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Working Paper 17/26

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Abstract

This paper examines how high school bullying and discrimination are associated with mental distress, both during high school and later in life. Using retrospective data from adults in Australia, we document the reported frequency of past bullying and whether, during their time in high school, respondents experienced discrimination based on characteristics such as ethnicity, religion, disability, sexual orientation, gender, or physical appearance. Frequent bullying is particularly prevalent among certain groups and is most common among those targeted due to a disability. We find that bullying is strongly associated with greater mental distress during high school, which persists into adulthood, even after accounting for experiences of discrimination. These associations are strongest for frequent bullying and are observed for both men and women. Discrimination based on disability and sexual orientation is also independently associated with greater mental distress. The findings underscore the significant challenges faced by those who experience frequent bullying during their teenage years, particularly among groups already experiencing discrimination.

Introduction

The adverse impacts of bullying and discrimination on health and wellbeing are widely documented. Experiences during childhood and adolescence are of particular concern, as these periods are critical for psychological development [1]. Bullying and discrimination during these years are consistently linked to elevated mental distress, not only during adolescence but persisting into adulthood [1–4], and these associations have been shown to be stronger for more frequent bullying [5,6]. The consequences of bullying are not confined to mental health; victimisation in childhood has been linked to poorer health, economic, and social outcomes well into adulthood [7].

Bullying can target specific attributes such as disability [8,9], physical appearance [8], socioeconomic status [10], sexual orientation [11], religion [12] or ethnicity [12,13]. These attributes often co-occur with broader experiences of discrimination [14], meaning individuals may face multiple, simultaneous forms of harm. Yet most existing research examines bullying or discrimination in isolation, making it difficult to identify which experiences are most strongly associated with mental distress [15,16]. Addressing this gap is important because bullying often overlaps with discrimination based on specific personal attributes, yet little is known about how these experiences separately relate to mental distress during high school and later in adulthood. By accounting for both bullying frequency and attribute-based discrimination, while distinguishing between adolescent and adult mental health outcomes, our study helps clarify which high school experiences are associated with the greatest mental-health burden.

In this paper, we use unique survey data collected from Australian adults that included retrospective questions about adverse high school experiences, specifically bullying and discrimination related to various attributes, as well as measures of mental distress during high school and in adulthood. This allows us to estimate the associations between high school bullying and discrimination and (1) adolescent mental distress and (2) adult mental distress.

We find that frequent bullying strongly overlaps with discrimination based on several distinct characteristics, with the highest rates of frequent bullying observed for individuals who were

targeted due to a disability. Even after controlling for these experiences of discrimination, we find that more frequent bullying is strongly associated with worse mental distress, both for distress recalled from the high school years and for distress reported in adulthood, although the association is weaker for the latter. These associations are observed for both men and women and robust to various estimation specifications.

These findings underscore the significant challenges faced by those who experience frequent bullying during their teenage years, particularly among already disadvantaged groups. By examining bullying frequency and multiple discrimination types jointly, this paper contributes to a more complete picture of which adolescent experiences carry the greatest mental health burden, evidence that may inform targeted school-based interventions and policies aimed at protecting vulnerable students.

Why bullying and discrimination may affect mental health

A large body of literature has examined how bullying and discrimination may impact mental health, pointing to mechanisms that operate through the body's stress response, through self-worth and belonging, and through the specific burden attached to being targeted for certain attributes. This section briefly outlines these mechanisms, which helps clarify what our estimates may capture.

The first mechanism concerns the body's stress response. The frequency with which someone is bullied captures how sustained that stress is. Research in developmental psychology and neuroscience suggests that the body's stress response is meant to be short-lived, and that when triggered repeatedly through bullying, it may leave a person overly alert to threat even in ordinary situations [17,18]. This research further suggests that adolescence is a period of particular sensitivity, a central idea in developmental psychopathology, so this heightened reactivity to bullying may persist long after the bullying has stopped, and manifest as anxiety and depression [19]. This offers a reason for looking at the link between mental health and bullying frequency, rather than a simple indicator of whether bullying occurred.

A second mechanism may operate through self-worth: adolescence is when young people form a sense of their value largely from how peers treat them, so being repeatedly targeted can be taken as evidence of one's own low worth. A negative view of oneself can in turn be closely tied to anxiety and depression by encouraging self-blame, the expectation of rejection, and withdrawal from others. Consistent with this, self-esteem has been found to partially mediate the relationship between peer victimisation and anxiety and depression [20].

A related mechanism may operate through belonging. Bullying can cut a young person off from the peer group at an age when belonging matters most. The need to belong has been described as a fundamental and pervasive human motivation [21], so sustained exclusion by peers is a plausible route to distress. In line with this, a reduced sense of school belonging has been found to partly account for the link between peer victimisation and emotional problems [22].

A final mechanism concerns discrimination targeted at certain groups specifically. The literature on minority stress and stigma argues that this can create a lasting state, as the person expects further rejection and remains watchful for it, or can internalise the negative view and come to accept it as true of themselves [23,24]. While bullying without a stated reason can be put down to bad luck or an individual aggressor, targeted discrimination is aimed at who the person is, making it harder to dismiss and more likely to recur. Adolescence is also a formative period for identity, so harm directed at an attribute coincides with its development. This gives a reason to expect discrimination to be associated with distress even after accounting for how often a person was bullied.

Taken together, these potential mechanisms suggest three expectations. First, that distress should rise with the frequency of bullying rather than simply with its occurrence. Second, that discrimination based on specific attributes may be associated with distress even after conditioning on bullying. Third, that bullying and discrimination during adolescence may be associated with mental health both during high school and later in adulthood. Our analysis examines each of these.

Data and descriptive statistics

The TTPN survey

We use data from the Melbourne Institute-Roy Morgan Taking the Pulse of the Nation (TTPN) survey, a repeated cross-sectional survey (without possibility of repeat participation) of Australians aged 18 and older. Initially developed to track how Australians were doing during the COVID-19 pandemic since April 2020 (and then known only as the ‘Taking the Pulse of the Nation Survey’ under a different survey provider), the TTPN survey evolved into a more general survey about relevant social and economic topics of importance. The TTPN survey was administered online by Roy Morgan Research since 10/06/2022, following the submission and approval of an entirely new and distinct ethics application. Data collection for the TTPN survey, administered by Roy Morgan Research, was approved by the Human Research Ethics Committee at the University of Melbourne (Number: 2022-23376-29412-4). All participants provided written informed consent before commencing the survey and could withdraw from the survey at any time. The approved recruitment period for all waves of the TTPN survey was effective from 10/06/2022 to 10/06/2025. Each monthly wave includes de-identified data from approximately 1,000 respondents and is stratified to be representative of the Australian adult population in terms of age, gender, and location. The survey has been used in the study of, for example, mental health and financial stress during the pandemic [25,26], and the assessment of differences in recall periods for psychological distress scales [27].

We use three waves that are relevant to this study, namely June 2024 (recruitment period: 03/06/2024 – 28/06/2024), December 2024 (recruitment period: 02/12/2024 – 20/12/2024), and January 2025 (recruitment period: 06/01/2025 – 31/01/2025). These three waves included identical retrospective questions on respondents’ high school experiences. These included a question on exposure to bullying and one related to perceived discrimination based on several individual attributes. The survey also included questions on financial difficulties during high school and reported mental distress during high school. The TTPN provides survey weights, which adjust for differences between the sample and the Australian adult population in age, gender and location, which we use for the summary statistics and figures presented below.

Sample selection

The initial pooled sample included 3,067 respondents. As shown in Appendix Table A1, we excluded 322 respondents who completed their high school studies outside Australia and 98 respondents without valid information on the type of high school attended. We also excluded 17 respondents who reported a gender other than male or female because this group was too small for separate estimates to be informative.

Among the remaining 2,630 respondents, 379 had missing information on at least one variable required for the analysis, including responses of “Don’t know” or “Prefer not to say”. The final common analysis sample consisted of 2,251 respondents: 1,095 men and 1,156 women. Item-level missingness ranged from 0.8% for current mental distress to 7.2% for financial difficulties during high school (see Table A2).

Key measures

Bullying

To measure the frequency of bullying while in high school, respondents were asked: *“Thinking of your time in high school, how often did you experience bullying (in-person or online)?”* Response options were *none of the time, a little of the time, some of the time, most of the time, or all of the time*. Accompanying this question was the following definition of bullying, which aligns with the national definition of bullying for Australian schools [28]: *“Bullying is an ongoing and deliberate misuse of power in relationships through **repeated** verbal, physical and/or social behaviour that intends to cause physical, social and/or psychological harm. It can involve an individual or a group misusing their power, or perceived power, over one or more persons who feel unable to stop it from happening.”*

Fig 1 shows the distribution of responses for men and women, including 95% confidence intervals. Most respondents reported experiencing bullying at least ‘a little of the time’. Men were more likely than women to report any bullying: approximately 37% of women reported experiencing bullying ‘none of the time’, compared to about 28% of men. However, the

proportion of men and women reporting frequent bullying ('most of the time' or 'all of the time') was similar.

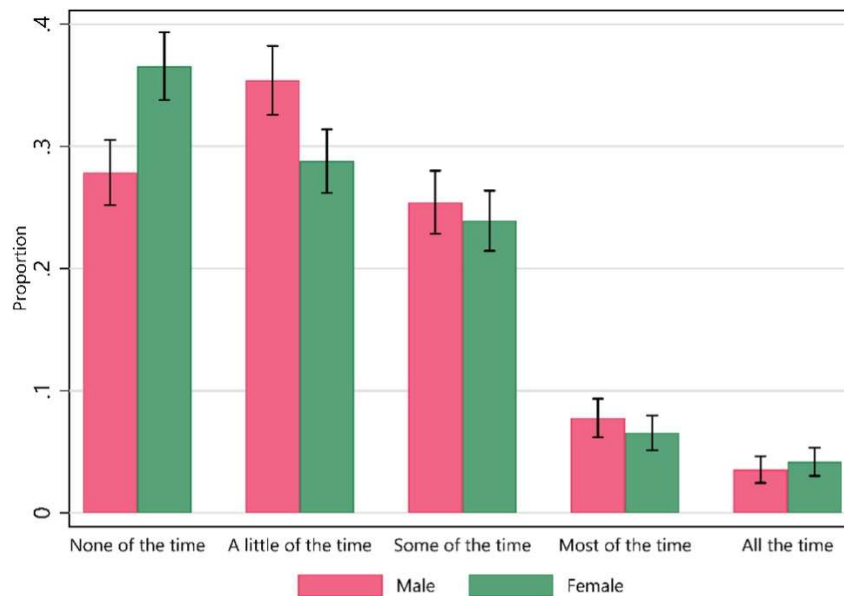


Fig 1. Reported frequency of bullying while in high school. Statistics are weighted using the survey weights provided with the TTPN data. N = 2,251. Bars show 95% confidence intervals.

Discrimination

To measure the experience of discrimination based on certain attributes while in high school, respondents were asked: *"Thinking of your time in high school, did you experience discrimination or harassment based on any of the following attributes?"* Respondents could select as many as applied from the following: 'race or ethnicity', 'religion', 'disability', 'financial situation', 'physical appearance', 'sexual orientation', 'gender' and 'other', or could rather choose 'I did not experience any discrimination or harassment'. Because the survey question did not differentiate between discrimination and harassment, for simplicity we refer to either of the two concepts as "discrimination".

Fig 2 shows the proportion of respondents who reported discrimination based on each of the attributes. By far the most prevalent occurrence related to physical appearance, which is consistent with past studies [8], reported by approximately 35% of men and 37% of women. The

prevalence of each experience did not vary significantly between women and men, save for discrimination based on gender, which was more prevalent among women, and discrimination based on sexual orientation, which was slightly more prevalent for men.

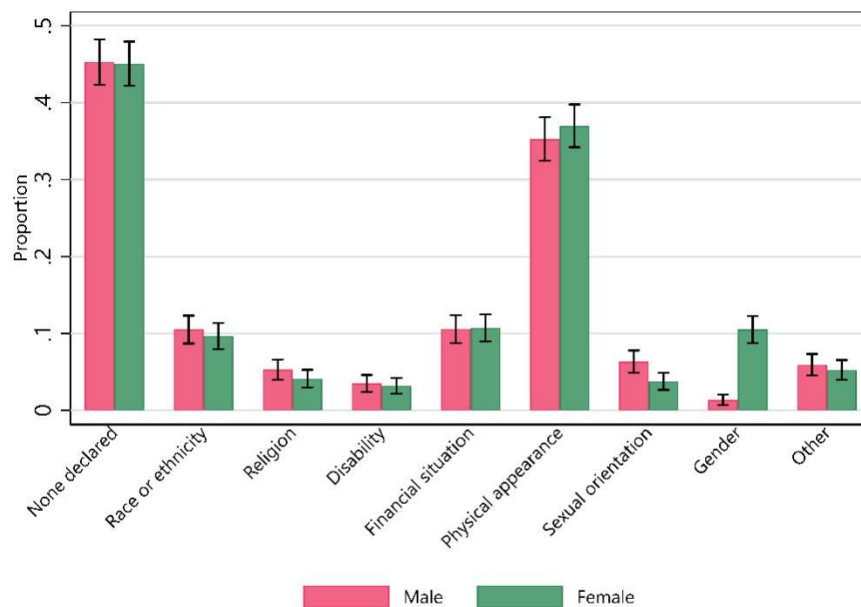


Fig 2. Reported experiences of discrimination based on each attribute. Statistics are weighted using the survey weights provided with the TTPN data. N = 2,251. Bars show 95% confidence intervals.

To measure how related these measures of discrimination are, Table 1 reports tetrachoric correlations among the eight discrimination indicators. We use tetrachoric rather than Pearson correlations because the Pearson correlation between two binary variables is bounded by their prevalences, which would mechanically understate the association between the rarer attributes. The correlations are positive and moderate throughout. The strongest are between disability and sexual orientation (0.40), between sexual orientation and gender (0.36), and between religion and financial situation (0.36), and no pair exceeds 0.40. This confirms that respondents reporting discrimination on one attribute are more likely to report it on others, while leaving substantial independent variation across the indicators. The exception is the residual "other" category, which is negatively correlated with most of the listed attributes, reflecting that respondents who selected a specific attribute were less likely to also select "other".

Table 1. Tetrachoric correlations among discrimination indicators

	Race or ethnicity	Religion	Disability	Financial situation	Physical appearance	Sexual orientation	Gender	Other
Race or ethnicity	1.00							
Religion	0.33	1.00						
Disability	0.12	0.33	1.00					
Financial situation	0.07	0.36	0.24	1.00				
Physical appearance	0.15	0.08	0.30	0.33	1.00			
Sexual orientation	0.15	0.11	0.40	0.11	0.25	1.00		
Gender	0.15	0.05	0.21	0.11	0.29	0.36	1.00	
Other	-0.17	0.04	-0.24	0.08	0.01	-0.14	-0.14	1.00

N = 2,251.

Relationship between bullying and discrimination

To determine how frequent bullying relates to discrimination based on specific attributes, Fig 3 shows the proportion of respondents who reported bullying ‘most of the time’ or ‘all of the time’, conditional on reporting discrimination based on each attribute. Those who did not report any form of discrimination had extremely low rates of reported bullying. However, frequent bullying was common for individuals reporting discrimination based on any of the attributes. Around half of those reporting discrimination based on a disability also reported bullying most or all of the time.

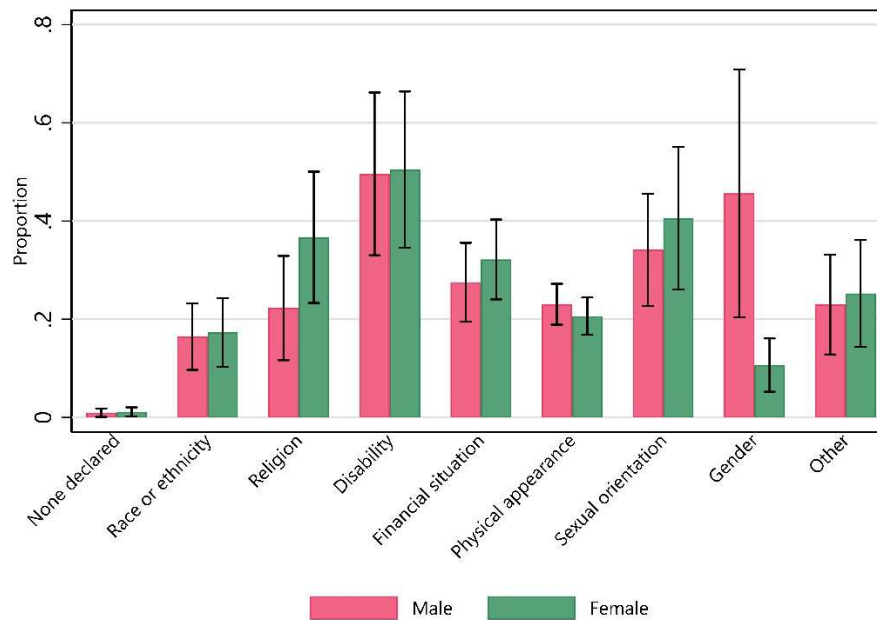


Fig 3. Proportion of respondents having been bullied “most of the time” or “all of the time” conditional on reporting a given experience of discrimination. Statistics are weighted using the survey weights provided with the TTPN data. N = 2,251. Bars show 95% confidence intervals.

To provide a more complete picture of the relationship between bullying and the discrimination measures, Table 2 provides the tetrachoric correlations between each of the three bullying frequency indicators used later in the analysis and the discrimination attributes. Correlations among the bullying indicators themselves are omitted, because the categories are mutually exclusive and their negative correlations are mechanical. Two patterns stand out. First, the overlap is concentrated in frequent bullying: having been bullied a little of the time is weakly negatively correlated with every attribute, whereas having been bullied most or all of the time is positively correlated with all of them. Second, the strongest of these correlations is with disability (0.41), followed by sexual orientation (0.32), financial situation (0.29) and physical appearance (0.28), which is consistent with the pattern in Fig 3. No correlation exceeds 0.41, indicating that bullying frequency and attribute-based discrimination, while related, retain enough independent variation to be estimated jointly.

Table 2. Tetrachoric correlations - bullying and discrimination measures

	A little of the time	Some of the time	Most or all of the time
Race or ethnicity	-0.02	0.13	0.09
Religion	-0.09	0.06	0.24
Disability	-0.14	-0.05	0.41
Financial situation	-0.08	0.08	0.29
Physical appearance	-0.10	0.25	0.28
Sexual orientation	-0.11	0.03	0.32
Gender	-0.02	0.16	0.06
Other	-0.08	0.07	0.15

N = 2,251.

Mental distress

We used two measures of mental distress as outcomes. The first measure relates to current mental distress (i.e., mental distress in adulthood). This is a single-item measure that asked respondents: *“During the past week, about how often did you feel depressed or anxious?”* The response options were ‘none of the time’, ‘a little of the time’, ‘some of the time’, ‘most of the time’, and ‘all of the time’. This mental distress item has been validated [26,27], with good concordance with the Kessler-6 psychological distress measure.

The second measure is a single-item retrospective question relating to mental distress during high school. This question asked respondents: *“Thinking of your time in high school, how often did you feel depressed or anxious?”* The response options were the same as for the item measuring mental distress in adulthood.

Fig 4 displays the distributions of each mental distress item. Women tended to report a higher prevalence of distress than men. For example, about 17% of women and 11% of men were distressed ‘most of the time’ during high school, and about 7% of women and 3% of men were distressed during high school ‘all the time’. In adulthood, the gender gap for reporting mental distress most or all of the time is less apparent, though gaps at lower levels remain.

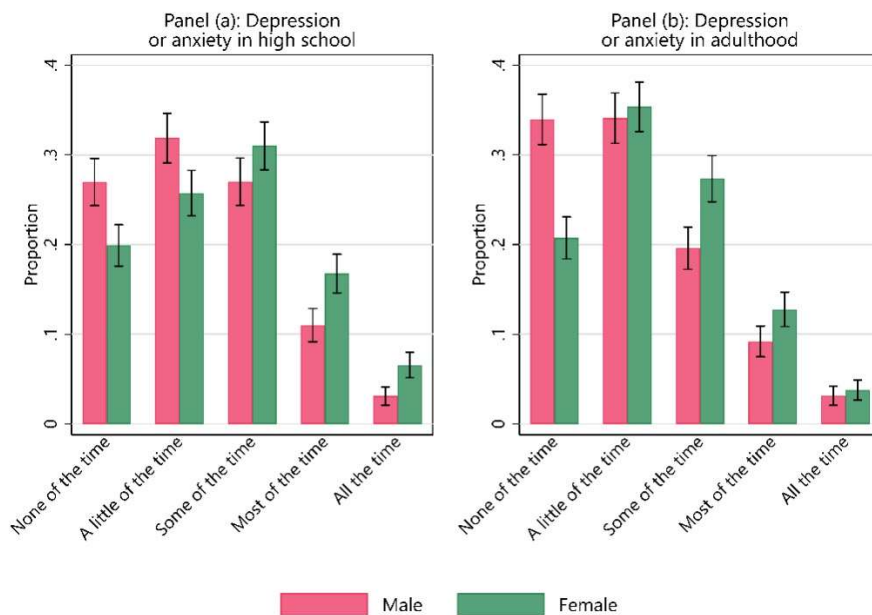


Fig 4 – Reported mental stress in high school and adulthood. Statistics are weighted using the survey weights provided with the TTPN data. N = 2,251. Bars show 95% confidence intervals.

Summary statistics

Table 3 reports the sample summary statistics for variables used in the estimation. As for the figures presented above, all statistics are weighted using the survey weights supplied with the TTPN. The prevalence of reported mental distress during high school was much higher among women (23.3%) than among men (14.1%). During adulthood, although the difference is smaller, women (16.6%) still reported a higher prevalence of distress than men (12.3%).

Rates of bullying were quite similar for men and women, with roughly 11% reporting having been bullied in high school most or all of the time. Among men, the most common types of discrimination were based on physical appearance (35.13%), financial situation (10.6%), and race or ethnicity (10.5%) (%). Among women, discrimination based on physical appearance was also the most prevalent (37%), followed by financial situation (10.7%) and gender (10.5%).

Just over half the sample are aged 18 to 49, and about 10% were not born in Australia (but still went to high school in Australia). Between 59-64% reported not having experienced any financial

challenges during their time in high school. About two-thirds attended a government or public school.

Table 3. Summary statistics

	Male	Female
Outcomes		
Mental distress in high school - most or all of the time	0.141	0.233
Current mental distress - most or all of the time	0.123	0.166
Bullying in high school		
A little of the time	0.354	0.288
Some of the time	0.254	0.239
Most or all of the time	0.113	0.107
Harassment/discrimination in high school		
Race or ethnicity	0.105	0.097
Religion	0.053	0.041
Disability	0.035	0.032
Financial situation	0.106	0.107
Physical appearance	0.353	0.370
Sexual orientation	0.063	0.038
Gender	0.014	0.105
Other	0.059	0.053
Demographics		
Age: 18-34	0.309	0.296
Age: 35-49	0.261	0.254
Age: 50-64	0.228	0.221
Age: 65+	0.202	0.228
Born overseas	0.101	0.110
High school controls		
No financial challenge listed	0.639	0.592
1 financial challenge listed	0.229	0.238
2 financial challenges listed	0.132	0.169
Government (public) school	0.655	0.682
Catholic school	0.197	0.180
Other non-government school	0.148	0.138
Observations	1,095	1,156

Statistics are weighted using the survey weights provided with the TTPN data.

Analytical methods

Our outcomes of interest are mental distress during high school (retrospective) and in adulthood (at the time of the survey). In our main analysis, we classified individuals as being in mental distress if they reported feeling depressed or anxious most or all of the time [22,26]. This threshold is based on substantial concordance between our mental distress item and a categorical measure of the Kessler-6 psychological distress scale with a similar cut-off [26,27]. Our main analysis relies on logistic regressions to measure the associations of the main variables with the probability of being in mental distress. We report the average marginal effects for each variable.

Our estimations consider bullying and the various forms of discrimination jointly to assess which ones are still related to mental distress when controlling for the others. We separate bullying into different indicators to capture frequency, regrouping our two highest categories ('most' and 'all of the time') together because of the smaller share of respondents selecting those.

The control variables we include are only those that capture the person's background when they were in high school: the age categories, gender (for estimations that use both genders), an indicator for being born overseas, a categorical variable indicating the type of high school the person went to, and a variable indicating the number of financial challenges the person said they faced back in high school. We also include survey wave indicators. We do not control for variables related to the person's current situation at the time of the survey (e.g., employment status), as these could be outcomes affected by bullying or discrimination and might capture part of our estimate of interest.

A further consideration is the potential sparseness of the data in some cells. Because the models are estimated separately by gender, the number of respondents reporting a given type of discrimination and a given distress status may be small for some attributes. Appendix Table A3 reports these cell counts. Two are thin: of the 15 men who reported gender discrimination, 7 were in distress during high school, and of the 38 women who reported disability discrimination,

30 were. Cells of this size can bias logistic regression coefficients away from zero [29]. Consequently, we do not interpret the former and read the latter with caution. The pooled models are unaffected, with every attribute reported by at least 73 respondents.

Results

Table 2 reports the regression results for the associations between bullying intensity and discrimination types with high school mental distress and current mental distress. We first consider high school distress as an outcome in columns 1 to 3. There is a clear mental distress gradient in the intensity of bullying. For example, women who reported bullying some of the time were 16.2 percentage points more likely to report high school distress compared to women who were never bullied. Notably, women who were bullied most or all of the time were 32.5 percentage points more likely to report being in mental distress during high school as opposed to women who were never bullied.

In terms of discrimination, individuals who experienced discrimination based on their disability were 11 percentage points more likely to report distress in high school compared to those who did not report disability-based discrimination. While the coefficient is stronger for women than for men, we note, as discussed above, that the coefficient for women could be subject to sparse data problems (see Table A3).

Among women, having experienced discrimination based on their physical appearance and their gender was related to a higher probability of mental distress during high school. In contrast, men were more likely to have been mentally distressed during high school if they experienced discrimination based on their sexual orientation. There is also evidence that among women who were discriminated against based on their gender, mental distress in high school was significantly higher.

In relation to current mental distress (columns 4 to 6), having experienced bullying was in general related to a higher probability of distress, although the mental health gradients are weaker

compared to the high school distress outcome. Men and women who experienced bullying most or all of the time were 10.6 and 11.9 percentage points, respectively, more likely to be in distress relative to those who experienced no bullying during high school. Men and women who reported disability-based discrimination during high school were 10.5 and 10.9 percentage points, respectively, more likely to be in mental distress in adulthood compared to those who did not report this form of discrimination. Similarly, the likelihood of being in mental distress is higher among men reporting sexual orientation discrimination relative to those who do not. Overall, the results suggest that the frequency of bullying and some types of discrimination increase the probability of being in mental distress, both during high school and in adulthood. However, as we would expect, the size of the relationships was smaller for adult mental distress compared to mental distress during high school.

Table 3. Logistic regression results, average marginal effects

	Mental distress in high school			Current mental distress		
	All (1)	Male (2)	Female (3)	All (4)	Male (5)	Female (6)
Bullying in high school						
A little of the time	0.034 (0.024)	-0.022 (0.034)	0.060* (0.034)	-0.028 (0.022)	-0.046 (0.030)	-0.012 (0.032)
Some of the time	0.144*** (0.024)	0.108*** (0.032)	0.162*** (0.035)	0.039* (0.022)	0.001 (0.031)	0.077** (0.032)
Most or all of the time	0.275*** (0.027)	0.204*** (0.035)	0.325*** (0.040)	0.120*** (0.025)	0.106*** (0.034)	0.119*** (0.037)
Harassment or discrimination in high school						
Race or ethnicity	-0.008 (0.024)	0.033 (0.031)	-0.042 (0.036)	-0.016 (0.022)	0.004 (0.029)	-0.029 (0.033)
Religion	-0.048 (0.032)	-0.043 (0.035)	-0.040 (0.051)	0.021 (0.024)	-0.006 (0.030)	0.060 (0.038)
Disability	0.110*** (0.033)	0.053 (0.038)	0.205*** (0.063)	0.098*** (0.028)	0.105*** (0.035)	0.109*** (0.042)
Finance	0.017 (0.021)	0.039 (0.027)	0.005 (0.032)	-0.012 (0.021)	0.020 (0.027)	-0.039 (0.031)
Physical appearance	0.042** (0.016)	0.022 (0.021)	0.060** (0.024)	0.026 (0.016)	0.023 (0.020)	0.024 (0.024)
Sexual orientation	0.151*** (0.029)	0.149*** (0.028)	0.102* (0.058)	0.048* (0.025)	0.060** (0.027)	0.023 (0.041)
Gender	0.046** (0.023)	0.037 (0.053)	0.062** (0.029)	-0.000 (0.025)	0.051 (0.051)	-0.018 (0.031)
Other	0.058** (0.027)	0.034 (0.034)	0.085** (0.041)	0.038 (0.027)	0.051 (0.038)	0.022 (0.040)
Other controls						
Age: 35-49	-0.100*** (0.020)	-0.064*** (0.024)	-0.130*** (0.030)	-0.062*** (0.021)	-0.051* (0.027)	-0.072** (0.030)
Age: 50-64	-0.126*** (0.020)	-0.090*** (0.026)	-0.159*** (0.030)	-0.098*** (0.020)	-0.104*** (0.027)	-0.088*** (0.030)
Age: 65+	-0.174*** (0.023)	-0.118*** (0.028)	-0.225*** (0.035)	-0.175*** (0.019)	-0.151*** (0.024)	-0.196*** (0.027)
Female	0.099*** (0.015)			0.040*** (0.014)		
Born overseas	-0.040 (0.024)	-0.063* (0.034)	-0.032 (0.037)	0.043** (0.020)	0.039 (0.026)	0.050* (0.030)
1 financial challenge listed	-0.002 (0.017)	0.011 (0.023)	-0.003 (0.026)	0.044** (0.017)	0.030 (0.024)	0.051** (0.025)
2 or more financial challenges listed	0.086*** (0.024)	0.042 (0.031)	0.124*** (0.034)	0.103*** (0.024)	0.067** (0.032)	0.137*** (0.034)
Catholic school	-0.029 (0.019)	-0.021 (0.023)	-0.039 (0.030)	0.036* (0.019)	0.023 (0.024)	0.047 (0.030)
Other non-government school	-0.002 (0.020)	0.002 (0.025)	0.001 (0.031)	-0.020 (0.019)	-0.042* (0.022)	-0.002 (0.031)
Wave 2	0.001 (0.017)	0.040* (0.021)	-0.031 (0.025)	-0.012 (0.017)	-0.019 (0.022)	-0.006 (0.025)
Wave 3	0.024 (0.017)	0.061*** (0.022)	-0.007 (0.026)	-0.005 (0.017)	-0.005 (0.023)	-0.002 (0.024)
Observations	2251	1095	1156	2251	1095	1156

Robust standard errors in parentheses. * p<0.1; ** p<0.05; *** p<0.01. Reference category: male aged 18-34, born in Australia, bullied none of the time, not harassed based on any attribute, no financial challenge in high school, attended a public school, wave 1.

Robustness

In this robustness analysis, we vary our definition of the outcome in two ways. First, we use a broader definition of mental distress: feeling depressed or anxious at least some of the time (as opposed to at least ‘most of the time’ in the main specification). Second, we leave the original (five) categories unchanged and estimate an ordered logit model. These alternative specifications support our main finding that frequent bullying is associated with greater mental distress during high school and in adulthood, although the statistical significance of some discrimination variables varies across specifications. For example, the association between disability-based discrimination and adult mental distress among men was statistically significant in the main specification, but not when using the broader definition of distress. Table A4 presents the logit estimation with the alternative outcome, while Table A5 presents the odds ratios from the ordered logit model.

We also assess the sensitivity of the results to explicit nonresponse and the use of a common estimation sample. When respondents selecting ‘Don’t know’ or ‘Prefer not to say’ for the bullying, discrimination, or financial-challenge items are retained as separate response categories, the association between frequent bullying and mental distress remains similar in magnitude in all pooled and gender-specific models for both outcomes (Tables A6 and A7), though some estimates for discrimination measures become less precise. The estimates are also substantively unchanged when the high-school and current mental-distress models are estimated using their respective outcome-specific samples (Tables A8 and A9).

Discussion and conclusion

The data used in this paper allowed us to observe both the frequency of bullying and the type of discrimination or harassment respondents experienced in high school. We found that frequent bullying is strikingly high for certain groups, with the highest rates among those discriminated against based on their disability. This finding is concerning in itself, and even more so given that both disability-related discrimination and frequent bullying strongly relate to greater mental distress in high school and in adulthood.

We find strong and robust evidence that more frequent bullying during high school is associated with greater mental distress during high school and greater mental distress in adulthood. These findings hold even after adjusting for having been discriminated against based on certain personal attributes, suggesting that the experience of bullying is strongly associated with mental distress independently from these confounding factors. These results are concerning within the context of very high rates of bullying in Australian schools [30].

School-based anti-bullying programmes have been evaluated extensively, and the evidence indicates that they improve outcomes. A meta-analysis of 100 evaluations finds that such programmes reduce bullying perpetration by around 18 percent and victimisation by around 15 percent [31], and a meta-analysis restricted to 69 randomised trials reaches similar conclusions [32]. There is also evidence that such interventions reduce the mental health consequences of victimisation, not only its incidence [33]. These effects, which the authors describe as modest, make the question of where programmes are directed a consequential one.

Our results speak to that question. Individuals discriminated against due to characteristics such as disability or sexual orientation are not only more likely to experience frequent bullying but also report worse mental health, making them a clear priority for programme delivery. Interventions aimed at the school environment can also address harm tied to specific attributes. Anti-bullying laws that explicitly name sexual orientation have been linked to lower victimisation among gay and bisexual boys, though not among girls [34]. More broadly, measures that improve school climate and make classrooms more inclusive for students with these attributes may reduce the conditions in which attribute-based bullying arises. We are, however, not aware of comparable evidence for students targeted on the basis of disability, who face even higher rates of frequent bullying in our data.

This study has limitations. First, our estimates should not be interpreted as causal relationships. Although we controlled for key factors such as discrimination targeted at various groups, which would capture the hardship associated with these groups, bullying is likely associated with

various other factors also related to mental distress. As such, this paper's contribution is not to establish a causal effect of bullying, but rather to highlight and quantify the challenges bullied individuals tend to face.

Another limitation is that our measures of interest (bullying, discrimination and mental distress) are based on self-reports, leaving room for subjectivity and biases. People could define and experience discrimination differently [35], which may lead survey respondents to interpret the same question in different ways. However, the fact that frequent bullying is strongly concentrated among those reporting discrimination based on specific attributes, rather than uniformly across all respondents, lends confidence that the self-reported measures reflect genuine experience.

A further limitation is that all of our measures were collected at the same time, from adults recalling their high school years. The analysis of distress during high school is therefore not prospective: bullying, discrimination and adolescent distress were each retrospectively reported. Retrospective and prospective measures of childhood adversity have been found to agree imperfectly, suggesting that they may identify partly different individuals [36]. Furthermore, the associations we document may partly reflect recall processes rather than the experiences themselves. Respondents who are currently distressed could recall their adolescence more negatively, and people tend to answer questions within a single survey in a similar way, which can make related items appear more strongly linked than they are [37]. Eliminating the possibility of recall bias would require data in which bullying and distress are measured prospectively, which is left for future research.

Future research could build on our approach of examining bullying and discrimination toward specific attributes jointly. Importantly, given that we identify groups facing a particularly high burden, a valuable next step would be to design and trial targeted interventions for these groups, evaluating whether tailored programs are more effective than universal approaches at reducing bullying and its mental health consequences.

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Appendix

Table A1. Sample exclusions

Sample stage	N	Percent
Initial pooled sample	3,067	100.0
Completed high school outside Australia	322	10.5
Missing valid school type	98	3.2
Reported another gender category	17	0.6
Missing at least one analysis item	379	12.4
Final common analysis sample	2,251	73.4

Percentages use the initial pooled sample as the denominator. Exclusion categories are mutually exclusive and reflect the order in which the criteria were applied.

Table A2. Item-level missingness among respondents in analytical scope

Variable	Missing N	Percent	Don't know	Prefer not to say
Mental distress during high school	73	2.8	68	5
Bullying frequency during high school	43	1.6	35	8
Current mental distress	22	0.8	11	11
Discrimination items	153	5.8	128	25
Financial challenges during high school	189	7.2	155	34

The denominator is 2,630 respondents who completed high school in Australia, reported male or female, and had valid school-type information. Missingness can overlap across variables, so the item counts should not be summed. Respondents could not answer “Prefer not to say” or “Don’t know” for age or for the born overseas indicator.

Table A3. Number of respondents reporting each type of discrimination, by distress status and gender

	Men: distressed in HS	Men: not distressed in HS	Men: currently distressed	Men: not currently distressed	Women: distressed in HS	Women: not distressed in HS	Women: currently distressed	Women: not currently distressed
Race or ethnicity	22	93	19	96	32	80	24	88
Religion	9	50	10	49	20	30	18	32
Disability	14	21	15	20	30	8	19	19
Financial situation	30	89	26	93	61	66	35	92
Physical appearance	92	298	72	318	173	260	106	327
Sexual orientation	35	31	21	45	31	13	17	27
Gender	7	8	6	9	51	73	26	98
Other	14	52	12	54	26	35	15	46

Table A4. Logistic regressions, average marginal effects (alternative dependent variable)

	Mental distress in high school			Current mental distress		
	All (1)	Male (2)	Female (3)	All (4)	Male (5)	Female (6)
Bullying in high school						
A little of the time	0.111*** (0.023)	0.078** (0.037)	0.128*** (0.029)	0.041 (0.026)	0.032 (0.039)	0.053 (0.036)
Some of the time	0.286*** (0.025)	0.305*** (0.036)	0.244*** (0.034)	0.117*** (0.029)	0.139*** (0.041)	0.093** (0.042)
Most or all of the time	0.428*** (0.040)	0.397*** (0.053)	0.480*** (0.068)	0.234*** (0.038)	0.233*** (0.052)	0.230*** (0.057)
Harassment or discrimination in high school						
Race or ethnicity	0.044 (0.032)	0.027 (0.045)	0.061 (0.046)	-0.008 (0.032)	-0.001 (0.042)	-0.020 (0.047)
Religion	0.005 (0.042)	-0.007 (0.051)	0.016 (0.072)	-0.005 (0.040)	-0.008 (0.050)	0.007 (0.063)
Disability	0.170** (0.075)	0.148 (0.097)	0.282** (0.125)	0.122** (0.057)	0.091 (0.070)	0.181* (0.093)
Finance	-0.034 (0.031)	0.011 (0.041)	-0.073 (0.047)	-0.058* (0.034)	-0.043 (0.044)	-0.060 (0.050)
Physical appearance	0.081*** (0.020)	0.058** (0.029)	0.107*** (0.028)	0.044** (0.022)	0.069** (0.029)	0.022 (0.032)
Sexual orientation	0.177*** (0.058)	0.208*** (0.064)	0.120 (0.122)	0.098** (0.046)	0.128** (0.052)	0.017 (0.078)
Gender	0.075* (0.044)	-0.030 (0.117)	0.092** (0.046)	0.061 (0.039)	0.011 (0.102)	0.081* (0.044)
Other	0.118*** (0.040)	0.097* (0.052)	0.141** (0.066)	0.041 (0.041)	0.053 (0.054)	0.026 (0.062)
Demographics						
Age: 35-49	-0.100*** (0.025)	-0.069* (0.036)	-0.128*** (0.035)	-0.064** (0.027)	-0.032 (0.037)	-0.098** (0.039)
Age: 50-64	-0.148*** (0.025)	-0.121*** (0.037)	-0.176*** (0.036)	-0.170*** (0.027)	-0.137*** (0.037)	-0.205*** (0.038)
Age: 65+	-0.219*** (0.027)	-0.203*** (0.039)	-0.231*** (0.037)	-0.247*** (0.028)	-0.198*** (0.039)	-0.300*** (0.041)
Female	0.140*** (0.018)			0.115*** (0.019)		
Born overseas	-0.044 (0.029)	-0.015 (0.041)	-0.070* (0.041)	0.081*** (0.030)	0.097** (0.040)	0.060 (0.043)
High school controls						
1 financial challenge listed	0.072*** (0.024)	0.077** (0.034)	0.072** (0.034)	0.105*** (0.025)	0.100*** (0.035)	0.105*** (0.035)
2 or more financial challenges listed	0.193*** (0.032)	0.158*** (0.046)	0.226*** (0.043)	0.161*** (0.032)	0.152*** (0.047)	0.167*** (0.044)
Catholic school	-0.008 (0.023)	-0.007 (0.033)	-0.008 (0.032)	0.007 (0.025)	0.023 (0.033)	-0.009 (0.037)
Other non-government school	0.008 (0.027)	-0.015 (0.038)	0.036 (0.037)	-0.028 (0.028)	-0.030 (0.038)	-0.032 (0.041)
Other controls						
Wave 2	-0.034 (0.022)	-0.026 (0.031)	-0.036 (0.031)	-0.016 (0.023)	-0.015 (0.032)	-0.010 (0.034)
Wave 3	-0.000 (0.021)	0.034 (0.031)	-0.027 (0.028)	-0.024 (0.023)	-0.039 (0.032)	-0.006 (0.032)
Observations	2251	1095	1156	2251	1095	1156

Robust standard errors in parentheses. * p<0.1; ** p<0.05; *** p<0.01. Reference category: male (or female in columns c and f) aged 18-34, born in Australia, bullied none of the time, not harassed based on any attribute, no financial challenge in high school, attended a public school, wave 1.

Table A5. Ordered logit regression results, odds ratios

	Mental distress in high school			Current mental distress		
	All (1)	Male (2)	Female (3)	All (4)	Male (5)	Female (6)
Bullying in high school						
A little of the time	2.465*** (0.275)	2.380*** (0.396)	2.462*** (0.371)	1.309** (0.140)	1.378* (0.227)	1.266 (0.187)
Some of the time	5.848*** (0.786)	7.335*** (1.518)	4.739*** (0.853)	1.959*** (0.244)	2.155*** (0.409)	1.922*** (0.331)
Most or all of the time	17.420*** (3.317)	18.338*** (5.400)	17.415*** (4.372)	3.780*** (0.689)	4.414*** (1.298)	3.438*** (0.803)
Harassment or discrimination in high school						
Race or ethnicity	1.061 (0.150)	1.129 (0.244)	0.982 (0.194)	0.978 (0.130)	0.961 (0.189)	0.990 (0.185)
Religion	0.837 (0.154)	0.751 (0.186)	0.945 (0.267)	1.267 (0.198)	1.275 (0.233)	1.231 (0.337)
Disability	3.110*** (0.785)	2.463** (0.968)	4.304*** (1.442)	2.087*** (0.485)	2.034* (0.758)	2.304*** (0.640)
Finance	1.042 (0.133)	1.233 (0.221)	0.962 (0.184)	0.932 (0.124)	1.158 (0.209)	0.765 (0.151)
Physical appearance	1.565*** (0.146)	1.334** (0.179)	1.807*** (0.239)	1.264** (0.117)	1.411*** (0.188)	1.122 (0.146)
Sexual orientation	3.179*** (0.757)	3.847*** (1.123)	2.438** (1.029)	1.734*** (0.359)	1.786** (0.456)	1.436 (0.469)
Gender	1.360* (0.245)	1.262 (0.678)	1.398* (0.277)	1.288 (0.198)	1.850 (1.012)	1.280 (0.210)
Other	1.667*** (0.285)	1.647** (0.393)	1.727** (0.428)	1.232 (0.223)	1.284 (0.325)	1.133 (0.311)
Demographics						
Age: 35-49	0.602*** (0.065)	0.734** (0.110)	0.500*** (0.079)	0.790** (0.084)	0.989 (0.152)	0.620*** (0.093)
Age: 50-64	0.439*** (0.049)	0.523*** (0.084)	0.368*** (0.059)	0.447*** (0.052)	0.512*** (0.087)	0.385*** (0.063)
Age: 65+	0.307*** (0.037)	0.308*** (0.054)	0.302*** (0.050)	0.308*** (0.037)	0.366*** (0.065)	0.252*** (0.041)
Female	2.207*** (0.183)			1.865*** (0.157)		
Born overseas	0.832 (0.108)	0.824 (0.154)	0.829 (0.154)	1.310** (0.166)	1.364* (0.249)	1.288 (0.237)
High school controls						
1 financial challenge listed	1.479*** (0.147)	1.583*** (0.226)	1.456*** (0.205)	1.779*** (0.173)	1.846*** (0.258)	1.672*** (0.230)
2 or more financial challenges listed	2.444*** (0.321)	1.985*** (0.407)	2.843*** (0.488)	2.259*** (0.293)	2.149*** (0.426)	2.367*** (0.412)
Catholic school	0.908 (0.096)	0.938 (0.135)	0.872 (0.136)	1.086 (0.116)	1.276* (0.185)	0.917 (0.144)
Other non-government school	1.177 (0.137)	1.137 (0.196)	1.261 (0.203)	0.833 (0.097)	0.806 (0.137)	0.817 (0.135)
Other controls						
Wave 2	0.891 (0.085)	1.067 (0.151)	0.786* (0.105)	0.908 (0.088)	0.977 (0.139)	0.884 (0.121)
Wave 3	1.008 (0.096)	1.334** (0.184)	0.816 (0.111)	0.926 (0.089)	1.002 (0.145)	0.888 (0.116)
Observations	2251	1095	1156	2251	1095	1156

Robust standard errors in parentheses. * p<0.1; ** p<0.05; *** p<0.01. Reference category: male (or female in columns c and f) aged 18-34, born in Australia, bullied none of the time, not harassed based on any attribute, no financial challenge in high school, attended a public school, wave 1.

Table A6. Sensitivity to the treatment of explicit nonresponse - Mental distress during high school

	All		Men		Women	
	Complete case	NR indicator	Complete case	NR indicator	Complete case	NR indicator
	(1)	(2)	(3)	(4)	(5)	(6)
Bullying in high school						
A little of the time	0.034 (0.024)	0.041* (0.024)	-0.022 (0.034)	-0.016 (0.034)	0.060* (0.034)	0.070** (0.034)
Some of the time	0.144*** (0.024)	0.146*** (0.024)	0.108*** (0.032)	0.108*** (0.032)	0.162*** (0.035)	0.166*** (0.034)
Most or all of the time	0.275*** (0.027)	0.283*** (0.026)	0.204*** (0.035)	0.208*** (0.035)	0.325*** (0.040)	0.340*** (0.038)
Harassment or discrimination in high school						
Race or ethnicity	-0.008 (0.024)	-0.008 (0.024)	0.033 (0.031)	0.031 (0.030)	-0.042 (0.036)	-0.041 (0.036)
Religion	-0.048 (0.032)	-0.050 (0.032)	-0.043 (0.035)	-0.043 (0.035)	-0.040 (0.051)	-0.045 (0.051)
Disability	0.110*** (0.033)	0.108*** (0.032)	0.053 (0.038)	0.050 (0.038)	0.205*** (0.063)	0.201*** (0.064)
Financial situation	0.017 (0.021)	0.019 (0.021)	0.039 (0.027)	0.036 (0.027)	0.005 (0.032)	0.011 (0.032)
Physical appearance	0.042** (0.016)	0.040** (0.016)	0.022 (0.021)	0.022 (0.021)	0.060** (0.024)	0.059** (0.024)
Sexual orientation	0.151*** (0.029)	0.155*** (0.029)	0.149*** (0.028)	0.148*** (0.028)	0.102* (0.058)	0.121** (0.061)
Gender	0.046** (0.023)	0.048** (0.023)	0.037 (0.053)	0.035 (0.053)	0.062** (0.029)	0.063** (0.029)
Other	0.058** (0.027)	0.058** (0.027)	0.034 (0.034)	0.033 (0.034)	0.085** (0.041)	0.085** (0.041)
Nonresponse indicators						
Bullying item: Don't know or Prefer not to say		-0.009 (0.086)		0.065 (0.100)		-0.061 (0.137)
Discrimination item: Don't know or Prefer not to say		0.018 (0.034)		0.039 (0.050)		0.012 (0.045)
Observations	2,251	2,371	1,095	1,140	1,156	1,231

Average marginal effects are reported, with robust standard errors in parentheses. Complete-case models exclude respondents with missing values on any model variable. NR-indicator models retain respondents selecting Don't know or Prefer not to say for the bullying or discrimination items and include a separate indicator for each item; respondents missing other model variables remain excluded. All models control for age category, gender in the pooled models, country of birth, financial challenges during high school, school type, and survey wave. The reference categories are no bullying and no report of the relevant form of discrimination. * p<0.1; ** p<0.05; *** p<0.01.

Table A7. Sensitivity to the treatment of explicit nonresponse - Current mental distress

	All		Men		Women	
	Complete case	NR indicator	Complete case	NR indicator	Complete case	NR indicator
	(1)	(2)	(3)	(4)	(5)	(6)
Bullying in high school						
A little of the time	-0.028 (0.022)	-0.028 (0.021)	-0.046 (0.030)	-0.042 (0.029)	-0.012 (0.032)	-0.015 (0.031)
Some of the time	0.039* (0.022)	0.041* (0.022)	0.001 (0.031)	0.006 (0.030)	0.077** (0.032)	0.078** (0.031)
Most or all of the time	0.120*** (0.025)	0.122*** (0.025)	0.106*** (0.034)	0.114*** (0.034)	0.119*** (0.037)	0.122*** (0.037)
Harassment or discrimination in high school						
Race or ethnicity	-0.016 (0.022)	-0.017 (0.022)	0.004 (0.029)	0.003 (0.029)	-0.029 (0.033)	-0.030 (0.033)
Religion	0.021 (0.024)	0.021 (0.024)	-0.006 (0.030)	-0.005 (0.031)	0.060 (0.038)	0.062 (0.038)
Disability	0.098*** (0.028)	0.099*** (0.028)	0.105*** (0.035)	0.102*** (0.035)	0.109*** (0.042)	0.109*** (0.042)
Financial situation	-0.012 (0.021)	-0.011 (0.021)	0.020 (0.027)	0.019 (0.027)	-0.039 (0.031)	-0.039 (0.031)
Physical appearance	0.026 (0.016)	0.025 (0.016)	0.023 (0.020)	0.022 (0.020)	0.024 (0.024)	0.025 (0.024)
Sexual orientation	0.048* (0.025)	0.047* (0.025)	0.060** (0.027)	0.059** (0.028)	0.023 (0.041)	0.025 (0.041)
Gender	-0.000 (0.025)	0.001 (0.025)	0.051 (0.051)	0.051 (0.052)	-0.018 (0.031)	-0.017 (0.031)
Other	0.038 (0.027)	0.037 (0.027)	0.051 (0.038)	0.049 (0.038)	0.022 (0.040)	0.021 (0.040)
Nonresponse indicators						
Bullying item: Don't know or Prefer not to say		-0.137 (0.118)		-0.049 (0.122)		-
Discrimination item: Don't know or Prefer not to say		0.029 (0.033)		0.075* (0.042)		0.000 (0.048)
Observations	2,251	2,371	1,095	1,140	1,156	1,220

Average marginal effects are reported, with robust standard errors in parentheses. Complete-case models exclude respondents with missing values on any model variable. NR-indicator models retain respondents selecting Don't know or Prefer not to say for the bullying or discrimination items and include a separate indicator for each item; respondents missing other model variables remain excluded. All models control for age category, gender in the pooled models, country of birth, financial challenges during high school, school type, and survey wave. The reference categories are no bullying and no report of the relevant form of discrimination. * p<0.1; ** p<0.05; *** p<0.01. The bullying nonresponse indicator was omitted from the current-distress model for women because no women in that estimation sample selected 'Don't know' or 'Prefer not to say' for the bullying item.

Table A8. Sensitivity to the use of a common estimation sample - Mental distress during high school

	All		Male		Female	
	Common sample	Own outcome sample	Common sample	Own outcome sample	Common sample	Own outcome sample
	(1)	(2)	(3)	(4)	(5)	(6)
Bullying in high school						
A little of the time	0.034 (0.024)	0.034 (0.024)	-0.022 (0.034)	-0.022 (0.034)	0.060* (0.034)	0.059* (0.034)
Some of the time	0.144*** (0.024)	0.143*** (0.024)	0.108*** (0.032)	0.109*** (0.032)	0.162*** (0.035)	0.161*** (0.035)
Most or all of the time	0.275*** (0.027)	0.275*** (0.027)	0.204*** (0.035)	0.204*** (0.035)	0.325*** (0.040)	0.325*** (0.040)
Harassment or discrimination in high school						
Race or ethnicity	-0.008 (0.024)	-0.009 (0.024)	0.033 (0.031)	0.032 (0.030)	-0.042 (0.036)	-0.042 (0.036)
Religion	-0.048 (0.032)	-0.050 (0.031)	-0.043 (0.035)	-0.044 (0.034)	-0.040 (0.051)	-0.040 (0.050)
Disability	0.110*** (0.033)	0.109*** (0.032)	0.053 (0.038)	0.051 (0.038)	0.205*** (0.063)	0.205*** (0.063)
Finance	0.017 (0.021)	0.016 (0.021)	0.039 (0.027)	0.039 (0.027)	0.005 (0.032)	0.004 (0.032)
Physical appearance	0.042** (0.016)	0.041** (0.016)	0.022 (0.021)	0.022 (0.021)	0.060** (0.024)	0.060** (0.024)
Sexual orientation	0.151*** (0.029)	0.151*** (0.029)	0.149*** (0.028)	0.149*** (0.028)	0.102* (0.058)	0.101* (0.058)
Gender	0.046** (0.023)	0.046** (0.023)	0.037 (0.053)	0.037 (0.053)	0.062** (0.029)	0.063** (0.029)
Other	0.058** (0.027)	0.058** (0.027)	0.034 (0.034)	0.034 (0.034)	0.085** (0.041)	0.086** (0.041)
Observations	2,251	2,257	1,095	1,097	1,156	1,160

Average marginal effects are reported, with robust standard errors in parentheses. The reference categories are no bullying and no report of the relevant form of discrimination. Common-sample models require valid responses for both mental-distress outcomes. Outcome-specific models require a valid response only for the dependent variable used in that model, along with valid information for the other model variables. All models control for age category, gender in the pooled models, country of birth, financial challenges during high school, school type, and survey wave. * p<0.1; ** p<0.05; *** p<0.01.

Table A9. Sensitivity to the use of a common estimation sample - Current mental distress

	All		Male		Female	
	Common sample	Own outcome sample	Common sample	Own outcome sample	Common sample	Own outcome sample
	(1)	(2)	(3)	(4)	(5)	(6)
Bullying in high school						
A little of the time	-0.028 (0.022)	-0.025 (0.021)	-0.046 (0.030)	-0.038 (0.030)	-0.012 (0.032)	-0.014 (0.031)
Some of the time	0.039* (0.022)	0.042* (0.022)	0.001 (0.031)	0.011 (0.031)	0.077** (0.032)	0.075** (0.032)
Most or all of the time	0.120*** (0.025)	0.120*** (0.025)	0.106*** (0.034)	0.112*** (0.034)	0.119*** (0.037)	0.116*** (0.037)
Harassment or discrimination in high school						
Race or ethnicity	-0.016 (0.022)	-0.016 (0.022)	0.004 (0.029)	0.004 (0.028)	-0.029 (0.033)	-0.029 (0.033)
Religion	0.021 (0.024)	0.026 (0.024)	-0.006 (0.030)	0.002 (0.032)	0.060 (0.038)	0.061 (0.038)
Disability	0.098*** (0.028)	0.095*** (0.028)	0.105*** (0.035)	0.104*** (0.035)	0.109*** (0.042)	0.100** (0.041)
Finance	-0.012 (0.021)	-0.010 (0.021)	0.020 (0.027)	0.019 (0.027)	-0.039 (0.031)	-0.035 (0.031)
Physical appearance	0.026 (0.016)	0.024 (0.016)	0.023 (0.020)	0.022 (0.020)	0.024 (0.024)	0.023 (0.023)
Sexual orientation	0.048* (0.025)	0.049** (0.024)	0.060** (0.027)	0.060** (0.027)	0.023 (0.041)	0.027 (0.040)
Gender	-0.000 (0.025)	-0.003 (0.025)	0.051 (0.051)	0.052 (0.050)	-0.018 (0.031)	-0.020 (0.030)
Other	0.038 (0.027)	0.037 (0.027)	0.051 (0.038)	0.049 (0.037)	0.022 (0.040)	0.019 (0.039)
Observations	2,251	2,296	1,095	1,120	1,156	1,176

Average marginal effects are reported, with robust standard errors in parentheses. The reference categories are no bullying and no report of the relevant form of discrimination. Common-sample models require valid responses for both mental-distress outcomes. Outcome-specific models require a valid response only for the dependent variable used in that model, along with valid information for the other model variables. All models control for age category, gender in the pooled models, country of birth, financial challenges during high school, school type, and survey wave. * p<0.1; ** p<0.05; *** p<0.01.