

The economic cost of bullying in Australian schools

*Alannah and Madeline
Foundation*

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Key messages

- Almost 25 per cent of school students in Australia, or an estimated 910,000 children, experience bullying at some stage during their time in school. The consequences of bullying last for many years after schooling is complete.
- Each year, **543,000 bully perpetrators instigate more than 45 million bullying incidents**. This means that, on average, male bully victims experience 51 bullying incidents and female bully victims experience 48 bullying incidents each year, or more than one incident per school week.
- There are three main types of bullying: **overt bullying**, which is most easily identified because it is visible, be it physical, verbal or visible exclusion; **covert bullying**, which is more difficult to detect and includes spreading rumours; and **cyber bullying**, a newer form of traditional bullying that transpires online and is difficult to define and measure.
- The trauma that occurs as a consequence of bullying is felt both immediately at school and long after students have completed school. Whilst the bullying itself may stop after school, the potential consequences may continue to impact family and community members and the health system, in addition to the individual involved.
- This analysis has identified that the costs associated with bullying total an estimated \$2.3 billion, incurred while the children are in school and for 20 years after school completion, for each individual school year group.¹ The estimated costs are experienced by individuals, families and communities and can be broken into two components:
 - By the time each student cohort has completed its schooling years (generally this is 13 years), victims of bullying, perpetrators, their families, schools and the community will have experienced an estimated \$525 million in costs associated with bullying.
 - After school completion, the consequences of bullying continue and are estimated to cost \$1.8 billion for each single cohort of students over a period of 20 years. This is driven by impacts to productivity, chronic health issues, and impacts on family and the community from continued bullying behaviour that can extend to violence.
- Some bullying consequences are complex to quantify, including the increased likelihood of engaging in risky behaviours such as consumption of alcohol, tobacco and illicit drugs as well as the increased likelihood to offend. Because the academic literature is not conclusive, the associated economic impacts cannot be robustly quantified and this group of potential consequences have not been included in this analysis.
- Students who are at increased risk of experiencing bullying include those who identify as lesbian, gay, bisexual, transgender and intersex (LGBTI), culturally and linguistically diverse, having a disability or Indigenous Australians. The impacts of bullying to these students are not included because some will identify with more than one of these groups.
- Understanding the economic cost and impacts associated with bullying in Australia is critical to informing the design of appropriate evidence-informed programs and prevention measures to reduce its occurrence, however improvement in data availability including surveys and administrative data with trends would improve future estimates of bullying prevalence and consequences.

¹ School year group refers to all students in one school year, for example all students in Year 3, over the course of their schooling career, typically from kindergarten to Year 12, a total of 13 years during school.

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1 Introduction

PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC) was engaged by the Alannah and Madeline Foundation (AMF), with funding from the Victorian Department of Education and Training, to conduct an economic impact analysis of the cost of bullying in Australian schools, and Victorian schools specifically.

The objective of this analysis has been to identify and quantify, to the extent possible, the breadth of the impacts of bullying across student and adult life. This analysis will be used to raise awareness about the impacts that bullying has in the community, as well as facilitate discussions amongst key stakeholders to further investigate the issue.

Bullying is considered to be the ongoing misuse of power in relationships through repeated verbal, physical and/or social behaviour that causes physical and/or psychological harm. For the purpose of this study, it is defined as repeated incidents of at least once per month, and for some students, this can occur as much as once or twice a day.² The economic modelling completed in this analysis calculates the impacts of bullying based on this definition during school years and over a period of 20 years after school completion.

In Australia, there are approximately 910,000 students who are victims of bullying each year, totalling an estimated 45 million bullying incidents across all schools, instigated by around 543,000 bully perpetrators. The relationship between bully perpetrators and bully victims is complex, with a portion of students acting as 'bully-victims' who are both victim to and perpetrators of bullying at different stages. There are an estimated 218,000 bully-victims, representing 24 per cent of victims of bullying and 40 per cent of bully perpetrators.³

Bullying is an important issue due to its high prevalence among Australian students and the lasting impacts that it has beyond a student's school years. As technology use continues to rise, so does cyber bullying, which operates in a markedly changed environment where students can find themselves victimised at home as well as in the community or at school. Understanding the economic cost and impacts associated with bullying is critical to inform the design of the appropriate evidence informed programs and prevention measures to reduce prevalence.

There has been no Australian economic study that seeks to quantify the impacts and consequences of bullying. This quantified estimate of the cost of bullying seeks to highlight the scale of the negative impacts of bullying, often experienced on a personal level or shared anecdotally, given that the costs of bullying are experienced by its victims, perpetrators and family and community members. This analysis focuses on the victims of bullying at school and the impacts of the incidents themselves. The causes of bullying are not in scope for this analysis.

This report contains the results of the economic analysis of the cost of bullying in schools in Australia. It describes the approach to complete the economic cost analysis, presents the results and identifies the limitations to the analysis. A supporting technical appendix provides detail around the methodology for each economic cost indicators.

² Rigby K, Johnson K, 'The Prevalence and effectiveness of anti - bullying strategies employed in Australian schools', University of South Australia, School of Education, 2016.

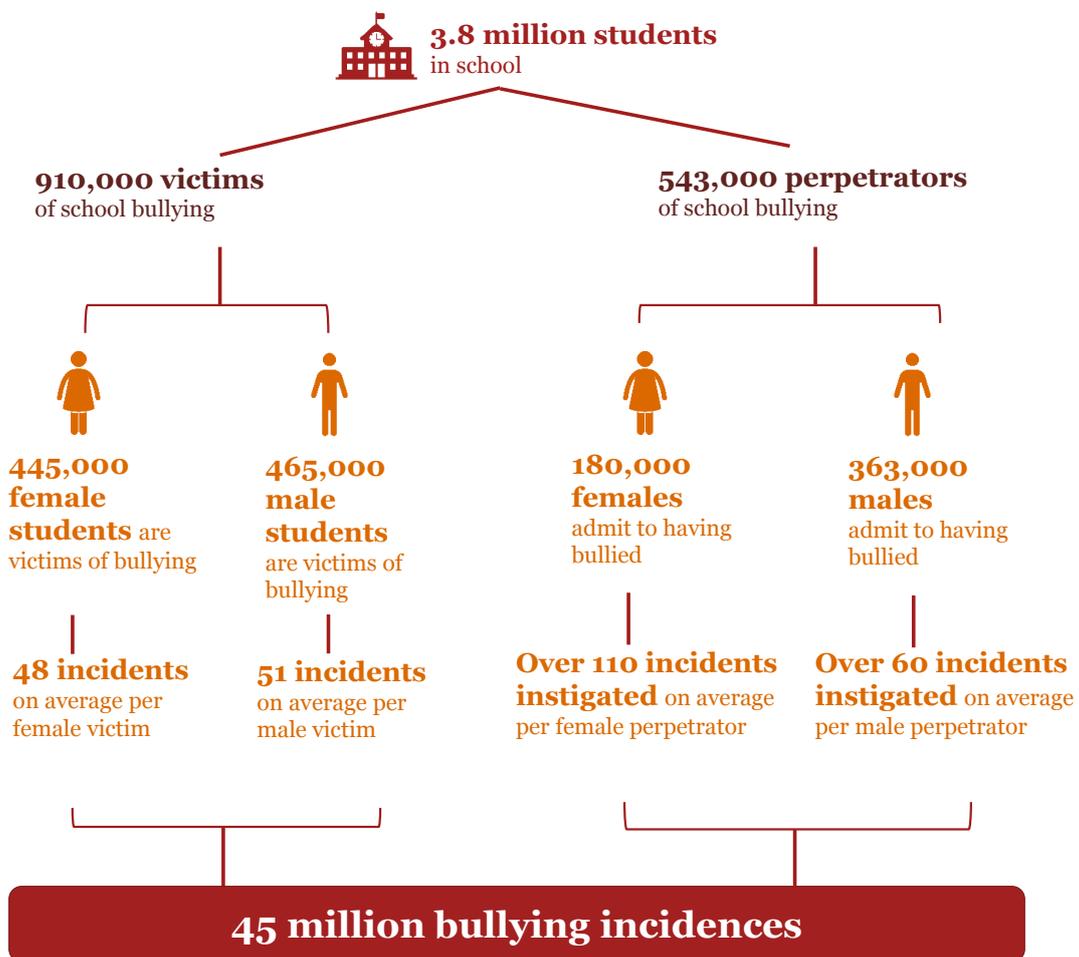
³ Ditch the Label, 'The Annual Bullying Survey 2016', 2017.

2 The costs of bullying in Australia

2.1 Prevalence of bullying

Of the 3.8 million students in school every year, an estimated 910,000 students are victims of bullying by an estimated 543,000 bullying perpetrators. This translates into an estimated 45 million bullying incidents per year. The figure below provides more details on the characteristics of the victims and perpetrators of bullying.

Figure 1: Prevalence of bullying in Australia per year



2.2 Consequences of bullying

The consequences of bullying are felt at the time of the incident and long into the future through reduced economic potential, negative health and social consequences, and pressures on the health and social service systems. The cost of bullying is estimated for the course of one student cohort over 13 years of school to be **\$525 million**. This economic impact flows on to the adult lives of bully victims and perpetrators in each student cohort, estimated at **\$1.8 billion** over a 20 year period. Cost impacts are categorised as:

- those experienced during school years of each school year cohort. This is also the annual cost of bullying for all school students
- the long term impacts of bullying for each individual school year cohort over a 20 year period after leaving school.

Bullying costs experienced during school years

By the time each student cohort has completed its schooling years (generally considered to be 13 years), victims of bullying, perpetrators, their families, schools and the system will have experienced an estimated \$525 million in cost associated with bullying. Key results for a student cohort's total school career include:

- the time spent on bullying by senior staff in schools to address bullying-related matters is estimated at over \$300 million
- the cost for carers to supervise students who are at home due to school bullying totals over \$180 million, comprising:
 - school days missed by bullying perpetrators due to disciplinary actions
 - school days missed by victims of bullying, with 10 per cent of students missing at least one day of school per month due to bullying⁴
- the costs associated with victims of bullying who reach out to health professionals, including general practitioners (GPs), mental health professionals, and the hospital sector are estimated at over \$33 million over the course of a student cohort's school years.

⁴ Wilke, C. (2017), 'Why does bullying cost California schools \$276 million every year?', The Sacramento Bee, 31 July 2017.

Table 1: Economic costs that will be experienced during school years for new school starters in 2018

Economic cost domain	Costs experienced during school years for new school starters (millions)
<i>Senior staff time spent on bullying</i>	\$307
<i>Cost of carers for students at home</i>	\$182
<i>Primary and acute health services</i>	\$5
<i>Mental health service use</i>	\$28
<i>Police involvement</i>	\$3
Total	\$525

The long term consequences of bullying

The consequences of bullying for those involved last for years beyond school completion. For a single cohort of students, these costs are estimated to be over \$1.8 billion over a 20 year period after they have left school, driven by the extent to which bullying impacts on productivity, leads to chronic health and wellbeing conditions, and impacts on the community member through continued bullying behaviour that can include violence. Key results for the long term consequences of bullying for one school student year group in Australia include:

- the academic performance of bullied students is hindered as a result of bullying, which leads to reduced income potential after leaving school. The impact of this is estimated at over \$500 million over a 20 year period
- chronic conditions including mental health, obesity and eating disorders have a combined impact of nearly \$340 million over a 20 year period when direct and indirect health costs are included nothing that the combined cost of mental health and obesity for the entire Australian population has been estimated at \$28 billion each year⁵
- continued bullying behaviour that can include violence, as bullying perpetrators are 3.5 times more likely to instigate intimate partner violence. The estimated cost of extended bullying behaviour including violence attributed to bullying is up to \$945 million over a 20 year period. Violence against women costs an estimated \$21.7 billion each year in Australia, which includes the costs associated with lost quality of life, health costs, productivity costs, consumption related costs, second generation costs, administrative costs and transfer costs⁶
- the forgone economic contribution of student that take their own lives because of bullying is over \$2 million for each school year group as five students took their own lives over a six year period. This result does not take into account other costs associated with suicide.

The approach to develop assumptions that quantify bullying consequences has been led by the literature where strong predictive relationships were identified. Conservative economic

⁵ PwC Australia (2015), 'Weighing the cost of obesity: A case for action', October 2015 & the National Commission of Audit (NCOA) (2014), *Towards Responsible Government, Appendix to the report of the National Commission of Audit – Volume 2*, Australian Government, March 2014.

⁶ PwC Australia (2015), 'A high price to pay, The economic case for preventing violence against women', November 2015.

assumptions were developed in acknowledgement of the limited data and the risk of over-attributing the effect of bullying given the potential that other risk factors may lead to the same or similar long term consequences. The table below identifies the long term costs of bullying within each economic cost domain.

Table 2: Economic costs experienced over a 20 year period beyond school years

Economic cost domain	Costs experienced beyond school years (millions)			
	Cost to individuals and families	Cost to governments	Costs to other stakeholders	Total
<i>Educational attainment impact on income</i>	\$506			\$506
<i>Adult mental health conditions</i>		\$150		\$150
<i>Adult obesity costs</i>	\$8	\$135	\$13	\$156
<i>Eating disorders</i>	\$20	\$10	\$4	\$34
<i>Continued bullying behaviour including violence</i>	\$412	\$335	\$198	\$945
<i>Suicide</i>	\$2			\$2
Total	\$948	\$630	\$215	\$1,793

3 Approach to the analysis

3.1 Key analysis inputs

Key inputs to the analysis were the desktop review and our stakeholder engagement process.

During the desktop review phase, information was gathered in the form of international and Australian academic articles, survey results and policy papers relating to bullying to build an understanding of the wide ranging impacts of bullying. The National Centre Against Bullying (NCAB) provided PwC with over 60 academic articles for the purpose of this analysis⁷.

The desktop review also included data gathering to support the economic analysis including data sourced from studies commissioned by state and Federal governments, the Australian Bureau of Statistics (ABS) and the Australian Institute of Health and Welfare (AIHW).

AMF and NCAB members were engaged during the process and were critical to the development of the analysis. Additional to the direct provision of academic articles, NCAB members validated key assumptions, PwC's interpretation of academic literature, and the final results.

The economic analysis involved the modelling of the impacts of bullying by quantifying each indicator metric using data from academic literature.

Appendix A lists the key sources used to form the driving assumptions for the economic cost indicators. A technical appendix has also been developed to outline the calculation that underlies each metric, including assumptions, data and the metrics PwC used to cost the impact of bullying nationally.

3.2 Analysis

As described above, PwC reviewed available literature and data to estimate the prevalence of bullying and to quantify the indicator metric for each consequence. The sections below show our findings from the literature review that underpin the analysis.

3.2.1 Identifying prevalence

Each year, an estimated 910,000 students experience bullying at school, equivalent to approximately 24 per cent of students; for around 15 per cent of all students, bullying is identified as a serious concern.⁸ This equates to an estimated 45 million bullying incidents across Australia.

Bullying is classified into three main categories; overt bullying, covert bullying and cyber bullying. These types of bullying can be experienced individually or in combination by victims and perpetrators alike.

Overt bullying

Overt bullying is the most commonly cited form of bullying, where the bullying incident can be seen in plain sight, be it physical violence, verbal or visible exclusion of a victim. As overt

⁷ The academic articles were gathered via an extensive literature search undertaken by members of the committee and papers compiled according to the following criteria: peer reviewed journal, English language, full text.

⁸ Rigby, K. & Johnson, K. (2016), 'The Prevalence and effectiveness of anti - bullying strategies employed in Australian schools', University of South Australia, School of Education, 2016.

bullying can be observed, it is more easily detected and addressed. However, overt bullying can sometimes go undetected and in some cases can lead to serious physical injuries.

The prevalence of overt bullying in Australian schools is such that:

- 16 per cent of males reported that they were physically threatened or hurt compared to 9 per cent of females
- 19 per cent of males and 25 per cent of females reported that they were deliberately left out by other students.⁹

Covert bullying

Covert bullying is defined as any form of aggressive behaviour that is repeated, intended to cause harm and characterised by an imbalance of power, and is 'hidden', out of sight of, or unacknowledged by adults. It includes spreading rumours about students, hand gestures, weird or threatening looks, blackmailing and purposeful exclusion that is not obvious to bystanders or teachers. Covert bullying is recognised as common, but more difficult to detect and underreported due to nature of this type of bullying being 'hidden' from the sight of bystanders, parents and teachers.¹⁰

The prevalence of covert bullying in Australian schools is such that:

- a low portion of students (5 per cent) identified as having had covertly bullied others
- 16 per cent reported being bullied covertly every few weeks or more often in one term
- 61 per cent of students who had been bullied in any way had experienced covert bullying (either on its own or in conjunction with overt bullying).¹¹

Cyber bullying

Bullying has evolved with technology and the rise of social media. Cyber bullying is a form of traditional bullying exercised through social media and other online communication platforms and is an emerging trend that is driving prevalence rates of bullying.

As there is a likelihood of being underreported, the prevalence of cyber bullying is difficult to estimate as, among other characteristics, it can be classified as overt or covert bullying.¹² The prevalence estimates of cyber bullying across Australian students are wide ranging, at between 6 per cent and 40 per cent of students. It is noted that the best estimate for a 12 month period is that over 20 per cent of students aged between 8 and 17 years of age have been victims of cyber bullying, however 33 per cent of girls compared to 25 per cent of boys experienced recent cyber bullying (within the last 30 days).¹³

⁹ Victorian State Government (2015), 'About you survey', Performance and Evaluation Division snapshot, September 2015.

¹⁰ Cross, D., Shaw, T., Hearn, L., Epstein, M., Monks, H., Lester, L., & Thomas, L. (2009), 'Australian Covert Bullying Prevalence Study', Child Health Promotion Research Centre, Edith Cowan University, May 2009.

¹¹ Cross, D., Shaw, T., Hearn, L., Epstein, M., Monks, H., Lester, L., & Thomas, L. (2009), 'Australian Covert Bullying Prevalence Study', Child Health Promotion Research Centre, Edith Cowan University, May 2009.

¹² Angus, C. (2016), 'Cyberbullying of Children', NSW Parliamentary Research Service, 2016.

¹³ Katz, I., Keeley, M., Spears, B., Taddeo, C., Swirski, T., & Bates, S. (2014), 'Research on youth exposure to, and management of, cyberbullying incidents in Australia: Synthesis report', Australian Government Department of Communications, June 2014; Victorian State Government (2015), 'About you survey', Performance and Evaluation Division snapshot, September 2015.

3.2.2 Student cohorts within the population

This analysis considers the additional difficulties that may be encountered by students who identify with groups that are more vulnerable to bullying, including the lesbian, gay, bisexual, transgender and intersex community, culturally and linguistically diverse population, people with disability, and the Indigenous Australian population.

Identifying as a member of one or more of these cohorts increases the likelihood of experiencing bullying at school. The impacts of bullying to each of these individual student cohorts have not been estimated as part of this analysis because there will be many students who identify as belonging to more than one of these cohort groups. Without data to support an understanding of which students identify in multiple cohorts, true impacts are complex to quantify and there is a risk of double counting results.

Available literature is limited in estimating the prevalence of bullying in these cohorts as well as the long term consequences of bullying on these particular cohorts.

Lesbian, gay, bisexual, transgender and intersex (LGBTI)

In Australia, up to 11 per cent of individuals identify themselves as part of the LGBTI community.¹⁴ For LGBTI young people (14-25 years old), 80 per cent of homophobic bullying occurs at school and has a significant impact on wellbeing and education.¹⁵ Approximately 61 per cent of same-sex attracted and gender-questioning young people said they experienced verbal abuse because of their sexuality, while 18 per cent reported experiencing physical abuse. A further 69 per cent reported other forms of homophobia, including exclusion and rumours.¹⁶

Homophobic abuse impacts young people both during schooling years and long after school completion. More than half of the participants in an LGBTI study felt that homophobic abuse impacted on a range of aspects of schooling. Moreover, for many LGBTI young people, homophobic abuse was associated with feeling unsafe, excessive drug use, self-harm and suicide.¹⁷ LGBTI young people are nearly twice as likely to engage in self-injury, and transgender people are 6.5 times more likely to engage in self-injury, than other young people. LGBTI young people are also much more likely to attempt suicide in their lifetime compared to the general population, with respective rates of suicide attempt reported to be 16 per cent compared to 3.2 per cent.¹⁸ LGBTI Australians are also three times more likely than their non-LGBTI counterparts to experience depression.¹⁹

Students from culturally and linguistically diverse (CALD) backgrounds

In Australia, an estimated 15 per cent of young people speak a language other than English at home. Grey literature indicates that students from a CALD background are at greater risk of

¹⁴ Department of Health and Ageing (2012), 'National Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) Ageing and Aged Care Strategy', Commonwealth of Australia, 2012.

¹⁵ Ibid.

¹⁶ Hillier, L., Jones, T., Monagle, M., Overton, N., Gahan, L., Blackman, J. & Mitchell, A. (2010), 'Writing Themselves in 3', Australian Research Centre in Sex, Health and Society, La Trobe University, Monograph series no. 78, 2010.

¹⁷ Ibid.

¹⁸ National LGBTI Health Alliance (2016), 'The statistics at a glance: the mental health of lesbian, gay, bisexual, transgender and intersex people in Australia'.

¹⁹ Australian Human Rights Commission (2014), 'Face the facts: Lesbian, Gay, Bisexual, Trans and Intersex People'.

bullying.²⁰ Bullying in these instances can be in the form of racism and result in associated adverse outcomes. A national research study into racism found that children and young people from CALD backgrounds and newly arrived migrant and refugee groups may be at risk of high levels of racism.²¹ Another national study that examined racism with school-aged students from Indigenous and CALD backgrounds found a link between racism and reduced health and wellbeing.²²

Schools have been identified as key settings in the lives of children and young people for peer relationships, including racial discrimination, racial bullying and racial victimisation.²³ A study investigating student self-reported experiences of racism and the mental health outcomes associated showed that 32 per cent of students reported direct experiences of racism at school and 22.5 per cent of students experienced at least one form of direct racism every day. Moreover, self-reported experiences of direct racism were associated with higher levels of loneliness and sadness. These experiences of racism had consistent detrimental effects on the mental wellbeing of students as measured by loneliness and sadness across demographic groups.²⁴

Students with disability

In Australia, there are 12 per cent of young male students and 7 per cent of young female students with disability. Students with disabilities are more likely to be victims of bullying, with around two thirds of children with disabilities reporting bullying in school.²⁵ Furthermore, over half (62 per cent) of students diagnosed with autism spectrum disorder reported being bullied at least once a week.²⁶

Another survey of children with a disability in New South Wales found that over half (52 per cent) of students with disability have been bullied, including 34 per cent of students with disability having been excluded from a range of curricular and extracurricular activities at school. Nineteen per cent of students with disability have experienced seclusion at school.²⁷

Factors that can make a child more likely to be a victim of bullying include:

- having a learning disability
- having a speech impairment
- perceived as “clumsy”

²⁰ Urbanski J. & Permuth S. (2009), 'The truth about bullying: What educators and parents must know and do', R&L Education; Haynes, J. (2014), 'Strategies for Providing a Bully-free environment for ELLS', Tesol International Association, 19 June 2014.

²¹ Dunn, K., Forrest, J., Babacan, H., Paradies, y., & Pederson, A., (2011), 'Challenging racism: the anti-racism research project. National level findings', University of Western Sydney, NSW.

²² Correa-Velez, I., Gifford, S.M. & Barnett, A.G. (2010), 'Longing to belong: Social Inclusion and wellbeing among youth with refugee backgrounds in the first three years in Melbourne, Australia', *Social Science and Medicine*, vol. 71, no. 8, pp. 1399-1408.

²³ Priest, N., Ferdinand, A., Perry, R., Paradies, Y. & Kelaher, M. (2014), 'Experiences of Racism, Racial/Ethnic Attitudes, Motivated in Fairness and Mental Health Outcomes among Primary and Secondary School Students', *Journal of Youth and Adolescence*.

²⁴ Ibid.

²⁵ ABC News (2012), 'Students with disabilities bullied: report', 25 September 2012.

²⁶ Queensland Government (2016), 'Bullying, disability and mental health', Queensland Government.

²⁷ Children and Young People with Disability Australia (2016), 'Media release: Bullying and abuse of school students with disability at alarming levels', 9 August 2016.

- being 'off task' and disruptive
- not having good social or emotional skills
- not showing normal distressing reactions.²⁸

Indigenous students

The studies on whether Indigenous students are more vulnerable to bullying are limited. A 2008 study suggested that 14 per cent of students aged 14 years and under were reported by their carers to have been bullied or treated unfairly due to their Indigenous status in the previous 12 months. In high school, this rises to 23 per cent of Aboriginal and Torres Strait Islander students in non-remote parts of the country.²⁹

3.2.3 Measurement of short and long term consequences

The consequences associated with bullying are experienced not only immediately in the school environment, but have longer term impacts on both the victims and perpetrators after they leave school. Further, the consequences of bullying are felt by family and community members in addition to the individuals directly involved with the bullying incident. The economic costs have are represented as:

- costs experienced during school years
- long term costs that continue after school.

The consequences of bullying increase as students become adults because bullying can affect future economic potential, increase the likelihood of health and social consequences that have costs that reach beyond the individual and affect other family members and the community (as in the case of continued bullying behaviour that can include violence), and impact the health and social service systems (as in the consequences associated with chronic conditions including adult obesity and mental health issues).

The approach to develop assumptions that quantify bullying consequences has been led by the literature where strong predictive relationships between bullying and long term costs were identified. Conservative economic assumptions were developed in acknowledgement of the limited data available and the risk of over-attributing the effect of bullying to a long term consequence given the potential that other risk factors may lead to the same or similar long term consequences.

The table below describes the immediate and long term economic consequences associated with bullying in schools that could be quantified. The sources incorporated to develop of the driving assumptions are listed in Appendix A.

Other known costs, such as long term costs associated with crime and the justice system through petty theft and other offences have not been included. This is due to the complexity in the way that offenders interact with the system. Combined with limited research focused on the long term crime effects due to bullying, quantifying an economic effect robustly is challenging.

Costs are estimated using 2017 as a base year for costs including health care and income levels.

²⁸ Ibid.

²⁹ The Conversation Media Group Ltd (2014), 'Indigenous students skipping school to avoid bullying and racism', 11 April 2014.

Table 3: Economic cost of bullying – Framework domains and measured indicators

Cost domain	Costs experienced during school years	Long term costs that continue after school
Individual income attainment cost		<ul style="list-style-type: none"> • Decreased educational attainment impact on income potential, due to missed school days impacting on performance. Students who are bullied earn on average \$7,000 less in income in the 20 years after finishing school compared to those who are not.
Productivity costs	<ul style="list-style-type: none"> • Cost of carers for students at home, due to suspension (perpetrators of bullying) or fear to attend school (victims of bullying). This was calculated by taking a proportion of school suspensions and absences that were attributable to bullying, and estimating the subsequent cost to carers to take care of the bully perpetrator or the victim of bullying. 	
Direct health service costs during school years	<ul style="list-style-type: none"> • GP costs, due to the direct impacts of bullying which may include injury or self-harm. Twenty-three per cent of bullied students who sought help or support for bullying (50% of all bullied students) sought help from a GP. • Mental health costs, due to the direct impacts of bullying which include injury or self-harm. Of the 50% of victims of bullying who sought help due to bullying, 14% turned to a mental health professional. • Acute care costs, due to the direct impacts of bullying which may result in injury or self-harm. 	
Health, personal and community costs	<ul style="list-style-type: none"> • Police involvement costs, 4.2% of victims and 6.2% of teachers turned to the police in relation to bullying incidents. 	<ul style="list-style-type: none"> • Ongoing mental health costs, that continue as a result of bullying in school years. • Ongoing obesity costs, because female victims of bullying are particularly prone to obesity solely as a result of bullying, with an estimated 12% of female victims dealing with obesity in adulthood due to bullying in their school years. • Eating disorder costs, 10% of female victims of bullying will suffer an eating disorder in their adult life as a direct effect of bullying. • Cost of continued bullying behaviour that can include violence, male student bullies are more likely than their non-bullying counter parts to continue bullying behavior including violence. This includes being at a risk of 2.5-5 times more likely to initiate intimate partner violence in the

Cost domain	Costs experienced during school years	Long term costs that continue after school
		<p><i>future than their non-bully counter parts.</i></p> <ul style="list-style-type: none"> • Suicide, 5 students in 6 years take their own life as a result of bullying.
<p>Indirect costs experienced by schools</p>	<ul style="list-style-type: none"> • Senior staff time spent addressing bullying issues, on average, 10 hours per week of senior staff time is spent dealing with bullying incidents in primary schools compared to 20 hours per week in secondary schools. 	

Limitations

Given the range of literature and data available, there were a range of limitations to the analysis that should be considering when interpreting results. These included:

- Two key economic cost indicators were excluded because of the highly complex relationships that are present between the effect of bullying and the outcome. These were:
 - the impact of bullying on risky behaviours (including alcohol, tobacco and other illicit drug intake) where the research is inconclusive on the nature of the relationship
 - the increased likelihood of bullying perpetrators to commit an offence (other than violence) in adulthood. Whilst the literature identifies a statistically significant relationship between bullying perpetrators and the increased likelihood of committing an offence, it is complex to distil the economic cost impact for a number of reasons. First, we have included the cost of violence, which would include a portion of offences. Second, the magnitude of offending, prison time and recidivism consequences is difficult to relate to bullying in isolation
- The research does not consistently delineate impacts between different types of bullying. In particular, it is complex to discern correlation between cyber bullying and other types of bullying.
- The research is not conclusive in regards to the differences in bullying prevalence for cohorts with selected characteristics (including LGBTI, CALD, having a disability, Indigenous) and the intersections between these segments for students that may identify with more than one of these cohorts.
- Bullying prevalence is interpolated from survey results data as it is not available on an administrative level. Challenges that have arisen from the three key prevalence data sources include:
 - differences between self-reported bullying, teacher-reported and parent-reported incidence. PwC has drawn on student reported bullying results to estimate prevalence.
 - student survey results for questions around bullying experiences differ across surveys, for example:
 - 15 per cent of students have a serious concern about bullying³⁰
 - 32 per cent of male and 28 per cent of female students are impacted by covert bullying³¹
 - 24 per cent of Australian 15 year olds identified that they were victims of bullying³²
 - a wide range of cyber bullying prevalence data.

PwC has applied a constant rate of 24 per cent of bullying prevalence across all age groups, however collaboration, additional surveys and administrative data with trends would improve future estimates.

³⁰ Rigby, K. & Johnson, K. (2016), 'The Prevalence and effectiveness of anti-bullying strategies employed in Australian schools', University of South Australia, School of Education, 2016.

³¹ Cross, D., Shaw, T., Hearn, L., Epstein, M., Monks, H., Lester, L., & Thomas, L. (2009), 'Australian Covert Bullying Prevalence Study', Child Health Promotion Research Centre, Edith Cowan University, May 2009.

³² The Programme for International Student Assessment (PISA), 'How much of a problem is bullying at school', PISA in Focus #74, July 2017.

Appendix A Sources

The literature review has been critical to the development of results. Key sources used to undertake the analysis are listed below.

Bullying prevalence:

- ABC News (2012), 'Students with disabilities bullied: report', 25 September 2012
- Australian Human Rights Commission, 'Face the facts: Lesbian, Gay, Bisexual, Trans and Intersex People'
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