

Indirect bullying: Predictors of teacher intervention, and outcome of a pilot educational presentation about impact on adolescent mental health¹

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ABSTRACT

We examined teacher characteristics predicting likelihood of intervening in indirect bullying ($N=55$) and piloted a 45-minute educational presentation about its mental health impact. Teachers' global empathy and perceived seriousness of indirect bullying vignettes were predictors of their likelihood of intervening, but knowledge of mental health impact was not. The presentation increased knowledge of impact and perceived seriousness, immediately and seven weeks later, compared with a treated control group. However, empathy for victims and likelihood of intervening did not increase. Recommendations include adding skills-based material, a self-efficacy measure and a focus on increasing global empathy rather than specific empathy for victims.

INTRODUCTION

Bullying can be defined as “physical, verbal or psychological attack or intimidation that is intended to cause fear, distress or harm to the victim, and where the intimidation involves an imbalance of power in favour of the perpetrator” (Slee, 2003, p. 307). Given the known harmfulness of bullying, schools may have statutory obligations and a duty of care towards students, and legal remedies may sometimes exist after the event. More broadly, under Australia's National Safe Schools Framework (MCEETYA Taskforce, 2003), students are regarded as having a right to a safe and supportive learning environment, and efforts towards achieving this are monitored through annual schooling reports made by jurisdictions to the Federal Government. A major aim of the Framework is to assist schools to minimise bullying, through training staff to understand its effects on young people and to recognise and respond proactively to incidents.

The role of teachers is recognised in recent theoretical approaches to bullying within the psychology literature. Formerly largely atheoretical and focused on bullies and victims, bullying

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research increasingly takes a social-interactive or systemic perspective (e.g., Hirschstein & Frey, 2006), viewing bullying behaviour as resulting from complex interactions between individual characteristics and the social context, which includes teachers. Not incompatible with this is the view that bullying is a learned behaviour (Espelage, 2002) and in practice, prevention programs often adopt principles of learning theory, even if implicitly, for example, reducing opportunities for bullying, removing rewards for bullying, enforcing sanctions for unacceptable behaviour and reinforcing alternative, cooperative behaviours (e.g., Olweus, 1991). Other approaches may be more based on a problem-solving paradigm (Ellis & Shute, 2007), but both place teachers as key players in recognising bullying incidents and intervening (Craig, Henderson, & Murphy, 2000; Yoon, 2004; Yoon & Kerber, 2003). However, teachers often fail to intervene (Craig et al., 2000; Yoon & Kerber, 2003), which may reinforce bullying (Huesmann & Eron, 1994). Intermittent reinforcement is well-established as a strong way of increasing a behaviour, so inconsistent responding by teachers could actually increase bullying behaviours by providing a perpetrator with intermittent rewards, whether a sense of power or fun, popularity with peers or extorted lunch money.

In order to be able to educate teachers appropriately to deal with bullying, as required under the National Framework, it is important to gain insight into what factors determine whether or not teachers intervene. The present study examines predictive factors for teacher intervention in the specific case of indirect bullying. We also report a preliminary attempt at educating teachers about the impact of this type of bullying.

Indirect bullying

Indirect bullying (also known as relational or social bullying - Archer & Coyne, 2005) is intended to hurt victims by damaging their self-esteem or social relationships (Atlas & Pepler, 1998), through behaviours such as exclusion from the group, rumour-mongering and giving nasty looks. It is typically, but not exclusively, used by girls, especially in high school (Owens & MacMullin, 2005), and towards other girls rather than boys (Russell & Owens, 1999), in the context of girls' intimate friendship groups. Its covert nature makes it more challenging to detect than direct bullying (Archer & Coyne, 2005; Craig et al., 2000; Shute, Owens, & Slee, 2002; Yoon & Kerber, 2003), and teachers tend to display less sympathy for its victims (Yoon & Kerber, 2003). Yet its effects can be at least as serious as direct bullying. It is associated with stress (Sharp, 1995), internalising problems (Craig, 1998; Crick & Grotpeter, 1995), self-destructive behaviours (Olafsen & Viemerroe, 2000) and post-traumatic stress symptoms (Mynard, Joseph, & Alexander, 2000). It is therefore important to improve understanding of teachers' responses to indirect bullying and investigate ways of increasing their likelihood of intervening.

Likelihood of teachers intervening

Discrepancies between teacher and student reports suggest that teachers may over-estimate their ability to recognise, and inclination to address, bullying (Pepler, Craig, Ziegler, & Charach, 1994). Atlas and Pepler (1998) observed teachers to be aware of nearby classroom bullying incidents approximately 50% of the time, intervening on 73% of those occasions. That study did not, however, distinguish between responses to indirect versus direct bullying. Teachers report less, and more lenient, intervention for social exclusion than verbal and physical aggression (Yoon & Kerber, 2003).

Pepler et al. (1994) found that raising teachers' awareness of bullying behaviours, and emphasising the importance of intervening, increased their intervention. No studies seem to have examined this specifically for indirect bullying. In the present vignette study, we hypothesised that knowledge of the impact of indirect bullying on adolescent mental health would predict the likelihood of teacher intervention, and also that an educational presentation on this impact would increase both teacher knowledge and likelihood of intervening.

Perceived seriousness

How seriously teachers perceive bullying predicts their likelihood of intervening (Ellis & Shute, 2007; Yoon, 2004). However, they are less aware of the impact of indirect, than direct, bullying (Birkinshaw & Eslea, 1999; Boulton, 1997; Craig, Henderson, & Murphy, 2000; Ramasut & Papatheodorou, 1994; Yoon & Kerber, 2003). They are less likely to label behaviours such as social exclusion as bullying, compared with physical aggression (Boulton, 1997; Craig et al., 2000) and rate such behaviours as less serious than physical and verbal bullying (Ellis & Shute, 2007). We investigated whether, in the specific case of indirect bullying, perceived seriousness would predict likelihood of teacher intervention, and also whether perceived seriousness would increase following an educational presentation about the mental health impact of indirect bullying.

Teacher empathy

A person witnessing another in need may, under some circumstances, experience empathic concern which elicits an altruistic motivation to help (Batson & Shaw, 1991; Mehrabian & Epstein, 1972). Studies suggest that teachers expressing least empathy towards victims of indirect aggression are least likely to help them (Craig et al., 2000; Yoon, 2004). We therefore expected in the present study that empathy for victims would significantly predict likelihood of teachers intervening, though not as strongly as perceived seriousness (Yoon, 2004).

No research has examined whether teacher empathy towards victims of indirect bullying can be modified, to increase the likelihood of helping behaviour. However, promising results of studies examining the “teachability” of empathy (e.g., Platt & Keller, 1994; Seaberg, Godwin, & Perry 2000; Spiro, 1992) suggest the potential for developing teacher empathy towards victims. We anticipated that providing information about the mental health impact of indirect bullying would not only increase teacher knowledge but, through increasing insight into victims’ plight, also increase teacher empathy for them.

Uniquely, we differentiated between specific and global empathy (a broader pre-existing characteristic - the individual’s general tendency to be empathic – Davis, 1994). The specific focus of the study was empathy for victims of bullying, so we considered it important to control for global empathy.

It should also be noted that, while empathy is seen here as a potential motivator for helping a victim of bullying, no assumptions are made in this study about the nature of that help. At a minimal level, it might entail stopping the specific incident, but, depending on the circumstances and school policy, it might include follow-up with a range of individuals and groups, including the perpetrator of the bullying behaviour.

Hypotheses

We hypothesised that: (1) teachers’ perceived seriousness of indirect bullying scenarios and specific empathy for the victims would be positive predictors of the likelihood of intervening; (2) perceived seriousness would be a greater predictor of intervening than teacher empathy for the victims; (3a) knowledge of the impact of indirect bullying on adolescent mental health would predict a greater likelihood of intervening; and (3b) empathy for victims would mediate between knowledge about impact and likelihood of intervening. For the educational presentation, it was predicted that: (4) pre to post measures of (a) perceived seriousness of indirect bullying, (b) empathy for victims, (c) likelihood of intervening, and (d) understanding of mental health impact would increase for the experimental group, but not an alternative treatment control group.

We also planned to investigate whether any changes in the experimental group would be maintained one month later. Furthermore, while the main focus was on indirect bullying, direct bullying scenarios were also presented to help to contextualise the indirect bullying scenarios. This also provided an opportunity for comparing results for indirect and direct bullying.

METHOD

Participants

Fifty-eight teachers participated, from a private Prep to Year 12 girls' school in Melbourne. Missing data reduced the final Time 1 sample to 55 (18 controls and 37 experimentals). There were 42 females (76.4%) and 13 males (23.6%) (no response, $N=1$). Years of teaching experience ranged from 1 month to 37 years ($M=20.8$; $SD= 8.6$) (no response, $N=2$). Eleven (20%) reported teaching primary school, while 44 (80%) reported teaching secondary school (no response, $N=1$).

The final Time 3 sample consisted of 39 teachers, 14 controls (35.9%) and 25 experimentals (64.1%). Years of teaching ranged from 1 month to 36 years ($M=20.7$; $SD=8.28$) (no response, $N=1$). Again the majority (82.1%) taught secondary school.

Materials

Measure of global empathy: The Interpersonal Reactivity Index (IRI)

This 28-item scale, possibly the most widely used self-report measure of empathy (Beven, O'Brien, & Hall, 2004), has been used in various research settings (e.g., Bellini, Baime, & Shea, 2002; Davis, 1983). Based upon a multi-dimensional conceptualisation of empathy, the IRI comprises four 7-item subscales which give reliable and reproducible measures of sensitivity to others' views and feelings (Bellini et al., 2002; Davis, 1980, 1983). Evaluating affective and cognitive aspects, the subscales use a 5-point Likert scale, with a higher score indicating greater empathic capacity. A sample item is: "Other people's misfortunes do not usually disturb me a great deal" (reverse scored). We obtained a total global empathy score by averaging three of the subscales (Empathic Concern, Perspective Taking and Fantasy), as recommended by Davis (1980). All subscales have satisfactory internal and test-retest reliabilities (Davis, 1980). The current total score internal reliability was good (Cronbach's $\alpha = 0.86$).

Vignettes to measure response to bullying situations

With no suitable published measure, we developed a specific instrument to assess how serious teachers perceived various bullying situations to be, how empathic they were towards victims, and how likely it was that they would intervene. This was based on vignette methodology, a well-established technique for providing standardised stimuli that "highlight selected parts of the real world that can help unpack individuals' perceptions, beliefs and attitudes to a wide range of social issues" (Hughes, 1998, p. 384). This methodology has been previously used successfully to examine teachers' responses to bullying (Ellis & Shute, 2007). Vignettes were gender non-specific to avoid the possibility that gender would impact on teacher response (Meyer, Astor, & Behre, 2002). To ensure ecological and face validity, clear wording, and adequate canvassing of a range of seriousness of bullying incidents, a pilot study was conducted (Carlsmith, Ellsworth, & Aronson, 1976) using 19 scenarios, including physical, verbal and indirect examples. Some were taken from Ellis (2003) and others devised by a teacher with extensive experience of school bullying. On the basis of the pilot study, four indirect and three direct bullying scenarios were selected. The former depicted staring in the classroom and playground, and social exclusion in the playground and while planning a party. The direct scenarios were receiving a bleeding nose, extortion and a fight with a bigger student.

Following each vignette were three items tapping, respectively, perceived seriousness, empathy towards the victim and likelihood of intervening. These scales are described below, and their reliabilities considered together in a separate section.

Perceived seriousness scale:

Teachers were asked to rate how serious they perceived each depicted behaviour to be, keeping in mind the full spectrum of bullying behaviour, where 1= not at all serious and 9=extremely serious (Ellis & Shute, 2007). Mean perceived seriousness score was calculated separately for indirect and direct bullying scenarios.

Empathy towards victims scale:

Teachers were asked to indicate how much they agreed with the statement, “*I feel sympathetic towards the victim depicted in this scenario*” on a 9-point scale, where 1= not at all and 9=extremely sympathetic. The term sympathetic was considered more understandable than empathic, and definitions of these terms have overlapped (Wipse, 1986). Wipse (1986) has defined sympathy as the “heightened awareness of the suffering of another person as something to be alleviated” (p. 310) and is very close to the most common conception of empathy (Davis, 1994). Mean empathy for victims was calculated separately for indirect and direct scenarios.

Likelihood of intervention scale:

Again following Ellis and Shute (2007), teachers were asked to rate “*how likely would it be that (they) would intervene in this scenario*” on a 9-point scale, where 1= not at all likely and 9=extremely likely. Again, mean scores from the scenarios were calculated for both for indirect and direct bullying.

Impact of indirect bullying on mental health scale

This scale (“impact”) was specially designed as a means of tapping teachers’ understanding of the impact of indirect bullying on adolescent mental health. The 34 questions required them to indicate “*whether each item is true (T) or false (F) or... DK (don’t know)*”. Examples were: “*Gossiping is a normal activity in schools and is relatively harmless*” and “*Getting ‘funny looks’ or stares from other students does not trouble students much.*”

Several questions on the National Safe Schools Framework (the material presented to the control group) and direct bullying, included for purposes of face validity, were omitted from the analyses. The remaining 25 responses were recoded (True=1, False=2, Don’t know=0) and reverse scored where necessary so that the total score indicated the level of understanding of the impact of indirect bullying (maximum 50).

Internal consistency

Cronbach’s alphas for the new scales are included in Table 1. To improve reliability for the impact scale, one item was removed. The response to direct bullying scales are less robust than the indirect scales; the latter, however, were of primary interest and overall, these scales are more reliable when all items are retained.

Demographics

Years of teaching experience, teacher gender and year level taught, were requested at the end of the questionnaire.

Educational presentations

Two 45-minute presentations, with question time, were given. The control session concerned the Safer Schools policy initiative. The experimental presentation covered the definition and characteristics of indirect bullying, its effects on adolescent mental health, how to recognise it and a brief update on recent research.

Procedure

Following University ethics committee approval, 51 schools in Melbourne were emailed; interested schools were phoned and visited. Due to schools’ logistical difficulties in organising two separate group presentations, only one school eventually participated. After gaining teachers’ informed consent, data were collected immediately before the presentation (Time 1), immediately afterwards (Time 2), and seven weeks later (Time 3) – the planned four-week follow-up proved impossible for the school. On each occasion, the sequence of measures, and of bullying scenarios, was randomised to eliminate fatigue and order effects (Oppenheim, 1992).

The two presentations were given on consecutive days. Participants were invited to choose their day in advance, blind to the nature of that day’s presentation. The presenter was the first author, an experienced teacher and postgraduate clinical psychology student. Follow-up

questionnaires were distributed at a staff meeting or via pigeonholes. Steps were taken to ensure anonymity of responses while still enabling matching of questionnaires across time points.

RESULTS

Statistical analyses were undertaken using SPSS version 12 (SPSS Inc.). Alpha levels were set at .05 unless otherwise stated.

Data screening and testing of assumptions

All data from three participants, and Time 3 data from 16 participants, were deleted because of failure to answer a significant portion of the questionnaires. Remaining missing data points appeared random and therefore unlikely to threaten generalisability; they were replaced with the group mean of the relevant variable.

Skewed distributions of several variables were addressed by re-scoring three univariate outliers to the median and applying appropriate transformations (Tabachnick & Fidell, 1996). Transformed and untransformed variables with scores most closely resembling a normal distribution were used for subsequent analyses. The data were examined for any systematic differences between Time 3 completers and non-completers, but none was found. Independent samples *t*-tests revealed no systematic differences between Time 1 Controls and Experimentals, suggesting successful random allocation.

Descriptive Statistics

For simplicity, only untransformed descriptive data are presented (Table 1).

Correlations between measures

Table 2 shows Time 1 intercorrelations. Most that were not significant concerned understanding of impact of indirect bullying on mental health – contrary to predictions, this was not significantly correlated with the empathy measures, nor with likelihood of intervening in indirect bullying (it was, however, correlated with perceived seriousness of, and likelihood of intervening in, *direct* bullying). The only other non-significant correlation was between global empathy and perceived seriousness of direct bullying.

Hypothesis testing

A correlational design was used to examine Hypotheses 1, 2 and 3, using Time 1 data. First, a standard Multiple Regression Analysis (MRA) examined whether perceived seriousness of indirect bullying scenarios, and empathy towards victims, were significant predictors of the likelihood of intervening (Hypothesis 1); and whether perceived seriousness was a greater predictor than empathy towards victims (Hypothesis 2). Using the Enter method, a significant model emerged [$F(2,52)=51.13, p<0.0001$], accounting for 65% of the variance in likelihood of intervening. Both perceived seriousness ($\beta=.56; p<0.001$) and empathy towards victims ($\beta=-.30; p<.05$) were significant predictors of likelihood of intervening, with perceived seriousness the stronger predictor. (N.B., the minus beta value was a result of a transformation: both variables were positive predictors of likelihood of intervening).

Table 1: Means, Standard Deviations, Minimum and Maximum scores for untransformed variables, and Cronbach's alpha for new scales. *N* = 55.

Variable	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	Cronbach's alpha
<i>Time 1</i>					
IRI	2.72	.54	1.20	3.68	
Seriousness (Direct)	8.55	.48	7	9	.57
Seriousness (Indirect)	6.62	1.13	4.5	9	.75
Empathy (Direct)	8.28	.74	6.3	9	.50
Empathy (Indirect)	7.15	1.17	4	9	.77
Likelihood (Direct)	8.64	.59	6.33	9	.71
Likelihood (Indirect)	6.40	1.58	2.75	9	.79
Impact	36.34	5.22	19	44	.73
<i>Time 2</i>					
IRI	2.69	.55	1.13	3.78	
Seriousness (Direct)	8.69	.49	7	9	.77
Seriousness (Indirect)	7.31	1.12	4.5	9	.84
Empathy (Direct)	8.54	.64	7	9	.81
Empathy (Indirect)	7.44	1.24	4.25	9	.84
Likelihood (Direct)	8.60	.67	6	9	.81
Likelihood (Indirect)	6.90	1.72	2.25	9	.89
Impact	39.06	4.38	25	44	.73
<i>Time 3</i>					
IRI	2.75	.43	1.54	3.54	
Seriousness (Direct)	8.34	.77	6.67	9	.75
Seriousness (Indirect)	7.41	1.12	3.50	9	.89
Empathy (Direct)	8.34	.793	6.33	9	.76
Empathy (Indirect)	7.63	1.17	4.75	9	.90
Likelihood (Direct)	8.33	.95	5.67	9	.80
Likelihood (Indirect)	8.33	.95	5.67	9	.83
Impact	38.41	4.54	25	44	.71

IRI, Interpersonal Reactivity Index (global empathy); Seriousness (Direct/Indirect), perceived seriousness of direct or indirect bullying scenario; Empathy (Direct/Indirect), amount of empathy felt towards the victim in either the direct or indirect bullying scenario; Likelihood (Direct/Indirect), likelihood of intervening in the direct or indirect bullying scenario; Impact - understanding of the impact of indirect bullying on mental health.

Table 2: Intercorrelations between untransformed variables: IRI, Ser (Dir), Ser (Ind), Emp (Dir) Emp (Ind), Lkhd (Dir), Lkhd (Ind) and Impact at Time 1.[†]

	IRI	Ser (Dir)	Ser (Ind)	Emp (Dir)	Emp (Ind)	Lkhd (Dir)	Lkhd (Ind)	Impact
IRI	-	.21	.39**	.32*	.42**	.25	.54**	-.12
Ser (Dir)		-	.41**	.58**	.39**	.60**	.36**	.43**
Ser (Ind)			-	.40**	.82**	.36**	.74**	.18
Emp (Dir)				-	.46**	.40**	.27*	.16
Emp (Ind)					-	.54**	.75**	.23
Lkhd (Dir)						-	.52**	.36**
Lkhd (Ind)							-	.19
Impact								-

[†] IRI, Interpersonal Reactivity Index (global empathy); Ser (Dir/Ind), perceived seriousness of direct or indirect bullying scenarios; Emp (Dir/Ind), amount of empathy towards victim in either direct or indirect bullying scenarios; Lkhd (Dir/Ind), likelihood of intervening in direct or indirect bullying scenarios; Impact, understanding of impact of indirect bullying on adolescent mental health.

* $p < .05$ ** $p < .01$

In order to more fully examine predictors of likelihood of intervening, and to test Hypothesis 3 (that knowledge of the impact of indirect bullying would predict likelihood of intervening), a Hierarchical MRA was used. Global empathy, the control variable, was entered first. Impact, perceived seriousness and empathy towards the victim were simultaneously entered at the next step.

Global empathy accounted for a significant 19.6% of the variance in predicting likelihood of intervening, $F(1,53)=12.89$, $p=.001$. The addition of the remaining variables resulted in a significant F change, $F(3,50)=26.57$, $p<.001$, an overall significant prediction equation, $F(4,50)=27.81$, $p<.001$ and increased the variance explained by 49% to 69%. Perceived seriousness ($\beta=.57$; $p<.001$) was a significant predictor, over and above the contribution of global empathy. Knowledge about the impact of indirect bullying and empathy towards its victims did not significantly predict likelihood of intervening over and above the predictive ability of global empathy (Table 3). Comparison with the first regression analysis suggests that the variance originally explained by empathy for victims is accounted for by global empathy. Since knowledge of the impact of indirect bullying was not a significant predictor of likelihood of intervening, the conditions for mediation were not present [Hypothesis 3 (b)].

Four one-way analyses of covariance (ANCOVA), with Time1 measures as covariates, were conducted to examine the immediate effectiveness of the experimental presentation versus an alternative control. ANCOVA is useful for relatively small datasets and for detecting small to medium-sized effects (Pallant, 2001). In each analysis, educational group is the independent variable, while the dependent variables are, respectively: perceived seriousness, empathy towards victims, understanding of impact of indirect bullying on adolescent mental health, and likelihood of intervening (Hypothesis 4). The reason for initially considering only Time 1 and Time 2 was that a larger data set was available than for Time 3. Global empathy was also used as a covariate in each analysis because it is considered a pre-existing individual characteristic (Davis, 1994), and was shown in previous analyses to be contributing to variance in the variables of interest.

Preliminary assumption checks were conducted and found to be satisfactory.

Table 3: Summary of Hierarchical Regression Analysis for hypothesised predictors of likelihood of intervening in indirect bullying scenarios. $N = 55$.

Variables	B	$SE B$	β
Step 1			
Global empathy	.98	.27	.44***
Step 2			
Global empathy	.39	.19	.18*
IMPACT	.05	.07	.06
Seriousness	.75	.16	.57***
Empathy	-.04	.02	-.21
(transformed-empathy is a positive predictor)			

B and β are unstandardised and standardised beta coefficients respectively.

Note: $R^2=.196$ for Step 1; R^2 change=.494 for Step 2 ($p<.001$).

* $p<.05$, ** $p<.01$, *** $p<.001$.

In the first analysis, Time 2 perceived seriousness of indirect bullying was the dependent variable, with Time 1 perceived seriousness and global empathy as covariates. There were two significant effects: perceived seriousness at Time 1 [$F(1,51)=89.18$, $p<.001$, partial eta squared=.64] and group [$F=(1,51)=4.81$, $p<.05$, partial eta squared = .03]. Thus, perceived seriousness increased after the experimental presentation (Control: adjusted mean=6.9; Experimental: adjusted mean=7.5), though the effect was small.

In the second analysis comparing the effectiveness of the two presentations, the dependent variable was Time 2 empathy towards victims, with initial empathy towards victims and global empathy as covariates. There was no significant difference between the groups on Time 2 scores for empathy towards victims [$F=(1,51)=1.36$, $p=.249$, partial eta squared=.026]. There was a significant relationship between Time 1 and Time 2 scores on empathy towards victims [$F=(1,51)=86.60$, $p<.001$, partial eta squared = .63].

Time 2 likelihood of intervening was the dependent variable in the next analysis, the two covariates being global empathy and Time 1 likelihood of intervening. There was a significant relationship between Time 1 and Time 2 likelihood of intervening [$F(1,51)=116.15$, $p<.001$, partial eta squared = .70], but no significant difference between the two groups at Time 2 [$F(1,51)=.49$, $p=.49$, partial eta squared= .009].

In the fourth ANCOVA the dependent variable was Time 2 “impact” score, with Time 1 impact and global empathy as covariates. Results indicated a significant difference between groups on the impact scale [$F=(1,51)=5.78$, $p<.05$, partial eta squared = .10]: Experimentals scored more highly (adjusted mean = 39.73) than Controls (adjusted mean = 37.69). There was also a significant relationship between Time 1 and Time 2 impact scores [$F(1,51)=32.11$, $p<.001$, partial eta squared = .39].

With the smaller sample which included follow-up, a 2x3 mixed between-within subject ANOVA was used to examine the data across the three time points for each measure (i.e., seriousness, empathy towards victims and impact), with global empathy as a covariate. Of particular interest was any maintenance at Time 3 of Time 2 changes for the experimental group. Means and standard deviations are presented (Table 4).

This analysis yielded a significant main effect for time on perceived seriousness [Wilks' Lambda = .73, $F(2, 35)= 6.32$, $p=.005$, multivariate partial eta squared=.27]. Post-hoc comparisons with Bonferroni corrections indicated that the mean (transformed) difference between Time 1 and Time 2 (mean difference=.102, standard error=.016) was statistically significant. The mean (transformed) difference between Time 1 and Time 3 was also statistically significant (mean difference=.12, standard error=.12), whereas Time 2 and Time 3 did not differ significantly. The results indicate that scores for both groups increased significantly from Time 1 to Time 2 and from Time 1 to Time 3, but with a significant quadratic trend, with Time 3 scores

beginning to trend downwards [$F(1, 36)=8.47, p=.006$]. The main effect for group [$F(1,36)=2.54, p=.12$] and the interaction effect [Wilks' Lambda = .90, $F(2, 35)= 1.96, p=.16$, multivariate partial

Table 4: Untransformed Mean and Standard Deviation for seriousness, empathy, likelihood and impact for indirect bullying scenarios[†] $N = 21$.

		Time 1		Time 2		Time 3	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Seriousness	Control	6.43	.83	6.98	.91	7.25	1.27
	Experimental	7.03	1.26	7.71	1.25	7.47	1.25
Empathy	Control	6.92	1.41	7.13	.77	7.38	1.28
	Experimental	6.17	1.64	7.83	1.30	7.85	1.03
Likelihood	Control	6.17	1.64	6.68	1.87	8.10	1.06
	Experimental	6.82	1.71	7.52	1.46	8.45	.92
Impact	Control	37.65	4.61	38.36	4.77	37.5	4.31
	Experimental	35.71	5.42	40.57	2.86	38.82	5.35

[†] Seriousness, perceived seriousness of indirect bullying scenarios; Empathy, amount of empathy towards the victims of indirect bullying scenarios; Likelihood, likelihood of intervening in indirect bullying scenario; impact, understanding of the impact of indirect bullying on adolescent mental health.

eta squared=.10] did not reach statistical significance. Overall, results suggest that while there was a significant increase in perceived seriousness of indirect bullying, this was so regardless of which presentation teachers attended.

The same analysis was conducted for empathy towards victims. No significant effects were found for time [Wilks' Lambda = .98, $F(2, 35)= .292, p=.75$, multivariate partial eta squared=.02], group [$F(1,36)=1.58, p=.22$] or interaction [Wilks' Lambda = .99, $F(2, 35)= .25, p=.77$, multivariate partial eta squared=.01].

Similarly, for likelihood of intervention, there was no significant effect for time [Wilks' Lambda = .89, $F(2, 35)= 2.12, p=.135$, multivariate partial eta squared=.11], group [$F(1,36)=2.10, p=.16$], or interaction [Wilks' Lambda = .99, $F(2, 35)= .05, p=.96$, multivariate partial eta squared=.003].

For the "impact" scores, no significant main effects were found for time [Wilks' Lambda = .87, $F(2, 35)= 2.61, p=.08$, multivariate partial eta squared=.13] or group [$F(1,36)=.63, p=.43$]. A significant interaction was, however, found between time and group [Wilks' Lambda = .75, $F(2, 35)= 5.71, p=.007$, multivariate partial eta squared =.25] (Figure 1). Tests of within-subject contrasts showed that the interaction was significant for Time 1 versus Time 2 [$F(1,36)=9.82, p=.003$], but not for Time 2 versus Time 3. A significant upward linear trend existed [$F(1, 36)=5.01, p=.03$]. Thus teachers' understanding of the impact of indirect bullying on adolescent mental health increased significantly for the experimental group only, remaining relatively high at Time 3.

Finally, all analyses were repeated for direct bullying. Full details will not be provided, but Table 5 provides a summary for comparison with indirect bullying.

DISCUSSION

Our first purpose was to identify how far certain teacher characteristics predict their responses to indirect bullying. The second was to pilot test the effectiveness of a presentation on the mental health impact of indirect bullying. We believe this study is the first attempt to do this.

Perceived seriousness of indirect bullying and specific empathy for its victims were confirmed as positive predictors of the likelihood of teachers intervening. Furthermore, perceived seriousness

had predictive power over and above that of global empathy, and was a greater predictor of the likelihood of intervening than empathy towards victims. These results support previous findings that teachers who view bullying more seriously and report greater empathy, are more likely to report that they will intervene (Craig et al., 2000; Ellis & Shute, 2007; Yoon, 2004). Furthermore, the present findings support those of Yoon (2004) in finding a stronger contribution of perceived seriousness than empathy.

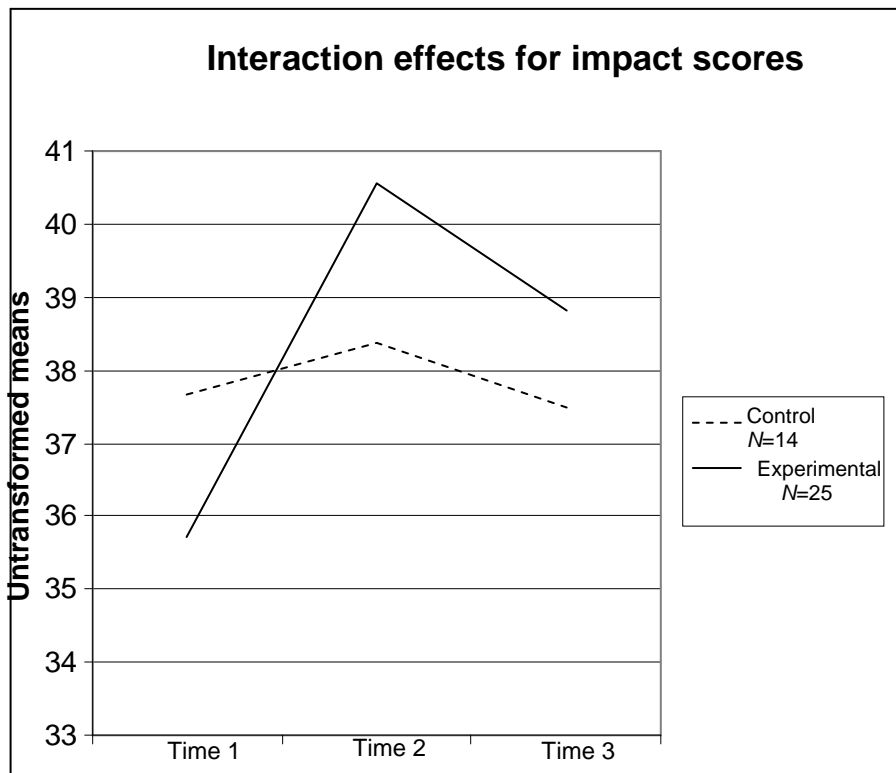


Figure 1. Interaction effect (Time x Group) for teachers' understanding of the impact of indirect bullying on adolescent mental health, as measured by impact scores.

Interestingly, however, our study additionally found that specific empathy for victims of indirect bullying did not significantly predict the likelihood of intervening, over and above the contribution of global empathy. That is, the important factor is teachers' pre-existing general disposition to empathise and help someone in need, rather than specifically victims of indirect bullying. Previous research examining empathy as a predictor of intervening has generally been limited to examining empathy towards victims (Yoon, 2003, 2004). The exception is a study measuring emotional empathy, defined as responsiveness to another's emotional experience, which was found to be a significant predictor of intervention in bullying scenarios (Craig et al., 2000). Our broader, multidimensional conceptualisation of global empathy, incorporating both cognitive and affective aspects (Davis, 1994), also proved to be a significant predictor of teachers intervening, in the specific case of indirect bullying.

In contrast to indirect bullying, the results for direct bullying indicate that, while perceived seriousness remains a positive predictor of likelihood of intervening, empathy is not. No previous research, to our knowledge, has made this comparison. A possible explanation is that because indirect bullying is easy to overlook or ignore, only teachers with a greater sensitivity to others' experiences will feel compelled to intervene. In contrast, direct bullying is usually an objective, easy to detect type of behaviour which is regarded as clearly unacceptable and necessitating teacher intervention, not requiring a strong capacity to place oneself in the victim's shoes.

There was no support for our hypothesis that teachers' knowledge of the impact of indirect bullying on adolescent mental health would predict their likelihood of intervening. There was also no evidence for a mediation effect for empathy between knowledge of mental health impact and likelihood of intervening.

Table 5: Summary of results of analyses for Direct and Indirect bullying scenarios.

Variable or effect of interest	Indirect Bullying	Direct Bullying
	<u>Hypotheses 1-3 (correlational)-predictors of likelihood of intervention</u>	
Perceived seriousness	Significant predictor	Significant Predictor
Empathy for victim	Significant predictor, but this disappears when global empathy is entered	Not a significant predictor
Global empathy	Significant predictor	Not a significant predictor
Knowledge of impact of indirect bullying on adolescent mental health	Not a significant predictor	Not a significant predictor
	<u>Hypothesis 4 (intervention study)*</u>	
Perceived seriousness	Significant group effect (seriousness increased for Experimental vs Control)	No main effect
Empathy towards victim	No main effect	No main effect
Likelihood of intervention	No main effect	Significant group effect where Experimental group scored higher than the Control group
Impact**	Experimental group scored more highly than Control group	Not applicable
	<u>Hypothesis 5 (intervention study for Time 1, Time 2 and Time 3).</u>	
<i>Perceived seriousness:</i>		
Main effect for time	Significant overall main effect (increase): Time 1 versus Time 2 significant Time 1 versus Time 3 significant Time 2 versus Time 3 not significant	Not significant
Main effect for group	Not significant	Not significant
Interaction effect	Not significant	Not significant
<i>Empathy towards victim:</i>		
Main effect for time	Not significant	Not significant
Main effect for group	Not significant	Not significant
Interaction effect	Not significant	Not significant
<i>Likelihood of intervention:</i>		
Main effect for time	Not significant	Not significant
Main effect for group	Not significant	Not significant
Interaction effect	Not significant	Significant (p=.049) Time 1 vs. Time 2 significant Time 2 vs. Time 3 not significant Likelihood of intervention increased from Time 1 to Time 2 for Experimental group
<i>Impact:**</i>		
Main effect for time	Not significant	Not significant
Main effect for group	Not significant	Not significant
Interaction effect	Significant: Knowledge increased for Experimental group from Time 1 to Time 2	Not Significant

* Group differences at Time 2, controlling for Time 1 and global empathy.

** "Impact" scores measured teachers' knowledge of the impact of indirect bullying on adolescent mental health.

No previous studies have directly examined the impact of an educational intervention on teachers' responses to indirect bullying. The results supported the hypothesis that perceived seriousness of indirect bullying would increase following an educational presentation outlining the potential detrimental impact of indirect bullying, as this increased for the experimental group only. Interestingly, perceived seriousness of *direct* bullying also increased for both groups. Together, these results suggest both a specific and non-specific effect of the presentation. Perhaps it increased the salience of material learned previously about direct bullying.

Empathy towards victims of bullying did not increase after the presentation. Taking account of both parts of the present study, the proposal that increasing knowledge about the mental health effects of indirect bullying would raise empathy for victims, and thus increase the likelihood of intervening, was not supported.

Nevertheless, the educational presentation was successful in increasing teachers' understanding of the nature and potential detrimental impact of indirect bullying, as well as their perceptions of its seriousness. However, this did not translate into increased action. In the case of knowledge, this is not surprising, in light of our finding that knowledge of impact does not predict intervening. In the case of perceived seriousness, which *was* a strong predictor and increased by the presentation, the effect was presumably not strong enough to translate into an increased tendency to intervene. Additionally, the educational presentation on indirect bullying raised the likelihood that teachers would intervene in *direct* bullying. This again suggests a non-specific effect of the presentation, whereby it increased teachers' awareness of bullying in general, rather than the targeted indirect bullying behaviours. The result may also perhaps be explained in terms of teachers' self-efficacy: information given about the detrimental effects of indirect bullying may have highlighted the potential impact of bullying in general, but teachers may have lacked the skills and confidence to intervene in indirect, compared with direct, incidents.

We also explored whether any effects would be maintained. No significant differences occurred over time for empathy towards victims of indirect bullying or teachers' likelihood of intervening, for either group. However, the increase in how seriously teachers viewed indirect bullying immediately following either presentation was maintained seven weeks later. This suggests that the non-specific effects on seriousness continued several weeks later (possibly, the act of completing the questionnaires at Time 3 served to reinforce the seriousness of indirect bullying). Finally, the increase in knowledge of impact of indirect bullying on adolescent mental health, specific to the experimental group, was also maintained.

A possible limitation of this study is that the sample of teachers may have been unusually knowledgeable about indirect bullying. Only one school finally agreed to participate, because of logistical issues, and these teachers were generally very experienced. Teaching in an all-girls school may have also served to highlight the prevalence and effects of indirect bullying.

Another limitation is the moderately low reliability of the scale empathy towards victims, although supportive evidence for its validity was found in its significant correlation with global empathy. The smaller Time 3 sample size may have also affected the study's power to detect small differences (Pallant, 2001). The study also had the usual limitations of self-report studies, although the increase in knowledge about indirect bullying cannot be attributed to any demand effects.

One strength of the study was that most of the teachers taught at the secondary level, which is where most indirect bullying occurs (previous research on teacher interventions in bullying has focused on the primary level). Other strengths were the inclusion of a treated control group (which is difficult to achieve and the reason only one school participated), and successful random allocation to groups. Also, while direct bullying was not the focus of the study, its inclusion assisted in the comparison of the two types of bullying, both to help questionnaire respondents to contextualise indirect bullying, and for the purpose of analysis. Together, these strengths support the validity of the present results and enable differentiation between specific and non-specific effects of the presentation. Furthermore, effect maintenance was specifically examined, which appears to be highly unusual in studies of teacher professional development programs.

In contrast to Seaberg et al.'s (2000) study, which succeeded in raising medical residents' specific empathy for patients, the present results suggest that global empathy is a more important focus for increasing the likelihood teachers will intervene in indirect bullying. In addition, our

findings suggest that empathy towards victims cannot be increased with the presentation of information regarding the effects of indirect bullying. Supportive evidence for increasing global empathy was shown in a study with college students, following the implementation of a peer counselling curriculum which emphasised client centred learning using Rogerian principles (Hatcher et al., 1994). Perhaps future studies should attempt to increase global empathy and examine whether this would increase teachers' tendency to intervene in indirect bullying incidents. This is likely to involve much more intensive work than a single educational presentation. Methods of increasing perceived seriousness of indirect bullying to a greater degree could also be explored, given that this is a major predictor of likelihood of intervention.

Future studies may also try to include teachers with less knowledge of indirect bullying than those in this study, although our results suggest that increased knowledge alone does not affect the likelihood of intervening. Future studies may consider adding a skill based component which presents a specific set of strategies and tools teachers can use in combating indirect bullying. Such a skill based program may increase teachers' sense of self-efficacy for dealing with indirect bullying.

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Professor Rosalyn Shute has numerous publications in child and adolescent psychology, especially peer victimisation. She has been a grant-holder on Federal and State-level projects resulting in the production of anti-bullying materials, including visual media, for schools. Now retired, she continues her research through adjunct professorships at Flinders and Ballarat Universities.