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Comparing the mental health of Australian university students with that of young people who are not in higher education

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Abstract
Compared with their non-student counterparts, young adults engaged in higher education are often reported to be at greater risk for mental health concerns. However, research directly comparing university student and non-student populations is limited. This study uses a community sample to investigate differences in the mental health and wellbeing of young Australians (17–25 years) engaged in university study ($n = 828$) compared with their age-matched non-studying peers ($n = 880$). Comparisons are made on mean levels of psychological distress, wellbeing, resilience, and loneliness, as well as the proportion of individuals meeting commonly used classifications for mental health and wellbeing. We then examine the role of employment on reported distress and wellbeing. While a substantial proportion of the sample reported high to very high distress, our study found no overall substantive difference in levels of distress or wellbeing between students and non-students. An examination of employment status revealed a more nuanced result. Full-time employment was associated with greater psychological distress in students, where otherwise students reported better wellbeing and lower distress than their non-student peers. These findings challenge the common discourse of tertiary students as having a greater risk of distress than the general community. However, attempting to combine full-time work with full-time study is challenging, and the pressures of such work can increase distress. Increased financial assistance for tertiary students is needed to ease work pressures, along with greater understanding of the flexibility needed to balance work and study commitments.

Keywords Wellbeing · Employment · Mental health · Australia

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Introduction

International research has highlighted high levels of psychological distress amongst young adults. In Australia, the most recent National Study of Mental Health and Wellbeing 2020–2022 indicated that 38.8% of Australians aged 16–24 years reported a mental disorder in the past 12 months, and 25.7% of young Australians reported high to very high levels of psychological distress in the month prior to the survey (Australian Bureau of Statistics, 2020–2022). Compared with their non-student counterparts, young adults engaged in higher education are often considered a particularly high-risk population for mental health concerns. However, past research examining differences between young adult student and non-student populations is limited and has reported mixed results.

Psychological distress in university students

Research with undergraduate and graduate student populations has reported high levels of psychological distress ranging from 10 to 85%, up to six times higher than those reported in community samples, including Australian samples (Ibrahim et al., 2013; Evans et al., 2018; Larcombe et al., 2016; Rickwood et al., 2017; Sanci et al., 2022; Schofield et al., 2016). These high prevalence rates are often based, however, on findings from convenience or self-selecting samples, and many are from single institutions, which may introduce sampling bias. Comparisons are also often made between university samples and separately published population-level statistics, which may have different methodologies and sampling that make direct comparisons tenuous (Ibrahim et al., 2013; Evans et al., 2018).

Other evidence, based on direct comparisons within large-scale community surveys, has suggested that students may not necessarily be at any greater risk of psychological distress compared with their non-student peers. An examination of three large Australian national household surveys conducted in 2007–2008 indicated that while tertiary-level students may have a higher prevalence of moderate psychological distress, they did not report higher rates of distress than their non-student peers (Cvetkovshi et al., 2012). Similarly, in a longitudinal investigation of the mental health of tertiary students using the Household, Income and Labour Dynamics in Australia (HILDA) survey, Burns and Crisp (2020) reported few differences in mental health between Australian university students and the general population and concluded that undertaking tertiary study did not increase the risk for poorer mental health. To ensure the appropriateness of resource allocation and support services for those most in need, further research is needed to explore potential nuances underlying youth and student mental health (Sanci et al., 2022).

Factors impacting distress

Research has identified a number of factors that may influence students' levels of psychological distress, including academic pressures and study stress, living away from home, financial pressures, and future uncertainty (Evans et al., 2018; Pitt et al., 2018; Sharp & Theiler, 2018). Financial concerns can be particularly significant for Australian students. A university population survey of 14,880 students at a large Australian university revealed that over 27% of students were experiencing financial difficulties (Sanci et al., 2022). Owing to high costs of living, employment rates amongst university students both in Australia and internationally are high (Ross et al., 2012; Universities Australia, 2018). Excluding international students, who can have restrictions on the amount of employment

they engage in, Sanci et al. (2022) reported that over two-thirds of domestic university students were employed, with 17.5% working more than 20 h per week. While some paid employment can be beneficial for personal confidence and development, financial needs, and enhancing future employability (Curtis & Shani, 2002; Jackson & Collings, 2018; Ktoridou et al., 2021), poor work-life balance has been associated with detrimental effects on mental health (Sprung & Rogers, 2021) and academic performance, particularly for those working more than 20 h per week (Logan et al., 2016). Concerns about financial and future stability and success can clearly impact the mental health of young adults regardless of student status (Wake & O'Donnell, 2024), but it has been suggested that a distinction between those engaged in study and their non-student peers may be one of balancing competing demands across study, family commitments and employment needs (Evans et al., 2018; Larcombe et al., 2016). The literature has examined the interaction of mental health with non-engagement in education, employment, and training (see Gariépy et al., 2022 for review), but to our knowledge, only one study has investigated employment in the context of understanding the disparity between student and non-student populations (Cvetkovski et al., 2012). This investigation, which used 2007–2008 data, found that university students working up to 39 h per week reported a greater risk of psychological distress than non-students did.

The present study

Using the headspace National Youth Mental Health Survey, a general population survey of 12-to-25-year-olds, this study investigates differences in the mental health and wellbeing of young Australians engaged in university study in comparison to their age-matched non-studying peers. Comparisons are made based on mean levels of psychological distress and wellbeing, as well as the proportion of individuals meeting commonly used classifications for mental health and wellbeing. We then examine the specific interaction effect of employment and study status on reported distress and wellbeing. This investigation of student and non-student populations is important for informing appropriate resource allocation to those most in need, developing targeted mental health strategies and interventions to improve outcomes for all young adults, and for informing policy development and support strategies in both education and workplace contexts.

Method

Participants

The sample comprised 1708 young people aged 17–25 years ($M = 21.7$, $SD = 2.2$) from all states and territories in Australia. Participants were drawn from the 2022 headspace National Youth Mental Health Survey which uses a quota sampling procedure for recruitment with quotas set for age group, gender, and state/territory to ensure approximate representation as per the Australian general population demographic spread (Australian Bureau of Statistics, 2024). The sample for the present study reflects those young people identified as either engaged in university study ($n = 828$) or not studying at all ($n = 880$). Amongst those engaged in university study, 80.6% were full-time students, with 84.2% enrolled in a bachelor's degree and the remaining 15.8% completing a graduate diploma, graduate certificate, or other postgraduate degree. Characteristics of the sample are presented in Table 1.

Table 1 Sample characteristics by student status

	Not studying ($n=880$)	University student ($n=828$)
Age, *M*(*SD*)	21.2 (2.4)	21.3 (2.0)
Gender, *n* (%)		
Female	436 (49.5)	416 (50.3)
Male	427 (48.5)	394 (47.6)
Employment, *n* (%)		
Not in the labour force and not looking for work	43 (4.8)	70 (8.5)
Not in the labour force, but looking for work	102 (11.6)	103 (12.4)
Employed casually	120 (13.7)	300 (36.2)
Employed part-time	110 (12.5)	192 (23.2)
Employed full-time	505 (57.4)	163 (19.7)
Aboriginal and/or Torres Strait Islander, *n* (%)	45 (5.1)	20 (2.4)
Not heterosexual (lesbian/gay/bisexual/questioning/other), *n* (%)	152 (17.3)	152 (18.4)

Procedure

The survey was administered between August and September 2022, via a social research firm, Colmar Brunton (now Verian), through a computer-assisted telephone interview (CATI) using trained survey interviewers and online survey methodology. Approximately 75% of the sample was drawn from an existing market research panel member cohort to complete the survey, and 25% were recruited via random digit dialling sampling (randomly generated Australian mobile phone numbers and landline numbers) for the CATI. Participants were screened for eligibility according to age, gender, and location and provided verbal consent before participating. Consent was also obtained from parents for participants under 18 years of age. Participants received $20 as a thank you for their participation. Ethics approval was obtained from the Bellberry Limited Human Research Ethics Committee (2022–05–526).

Measures

The measures reported here formed part of a larger questionnaire examining young people's attitudes and behaviours related to their mental health and wellbeing. *Psychological distress* was measured with the Kessler 10 Psychological Distress Scale (K10) (Kessler et al., 2002). Experiences of anxiety and depressive symptoms over the past 4 weeks were assessed on a 5-point scale from 1 (*not at all*) to 5 (*all of the time*), total scores range from 10 to 50. The scale exhibited high reliability in the current sample ($\alpha=0.91$). Based on the scoring protocol used by the Australian Bureau of Statistics (Australian Bureau of Statistics, 2019), scores were categorised as 10–15 low distress, 16–21 moderate distress, 22–29 high distress, and 30–50 very high distress. *Wellbeing* was measured using the Mental Health Continuum Short Form (MHC-SF) (Keyes, 2002). Emotional, psychological, and social wellbeing were assessed over the past month on a 6-point scale from 0 (*never*) to 5 (*every day*). The subscale scores range from 0 to 15 (emotional), 0 to 25 (social), and 0 to 30 (psychological), and overall wellbeing score ranged from 0 to 70. The scale showed

a high level of internal consistency in the current sample ($\alpha = 0.93$). Participants were categorised as having high wellbeing (flourishing) if they reported experiencing one or more indicators of subjective wellbeing, and six or more of the indicators of psychological and social wellbeing, every day or almost every day. Participants were categorised as having low wellbeing (languishing) if they reported experiencing one or more indicators of subjective wellbeing, and six or more of the indicators of psychological and social wellbeing, either never or only once or twice in the past month. Individuals who did not fall into either of these categories were categorised as having moderate wellbeing. *Loneliness*, characterised as an individual's sense of connectedness and perceived isolation, was assessed with the UCLA 3-item Loneliness Scale (Hughes et al., 2004). Items were responded to on a 3-point scale from 1 (*hardly ever*) to 3 (*often*). Total scores range from 3 to 9. The scale demonstrated good internal consistency in the current sample ($\alpha = 0.80$). *Resilience*, characterised as an individual's ability to deal with stress, was assessed using the 6-item Brief Resilience Scale (BRS) (Smith et al., 2008). Items were responded to on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*), with total scores ranging from 1 to 5. The scale exhibited high internal consistency in the current sample ($\alpha = 0.79$).

Analysis

Data were analysed using SPSS 27. Mean differences between tertiary students and non-students on the continuous outcome measures were first examined using independent samples *t*-tests. We then also examined proportional differences between the participant groups based on standard categorisation for psychological distress and wellbeing, as described above, using an independent samples proportion test. Finally, a series of univariate analyses of variance were conducted to examine mean differences between students and non-students, controlling for age (model 1), and to examine the interaction of employment and study status on distress and wellbeing outcomes (model 2).

Results

Both mean levels of distress and wellbeing, and proportions within each category, by student status are presented in Table 2. Overall, all participants reported moderate to high levels of distress and moderate levels of wellbeing, resilience, and loneliness. *t*-tests revealed only small differences between the student and non-student groups in overall levels of wellbeing. This difference was most pronounced for social wellbeing, whereby students reported higher levels of positive wellbeing. No significant differences were reported between the groups in levels of psychological distress, loneliness, or resilience. Examination of gender differences (see Supplementary Table 1) revealed only a small effect for males, with male students reporting higher levels of overall and social wellbeing than male non-students.

We then examined proportional differences between the participant groups based on categorisation for psychological distress (low, moderate, high, very high) and wellbeing (languishing, moderate, flourishing) (see methods for explanation of categorisation). More than half the overall sample reported high to very high distress; however, the majority of the sample also reported moderate to high levels of wellbeing (flourishing). The only significant difference between the participant groups was reflected in a greater proportion of non-students reporting low psychological distress compared to the university student

Table 2 Mean distress and wellbeing by student status

Continuous outcome measures	Not studying ($n=880$)	University student ($n=828$)	t	Cohen's d
	$M(SD)$	$M(SD)$		
Psychological distress	23.60 (8.25)	23.45 (7.57)	0.84	0.02
Overall wellbeing	41.43 (15.22)	43.18 (13.68)	−2.51*	−0.12
Emotional wellbeing	10.05 (3.46)	10.25 (3.07)	−1.27	−0.06
Social wellbeing	12.48 (6.44)	13.55 (5.73)	−3.62***	−0.18
Psychological wellbeing	18.90 (6.81)	19.38 (6.24)	−1.53	−0.07
Resilience	3.20 (0.75)	3.24 (0.69)	−1.35	−0.07
Loneliness	5.60 (1.90)	5.47 (1.81)	1.47	0.07
Categorisation	$n(\%)$	$n(\%)$	Z	
Psychological distress (K10)				
Low (10–15)	158 (17.9)	116 (14.0)	2.26*	
Moderate (16–21)	242 (27.5)	254 (30.7)	−1.44	
High (22–29)	269 (30.6)	273 (32.9)	−1.05	
Very high (30–50)	211 (24.0)	185 (22.4)	0.74	
Overall wellbeing				
Languishing	114 (13.0)	61 (7.4)	3.84***	
Moderate	441 (50.1)	468 (56.3)	−2.55*	
Flourishing	325 (36.9)	301 (36.4)	0.22	

*$p<0.05$

***$p<0.001$

[a]Wald h0 two-tailed significance is reported for independent samples proportion test

sample. However, a greater proportion of non-students were identified as languishing compared to students, and a greater proportion of students were reported to have moderate wellbeing compared to non-students; there was no difference in the proportions flourishing (see Table 2). Analysis of differences by gender revealed that the greater proportion of students with moderate wellbeing compared to non-students was only evident for females and not for males.

Finally, we consider the impact of age and employment status on mental health and wellbeing. Given the age distribution of young adults reflected in the sample, a series of univariate analyses of variance were conducted to examine mean differences between students and non-students, controlling for age (model 1). We then introduce employment status and examine the interaction of employment and study status (model 2) (see Table 3).

Initial analyses controlling for age supported students as having greater overall and social wellbeing, and slightly lower overall levels of loneliness compared to non-students. An examination of gender differences again found that these significant differences on overall and social wellbeing were evident only for males. A small effect is observed for resilience, such that for females, students report slightly greater resilience than non-students (see Supplementary Table 2).

Model 2 revealed significant interaction effects between study status and employment for all outcome variables: psychological distress: $F(4, 1697)=9.57$, $p<0.001$; overall wellbeing: $F(4, 1697)=5.70$, $p<0.001$; emotional wellbeing: $F(4, 1697)=8.32$, $p<0.001$;

Table 3 Univariate analyses of variance controlling for age (model 1) and examining the interaction of work and study (model 2)

	Psychological distress	Overall wellbeing	Emotional wellbeing	Social wellbeing	Psychological wellbeing	Resilience	Loneliness
Model 1	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)	B(SE)
Age	−0.34 (0.09)***	0.31 (0.16)	0.09 (0.04)*	0.09 (0.07)	0.12 (0.07)	0.01 (0.01)	−0.06 (0.02)**
Student[a]	−0.44 (0.39)	2.05 (0.72)**	0.29 (0.16)	1.16 (0.30)***	0.60 (0.32)	0.06 (0.04)	−0.18 (0.09)*
Model 2							
Age	−0.20 (0.09)*	−0.13 (0.17)	0.01 (0.04)	−0.09 (0.70)	−0.05 (0.08)	−0.00 (0.01)	−0.02 (0.02)
Student[a]	−4.59 (1.51)**	5.50 (2.75)*	0.76 (0.62)	3.24 (1.16)	1.50 (1.25)	0.29 (0.14)*	−0.91 (0.35)**
Employment status[b]							
Employed casually	−2.78 (1.39)*	1.17 (2.53)	0.08 (0.57)	1.44 (1.07)	−0.35 (1.15)	0.17 (0.13)	−0.73 (0.33)
Employed part-time	−3.13 (1.41)*	4.16 (2.55)	0.43 (0.58)	2.08 (1.08)	1.65 (1.16)	0.26 (0.13)	−0.72 (0.33)
Employed full-time	−6.13 (1.25)***	10.30 (2.27)***	1.83 (0.52)***	4.92 (0.96)***	3.55 (1.03)***	0.48 (0.11)***	−1.44 (0.29)***
Not employed, looking for work	−0.04 (1.42)	−2.21 (2.58)	−1.08 (0.59)	0.30 (1.94)	−1.43 (1.17)	0.12 (0.13)	−0.16 (0.33)
Employed casually*student	2.29 (1.73)	1.60 (3.14)	0.62 (0.71)	−0.61 (1.33)	1.60 (1.43)	−0.06 (0.16)	0.38 (0.41)
Employed part-time*student	2.52 (1.77)	−1.04 (3.22)	0.07 (0.73)	−0.65 (1.36)	−0.46 (1.46)	−0.16 (0.16)	0.47 (0.42)
Employed full-time*student	6.98 (1.66)***	−6.39 (3.03)*	−1.43 (0.69)*	−2.96 (1.28)*	−2.00 (1.37)	−0.34 (0.15)*	1.05 (0.39)**
Not employed, looking for work*student	1.13 (1.85)	2.16 (3.38)	1.12 (0.77)	0.06 (1.43)	0.98 (1.53)	−0.06 (0.17)	0.09 (0.44)

*$p < 0.05$

**$p < 0.01$

***$p < 0.001$

[a]Ref = not studying

[b]Ref = not employed and not looking for work

social wellbeing: $F(4, 1697) = 3.86$, $p = 0.004$; psychological wellbeing: $F(4, 1697) = 4.61$, $p = 0.001$; resilience: $F(4, 1697) = 2.89$, $p = 0.021$; and loneliness: $F(4, 1697) = 4.03$, $p = 0.003$. Compared with non-students, students reported less psychological distress, except where they reported being employed full-time: students employed full-time reported greater psychological distress than full-time employed non-students. Similarly, students reported better wellbeing and resilience and lower levels of loneliness across all groups except amongst individuals employed full-time, where students and non-students were comparable (see Fig. 1a–d and e–f).

Examination by gender revealed overall interactions with study and work for both males and females in psychological distress: males $F(4, 818) = 5.18$, $p < 0.001$; females $F(4, 834) = 3.09$, $p = 0.015$; overall wellbeing: males $F(4, 818) = 3.42$, $p = 0.009$; females $F(4, 834) = 2.79$, $p = 0.025$; emotional wellbeing: males $F(4, 818) = 4.42$, $p = 0.002$; females $F(4, 834) = 3.73$, $p = 0.005$; psychological wellbeing: males $F(4, 818) = 2.91$, $p = 0.021$; females $F(4, 834) = 2.51$, $p = 0.041$. An overall interaction with work and study was

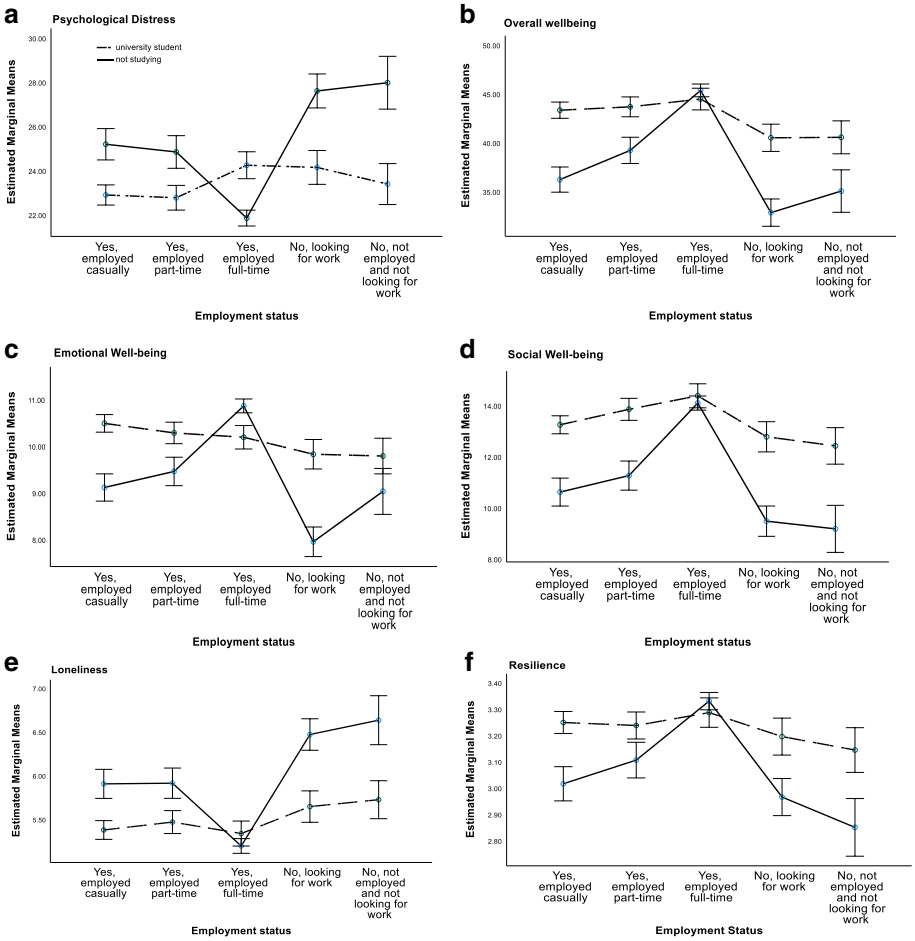

Fig. 1 **a–d** Interaction effects between study and employment status (with standard errors), by wellbeing outcomes. **e–f** Interaction effects between study and employment status (with standard errors), by wellbeing outcomes.

found for males only for social wellbeing $F(4, 818) = 2.78$, $p = 0.026$ and loneliness $F(4, 818) = 3.30$, $p = 0.011$. No overall interaction between study and work was found for resilience for either males or females. Examination of the estimated marginal means revealed few differences in the pattern of results detailed for the full sample, based on gender, but the impact of employment was more pronounced for males.

Discussion

The purpose of this study was to investigate differences in the mental health and wellbeing of young Australians engaged in university study and their non-student peers. While a substantial proportion of the sample reported high to very high distress, our analysis of the headspace National Youth Mental Health Survey revealed no substantive difference in the levels of psychological distress between students and non-students. The majority of the sample also reported moderate to high levels of wellbeing (flourishing); again, only small differences between students and non-students were found, primarily reflecting students reporting higher levels of social wellbeing. These findings are consistent with earlier research using large Australian national household surveys, which showed little evidence for differences in mental health and wellbeing between those studying at different tertiary levels and those not in tertiary education (Burns & Crisp, 2020; Cvetkovshi et al., 2012).

Our analysis of differences between students and non-students by employment status revealed a more nuanced result. Although, overall, the students reported similar levels of psychological distress to non-students, the exception was students in full-time employment. Students employed full-time reported substantially higher psychological distress than non-students who were employed full-time. Their level of distress was greater than that of their student peers employed on a part-time or casual basis and comparable to the level of distress reported by non-students looking for work. Equally, those non-students that were employed full-time reported substantially lower distress than their peers either in part-time or casual employment and those that were unemployed. The complexity of the challenges faced in balancing study and full-time employment, and the relationship between economic and employment pressures and the health of young adults engaged in education, have been cited previously (Grimmond et al., 2020; Wang et al., 2024). Specifically, our results are consistent with those of Cvetkovski et al. (2012) and support research suggesting students working more than 20 h per week may face more substantial challenges (Logan et al., 2016; Summer et al., 2023).

We also found that while students generally reported better wellbeing and resilience and lower levels of loneliness than non-students, when they were engaged in full-time employment, the wellbeing of students and non-students was comparable. That is, while levels of wellbeing were relatively consistent across categories of employment for students, non-students engaged in full-time employment reported substantially better wellbeing than those either not employed or employed on a part-time or casual basis, and that their emotional wellbeing (affect) was greater than that of students. Our results support that engagement in employment, particularly full-time employment, may be protective for the mental health of non-students, providing some of the same benefits of social connection that students are awarded through their study (Chan, 2016). This finding is consistent with research highlighting the beneficial effects of employment on self-confidence, social connection, and community integration, and mental health (Drake & Wallach, 2020; Modini et al., 2016) and research showing that youth not engaged in education, employment or training can experience both social and economic exclusion (Gariépy et al., 2022).

Limitations

While the current sample reflects a broad representation of Australian youth, and the survey on which the results are based was designed to enable representation across all Australian states and territories for age and gender, we recognise that the results are specific to an Australian context. Further, although the data collection utilised a quota sampling strategy to obtain representation across gender and state/territory distribution, we acknowledge that the data may not be representative of the 17–25-year-old population on other criteria. Specifically, the sample reflects young people who agree to a phone interview or to join an online research panel. As such this data is likely to omit those young people in vulnerable situations (e.g. those experiencing housing insecurity). This suggests our comparisons may underestimate the extent to which non-students are reporting distress and poor wellbeing, specifically amongst those not in employment. We also acknowledge the bidirectional association between mental health and non-engagement in employment, education, and training that cannot be assessed in the present study due to the cross-sectional nature of the data. Importantly, while we position engagement or non-engagement in study and employment in terms of predicting wellbeing outcomes, we acknowledge that mental health issues (psychological distress) may equally impact motivations to engage in employment or education (Gariépy et al., 2022). Finally, we note that there may be further nuanced experiences dependent on the enrolment status of students as full- or part-time. While the small distribution of part-time students in our sample did not allow for analysis of study by employment interactions at this level, this is a consideration for future research.

Implications and conclusions

Our findings highlight important considerations in discussions concerning the prevalence of youth mental health problems and the specific concerns for university student populations worldwide. These findings challenge the common discourse of tertiary students having a fundamentally greater risk of distress than the general community. In the context of student mental health, we emphasise that employment while studying is not itself damaging and indeed offers numerous benefits. Nevertheless, attempting to combine full-time work with full-time study is very challenging, and the pressures of such work can increase distress. While greater support (e.g. scholarships, financial advice) is needed to assist those in financial difficulty, by embracing the employment environment and working to understand the flexibility that students need, faculty may better support the broader needs and wellbeing of all tertiary students. Finally, although tertiary students may face unique challenges and risk factors for mental health (Evans et al., 2018; Pitt et al., 2018; Sharp & Theiler, 2018), particularly the competing demands of study and employment, our results highlight the need to consider individual differences in work and study environments. These results have important implications for staff across the university sector, including teaching faculty, administrative support staff, medical and welfare services, and institutional leaders and policy makers. By recognising the changing environment in which students choose to undertake higher education, and harnessing the opportunities afforded by students engaging in both work and study, we can provide a more supportive and rich experience for all students. Optimal ways to balance engagement in work and study for tertiary students is an important avenue for further exploration.

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Data availability The data that support the findings of this study are available from the National Youth Mental Health Foundation or via the authors, upon reasonable request.

Declarations

Competing interests The authors declare no competing interests.

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