



Contents lists available at ScienceDirect

## Child Abuse & Neglect



# Case, teacher and school characteristics influencing teachers' detection and reporting of child physical abuse and neglect: Results from an Australian survey<sup>☆,☆☆</sup>

Kerryann Walsh<sup>a,\*</sup>, Ruth Bridgstock<sup>b</sup>, Ann Farrell<sup>a</sup>, Mehdi Rassafiani<sup>b</sup>, Robert Schweitzer<sup>c</sup>

<sup>a</sup> School of Early Childhood, Queensland University of Technology, Brisbane, Australia

<sup>b</sup> Centre for Learning Innovation, Queensland University of Technology, Brisbane, Australia

<sup>c</sup> School of Psychology and Counselling, Queensland University of Technology, Brisbane, Australia

### ARTICLE INFO

#### Article history:

Received 23 July 2006

Received in revised form 14 February 2008

Accepted 9 March 2008

Available online 4 November 2008

#### Keywords:

Child abuse  
Teachers  
Detection  
Reporting

### ABSTRACT

**Objective:** To identify the influence of multiple case, teacher and school characteristics on Australian primary school teachers' propensity to detect and report child physical abuse and neglect using vignettes as short hypothetical cases.

**Methods:** A sample of 254 teachers completed a self-report questionnaire. They responded to a series of 32 hypothetical physical abuse and neglect scenarios by rating each of the vignettes on a 5-point scale for *likelihood of abuse/neglect* (detection) and *likelihood to report* (reporting). Teacher and school characteristics were also captured.

**Results:** Multivariable multilevel analysis was used because of the hierarchical structure of the data with teachers nested within schools. A modest proportion of the variance in teachers' detecting and reporting scores was attributable to school membership. In the full model, case characteristics were found to exert the strongest influence on detecting and reporting tendency, in particular the type, frequency and severity of child physical abuse or neglect were the most important predictors of detection and reporting. At the teacher level, attention to legal reporting obligations was found to be the strongest and most significant predictor of reporting. The effect of teachers' training on both detecting and reporting emerged as a counter-intuitive finding. At the school level, characteristic effects were not as strong.

**Conclusions:** Teachers detecting and reporting CAN is a complex decision-making process. The most important determinants of teacher decision making are case characteristics. These characteristics impact upon both detection and reporting. Future research should be directed towards identifying and testing the influence of other teacher and, to a lesser extent, school characteristics that were not included in the current study. Further research is also required to identify the components, nature and duration of appropriate training for teachers and the links between these features and reporting outcomes.

**Practice implications:** Findings highlight the need for ongoing evaluation and enhancement of teacher education in CAN. The study underlines the importance of educating teachers about: (a) the warning signs and indicators of different types of CAN; (b) the differential effects of CAN; (c) responding to child victims including responses to direct disclosures; and (d) accurate and timely reporting.

Crown Copyright © 2008 Published by Elsevier Ltd. All rights reserved.

<sup>☆</sup> This study was funded by the Abused Child Trust (grant no. RM2003000890). The Abused Child Trust is the leading provider and advocate of recognized, quality services for the prevention and treatment of child abuse and neglect in Queensland.

<sup>☆☆</sup> We acknowledge in-kind support from the Queensland University of Technology's School of Early Childhood and the Faculty of Education's Centre for Learning Innovation.

\* Corresponding author at: School of Early Childhood, Queensland University of Technology, Victoria Park Road, Kelvin Grove 4059, Queensland, Australia.

## Introduction

Australian data on the sources of notifications for finalised child protection investigations show that the most common sources of these notifications in the year spanning mid-2004 to mid-2005 were school personnel (including teachers), police, and parents or guardians (Australian Institute of Health and Welfare [AIHW], 2006). Rates of teacher reports vary but generally, those States or Territories with mandatory reporting laws for teachers have higher rates of teacher reports (AIHW, 2006). Most Australian States and Territories have legislation compelling teachers to report knowledge or suspicion of child abuse and neglect (CAN). However, these mandatory reporting laws have differences such that teachers in different States and Territories have different legislative duties to report (Mathews & Walsh, 2004a,b; Mathews, Walsh, Butler, & Farrell, 2006). There were no legislative reporting obligations for teachers in the state of Queensland before 2004, at which time a narrow duty was introduced in the form of the *Education and Other Legislation (Student Protection) Amendment Act 2003*, requiring Queensland teachers to report known or suspected child sexual abuse perpetrated by school staff. Reporting obligations for Queensland teachers are, therefore, extremely limited compared to the obligations for teachers in other Australian jurisdictions. Most of the CAN likely to come to the attention of Queensland teachers, such as physical abuse and neglect, they are not required by law to report (Bromfield & Higgins, 2005; Mathews et al., 2006).

Although Queensland teachers do not have mandatory reporting obligations to report all forms of CAN, they have strong, but less binding, institutional policies regarding reporting of all forms of suspected CAN. In Queensland, the policy for government (or State) school teachers requires their reporting of harm to school students via the school principal (Education Queensland, 2004). Non-government schools must have policies and procedures in place for teacher reporting of all forms of CAN.

A further context for this study is the nature and extent of teacher training in CAN. Noting the critical role which teachers can play in detecting and reporting CAN, Queensland teachers have been compulsorily trained to recognise and respond to CAN since 1999. Training comprises a short 3-h school-based interactive workshop using a standard package comprising audiovisual segments, activities, question and answer clarification, and small-group discussions on case scenarios (Education Queensland, 1998, 2003, 2004). Training is delivered by school leaders, generally principals and guidance officers (or school counsellors) rather than child protection specialists. The most recent version of the training package, the one in place at the time of the study, supports institutional policy and instructs school staff to respond to 4 categories of harm: (i) harm caused by an education employee; (ii) harm caused by other students; (iii) harm caused by forces outside the state educational institution environment; and (iv) student self harm.

The present study comprises analysis of a vignette-based component of a larger study designed to provide a cross-sectional snapshot of Queensland primary (or elementary) teachers' CAN detecting and reporting practices. In the vignette component of the study, we focused on teachers detecting and reporting two forms of CAN, child physical abuse and child neglect. We did this for two methodological reasons. First, to minimise chances of measurement bias because the topic of child sexual abuse by school staff was extremely sensitive in Queensland in 2004 after the *Report of the Board of Inquiry into Past Handling of Complaints of Sexual Abuse in the Anglican Church Diocese of Brisbane* (O'Callaghan & Briggs, 2003) and teachers were, understandably, preoccupied with child sexual abuse. Second, restricting the vignettes to child physical abuse and neglect enabled us to present brief and practical scenarios which teachers would be most likely to encounter in their normal work.

## Literature

Notifying child protection authorities of known or suspected CAN, whether mandatory or not, has long been a contested issue for teachers (Mathews & Walsh, 2004a,b; Walsh, Farrell, Bridgstock, & Schweitzer, 2006) and there is little from the field of educational research to inform understandings of teachers' decision making in cases of CAN. To address this gap in the research, at a conceptual level we adapted Dagleish's (1988, 2003) *General Judgement and Decision Making* (GJDM) model to investigate teachers' detecting and reporting CAN. Within this model, teachers' decisions to notify were conceptualised as a two-part process in which teachers must first *detect* CAN, and then *report* it (Egu & Weiss, 2003). At the judgement stage, it was proposed that teachers ask themselves "Is this abuse?"—this is a detection question. At the action stage, teachers ask themselves "Will I report it?"—this is a reporting question. Moreover, using the GJDM model teachers' complex professional judgements and actions were viewed as being influenced by different factors and considerations at each stage of the two-part process. At the judgement (detection) stage, it is proposed that teachers attend primarily to characteristics of the case, that is, the distinguishing signs and symptoms of CAN: its seriousness, frequency and impact on the child. At the action (reporting) stage, it is anticipated that teachers respond (or not respond) to suspicions of CAN based on their own personal and school characteristics: their knowledge of laws, policies and procedures for reporting CAN, their personal values and attitudes, their beliefs about whether reporting is likely to lead to a positive outcome for the child, and the features of their school environment that facilitate or impede reporting. Using the GJDM model, therefore, aided our understanding of how teachers arrived at the point of notification. Studying factors influencing teachers' detecting and reporting practices, holds the potential to advance understanding of teacher decision making in cases of CAN and inform enhancements to policy and training.

Decision-making researchers in the field of reporting of CAN have highlighted the influence of multiple variables on teachers' detecting and reporting practices. Specifically, three groups of characteristics: case, teacher and school characteristics, have been identified in empirical research as influencing teachers' propensity to detect and report CAN (see for example

Hansen et al., 1997; O'Toole, Webster, O'Toole, & Lual, 1999; Turbett & O'Toole, 1983; Warner-Rogers, Hansen, & Spieth, 1996; Webster, O'Toole, O'Toole, & Lual, 2005; Zellman & Bell, 1990). Of these three groups of influences, Zellman and Bell (1990), and O'Toole et al. (1999) found case characteristics to be most influential in guiding decisions. For example, teachers are more likely to recognise and report cases of physical abuse over other types of CAN (Crenshaw, Crenshaw, & Lichtenberg, 1995) and to report physical abuse or neglect when they have observed and documented it over time or when there is a serious event that provokes an immediate response (Hawkins & McCallum, 2001a,b). They are also more likely to report when they are cognisant of the impact of the abuse on the child (Shor, 1997). Other case characteristics such as the socioeconomic status of the child's family have been found to have a mixed effect on detecting and reporting tendency (O'Toole et al., 1999; Turbett & O'Toole, 1983; Zellman & Bell, 1990). Although teachers consider the quality of their relationship with a child's parents, parent cooperativeness has been found to have inconsistent effects on reporting tendency (Crenshaw et al., 1995).

Studies of the effects of teacher characteristics on detecting and reporting CAN have yielded mixed results for gender (Kenny, 2001; O'Toole et al., 1999), parental status (Nightingale & Walker, 1986; O'Toole et al., 1999), years of experience (Crenshaw et al., 1995; Kenny, 2001; O'Toole et al., 1999), teaching context (Beck, Ogloff, & Corbishley, 1994; O'Toole et al., 1999) and amount of training (Nightingale & Walker, 1986; Zellman & Bell, 1990). Interestingly, higher teacher education levels do not appear to predict CAN detection or reporting (O'Toole et al., 1999) while, conversely, teachers' desires to fulfil mandatory reporting obligations have been found to exert a strong positive influence on reporting tendency (Hawkins & McCallum, 2001a,b). Confidence levels in relation to accurately identifying CAN have been found to impact reporting decisions (Crenshaw et al., 1995; Kenny, 2001, 2004). Further, past experiences of detecting and reporting have been associated with current detecting and reporting tendencies (O'Toole et al., 1999), but studies have also shown that teachers who have reported also sometimes fail to report (Kenny, 2001), highlighting the complex discretionary nature of this phenomenon.

The effect of school characteristics on teachers detecting and reporting has received little attention in the research literature. There is mixed evidence that school size influences reporting tendency with both larger schools and schools with lower child-teacher ratios tending to make more reports (O'Toole et al., 1999). The effects of other important school characteristics such as school socioeconomic status, the perceived frequency of CAN in the school community, and the overall school climate as measured by open discussion of CAN at the school, are yet to be tested in empirical research.

The purpose of the present study was to expand this literature base on the effects of case, teacher and school characteristics on teachers' detecting and reporting CAN by addressing shortcomings in the existing research. Most notably, although associations have been made at the bivariate level, only O'Toole et al. (1999) have previously attempted to model the combined effects of case, teacher and school characteristics on detecting and reporting tendency. Further no studies have incorporated into their analyses the hierarchical structure of data, wherein teachers and, arguably, their reporting practices, are nested within schools (Ciarleglio & Makuch, 2007).

The main research questions addressed by the vignette study were: (i) to what extent do case, teacher and school characteristics influence teachers' propensity to detect and report hypothetical cases of child physical abuse and neglect (CPN); (ii) which group of variables has the greatest effect; and (iii) specifically, how much variance can be accounted for at the school level? Therefore, consistent with previous research (e.g., O'Toole et al., 1999; Zellman & Bell, 1990), it was hypothesised that detection and reporting of CPN would vary according to the characteristics of the case, the teacher and the school. It was predicted that case characteristics would exert the strongest influence on detecting and reporting tendency, and that a proportion of the variance in detecting and reporting tendency would be attributable to the nesting of teachers within their schools.

## Method

### Survey instrument

Data were collected using a survey instrument, the *Child Abuse and Neglect Teacher Questionnaire 2004* (CANTQ2004), developed for teachers by the research team based upon findings of previous research in Table 1. The CANTQ2004 comprised initial sections measuring *teacher* and *school* characteristics. In the final section of the survey, vignettes were used to measure *case* characteristics influencing teachers' propensity to detect and report hypothetical cases of child physical abuse and neglect. Vignettes have been used widely as a research tool for analysing professionals' judgements and actions, and as a means of eliciting group similarities and differences in responses (see for example Crenshaw et al., 1995; Dalgleish, 2003; O'Toole et al., 1999; Taylor, 2006; Williams & Soydan, 2005; Zellman & Bell, 1990). A vignette design has clear merits when it is carefully planned to elicit decisions closely resembling those made in normal work situations. Taylor (2006) argues such a design might even produce more valid results than decision-makers' own accounts of their actual practice. It must be acknowledged, however, that because this was a vignette-based study, it did not assess actual decisions; although teachers' personal histories of detecting and reporting were collected as part of the demographic information and included as one of the teacher variables listed below.

Vignette features were based on the findings of empirical research. Five case characteristics were selected as independent (explanatory) variables: (i) type of CAN (physical abuse/neglect); (ii) frequency of CAN (high repeat/low repeat); (iii) impact of CAN on the child (high impact/low impact); (iv) socio-economic status of the child's family (high SES/low SES); and (v) cooperativeness of the child's parent(s) (high cooperation/low cooperation). These variables were measured dichotomously (e.g., high repeat/low repeat; high impact/low impact). Each vignette comprised a series of statements in a fixed order

**Table 1**  
Means and standard deviations for vignette detection and reporting ratings (n = 254).

Vignette variable	Detecting		Reporting	
	Mean	S.D.	Mean	S.D.
Type of abuse				
Physical	3.06	0.91	3.17	1.19
Neglect	2.54	0.88	2.54	1.15
Frequency of abuse				
High repeat	3.08	0.89	3.20	1.16
Low repeat	2.52	0.89	2.52	1.16
Effect of abuse or neglect on the child				
High impact	2.95	0.93	2.99	1.22
Low impact	2.65	0.92	2.71	1.19
Socio-economic status of the child's family				
High SES	2.79	0.93	2.85	1.21
Low SES	2.81	0.93	2.85	1.21
Cooperativeness of the child's parent(s)				
High cooperation	2.69	0.93	2.73	1.19
Low cooperation	2.91	0.92	2.98	1.22

Note: Scores are ranked lowest to highest. For detection (score 1 = definitely not abuse/neglect to score 5 = definitely abuse/neglect). For reporting (score 1 = definitely won't report to score 5 = definitely will report).

containing five case variables relevant to teachers detecting and reporting. Thirty-two vignettes were generated so that each level of each case variable was manipulated with each level of each other case variable. For example:

*A child comes to school with a badly bruised arm. You have noticed this on a number of occasions previously. The child can perform usual activities. The family appear to be struggling financially. The child's parents are seldom seen at school and have been defensive in interactions with you.*

Participants were asked two key questions after each vignette: a detection question (How likely is it that this child has been abused or neglected?); and a reporting question (How likely is it that you will report this case?). Responses were rated on a 5-point Likert type scale with 1 indicating most unlikely and 5 indicating most likely.

Eleven teacher characteristics were selected as independent (explanatory) variables and questions were completed to determine each of the following: (i) gender (female/male); (ii) age (in years); (iii) parental status (parent/non-parent); (iv) qualification level (undergraduate/postgraduate); (v) years of teaching experience; (vi) teaching level (lower primary years P-3/upper primary years 4-7/others); (vii) formal training in CAN (yes/no); (viii) belief in legal obligation to report CAN (yes/no); (ix) confidence in identifying child physical abuse and neglect; (x) previously suspected CAN (yes/no); and (xi) previously reported CAN (yes/no).

Four school characteristics were selected as independent (explanatory) variables. Teachers completed questions eliciting information about: (i) school size (less than 200 students/200–500 students/more than 500 students); (ii) socioeconomic status of children at the school (low/average/high); (iii) discussion about CAN at the school (yes/no); and (iv) perceived frequency of CAN in the school community (more/equal/less than other communities).

Applying a multivariable multilevel design enabled us to assess, simultaneously, the influence of multiple explanatory variables and groups of variables on the two key outcome (dependent) variables: (i) teachers' propensity to detect CPN (*detection*) as measured by teachers' responses to the vignette questions asking 'how likely is it that this child has been abused or neglected?' and (ii) teachers' propensity to report CPN (*reporting*) as measured by teachers' responses to the vignette questions asking 'how likely is it that you will report this case?'. This approach is particularly helpful for identifying relationships among diverse influences in episodes involving considerable complexity such as decision making in research contexts wherein data have a hierarchical or nested structure situations (Ciarleglio & Makuch, 2007; Hair, Anderson, Tatham, & Black, 1998).

### Participants and procedure

Approval to conduct the study was obtained from the University Human Research Ethics Committee (UHREC) and from Education Queensland's *Strategic Policy and Education Futures Branch*. Registered teachers working in Queensland government (or State) primary schools, preschool to seventh grade (teaching children aged 5–12 years) in 11 administrative districts in South East Queensland (N = 302) were invited to participate in the study via a letter to their school principals (or head teachers). One hundred and nineteen principals (39.4%) responded. Of these, 35 (11.6%) accepted the invitation to participate and 84 (27.8%) declined. This sampling method was (and still is) the only approved way to recruit teachers working in government schools for research purposes. Participating schools had slightly higher student enrolments, that is, they were larger schools (mean = 617.35, S.D. 534.01) compared with schools overall (mean = 464.39, S.D. 303.47). Across most of the 11

districts, sample schools were proportionately distributed, but there was evidence of over sampling from one district (10.6% of schools overall, response rate of 23.53%) and undersampling from another district (9.93% of schools overall, response rate of 2.94%). To contextualise these differences, if only 4 *less* schools in the first district and 2 *more* schools in the second district had participated the results would have been proportionate.

A total of 1077 surveys were distributed to teachers in 35 participating schools. Completed questionnaires were returned by 254 teachers resulting in a final response rate of 23.6%. Reflecting the overall profile of teachers in Queensland government primary schools, participating teachers were predominantly female (86.2%), and the largest proportion of teachers was in the age-range 41–50 (36.9%) (Department of Education and the Arts, 2005). Teachers in the sample had an average of approximately 15 years teaching experience (mean = 14.7 years, S.D. = 9.3) which is comparable with that of teachers overall and with sample data reported in previous studies (for example Crenshaw et al., 1995; O'Toole et al., 1999; Webster et al., 2005). There was a good spread of teachers from all year levels within the schools and from schools' administration, with 40.6% of respondents working in the upper school (years 4–7), 36.2% in the lower school (preschool to year 3), and 23.2% in other school administration or specialist teaching roles. We believe this study is the largest of Australian primary teachers' detecting reporting practices to date and it is certainly the largest Australian study of teachers as non-mandated reporters.

### Data analysis

Multivariate multilevel modelling was used to estimate the explanatory power of independent variables and to estimate the proportion of variance in the dependent variables that could be explained at the case, teacher and school levels. Multivariate approaches are required when there is a need to analyse more than one dependent variable at one time (Twisk, 2006), and multilevel modelling is appropriate for explaining relationships between variables measured at different levels in a hierarchical or nested structure (Ciarleglio & Makuch, 2007). A multivariate multilevel modelling approach assumes that responses from teachers within each school are not independent of one another. Multilevel modelling can account for such dependencies by estimating variance associated with school membership (Tabachnick & Fidell, 2007).

Data analyses were performed using the statistical program MLwiN 2.02 (Rasbash, Steele, Browne, & Prosser, 2005). To explain the variation in teachers' detecting and reporting, and to test the hypothesis that teachers' detecting and reporting of CPN would vary according to the characteristics of the case, the teacher and the school, we developed three models with three levels. The response indicators – the two dependent variables, *detection* and *reporting* – at the first level were nested within teachers at level two, and nested within schools at level three. Model 1 included only the explanatory variables related to the case variables. Model 2 included case variables and teacher variables. Model 3 included all explanatory variables together – case variables, teacher variables and school variables.

The fit of each nested model was compared with the previous model using the likelihood ratio test ( $-2 \log$ -likelihood), wherein each successive model was compared with the previous model: the first model was compared with the empty (base) model without explanatory variables, the second model was compared with the first model and so on. The differences between the models having a chi-squared distribution were compared to determine significant changes between models. The proportion of variance explained by each of the models, and the unexplained variance remaining after all predictor variables were included in Model 3 was calculated using the  $R^2$  statistic. A variance partition coefficient (VCP) was also calculated for the base model to identify the proportion of the total residual variation solely attributable to differences between schools (Rasbash et al., 2005).

### Results

From the 254 completed surveys, a total of 8128 vignette responses were obtained (254 teachers  $\times$  32 vignettes) for each of detecting and reporting. The mean vignette detection rating was 2.79 (S.D. = .56), and the mean vignette reporting rating was 2.82 (S.D. = .83). These results (Table 1) show that, generally, if teachers in this sample detected a case of child physical abuse or neglect, they tended to report it. A strong relationship between detection and reporting scores was confirmed at the bivariate level (Pearson's  $r = .72, p < .0001$ ).

Table 2 shows the results of three fitted models: Model 1 containing only case variables; Model 2 containing case and teacher variables; and Model 3 containing case, teacher and school variables. The numbers in the columns show the estimated effect ( $\beta$  coefficient), the standard error of the effect, and the significance ( $p$  value) of the tests for each model. The  $-2 \log$  likelihood value for each model illustrates a significant difference between each successive model ( $p < .001$ ) confirming the better fit of the more elaborate model (Model 3) to the data.

The  $R^2$  value in Model 1 at the bottom of the first two columns of Table 2, shows that the greatest proportion of variance is distributed at the case level for both detecting (20%) and reporting (16.7%). Hence, case characteristics alone accounted for exactly one-fifth of the variation in teachers' responses for detecting and slightly less than one-fifth of the variation in their reporting responses. This remains consistent across the three models indicating the stability and importance of case level factors as predictors even when other variables are added.

In Model 3, the  $R^2$  value indicates that a significant yet moderate proportion of the variance in teachers' detecting (31%) and reporting (20.1%) scores was explained by the variables measured when all case, teacher and school variables were entered. This overall picture of the predictive potential of the model also indicates that 69% of the variance in detecting and 79.9% of the variance in reporting remains unexplained pointing to potential for improvement in the model.

**Table 2**  
Results from multilevel model for influence of case, teacher and school characteristics on teachers' detecting and reporting.

Variable	Model 1		Model 2		Model 3	
	Detection $\beta$ coefficient (standard error)	Reporting $\beta$ coefficient (standard error)	Detection $\beta$ coefficient (standard error)	Reporting $\beta$ coefficient (standard error)	Detection $\beta$ coefficient (standard error)	Reporting $\beta$ coefficient (standard error)
Fixed:						
<i>Case (vignette) variables</i>						
Type:						
Physical abuse (Ref)						
Neglect	–0.525(0.02) <sup>***</sup>	–0.635(0.026) <sup>***</sup>	–0.529(0.021) <sup>***</sup>	–0.640(0.029) <sup>***</sup>	–0.518(0.022) <sup>***</sup>	–0.603(0.030) <sup>***</sup>
Frequency:						
High (Ref)						
Low	–0.564(0.02) <sup>***</sup>	–0.702(0.027) <sup>***</sup>	–0.598(0.021) <sup>***</sup>	–0.751(0.029) <sup>***</sup>	–0.571(0.022) <sup>***</sup>	–0.712(0.030) <sup>***</sup>
Impact:						
High (Ref)						
Low	–0.299(0.020) <sup>*</sup>	–0.280(0.026) <sup>*</sup>	–0.328(0.021) <sup>*</sup>	–0.319(0.029) <sup>*</sup>	–0.314(0.022) <sup>*</sup>	–0.307(0.030) <sup>***</sup>
Family socioeconomic status:						
High (Ref)						
Low	0.020(0.020) <sup>ns</sup>	0.005(0.026) <sup>ns</sup>	0.011(0.021) <sup>ns</sup>	–0.004(0.029) <sup>ns</sup>	0.015(0.022) <sup>ns</sup>	–0.002(0.030) <sup>ns</sup>
Parent cooperation:						
High (Ref)						
Low	0.221(0.020) <sup>***</sup>	0.251(0.026) <sup>***</sup>	0.219(0.021) <sup>***</sup>	0.243(0.029) <sup>***</sup>	0.233(0.022) <sup>***</sup>	0.256(0.030) <sup>***</sup>
<i>Teacher variables</i>						
Gender:						
Female (Ref)						
Male			–0.102(0.042) <sup>**</sup>	0.115(0.058) <sup>*</sup>	–0.027(0.046) <sup>ns</sup>	0.156(0.062) <sup>**</sup>
Age:						
Parental status:			–0.028(0.019) <sup>ns</sup>	–0.026(0.026) <sup>ns</sup>	–0.022(0.019) <sup>ns</sup>	–0.037(0.027) <sup>ns</sup>
Parent (Ref)						
Non-parent			0.010(0.031) <sup>ns</sup>	–0.016(0.043) <sup>ns</sup>	0.006(0.032) <sup>ns</sup>	0.005(0.044) <sup>ns</sup>
Qualification level:						
Undergraduate (Ref)						
Postgraduate			0.087(0.036) <sup>*</sup>	0.073(0.049) <sup>ns</sup>	0.022(0.038) <sup>ns</sup>	–0.088(0.052) <sup>ns</sup>
Length of experience:						
0–5 years (Ref)			0.002(0.002) <sup>ns</sup>	0.003(0.003) <sup>ns</sup>	0.001(0.002) <sup>ns</sup>	0.006(0.003) <sup>*</sup>
Teaching level:						
Lower primary (Ref)						
Upper primary			–0.081(0.029) <sup>**</sup>	–0.041(0.040) <sup>ns</sup>	–0.150(0.031) <sup>***</sup>	–0.157(0.042) <sup>***</sup>
Others			–0.034(0.037) <sup>ns</sup>	–0.202(0.051) <sup>***</sup>	–0.119(0.040) <sup>*</sup>	–0.298(0.054) <sup>***</sup>
Formal training in CAN:						
Yes (Ref)						
No			0.137(0.029) <sup>***</sup>	0.80(0.039) <sup>*</sup>	0.174(0.032) <sup>***</sup>	0.128(0.043) <sup>**</sup>
Confidence in identifying CPN:						
Yes (Ref)			0.047(0.016) <sup>**</sup>	0.127(0.022) <sup>***</sup>	0.097(0.019) <sup>***</sup>	0.244(0.025) <sup>***</sup>
Belief in mandated reporting:						
Yes (Ref)						
No			–0.134(0.034) <sup>***</sup>	–0.465(0.047) <sup>***</sup>	–0.127(0.040) <sup>***</sup>	–0.588(0.054) <sup>***</sup>
Suspected CAN ever:						
Yes (Ref)						
No			–0.059(0.034) <sup>ns</sup>	0.90(0.047) <sup>*</sup>	0.013(0.037) <sup>ns</sup>	0.204(0.051) <sup>***</sup>
Reported CAN ever:						
Yes (Ref)						
No			–0.168(0.028) <sup>***</sup>	–0.208(0.038) <sup>***</sup>	–0.201(0.030) <sup>***</sup>	–0.229(0.042) <sup>***</sup>

School variables						
School size:					0.208(0.040) <sup>***</sup>	0.259(0.058) <sup>***</sup>
Teacher-rated SES for children at school:					0.163(0.032) <sup>***</sup>	0.118(0.044) <sup>**</sup>
Teacher-rated CAN frequency at school:					-0.075(0.029) <sup>**</sup>	-0.218(0.040) <sup>***</sup>
CAN discussed at school:						
Yes (Ref)						
No					-0.021(0.029) <sup>ns</sup>	0.006(0.040) <sup>ns</sup>
Random:						
$\sigma_{0u}^2$ (variance of school intercept)	0.05(0.014)	0.130(0.036)	0.044(0.013)	0.171(0.047)	0.082(0.023)	0.251(0.068)
$\sigma_{\epsilon}^2$ (teacher-level variance)	0.653(0.017)	1.111(0.020)	0.555(0.011)	1.023(0.021)	0.527(0.011)	0.939(0.020)
$R^2$ : % of variance explained	20	16.7	32.1	19.9	31	20.1
-2 log likelihood (base model without explanatory variables: 31231.8)		29531.17		21738.57		19333.67

ns, not statistically significant.

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p = 0.001$ .

The variance partition coefficient was calculated for the base model to identify the estimated proportion of total variance in teachers' detection and reporting that could be accounted for solely by school. Results illustrate that only a modest proportion of 5.2% and 8% of the total variance in detecting and reporting, respectively, may be attributed to differences between schools.

Considering the full model (Model 3), results support the hypothesis that detection and reporting of CPN vary according to the characteristics of the case, the teacher and the school. Results in Table 2 show that four of the five case variables obtained significant estimated effects making them significant predictors of detecting and reporting. Vignettes containing physical abuse, higher frequency, greater impact on the child, and low levels of parent cooperativeness were all assigned higher mean scores than vignettes containing neglect, less frequent abusive events, less observable impact on the child, and cooperative parents. Socioeconomic status of the child's family was the only case variable non-significant for detection and reporting.

Of the teacher variables, age, parental status, and qualification level were not found to be significant predictors of either detection or reporting of child physical abuse or neglect as depicted in the vignettes. Being male and having longer experience as a teacher were significant predictors for reporting only. Compared with teachers from the upper school and those working in administrative or specialist roles (e.g., behaviour support teachers), teachers in the lower school were more likely to detect and report. Child protection training was a significant predictor for detecting and reporting, but the findings are counter-intuitive with teachers *without* rather than *with* formal training being more likely to detect and report. Teachers' with higher confidence levels were more likely to detect and report as were teachers who believed (wrongly) that they had a legal obligation to report CAN. This latter variable exerted the strongest influence on reporting at the teacher level. Teachers' previous experience with CAN cases was also important, but in different directions. Specifically, having never previously suspected CAN significantly predicted reporting only, but having previous experience of reporting CAN predicted both detecting and reporting.

For school variables, effect sizes were small. However, teachers from larger schools, and schools where teachers rated the socioeconomic status of the children as higher were more likely to detect and report physical abuse or neglect. Teachers' perceptions of the prevalence of CAN in the school community was a significant predictor of detection and reporting with perceptions of higher frequency predicting both detection and reporting. Regular discussion about CAN at the school did not influence detection or reporting.

## Discussion

The main purpose of this study was to determine the extent to which case, teacher and school characteristics influence teachers' propensity to detect and report child physical abuse and neglect using vignettes as short hypothetical cases. We examined primary school teachers' detecting and reporting in an Australian jurisdiction with no legislative obligation to report child physical abuse or neglect (at the time of the study), but with strong policy directives to report all forms of harm to school students. In this study, we conceptualised the CAN notification process as a two-part decision in which teachers must first *detect* CAN, and then *report* it. We found a strong relationship between teachers' detection (How likely is it that this child has been abused or neglected?) and reporting (How likely is it that you will report this case to the authorities?) scores. This means that despite the complex interplay of factors, where teachers in this sample were reasonably sure that CAN was occurring in the hypothetical cases, they were likely to report it.

The most important finding of this study is that case characteristics exerted the strongest influence on teachers' detecting and reporting child physical abuse and neglect, accounting for approximately one-fifth of the total variance in detection and reporting scores. This finding concurs with previous research by Zellman and Bell (1990) and O'Toole et al. (1999) in the USA and corroborates these findings in an Australian sample. Four particular case characteristics stand out as the most important case-factor influences on both detecting and reporting: these were the type, frequency and impact of CAN, and parent cooperativeness. Cases of obvious and repeated physical abuse where the consequences for the child were very apparent, and parents were unfriendly or defensive were judged more harshly and were more likely to be identified by teachers and reported. These results add to the findings of previous studies, such as Crenshaw et al. (1995), who found that teachers were more likely to report cases of physical abuse than neglect and Kenny (2001) and Tite (1993) who found that teachers considered physical abuse cases as more reportable. Our findings also concur with Shor's (1997) study of Israeli teachers in that where there was clear evidence of impact on the child, physical abuse was likely to be reported, and Zellman and Bell (1990) who found that when deciding whether to report, teachers take into consideration the quality of their relationship with the child's family, and their knowledge of relationships within the family. Further, our findings extend on the existing research by revealing that details of the case are more important predictors for detecting than they are for reporting, highlighting the complexity of the action phase of the decision to report. These findings underpin the importance of educating teachers in recognising the warning signs and indicators of different types of CAN. As Trudell and Whatley (1988) have cautioned, however, decontextualised "laundry lists" (p. 106) of warning signs and indicators are inadequate. Improving teachers' knowledge of CAN and capacity to respond must be accompanied by information about the differential effects of types of CAN, case studies emphasising effective practices, and details about how to respond to children, including responses to direct disclosures.

Teachers in this sample appeared willing to report once they had detected CAN. After considering case-level factors, the next most important contributor to the decision to report was teachers' perceptions that the law required a report.

Although significant for both detection and reporting, understandably, the perception of legal obligation to report was a much stronger influence on reporting than detection. Notably, however, teachers in this sample *did not* have a legal obligation to report the types of CAN described in the vignettes, yet a significant majority (86.5%) believed they had such an obligation. This incidental finding highlights the need for teachers to be accurately appraised of the extent and nature of their reporting responsibilities and the need for training materials to distinguish teachers' obligations under law and policy. Teachers deserve a clear understanding of their responsibilities, especially because of the influential nature of this characteristic.

Given the mixed results in the extant literature relating to the influence of individual teacher characteristics on decision making in cases of CAN, our findings both confirm and contest what others have reported.

The anomalous finding that teachers with no formal child protection training had a greater propensity to both detect and report requires special remark and further investigation. From a policy perspective, the counter-intuitive effect of child protection training on teachers' detecting and reporting is considerable cause for concern. As Zellman and Bell (1990) point out, it is generally assumed that training is effective, at least to some degree, in promoting detecting and reporting. Previous research has found that, after training, teachers report gains in knowledge that helped them feel better equipped to deal with the challenges of detecting and reporting (Baginsky, 2003; Baginsky & Macpherson, 2005; Campbell & Macdonald, 1996; Hawkins & McCallum, 2001a,b). However, in this instance, teachers feeling better equipped to deal with the problem of CAN may, paradoxically, not translate to recognising signals of CAN in their classrooms, nor influence them to make reports. Training may, in fact, provide teachers with increased awareness of the complexities of CAN, and insights into the variability of responses to reports and subsequent outcomes for children and families. In other words, the more teachers know, the more they may realise they do not know. In addition to these issues with respect to the efficacy of training, it may be that there is a lag factor that has not been accounted for; that is, a possible time-lag between their training program and the presentation of a case in the classroom. If our goal is to produce teachers who report their suspicions accurately and in a timely fashion, identifying the essential components, nature, and duration of appropriate training must be a priority for future research.

The apparent powerlessness of formal training to influence detection and reporting may also be explained in terms of the time needed for the uptake of new practices and the change in culture required at the teacher and school levels. As pointed out at the outset, formal system-wide training for Queensland teachers has been underway for less than 10 years. This training, in recent years, has placed significant emphasis on managing teacher misconduct towards children rather than dwelling on warning signs and indicators in depth. However, it is not possible to determine the effect of various parts of the training on detecting and reporting practice without isolating specific training variables and entering them into the multivariable models. Although this was beyond the scope of this study, improving the predictive model in future studies may include greater attention to the key elements of formal training. Outcome studies are, therefore, required to progress empirical support for inclusion of effective components into training programs (Alvarez, Kenny, Donohue, & Carpin, 2004).

Teachers' confidence levels and previous experiences with reporting cases of CAN also influence their current and likely future detecting and reporting intentions, supporting findings of earlier research (see for example Kenny, 2001; O'Toole et al., 1999). Both of these teacher characteristics were found, in this study, to exert a similar level of influence, with all factors considered. This finding may signal the faith held by this teacher sample in the state child protection authorities' actions in relation to reported cases. If so, the finding has implications for child protection authorities' relationships with teachers for, in other jurisdictions, this relationship can be precarious (see for example Kenny, 2001, 2004). Owing to the importance of reporting history uncovered here, for teachers to continue to be willing to report their concerns, teachers will require feedback on the quality and accuracy of their reports at both an individual teacher and school-system levels. However, such feedback mechanisms must not compromise parental rights to privacy and confidentiality, especially in cases of non-substantiated reports. The challenge for promoting interagency collaboration and enhancing teachers' capacity to accurately report may be supported by empirical research examining overall trends in teachers' reporting rather than focusing on individual cases. Emphasis should also be placed on the dissemination of such research findings to teachers and schools so that they can adjust their practices relative to evidence and outcomes. Further, in their education, teachers' capacity for learning from their experiences may be enhanced by the development and use of specific tools for structured reflection on child protection concerns, and, possibly, professional supervision by child protection specialists in certain circumstances.

Finally, the small proportion of variance accounted for by school membership for both detection and reporting requires further investigation. If over 90% of the variance for detection and reporting cannot be explained at the school level, further precision in the model may be attained by attending to individual teacher characteristics not measured in the current study. These characteristics may include their values and attitudes towards reporting, their skill in accurately identifying cases, their knowledge about reporting processes and procedures, their perceptions of social support, and actual physical resources available for handling cases of CAN (see for example, Goebbels, 2006).

### Limitations

Several limitations are identified. First, the response rate is low. This may indicate the possibility for study biases towards sampling from those who were interested in the topic and perhaps more at ease with the subject matter. Future studies would benefit from sampling strategies and processes to obtain higher response rates. Additionally, the link between school size and response rate (larger schools were more likely to participate) requires exploration in future research. Second, the study sampled only Queensland primary teachers, therefore, external validity is limited. Generalisation to teachers in other contexts, for example secondary (or high) schools, should be approached with caution. Third, as a vignette-based study, the

findings inform our understanding of respondents' intentions rather than their actual behaviour in real-life CAN situations. Although some scholars argue that studies using vignette studies may produce more valid results than decision-makers' own accounts of their actual practice (Taylor, 2006), vignette-based studies cannot take into account all of the nuanced individual, institutional or temporal factors that may impinge on actual practice.

## Conclusion

By virtue of their long-term engagement with children, primary school teachers have, arguably, greatest opportunity of any professional to observe and act in response to CAN. In doing so, they provide crucial links to early intervention and prevention services with the capacity to improve quality of life for children at-risk of or experiencing CAN. Teachers' decisions to notify child protection authorities involve a complex interplay of case, teacher and school factors in both detecting and reporting parts of the process. This study confirms the importance of case characteristics over and above teacher and school characteristics in teachers detecting and reporting child physical abuse and neglect. Given the unanticipated findings concerning teacher training, further empirical work in the form of more elaborate multilevel studies can and must be done to determine the essential structure and components of effective training and to ascertain the influence of different training approaches and delivery methods so that we may understand how training variables affect detecting and reporting outcomes.

## Acknowledgements

Special thanks to Ray Duplock for survey design and analysis advice, and to Vincent Conway and Rebecca Mathews who provided research assistance in the design phase of the study. We thank the reviewers and editor for the many helpful remarks that led to significant improvements in this paper. Approval to conduct this research was granted by Education Queensland (550/27/186).

## References

- Australian Institute of Health and Welfare (2006). *Child protection Australia 2004–05*. Canberra, ACT: Australian Institute of Health and Welfare (AIHW).
- Alvarez, K. M., Kenny, M. C., Donohue, B., & Carpin, K. M. (2004). Why are professionals failing to initiate mandated reports of child maltreatment, and are there any empirically based training programs to assist professionals in the reporting process? *Aggression and Violent Behavior*, 9(5), 563–578.
- Baginsky, M. (2003). Newly qualified teachers and child protection: A survey of their views, training and experiences. *Child Abuse Review*, 12(2), 119–127.
- Baginsky, M., & Macpherson, P. (2005). Training teachers to safeguard children: Developing a consistent approach. *Child Abuse Review*, 14(5), 317–330.
- Beck, K. A., Oglloff, J. R. P., & Corbishley, A. (1994). Knowledge, compliance, and attitudes of teachers toward mandatory child abuse reporting in British Columbia. *Canadian Journal of Education*, 19(1), 15–29.
- Bromfield, L. M., & Higgins, D. J. (2005). National comparison of child protection systems. *Child Abuse Prevention Issues*, 22. <[www.aifs.gov.au/nch/issues/issues22.html](http://www.aifs.gov.au/nch/issues/issues22.html)> (Accessed 6 January 2007).
- Campbell, H., & Macdonald, S. (1996). Child protection in schools: An evaluation of a training course for Fife schools' co-ordinators of child protection. *Public Health*, 110, 37–40.
- Ciarleglio, M. M., & Makuch, R. W. (2007). Hierarchical linear modelling: An overview. *Child Abuse & Neglect*, 31(2), 91–98.
- Crenshaw, W. B., Crenshaw, L. M., & Lichtenberg, J. W. (1995). When educators confront child abuse: An analysis of the decision to report. *Child Abuse & Neglect*, 19(9), 1095–1113.
- Dalgleish, L. (1988). Decision making in child abuse cases: Application of social judgment theory and signal detection theory. In B. Brehmer & C. R. B. Joyce (Eds.), *Human judgement: The SJT view* (pp. 317–360). Amsterdam: North Holland Publishing Company.
- Dalgleish, L. (2003). Risk, needs and consequences. In M. C. Calder & S. Hackett (Eds.), *Assessment in child care: Using and developing frameworks for practice*. Dorset, UK: Russell House Publishing.
- Department of Education and the Arts (2005). *Annual report 2004–05*. Brisbane, QLD: Author.
- Education Queensland (1998). *Child protection training package*. Brisbane, QLD: Queensland Government.
- Education Queensland (2003). *Student protection training*. Brisbane, QLD: The State of Queensland (Department of Education).
- Education Queensland (2004). *Health and safety HS-17: Student protection*. Brisbane, QLD: Education Queensland.
- Egu, C. L., & Weiss, D. J. (2003). The role of race and severity of abuse in teachers' recognition or reporting of child abuse. *Journal of Child and Family Studies*, 12(4), 465–474.
- Goebbels, A. F. G. (2006). *Assessing determinants of teachers' reporting of suspected child abuse and neglect*. Unpublished Master of Public Health thesis. Maastricht University, The Netherlands.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis (5th ed.)*. London: Prentice-Hall International, Inc.
- Hansen, D. J., Bumby, K. M., Lundquist, L. M., Chandler, R. M., Le, P. T., & Futa, K. T. (1997). The influence of case and professional variables on the identification and reporting of child maltreatment: A study of licensed psychologists and certified masters social workers. *Journal of Family Violence*, 12, 313–332.
- Hawkins, R., & McCallum, C. (2001a). Mandatory notification training for suspected child abuse and neglect in South Australian schools. *Child Abuse & Neglect*, 25(12), 1603–1625.
- Hawkins, R., & McCallum, C. (2001b). Effects of mandatory notification training on the tendency to report hypothetical cases of child abuse and neglect. *Child Abuse Review*, 10 (301–322)
- Kenny, M. (2001). Child abuse reporting: Teachers' perceived deterrents. *Child Abuse & Neglect*, 25(1), 81–92.
- Kenny, M. C. (2004). Teachers' attitudes toward and knowledge of child maltreatment. *Child Abuse & Neglect*, 28(12), 1311–1319.
- Mathews, B., & Walsh, K. (2004a). Queensland teachers' new legal obligation to report child sexual abuse. *Australia and New Zealand Journal of Law and Education*, 9(1), 25–40.
- Mathews, B., & Walsh, K. (2004b). Issues in mandatory reporting of child sexual abuse by Australian teachers. *Australia and New Zealand Journal of Law and Education*, 9(2), 3–17.
- Mathews, B., Walsh, K., Butler, D., & Farrell, A. (2006). Mandatory reporting by Australian teachers of suspected child abuse and neglect: Legislative requirements and questions for future direction. *Australia and New Zealand Journal of Law and Education*, 11(2), 7–22.
- Nightingale, N. N., & Walker, E. F. (1986). Identification and reporting of child maltreatment by head start personnel: Attitudes and experiences. *Child Abuse & Neglect*, 10, 191–199.
- O'Callaghan, P., & Briggs, F. (2003). *Report of the Board of Inquiry into Past Handling of Complaints of Sexual Abuse in the Anglican Church Diocese of Brisbane*. Brisbane, QLD: Anglican Church Diocese of Brisbane.

- O'Toole, R., Webster, S. W., O'Toole, A. W., & Lugal, B. (1999). Teachers' recognition and reporting of child abuse: A factorial survey. *Child Abuse & Neglect*, 23(11), 1083–1101.
- Rasbash, J., Steele, F., Browne, W., & Prosser, B. (2005). *A user's guide to MLwiN*. Bristol, UK: Centre for Multilevel Modelling.
- Shor, R. (1997). Identification and reporting of maltreated children by teachers in Israel. *Early Child Development and Care*, 134, 61–73.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. Boston: Pearson.
- Taylor, B. (2006). Factorial surveys: Using vignettes to study professional judgement. *British Journal of Social Work*, 36, 1187–1207.
- Tite, R. (1993). How teachers define and respond to child abuse: The distinction between theoretical and reportable cases. *Child Abuse & Neglect*, 17(5), 591–603.
- Trudell, B., & Whatley, M. H. (1988). School sexual abuse prevention: Unintended consequences and dilemmas. *Child Abuse & Neglect*, 12(1), 103–113.
- Turbett, J. P., & O'Toole, R. (1983). Teachers' recognition and reporting of child abuse. *Journal of School Health*, 53(10), 605–609.
- Twisk, J. W. R. (2006). *Applied multilevel analysis*. Cambridge, NY: Cambridge University Press.
- Walsh, K., Farrell, A., Bridgstock, R., & Schweitzer, R. (2006). The contested terrain of teachers detecting and reporting child abuse and neglect: The need for empirical research in an Australian state with unique reporting laws. *Journal of Early Childhood Research*, 4(1), 65–76.
- Warner-Rogers, J. E., Hansen, D. J., & Spieth, L. E. (1996). The influence of case and professional variables on identification and reporting of physical abuse: A study with medical students. *Child Abuse & Neglect*, 20(9), 851–866.
- Webster, S. W., O'Toole, R., O'Toole, A. W., & Lugal, B. (2005). Overreporting and underreporting of child abuse: Teachers' use of professional discretion. *Child Abuse & Neglect*, 29(11), 1281–1296.
- Williams, C., & Soydan, H. (2005). When and how does ethnicity matter? A cross-national study of social work responses to ethnicity in child protection cases. *British Journal of Social Work*, 35, 901–920.
- Zellman, G. L., & Bell, R. M. (1990). *The role of professional background, case characteristics, and protective agency response in mandated child abuse reporting*. Santa Monica, CA: Rand.