-support activities, counselling referrals, and Mental Health Day events. Demographic items captured grade, gender, and academic stream. Pilot testing with 25 students confirmed clarity and yielded acceptable internal consistency (Cronbach's α between 0.76 and 0.89 for all subscales). Ethical approval was obtained from the school administration and the parent–teacher association. Anonymity, voluntariness, and the right to withdraw were assured. Quantitative data



were analysed using descriptive statistics (frequency, percentage, mean, SD), independent-samples t-tests to compare program participants and non-participants, chi-square tests for categorical relationships, and Pearson correlations to examine associations between resilience and wellness outcomes. Significance was set at $p < 0.05$. Data were analysed using SPSS Version 26.

5. Results

Table 1. Demographic Profile of the Respondents (N = 220)

Variable	Category	Frequency	Percentage (%)
Gender	Male	108	49.1
	Female	112	50.9
Form	Form 1	38	17.3
	Form 2	36	16.4
	Form 3	37	16.8
	Form 4	36	16.4
	Form 5	37	16.8
	Form 6	36	16.4
Stream	Junior (F1–F3)	111	50.5
	Senior (F4–F6)	109	49.5

Source: Primary survey data, present study; sampling design adapted from the school enrolment register, 2024.

Table 1 shows that the sample of 220 students was nearly balanced between males (49.1%) and females (50.9%). Distribution across Forms 1–6 was approximately equal, with Form 1 (17.3%) being slightly higher and the other forms ranging between 16.4% and 16.8%. The split between junior (50.5%) and senior (49.5%) sections was almost equal. This balanced demographic profile permits comparative analyses across grade and gender without distortion, ensuring the results reflect cross-sectional patterns within the school.

Table 2. Prevalence of Depressive Symptoms (CES-D ≥ 16) by Form

Form	n	Mean CES-D Score	SD	% Above Cut-off (≥ 16)
Form 1	38	16.8	6.1	28.9
Form 2	36	17.4	6.4	30.6
Form 3	37	18.5	6.7	35.1
Form 4	36	19.7	7.0	41.7
Form 5	37	21.1	7.4	45.9
Form 6	36	22.4	7.8	50.0

Source: Adapted from primary survey data; benchmark cut-off scores referenced from Hong Kong Federation of Youth Groups (HKFYG, 2024) Youth Mental Health Conditions Survey.



Table 2 demonstrates a clear gradient of depressive symptoms across grade level, with mean CES-D scores rising from 16.8 in Form 1 to 22.4 in Form 6. The proportion of students above the clinical cut-off doubled between Form 1 (28.9%) and Form 6 (50.0%). The overall school prevalence stood at 38.6%, closely aligning with national HKFYG (2024) figures showing similar Form 6 averages. This indicates that depressive risk intensifies with academic progression, particularly in HKDSE-preparation years, underscoring the urgency of senior-level wellness interventions.

Table 3. DASS-21 Subscale Scores by Gender

Subscale	Males (Mean ± SD)	Females (Mean ± SD)	t-value	p-value
Depression	12.4 ± 5.6	14.8 ± 6.1	3.04	0.003
Anxiety	11.7 ± 5.2	14.1 ± 5.8	3.23	0.001
Stress	14.9 ± 5.9	17.6 ± 6.3	3.27	0.001

Source: Primary survey data; DASS-21 norms cross-referenced from Wong et al. (2023).

Table 3 shows statistically significant gender differences across all three DASS-21 subscales. Female students reported higher mean scores in depression (14.8 vs. 12.4), anxiety (14.1 vs. 11.7), and stress (17.6 vs. 14.9), with all comparisons reaching $p < 0.01$. These findings echo Wong et al. (2023), who noted higher distress scores among female adolescents during and after the pandemic. The gendered pattern suggests that wellness interventions should incorporate targeted strategies for female students, particularly in addressing examination-related anxiety and emotional regulation.

Table 4. Awareness and Participation in School-Based Wellness Intervention Programs

Program Type	Aware (%)	Participated (%)	Found Useful (%)
School assembly talks on mental health	91.4	88.6	62.7
Mindfulness/relaxation sessions	74.5	51.4	68.5
Peer-support and gatekeeper activities	65.0	38.2	71.4
School counsellor referral services	82.7	22.3	78.0
4Rs Mental Health Charter activities	58.6	41.4	64.5

Source: Primary survey; program frameworks referenced from Education Bureau (2024) and Mental Health@School (mentalhealth.edb.gov.hk).

Table 4 reveals that awareness of school-based wellness programs is relatively high (58.6–91.4%), but participation rates vary widely. Universal programs such as assembly talks (88.6% participation) reach the broadest audience, while indicated services such as counsellor referrals attract only 22.3%, despite the highest perceived usefulness (78.0%). Mindfulness and peer-support programs occupy intermediate participation levels with strong usefulness ratings. This pattern suggests that students experience structural and stigma-related barriers to accessing higher-tier services, even when these are perceived as beneficial.

Table 5. Comparison of Wellness Indicators between Program Participants and Non-Participants

Indicator	Participants (n = 138, Mean ± SD)	Non-Participants (n = 82, Mean ± SD)	t-value	p-value
CES-D Depression Score	17.8 ± 5.9	21.4 ± 6.7	4.13	<0.001
DASS-21 Stress	14.6 ± 5.5	17.9 ± 6.1	4.07	<0.001
RS-14 Resilience	71.8 ± 11.4	65.1 ± 12.2	4.10	<0.001

Source: Primary survey data; resilience benchmarks adapted from Tam et al. (2020) RS-14 traditional Chinese validation.

Table 5 shows statistically significant differences favoring program participants. Participants exhibited lower depression (17.8 vs. 21.4) and stress (14.6 vs. 17.9) scores while reporting higher resilience (71.8 vs. 65.1), with all comparisons at $p < 0.001$. These findings support the study's hypothesis that engagement with school-based wellness interventions correlates with better psychological outcomes. While causality cannot be established from cross-sectional data, the consistent direction of differences highlights the protective potential of structured school programs.

Table 6. Pearson Correlations between Resilience and Key Wellness Indicators

Variable Pair	r-value	p-value
Resilience × Depression (CES-D)	-0.46	<0.001
Resilience × DASS-21 Stress	-0.41	<0.001
Resilience × Program Participation Frequency	+0.33	<0.001
Resilience × Sense of School Connectedness	+0.51	<0.001

Source: Primary survey data; connectedness construct adapted from HKFYG (2024) and Education Bureau 4Rs Charter framework.

Table 6 demonstrates significant negative correlations between resilience and both depression ($r = -0.46$) and stress ($r = -0.41$), and positive correlations with program participation ($r = 0.33$) and school connectedness ($r = 0.51$). These findings reinforce HKFYG (2024) survey conclusions, which identified connectedness as a protective factor against depressive symptoms. The robust correlation between resilience and connectedness ($r = 0.51$) suggests that interventions cultivating peer and teacher relationships are likely to have the strongest protective impact within this school setting.

Discussion

The results of this preliminary assessment provide nuanced insight into the wellness landscape of secondary students in a Hong Kong school and how school-based intervention programs intersect with that landscape. The first objective measuring baseline wellness revealed that 38.6% of the sampled students reported depressive symptoms



above the CES-D cut-off, with Form 6 students reaching a 50% rate. This finding aligns closely with HKFYG's 2024 territory-wide survey, which documented average CES-D scores of 22.3 among Form 6 students preparing for the HKDSE examinations. The progressive escalation across grades, captured in Table 2, mirrors the well-documented pattern that academic stress intensifies as students approach high-stakes assessments, a phenomenon repeatedly observed in Hong Kong scholarship (Liu et al., 2022; Lin et al., 2022). Significant gender differences in DASS-21 scores reproduce the gender vulnerability patterns reported by Wong et al. (2023), suggesting that female students experience disproportionate emotional and stress burdens in academically intense East Asian contexts. The depth and consistency of these findings indicate that the school's student population reflects, rather than diverges from, broader Hong Kong adolescent trends, validating the relevance of localized wellness assessment. The second objective — examining engagement with school-based wellness intervention programs — generated more layered insights. Awareness of universal-tier programs was high, particularly for assembly-based mental health talks (91.4%), confirming that the Education Bureau's Mental Health@School framework reaches students at the surface level (Education Bureau, 2024). However, the gap between awareness and participation in higher-tier services, especially counsellor referral (82.7% awareness but only 22.3% participation), points to persistent help-seeking barriers. This phenomenon resonates with Hong Kong Council of Social Service findings showing low help-seeking intentions among DSE-stressed students, often driven by stigma and fear of being labelled. Notably, programs with stronger experiential and peer-driven elements such as mindfulness sessions and peer-support activities were rated more useful, echoing Lau et al.'s (2023) findings that mindfulness is positively associated with reduced stress and increased life satisfaction among Hong Kong adolescents. The hypothesis that participants of structured wellness programs would report better wellness indicators received clear support. Participants demonstrated lower depression and stress and higher resilience, with all differences statistically significant ($p < 0.001$). The correlation between resilience and school connectedness ($r = 0.51$) is particularly meaningful in light of HKFYG's emphasis on connectedness as a determinant of mental health and the Education Bureau's 4Rs Mental Health Charter, which explicitly foregrounds Relationship and Resilience. These findings echo Shek and Sun's (2012) longstanding documentation of Project P.A.T.H.S., where positive youth development constructs reliably predicted improved adolescent outcomes. Importantly, the cross-sectional nature of this study limits causal inference; resilient students may self-select into programs, but the consistency of effects across multiple indicators strengthens the inference that participation has meaningful protective value. Aligning these findings with the second objective also surfaces practical implications. The school's intervention ecology, while well-developed at the universal tier, appears under-leveraged at the indicated and selective tiers. Strategies that may strengthen overall impact include normalizing counsellor visits through routine wellness check-ins, expanding peer gatekeeper training similar to the Education Bureau's Peer Power model, and integrating mindfulness modules into the formal curriculum. The findings also support more targeted female-focused stress-management modules in senior forms, aligned with the gendered patterns observed in Table 3. Considered alongside Hong Kong's broader policy context, where student mental health caseloads doubled between 2020–21 and 2024–25 (Education Bureau, 2024), the present results reaffirm that whole-school, multi-level interventions remain essential rather than optional. Strengthening implementation fidelity,



sustaining long-term engagement, and embedding wellness within everyday school routines emerge as the most pragmatic pathways to translating policy aspirations into lived outcomes for adolescents in Hong Kong's demanding educational environment.

Conclusion

This preliminary assessment indicates that secondary students in the studied Hong Kong school exhibit substantial mental health concerns, particularly depressive symptoms among senior students and elevated stress and anxiety among female students. While school-based intervention programs are widely available and broadly recognized, their reach is uneven across tiers, with participation in higher-intensity supports being significantly lower than awareness levels. Students who engaged with structured wellness activities demonstrated significantly better psychological outcomes, supporting the value of universal and peer-based interventions. The findings reinforce the centrality of resilience and school connectedness as protective factors and align with Hong Kong's Whole School Approach and the 4Rs Mental Health Charter. Strengthening multi-tier engagement, addressing stigma, and embedding mindfulness and peer-support practices within routine school life will be essential next steps in translating policy commitments into measurable improvements in adolescent wellness.

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