

ARE TEACHERS PREPARED? PREDICTORS OF TEACHERS' READINESS TO
SERVE AS MANDATED REPORTERS OF CHILD ABUSE

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Emily A. Greytak

DEDICATION

To my father, David Greytak, Ph.D., who instilled in me an intellectual curiosity, a respect for knowledge, and the belief that, with hard work, I could accomplish anything. I thank him for showing me that everyone has something to teach you, provided you listen and pay attention.

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ABSTRACT

ARE TEACHERS PREPARED? PREDICTORS OF TEACHERS' READINESS TO SERVE AS MANDATED REPORTERS OF CHILD ABUSE

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The Child Abuse Prevention and Treatment Act (1974) requires that states receiving U.S. federal funds directed at child abuse implement mandated reporting laws. As a result, all states have adopted legislation requiring teachers and other professionals who deal with children to report suspicions of child abuse. The federal mandate for such reporting laws assumes that teachers will have the capability to fulfill their role as mandated reporters. However, prior research suggests that educators do not always report their suspicions of child abuse to child protective services.

Using survey data from a sample of teachers trained by the University of Pennsylvania's Graduate School of Education, this study investigated whether teachers are currently prepared for their role as mandated reporters. Prior research had found that mandated reporters vary in the level to which they comply with reporting policies. This study assessed the potential factors accounting for variations in teachers' reporting behaviors.

Results from this study based on linear regression analysis and structural equation models confirmed that teachers do not always report their suspicions of child abuse and do not feel well prepared for their role as mandated reporters. Neither the factors articulated in the Integrated Model of Behavior (attitudes toward reporting abuse, self-efficacy beliefs, and social norms) nor the common elements addressed by education and training programs (knowledge of mandated reporting law, indicators of abuse, and reporting procedure) predicted teachers' likelihood of reporting abuse. Exposure to information on mandated reporting or child abuse was related to increased knowledge of mandated reporting law and reporting procedures, but was not predictive of reporting of suspicions of child abuse. Having a school procedure for reporting abuse was predictive of likelihood of reporting physical and sexual abuse.

Findings from this study suggest that many teachers are not equipped for their role as mandated reporters. Yet, the findings also suggest that providing information about mandated reporting or child abuse is not sufficient for ensuring compliance with mandated reporting laws. Further experimentation in practice and additional research is needed to identify factors that promote the reporting of educators' suspicions of child abuse to child protective services.

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Chapter 1: Introduction

With the increased recognition that a child's mental health and physical well being may impact their ability to learn and achieve in school, educators have been expected to address issues far outside the purview of academics. One such issue that plagues children, and as such requires the response of school professionals, is child abuse.¹ The U.S. Department of Health and Human Services (2008b), drawing from reports from state child protective service agencies, estimates that in 2006, 12 in 1000 children were abused, resulting in a total of 905,000 child victims. By far, the most common type of abuse was neglect (see Table 1).

Table 1

Rates of Child Abuse in the United States per 1000 Children in 2006

Neglect	7.6
Physical abuse	2.0
Sexual abuse	1.1
Emotional/psychological abuse	0.9

Source: U.S. Department of Health and Human Services, 2008b

The experience of abuse may negatively affect students' academic performance and educational experience (Bastain & Taylor, 1991). Child abuse, like any type of trauma, may impede a child's ability to learn. Child abuse has specifically been linked to absenteeism and lower grades (Portner, 1997). In addition, child abuse victimization

¹ Child abuse is an overarching term referring to various types of child maltreatment, specifically physical, emotional/mental, and sexual abuse and neglect.

impacts not only the individual students victimized, but also the school climate as a whole. Children coping with trauma may exhibit behaviors which disrupt other students and teachers (Brunner, 1994). Some of these behaviors may rise to a criminal level. Although the majority of abused children do not engage in violent or criminal activity (Widom, 1989), child victims of abuse are at an elevated risk for delinquency, and violent criminal behavior (Arata et al., 2007; Barbaree, Hudson, & Seto, 1993; Chandy, Blum, & Resnick, 1996; Lawton, 1995).

Of course, a decline in academic achievement and increased criminal activity are only two of many possible effects of child abuse. Victimization is often linked to numerous other problems that schools have defined as important, such as the following: drug, alcohol, and tobacco use (Arata et al., 2007; Goodman & Fallo, 1998; Kellogg, Hoffman, & Taylor, 1999; Massachusetts Department of Education, 1999; Molnar, Buka, & Kessler, 2001; Portner, 1997); HIV/AIDS and other sexually transmitted infections (Hillis, Anda, Felitti, & Marchbanks, 2001; Massachusetts Department of Education, 1999; Parillo, Freeman, Collier, & Young, 2001); anxiety and mood disorders (Arata et al., 2007; Molnar et al., 2001; Portner, 1997), and adolescent pregnancy (Kenney, Reinholtz, & Angelini, 1997; Olenick, 2000; Portner, 1993; Raj & Silverman, 1999; Schreck, 2001).

Mandated Reporting of Child Abuse

Mandated reporting laws, enacted in every U.S. state, are some of the most widespread policies attempting to prevent and respond to child abuse. The Child Abuse Prevention and Treatment Act (1974) requires that states receiving U.S. federal funds

directed at child abuse prevention and treatment implement mandated reporting laws. These laws impose a legal obligation on all professionals working with children to report suspicions of abuse of a child by a caretaker to state child protective service agencies. As a result, all states have adopted legislation requiring adults who deal with children in a professional capacity to report suspicions of child abuse (National Clearinghouse on Child Abuse and Neglect Information, 2002, 2003; Reinger, Robinson, & McHugh, 1995).

Given their regular interaction with youth, it is not surprising that educators serve as a greater referral source of child abuse to child protection agencies than other groups of mandated reporters. In 2005 16% of all reports of child abuse in the United States came from school professionals (U.S. Department of Health and Human Services, 2006). In Pennsylvania alone, educators reported 5,457 incidents of abuse in 2005 (Department of Public Welfare, 2006). Children spend more time in school than any place other than their homes and, thus, schools provide the most efficient access point to identify and respond to child abuse victims. The majority of children — over 52 million youth (“An ESEA Primer,” 2002) — spend the equivalent of nine years or more of their lives in school. As such, teachers are likely to come into contact with abused children (Webster, 2001). With their day-to-day intensive interactions and ongoing relationship with their students, teachers are in a unique position to detect and respond to child abuse. Teachers not only have the opportunity, but also the legal obligation to report child abuse.

Therefore, teachers should be prepared to meet the demands put forth by child abuse victimization; if they are not, they face not only the possibility of failing a child in

need, but also of dismissal, reprimands, hefty fines, or even jail time. Despite the fact that all educators are required by law to report any suspicions of child abuse, many have not received adequate preparation for their roles as mandated reporters. This lack of information may impact both their ability and willingness to report abuse of their students. However, most of the literature on the effectiveness of education and training programs for mandated reporters of child abuse has focused on changes in knowledge regarding components of the law and indicators of abuse, not changes in detection or reporting of abuse. Whether education provided to mandated reporters affects actual reporting behaviors has been less explored by the literature. In addition, there is a dearth of information on whether the specific information and education provided to teachers about mandated reporting of child abuse actually address the necessary elements to ensure compliance with mandated reporting laws.

Aims of Current Study and Research Questions

Mandated reporting laws operate under two implicit assumptions: 1) professionals can be compelled by law to report suspicions of abuse to child protective services; 2) reporting to child protective services improves child outcomes. Yet, these assumptions are rarely questioned in practice and are often left unexplored by the research literature. The current study focuses its inquiry on the first assumption, specifically investigating potential factors that might contribute to teachers' decisions to report their suspicions of abuse to child protective services.

Through a survey of current students and alumni of the University of Pennsylvania's Graduate School of Education Teacher Education Program, the current

study examines teachers' level of preparation to serve as mandated reporters of child abuse and explores potential factors related to their compliance with mandated reporting laws. The survey assesses the information teachers received about their role as mandated reporters, as well as their knowledge, beliefs, and behaviors related to mandated reporting. This study will contribute to several distinct, but related, bodies of existing literature:

- Preparation, knowledge, and behaviors of educators as mandated reporters of child abuse (Abrahams et al., 1992; Crenshaw et al., 1995; Ford & Medway, 1994; Ford et al., 2001; Hawkins & McCallum, 2001; Kenny, 2001a; O'Toole et al., 1999; Reiniger et al., 1995);
- Effectiveness of laws requiring mandated reporting of child abuse (Ainsworth, 2002; Berliner, 1991; Besharov, 1991, 1994; Watts & Laskey, 2002; Zellman & Antler, 1990);
- Factors related to compliance with mandated reporting laws (Abrahams et al., 1992; Beck et al., 1994; Crenshaw et al., 1995; Delacondre, 1996; Desiz et al., 1996; Duncan, 2001; Feng & Levine, 2005; Finlayson & Koocher, 1991; Hinson & Fossey, 2000; Kenny, 2001a, 2001b; McCallum, 2002; O'Toole et al., 1999; Tite, 1993; Webster et al., 2005; Zellman, 1990a,b,c; Zellman & Antler, 1991), and
- Effectiveness of education and training programs about mandated reporting and child abuse (Anderson, 1997; Bonardi, 2000; Campbell & Macdonald, 1996; Cerezo & Pons, 2004; Feng & Levine, 2005; Hawkins & McCallum, 2001;

Kenny, 2007; Kleemeier et al., 1988; McCallum & Baginsky, 2001; McGrath et al., 1987; Perrault, 1997; Randolph & Gold, 1994; Reiniger et al., 1995; Swartz, 1995; Tilden, 1994).

The current study also explores the extent to which the factors commonly addressed in education and training about mandated reporting and those suggested by theories of behavior change actually relate to reporting behavior. By examining these potential factors together in one predictive model, this study will provide information not only about the relative contribution of each factor to reporting behaviors and the effectiveness of education and training programs to influence reporting behaviors, but also about the potential mechanisms of the influence of education and training programs on behaviors.

This study provides specific information to the Teacher Education Program of University of Pennsylvania's Graduate School of Education about the effectiveness of the preparation their students receive regarding their role as mandated reporters of child abuse. If teachers trained by the University of Pennsylvania's Graduate School of Education are not in fact prepared to fulfill their legal responsibilities, then this study can also provide guidance as to which factors facilitate teachers' level of preparedness. By exploring the factors that influence teachers' mandated reporting behaviors, this study also provides information about the best targets for intervention. Findings from this study can help identify promising strategies to impact teachers' reporting behavior.

The specific research questions of this study are:

1. How likely are teachers to comply with state mandated reporting laws by reporting their suspicions of child abuse to child protective services?

2. What are the reasons given by teachers as to why they do not always report their suspicions of child abuse to child protective services?
3. What are teachers' levels of knowledge and self-efficacy, .i.e., a belief in one's ability to perform the desired behavior (Bandura, 1990, 2001), in regards to reporting of child abuse? What are their attitudes and social norms regarding the reporting of child abuse?
4. What is the type and level of information teachers receive about child abuse and mandated reporting?
5. Do teachers differ in their exposure to information about child abuse or mandated reporting, feelings of preparedness, behaviors, knowledge, self-efficacy, attitudes, and social norms based on individual or school-level characteristics?
6. Are teachers' knowledge, self-efficacy, attitudes, and social norms related to their likelihood of compliance with mandated reporting laws?
 - a. Do the factors most commonly addressed through training/education on child abuse or mandated reporting relate to teachers' likelihood of compliance with mandated reporting laws?
 - b. Do the factors proposed by the Integrated Model of Behavior (Fishbein, 2000; Fishbein & Yzer, 2003) as related to child abuse or mandated reporting relate to teachers' likelihood of compliance with mandated reporting laws?

- c. Which factors addressed through training/education or factors proposed by Integrated Model of Behavior contribute most to the variance in teachers' likelihood of compliance with mandated reporting laws?
7. Are teachers' levels of exposure to information about child abuse and mandated reporting related to their knowledge, self-efficacy, attitudes, and social norms?
 8. Are teachers' levels of exposure to information about child abuse and mandated reporting related to their likelihood of compliance with mandated reporting laws?

Chapter 2: Background on Mandated Reporting Laws

Effectiveness of Mandated Reporting Laws

Mandated reporting laws were enacted to protect children from abuse. Yet, some experts have questioned their effectiveness, suggesting that enactment of these laws may not actually lead to higher levels of child protection (e.g. Besharov, 1991; Larson et al., 1994; Watts & Laskey, 2002). Critiques of mandated reporting policies include both the acknowledgement that most incidents of child abuse remain unreported and that most reports of child abuse are unsubstantiated.

In 2005 over three million reports of child abuse were made to U.S. child protective services. Over half of all reports (57.8%) were made by mandated reporters (U.S. Department of Health and Human Services, 2007). Just over 60% of these reports were investigated and a similar proportion resulted in a finding of unsubstantiated² (U.S. Department of Health and Human Services, 2007). The reports from mandated reporters accounted for the majority of all reports, including substantiated³ (68.6%), indicated⁴ (65.6%), and unsubstantiated (52.0%) reports.

² Unsubstantiated: An investigation disposition that determines that there was not sufficient evidence under state law to conclude or suspect that the child was maltreated or at risk of being maltreated (U.S. Department of Health and Human Services, Administration for Children and Families, 2007).

³ Substantiated: An investigation disposition that concludes that the allegation of maltreatment or risk of maltreatment was supported or founded by state law or state policy (U.S. Department of Health and Human Services, Administration for Children and Families, 2007).

⁴ Indicated: An investigation disposition that concludes that maltreatment could not be substantiated under state law or policy, but there was reason to suspect that the child may have been maltreated or was at risk of maltreatment (U.S. Department of Health and Human Services, Administration for Children and Families, 2007).

Although reports from mandated reporters comprise half of all reported incidents of child abuse (U.S. Department of Health and Human Services, 2007), many incidents of child abuse remain unreported (Brown & Bzostek, 2003; Finkelhor, 1990). National studies of child abuse estimate that only one-third of incidents are actually reported to child protection agencies or law enforcement (Goldman et al., 2000).

Although underreporting of child abuse remains a problem, reports of child abuse have increased since the implementation of mandated reporting policies. After intensive study of child protective services agencies in six states, Zellman and Antler (1990) concluded that reports of child abuse rose sharply directly after implementation of state mandated reporting laws, with continual, yet more gradual yearly increases from then on. However, some experts doubt whether this rise in reports is a positive result, as they claim that mandated reporting laws have actually led to an over-reporting of child abuse (Ainsworth, 2002; Besharov, 1991, 1994; Larson et al., 1994; Watts & Laskey, 2002), with professionals reporting cases of abuse that end up being unsubstantiated. The investigation into these eventually unsubstantiated cases may be damaging both to the child and the family involved and to the perception of the child abuse reporting process (Berliner, 1991; Bersherov, 1991). Some argue that these reports overburden child protection systems, resulting in an over expenditure of efforts on unsubstantiated cases, diverting resources from the children who most need protection.

Of course, as experts acknowledge, both overreporting and underreporting may exist simultaneously – with some cases of child abuse remaining unreported and suspicions of abuse over-reported (Bersharov, 1991, 1994). Some point to the fact that

current mandated reporting laws require reporting of *suspected* abuse, a subjective term often not defined by state statutes or local policies (Finlayson & Koocher, 1991; Flaherty, 2006). Critics warn that the lack of required evidence or standard for suspicion combined with a threat of legal repercussions for not reporting suspicions and the immunity for good-faith reporting of cases that end up unsubstantiated leads to a flood of reports from professionals, cases that are less likely to be substantiated by child protective services.

As mandated reporting has been law in all United States jurisdictions for the past several decades, it is not possible to compare states with such laws to states without. However, many countries began adopting mandated reporting policies after the United States, and in some places these policies do not have a national reach. This has enabled some researchers to study the impact of mandated reporting by comparing jurisdictions with and without such policies. For example, Ainsworth (2002) compared child abuse reports, investigations, substantiated and unsubstantiated cases in two Australian states – one with mandated reporting laws and one without such laws. He found that the state with a mandated reporting law investigated less than two-thirds of the reported cases (59.6%), while the state without mandated reporting laws investigate almost all of the reported cases (97.4%). The mandated reporting state also had a smaller portion of substantiated reports (21.3% compared to 44.2%) and a greater ratio of unsubstantiated cases (7.8:1 compared to 5.5:1) than did the state without a mandated reporting law. A review of the mandated reporting system conducted for the Western Australian Child Protection Council concluded that there were higher rates of substantiated cases in the

state without mandated reporting because the state with mandated reporting expended more resources on unsubstantiated cases (Harries & Clare, 2002). These expenditures of resources may result in a decreased level of available services for cases that are substantiated, as Ainsworth found that in the state with mandated reporting only a quarter of families involved in substantiated cases of abuse received any services.

Lamond (1989) also examined the impact of mandated reporting laws in Australia, considering the reports made by school personnel before and after the implementation of mandated reporting laws. Educators' reports of suspected child abuse increased after the law was enacted, while the portion of substantiated reports remained the same. Thus, the law resulted in an increase in the number of abused children identified, but also to an increase in investigation of unsubstantiated cases, which Lamond suggests may be "an unreasonable cost to pay for increased child protection." Ainsworth and other Australian researchers (Harries & Clare, 2002; Watts & Laskey, 2002) conclude that because of the overburden of the child protection system caused by increased reports, mandated reporting is an ineffective policy as it deprives the most at-risk children of services. This argument has been made about mandated reporting system in the United States as well (Larson et al., 1994; Bersharov, 1991).

Examinations of the behaviors of mandated reporters is another means of assessing the effectiveness of mandated reporting policies. Research has consistently found that professionals who are mandated to report suspected child abuse do not always comply with the law (Beck et al., 1994; Delacondre, 1996; Finlayson & Koocher, 1991; Kalichman & Craig, 1991; Reiniger et al., 1995; Tilden et al., 1994; Webster et al., 2005;

Zellman, 1990b; Zellman & Antler, 1990). For example, from the over 1300 mandated reporters from a variety of professions surveyed by Reiniger, et al. (1995), over two-thirds of the suspected cases of child abuse were not reported to child protective services. While all of the psychologists studied by Kalichman and Craig (1991) had suspected cases of child sexual abuse, over a third had not reported these cases. Similarly, a national survey of more than 1,000 mandated reporters, including physicians, mental health providers, child care providers, and educators, found that between 24% and 58% of these professionals failed to report suspected child abuse (Zellman, 1990b; Zellman & Antler, 1990).

Though compliance with mandated reporting laws may be lower than desired, if the mandated reporting policies lead professionals to report child abuse more often than they would have without these laws, these laws could be considered to account for an increase in child abuse cases known to child protective services. While, as discussed earlier, some may argue whether these increased reports are truly beneficial (Bersharov, 1991; Larson et al., 1994), if the law is a relevant factor in professionals' decisions to report child abuse, then the law will have achieved one of its aims – to increase child protective services' awareness of possible child abuse cases. However, research examining the determining factors of mandated reporters' decision making is somewhat inconclusive about the role of mandated reporting laws.

A number of studies in both the U.S. and abroad explored the reasoning behind mandated reporters' decisions, investigating what role the mandated reporting law played in their decision of whether or not to report suspicions of child abuse. Less than half of

teachers studied by Beck, et al. (1994) in British Columbia indicated that they reported because of their legal obligation, while the legal mandate was a determining factor to only 10% of Louisiana teachers surveyed by Hinson and Fossey (2000). Crenshaw, et al. (1995) studied the reporting decisions of over 600 Kansas educators and determined that their desire to adhere to the mandated reporting law was only a moderate factor in whether they reported child abuse or not, compared to more influential factors such as the strength of their suspicions of abuse, leading Crenshaw, et al. to conclude that “the law is not enough to compel reporting” (p. 1107). However, unlike the educators studied by Beck, et al. and Crenshaw, most Israeli social workers (71%) surveyed by Landau and Osmo (1999) cited their legal mandate as the reason for reporting cases of child sexual abuse.

If legal mandates have an impact on the decisions of potential reporters, one would expect differences between those mandated to report and those not mandated to report. Yet, a study of reports made to child protective services by both those who were mandated to report and others who were not revealed no differences in characteristics of reported cases (Giovannoni, 1995), leading the researcher to conclude that mandated reporters are not compelled by the law to report any cases they would not otherwise report. Carleton (2006) came to a similar conclusion after asking both mandated and non-mandated reporters about hypothetical cases. No differences in their willingness to report were found.

Thus, it appears that mandated reporting laws do not compel all professionals under their purview to report all their suspicions of child abuse. Why do some

professionals fulfill their legal responsibility as mandate reporters while others do not?

Under what circumstances do mandated reporters decide to report potential cases of child abuse? Examination of the factors related to compliance with mandated reporting laws may provide some insight into these questions.

Factors Related to Compliance with Mandated Reporting Laws

Knowledge and Awareness of Mandated Reporting and Child Abuse

Mandated Reporting Laws

Consensus exists surrounding the importance of mandated reporters' knowledge of the mandated reporting laws (Tower, 1987; Wurtele & Miller-Perrin, 1992). In order to comply with the law, professionals must know about it. To fulfill their legal mandate, the most basic piece of information professionals must know is that they are mandated reporters of child abuse. However, while an awareness of their status as mandated reporters may be necessary, it is certainly not sufficient. Being knowledgeable about mandated reporting laws requires professionals to be familiar with the nature of their duty as a mandated reporter. They need to understand of the definitions of child abuse and the conditions under which they are required to make a report. Additionally, they need to know how to do so; they must be familiar with the policies and procedure for making a report.

The literature generates conflicting information with regards to mandated reporters' knowledge of the law and their responsibilities. Crenshaw et al. (1995) and Zellman (1990) both found a high degree of knowledge of mandated reporting laws among mandated reporters. Additionally, Hawkins and McCallum (2001) found that a sample of teachers with no previous training in child abuse demonstrated a grasp of the law, with 94% acknowledging they were responsible for reporting suspected child abuse

and 77% acknowledging that failure to report suspected child abuse is an offense⁵.

However, professionals may be knowledgeable about some aspects of the law, yet not about others. For example, while almost all of the teachers (94%) studied by Beck, et al. (1994) in British Columbia knew that there was a law mandating reporting of child abuse, on average, they got correct answers on fewer than five out of eight questions on specific aspects of the law.

Several researchers found that lack of sufficient or accurate information about mandated reporting laws were key factors in whether educators complied with mandated reporting laws (Abrahams, Casey, & Daro, 1992; Hinson & Fossey, 2000; Zellman, 1990). For example, some school personnel, unaware that they are immune from legal repercussions if they make a report in good faith, fear legal penalties if they report an unsubstantiated claim (Abrahams et al., 1992; Hinson & Fossey, 2000; Kenny, 2004). Yet Crenshaw, et al. (1995) found no relationship between educators' level of knowledge about mandated reporting policies and their actual decisions of whether to report.

Definition of Child Abuse

In a national survey of over 1000 mandated reporters, including school principals, Zellman (1990a) determined that the major factor in compliance is the professional's judgment about whether the law requires a report in the specific instance. Hence, a reporter's understanding of what constitutes "child abuse" may be a critical factor affecting their behavior (Wurtele & Miller-Perrin, 1992). There appears to be a lack of

⁵ States have imposed legal consequences on mandated reporters who fail to report child abuse. For example, under Pennsylvania's Child Protective Services Law, mandated reporters failing to report suspected abuse of a child may be found guilty of a misdemeanor.

clarity or consensus among mandated reporters about the definition of child abuse (Hawkins & McCallum, 2001; Tite, 1993). Based on her study of teachers, Tite (1993) concluded that “the difficulties associated with making the leap from labels to definitions that are sufficiently clear to enable reporting are becoming more obvious” (p. 591-592).

While state-mandated reporting statutes often provide guidelines for determining what constitutes child abuse (generally conforming to state criminal codes), mandated reporters may not know or understand them. Even within these guidelines, there is room for various interpretations. Researchers have found that both U.S. and non-U.S. mandated reporters vary in their operational definitions of child abuse. Based on a study of teacher trainees and primary school teachers in Zimbabwe, Shumba (2002) concluded that these mandated reporters often “have different conceptions about what is and is not child abuse” (p. 410) and professionals surveyed by Perrault (1997) in the mid-Atlantic region of the United States did not agree about which behaviors constituted child sexual abuse and overall they failed to identify more than half of abusive acts as sexual abuse. Australian school personnel in Hawkins and McCallum’s (2001) study cited that a barrier to reporting was a lack of clarity as to what constituted child abuse.

Regardless of professionals’ understanding of what is considered child abuse by law, professionals’ own conceptions of what is abusive may play a role in their reporting decisions. Zellman (1990b) found that some mandated reporters would not report certain incidents of abuse because they believed they “should not be defined as abuse.”

What Constitutes Suspicions of Abuse

An understanding of what constitutes child abuse is not the only aspect of the mandated reporting law that leads to confusion among mandated reporters. One aspect of the laws that appears to pose particular difficulties is the interpretation of the mandate to report “suspicions” of abuse (Flaherty, 2006). While states vary somewhat in the wording of their mandated reporting laws, all require that mandated reporters report their *suspicions* of abuse. For example, both Pennsylvania and New York State laws require professionals to report when they have “reasonable cause to suspect” that a child has been abused. What qualifies as suspicions can be quite subjective and the laws themselves neither provide definitions of “suspicions” nor guidelines as to what constitutes “a reasonable cause” to suspect abuse. Thus, educators and other mandated reporters have indicated that a confusion about what qualifies as a “suspicion of abuse” may keep them from reporting possible cases of abuse (Desiz et al., 1996; Hawkins & McCallum, 2001; Perrault, 1997). Desiz, et al. found that the interpretation of “reasonable cause” varied widely by therapist, with some having more strict criteria than others.

Indicators of Child Abuse

Professional experts and child advocacy groups cite a number of generally agreed upon indicators of child abuse, both physical and behavioral (Childabuse.com, n.d.; Child Welfare Information Gateway, 2007; HelpGuide.org, n.d.; The Kempe Center for Prevention and Treatment of Child Abuse and Neglect, n.d.; The National Children’s Advocacy Center, n.d.) (see Table 2).

Table 2

Physical and Behavioral Indicators of Child Abuse

	Physical Indicators	Behavioral Indicators
Physical abuse	<ul style="list-style-type: none"> - Unexplained bruises or welts - Unexplained burns 	<ul style="list-style-type: none"> - Withdrawal - Aggressive behavior - Fear of adults or caretakers - Fear of being at home - Disclosures of abuse
Sexual abuse	<ul style="list-style-type: none"> - Bloody or damaged underclothes - Pain, redness, itching, or swelling in genital or rectal area - Sexually transmitted infections 	<ul style="list-style-type: none"> - Age-inappropriate sexual activities or knowledge - Excessive seductiveness or promiscuity - Aggressive behavior - Suicidality - Disclosure of abuse
Emotional/ Psychological abuse	<ul style="list-style-type: none"> - Delayed physical development - Delayed emotional and intellectual development 	<ul style="list-style-type: none"> - Aggressive behavior - Extreme passiveness - Anti-social behavior
	Physical Indicators	Behavioral Indicators
	<ul style="list-style-type: none"> - Speech disorders 	<ul style="list-style-type: none"> - Regressive behaviors - Habit disorders - Disclosure of abuse

Neglect

- Unattended medical needs or illnesses
- Malnutrition/constant hunger
- Inappropriate clothing
- Poor hygiene
- Lack of supervision at home
- Chronic tardiness and absenteeism
- Begging for or stealing food
- Fatigue
- Disclosure of neglect

Source: Childabuse.com, n.d.; Child Welfare Information Gateway, 2007; HelpGuide.org, n.d.; The Kempe Center for Prevention and Treatment of Child Abuse and Neglect, n.d.; The National Children’s Advocacy Center, n.d.

Not surprisingly, mandated reporters’ ability to recognize these indicators, which may arouse a reporter’s suspicion, partially determines whether or not they will make a report of suspected abuse (Crenshaw et al., 1995). Recognizing abuse may become increasingly difficult when the indicators of abuse are not obvious, as illustrated by the fact that each case of sexual abuse that was reported by the teachers interviewed by Tite (1993) was spawned by a child victim’s direct disclosure of abuse. (Direct disclosures from a child, along with physical signs of abuse, are the most obvious types of indicators of abuse. However, physical signs are relatively rare, particularly in cases of sexual and emotional abuse.)

While teachers have demonstrated knowledge of the effects of abuse, such as low self-esteem, poor academic performance, and increased aggression (Yanowitz, Monte, & Tribble, 2003), whether they can actually identify specific signs of abuse in a student is less certain. Regardless of their actual knowledge, educators are not often convinced of their own ability to recognize the signs of abuse, as evidenced by the fact that 44% of

student teachers and only 24% of teachers who had not received any training in child abuse surveyed by Hawkins and McCallum (2001, p. 1609 and p. 1612, respectively) said that they were confident that they could recognize signs of abuse. In fact, 76% out of the over 400 Illinois teachers surveyed by McIntyre (1987) admitted they would not recognize any of the signs of sexual abuse if they were present in a student (p. 134) and less than 20% of teachers surveyed by Kenny (2004) believed they were aware of the signs of physical abuse, sexual abuse, or neglect.

Some, but not all, studies have found that educators' awareness of indicators of abuse differ by type of abuse (Hinson & Fossey, 2000; Kenny, 2004). For example, Hinson and Fossey found that a higher percentage of teachers believed they could identify signs of physical abuse as compared to sexual abuse (59% vs. 16%). Yet, teachers surveyed by Kenny demonstrated a greater awareness of indicators of sexual abuse than of physical abuse.

Familiarity with indicators of child abuse is essential for mandated reporters, as those unable to recognize signs of abuse are unlikely to suspect abuse (Hinson & Fossey, 2000). Still, the ability to identify indicators of abuse is not enough to ensure that educators report their suspicions to child protective services agencies, as mandated by state law.

Even when abuse is suspected, most often it is not reported to child protective services. Results of the National Teachers Survey (Abrahams et al., 1992) found that while 90% of teachers suspecting abuse reported the case, they did so only to another school staff member, such as the school nurse, principal, or social worker, and only 23%

of teachers reported these suspicions to child protective service agencies (p. 233). In their study of teachers, mental health providers, and medical professionals in New York state, Reiniger, et al. (1995) found that 69% of recognized cases of child abuse and neglect were not reported to child protection services (p. 67). Tite's (1993) study revealed similar rates of reporting, finding that the overall reporting rate for school personnel in instances where they do suspect abuse is only approximately 25% (p. 596). Perhaps the low reporting rate can be explained by a lack of understanding of the mandated reporting laws, specifically the inaccurate belief that professionals need to be sure that a child is being abused in order to report. In actuality, mandated reporters are required to file a report in all cases of *suspected* abuse, not only in cases of *confirmed* abuse.

Knowledge and Beliefs Regarding School Policies and Procedures

Even if a teacher decides to file a report of child abuse, they still have another hurdle to climb. Once teachers are knowledgeable about what constitutes a reportable case of child abuse under their state's mandated reporting laws, they then must also be familiar with the necessary policies and procedures for making a report. Reiniger, et al. (1995) and Kenny (2001) found that mandated reporters are actually more versed in the indicators of child abuse than they are with the reporting policies and procedures. Abrahams, et al. (1992) indicated that there remains a disconnect between school policies regarding reporting of child abuse and school personnel's awareness of such policies. They concluded that schools are not effectively communicating these policies to their staff. Similarly, McCallum (2002) found the lack of school structures to be a contributing factor in Australian educators' non-compliance with mandated reporting

laws. This seems to be true for the teachers studied by Kenny (2001b; 2004), as only 3% of teachers in her 2001 study and 13% in the 2004 study said they were aware of their school's reporting procedures. While Crenshaw, et al. (1995) found that knowledge of school policy did not play a role in school personnel's decision of whether to report child abuse, the overwhelming majority of both elementary and secondary principals surveyed by Zellman (1990b, 1990c) indicated that school district policy played an important role in their decision to file a report of child abuse.

Regardless of whether principals comply with mandated reporting laws, teachers may doubt that their school administration would support them in making a report (Duncan, 2001; Hinson & Fossey, 2000). Kenny (2001b, 2004) found that a majority of teachers believed that their administration would *not* support them in making a report (60% in 2001b, 76% in 2004). However, whether the perceived lack of support influences teachers' reporting behavior is uncertain. Crenshaw, et al. (1995) found that educators' beliefs about their administration's support for mandating reporting were not related to educators' tendency to report.

Beliefs and Attitudes about Child Protective Services

One of the most commonly identified influences on mandated reporters' compliance with mandated reporting laws is their views of child protective services agencies – the entities responsible for receiving, investigating, and adjudicating reports of child abuse. A number of researchers have found that reporters hold relatively negative opinions of child protective services (Delacondre, 1996; Deisz et al., 1996; Hinson & Fossey 2000; McCallum, 2001). Less than 20% of the Connecticut social workers and

pediatricians surveyed by Delacondre (1996) believed that child protective services (CPS) did an adequate job of protecting children from abuse. A number of the therapists Desiz, et al. (1996) interviewed in New York State expressed similar concerns, believing that CPS did not handle the cases they reported appropriately. Teachers in Australia (McCallum, 2001), Canada (Beck et al., 1994) and the United States (Hinson & Fossey, 2000; Kenny, 2001b) have also found CPS to be ineffective. For example, less than half of the Louisiana teachers (46%) studied by Hinson and Fossey thought that notifying CPS was helpful in cases of suspected child abuse, while 4% believed that CPS does more harm than good.

Although research indicates that clinicians' and teachers' views of CPS are predominantly negative, Zellman (1990c) found that school principals, particularly elementary school principals, hold relatively positive opinions of CPS. Compared to mental health professional, physicians, and child care providers, principals gave CPS staff higher ratings on professionalism, consistency in responding, and responsiveness to reporters. For example, over two-thirds (68%) of elementary school principals strongly believed CPS staff to be professional, as compared to a third (32%) of child psychiatrists, and less than half of social workers (43%), psychologists (49%), and pediatricians (48%).

Whether mandated reporters hold positive or negative views of CPS, these views appear to play a factor in their decisions of whether or not to report when they suspect child abuse (Beck et al., 1994; Crenshaw et al., 1995; Delacondre, 1996; Duncan, 2001; Hinson & Fossey, 2000; Kenny, 2001a, 2001b; McCallum, 2002; O'Toole, 1999; Webster et al, 2005; Zellman and Antler, 1990; Zellman, 1990). For example, when

asked why they did not report their suspicions of child abuse, 16% of teachers surveyed by Kenny (2001a) indicated it was because they believed that CPS is generally not helpful to children, and 10% believed that reporting child abuse results in negative consequences for both the child and their family. Zellman and Antler identified a lack of faith in CPS as a main reason that mandated reporters failed to report, and Zellman found that the second most common reason principals did not report their suspicions was because they believed it not be helpful - specifically, a percentage of secondary school principals said they believed that CPS services are of poor quality (15.5%) and that CPS over reacts to reports (8.0%). Some educators studied by Crenshaw, et al. (1994) were also skeptical of CPS' ability to adequately protect children and, in the case of emotional abuse and neglect, this was related to their willingness to report suspected abuse. Similarly, Hinson and Fossey (2000) identified teachers who did not report suspected abuse because they believed that abused children, if removed from the abusive situation at all, are most often returned to the same situation by CPS.

Although the majority of research that examines mandated reporters' decisions indicates that reporters' views of CPS are a factor in their decisions of whether or not to report abuse, some studies of this topic suggest that not all of reporters' views of CPS characteristics – whether positive or negative – influence their decisions (Finlayson & Koocher, 1991; Zellman & Antler, 1990). For example, Finlayson and Koocher (1991) found that reporters' level of confidence in CPS' competence did not factor into whether or not they would make a report of child abuse to CPS. When examining the role of CPS contact with reporters about cases they reported, Zellman and Antler (1990) found that

while CPS is required to provide feedback to reporters, they seldom do; and yet this lack of feedback did not influence reporters' future decisions. Additionally in their examination of the structure of state systems for reporting and investigating child abuse, Van Voorhis and Gilbert (1998) concluded that there were no significant relationships between the characteristics of states' reporting systems and their reporting rates.

Perceived Consequences of Reporting

Negative Effects on Child and Family

Even when not directly attributed to CPS itself, some reporters may believe that reporting suspected abuse is often harmful to the child (Beck et al., 1994; Hinson & Fossey, 2000; Kenny, 2001; Webster, 2005; Zellman, 1990b). For example, Kenny (2001) found that one in ten teachers believed that reporting abuse “only brings about negative consequences” for the child. This belief has been found to influence reporting decisions. In examining why reporters failed to make a report of suspected abuse, Hinson and Fossey (2000), Webster, et al. (2005) and Zellman (1990b) found that for a portion of reporters, it was the belief that reporting would not have positive consequences on the child. Many of the teachers who could imagine a situation where they would not report their suspicions of child abuse pointed to the case where reporting would make things worse for the child (Beck et al., 1994).

In addition to the potential harm reporting suspected abuse could have on the child, some research indicates that mandated reporters were also concerned about the potential damage a report could do to the family (Beck et al., 1994; Kenny, 2001). Over 40% of teachers studied by Beck, et al. believed that making a report would have

negative effects on the family and the child. Ten percent of teachers surveyed by Kenny thought that reporting *only* results in negative effects for the family and the child.

Whereas some research has found that mandated reporters were influenced by their beliefs about the outcomes of reporting, O'Toole, et al. (1999) found no such relationship. Specifically, their findings indicated that teachers' beliefs about the potential benefits and harm of reporting abuse did not play a role in either their ability to recognize indicators of abuse or their likelihood of reporting abuse.

Negative Consequences for Mandated Reporters

In addition to mandated reporters' skepticism about whether reporting child abuse is actually beneficial to the child or their family, research has identified a number of potential negative effects to the reporters themselves that may influence their decision to report, such as the following difficulties: the time it takes to file a report (Zellman 1990b; Zellman & Antler, 1991), the addition of extra work (McCallum 2002), the emotional distress it causes the reporter (Zellman, 1990c), the risk of a legal ramifications for false reporting (Zellman & Antler, 1991), the potential negative impact on their professional reputation (Webster et al. 2005), and the disruption of reporters' relationship with the child's family (Crenshaw et al., 1994; McCallum 2002; Zellman, 1990b, c).

Some prior research found that when reporters believed they themselves would experience negative consequences, they were less likely to report suspicions of child abuse (Webster, 2005; Zellman 1990b, c; Zellman & Antler, 1991). For instance, the school principals studied by Zellman (1990c) who were less likely to believe that making a report would have a negative effect on them personally were more likely to consistently

report abuse. Webster, et al. (2005) also found that the teachers who thought reporting would cause problems for them were the least likely to make a report when they suspected a child was being abused. However, O'Toole, et al. (1999) found no relationship between Ohio teachers' beliefs that reporting abuse would cause problems for them and their ability to recognize abuse or their likelihood of reporting abuse.

Other Factors

A variety of other explanations for failure of mandated reporters to report suspected abuse have been identified, including the following: lack of experience dealing with child abuse issues (McCallum, 2002); concern about breaking the child's and/or family's confidentiality or invading their privacy (Abrahams et al., 1992; Hinson & Fossey 2000); a plan on behalf of the reporter to monitor the situation and report if it continued (Zellman, 1990b), and the belief that the child or family was already receiving relevant professional services (Zellman, 1990b). Additionally, some facilitative factors have been identified, such as the professional and personal social norms, in that the more a mandated reporter believed that others thought they should report cases of suspected child abuse, the more likely they would be to do so (Feng & Levine, 2005). Some prior research similarly indicates that the supportiveness of school administration was, at times, related to likelihood of educators to report cases of abuse (Abrahams et al., 1992; Crenshaw et al., 1994; Kenny, 2001, 2004; Zellman, 1990c).

Chapter 3: Teachers as Mandated Reporters of Child Abuse

Individual and School-Level Differences in Mandated Reporting

Individual Differences

Prior research has explored the relationship between individual characteristics, such as gender and race/ethnicity, of mandated reporters and their tendency to report child abuse, their assessment of specific scenarios, and their beliefs about mandated reporting policies. Overall, findings have been inconclusive. This is due to both limited research and conflicting findings regarding the relationships between the variables of interest and various individual characteristics.

The findings on gender differences in reporting child abuse are inconclusive. Whereas Kenny (2001) and Tilden, et al. (1994) found that female mandated reporters were more likely than male mandated reporters to report suspected child abuse, O'Toole, et al. (1999) and Zellman (1990c) found that male reporters were more consistent in their reporting than were females. Yet, other research did not find any gender differences in reporting tendency (Ashton, 2004; Crenshaw et al., 1995; Webster et al., 2005).

Some research suggests that rates of reporting may be related to mandated reporters' race or ethnicity. Specifically, many have found that Whites were more likely to report than were those of other races/ethnicities (Ashton, 2004; Kenny, 2001; Ibanez et al., 2006; Webster et al., 2005). However, earlier research found no differences in reporting based on race or ethnicity (Perrault, 1997; Portwood, 1998).

One study of Ohio teachers (O'Toole et al., 1999) found that years of experience was negatively related to teachers' likelihood of reporting. Yet, another study of Ohio teachers (Webster et al., 2005), as well as a studies of Florida teachers (Kenny, 2004) and school counselors in the Southern United States (James & DeVaney, 1994), found no differences in reporting behaviors and attitudes based on years of professional experience.

School-Level Differences

In addition to the individual characteristics of mandated reporters, some prior research has examined the relationships between educators' behaviors related to mandated reporting and the characteristics of the schools where educators worked, such as school size, location, type, and reporting policy. One survey of Ohio teachers examined the relationship of school characteristics to teachers' likelihood of reporting suspected cases of abuse (findings from this survey are reported in O'Toole et al., 1999 and Webster et al., 2005). School type, school locale, and school size were all found to be related to teachers' level of recognition and reporting of child abuse. Specifically, results indicated that teachers in Catholic schools were more likely than those in other types of schools (public, non-Catholic religious, and non-religious private schools) to report abuse. They also found that teachers in rural schools (vs. urban schools) and schools with a greater number of students were less likely to report abuse. However, Zellman (1990c) found no differences in school principals' likelihood of reporting based on school enrollment.

The existence of a school policy or procedure regarding reporting of child abuse is another school characteristic that may be related to educators' likelihood of reporting suspected cases of abuse. Most of the school principals surveyed by Zellman (1990b,c) in her national study of mandated reporters rated their school district policy as an important factor in their decisions of whether or not to report potential cases of child abuse. A survey of teachers in one large school district also provided support for the role of school policy and procedures, as knowledge of school reporting procedures was positively related to teachers' likelihood of reporting (Kenny, 2004). In contrast, Crenshaw, et al. (1994) found that knowledge of a school reporting policy had little influence on the reporting decisions of Kansas school teachers, counselors, principals, psychologists, and superintendents.

Teacher Preparation for Role as Mandated Reporters

As indicated previously, mandated reporters from a variety of professions often fail to comply with the mandated reporting law. However, research indicates that reporters from some professions are more likely to comply with the mandated reporting law than others. When comparing mandated reporters from various professions, research has repeatedly found that teachers are less likely to report suspected child abuse, have less knowledge about the reporting process, and feel less prepared for their role as mandated reporters than do medical and mental health professionals (Crenshaw et al., 1995; Ford & Medway, 1994; Ford et al., 2001; Kenny, 2001a; Reiniger et al. 1995). For example, Reinger, Robinson, and McHugh (1995) found that teachers are among the least knowledgeable professionals about mandated reporting laws.

It is possible that differential knowledge translates into differential behavior. One study found that teachers chose to make significantly fewer reports in response to vignettes describing child sexual abuse than did physicians (Kenny, 2001). The physicians in the same study reported receiving more adequate training in child abuse than did teachers (Kenny, 2001), suggesting that perhaps training on the topic impacts knowledge and behavior.

Hawkins and McCallum (2001) examined the self-assessed level of preparedness of teachers with no prior training in child abuse and found that 81% saw themselves as either “barely adequate” or “poorly prepared” to address child abuse. Ford and her colleagues found that school psychologists were more likely to report sexual abuse than were teachers (Ford & Medway, 1994; Ford, Schindler & Medway, 2001). Out of the 664 school personnel surveyed by Crenshaw, et al. (1995), only 10% felt “very well prepared” to recognize and report abuse, while 27% felt “barely adequate” and 13% felt “poorly or not at all prepared” to deal with child abuse. While they did find that just over half of the school personnel (51%) felt “fairly well prepared,” these responders were disproportionately school mental health providers, such as counselors and psychologists. Teachers, on the other hand, were more likely to feel “barely adequate” or “poorly or not at all prepared” (Crenshaw et al., 1995). Even with this difference in feelings of preparedness, Crenshaw, et al. (1995) found no significant differences in school personnel’s actual reporting behavior. This suggests that it may not be merely how prepared teachers are, or believe themselves to be, that determines how likely they are to comply with mandated reporting policies. Crenshaw, et al.’s study does not tell us what

type of preparation they actually received. Is school personnel's assessment of their preparedness linked to the level of education they receive on the issue?

If, as purported (National Clearinghouse on Child Abuse and Neglect Information, 2002; Reiniger, Robinson, & McHugh, 1995), teachers are not reporting because of their lack of knowledge about the law, reporting procedures, or indicators of child abuse, then a reasonable response would be to educate teachers about these topics. In order to ensure that teachers are capable and competent to serve as mandated reporters of child abuse, practitioners and researchers have recommended that they receive education on child abuse and their mandated reporting responsibilities (Abrahams et al., 1992; Crenshaw et al., 1995; Lumsden, 1991; Maher, 1989; McCallum, 2000; O'Toole et al., 1999; Reiniger et al., 1995; Sandau-Christopher, 2000; Skinner, 1999; Stein, 1993; Tower, 1987, 1992a; Whatley & Trudell, 1989; Wurtele & Miller-Perrin, 1992). Programs designed to educate teachers on child abuse and mandated reporting have taken up this challenge, aiming to assist teachers in the identification of abuse, the reporting procedures, and handling disclosures of abuse (Kleemeier, Webb, Hazzard, & Pohl, 1988; Zechetmayr & Swabey, 1999).

Content of Education and Training Programs

Education and training programs for teachers on child abuse may take place in pre-service educator training programs, as a part of staff orientation or teacher induction, or as ongoing in-service offerings (Abrahams et al., 1992; Kenny, 2001a). These programs may be provided at either the school, district, county, or state level, although teachers may also take it upon themselves to attend programs on child abuse offered by

outside providers, such as child protective services professionals, victim service centers, or other private agencies. School-based (or district-based) programs may be delivered by a member of the staff, such as social worker or counselor (Abrahams et al., 1992) or by an outside expert. Participation ranges from mandatory to voluntary; attendees may be provided with professional development credits (often necessary as part of state licensing requirements, e.g., Pennsylvania's Act 48) or may be financially compensated for attendance.

Elementary school teachers participating in the National Teacher Survey (Abrahams et al., 1992) reported that in-service trainings on child abuse included the following topics: identification of victims (88% of teachers), teachers as mandated reporters (80%), reporting procedures (78%), referral information (62%), and the effects of abuse on children (59%). To further explore the content of information that is typically included in education on mandated reporting of child abuse, I conducted a content analysis of training curriculum and manuals on mandated reporting of child abuse. As teachers may receive either information specifically designed for educators or information for mandated reporters in general, I reviewed curricula and manuals for both audiences (educators as mandated reporters and all mandated reporters). I used three methods to identify curricula and manuals for review:

- 1) Existing materials – I had access to training curricula through my previous work as an evaluator of training programs for mandated reporters. Two curricula were selected for review through this method.

2) Literature review - I reviewed current literature regarding education and training about mandated reporting or child abuse – specifically the evaluation literature. In some cases, the literature provided information about the content of the education (e.g., the topics covered in a training) and/or the name or source of a program. In the latter case, I attempted to locate additional information on the specific program through the Internet. Four curricula were selected for review through this method.

3) Internet search – I conducted a search for materials online using the Google search engine with the search terms “mandated reporting,” “training,” and “curriculum” (1,760 sites were identified; the 180 most relevant were assessed). With the search terms “child abuse,” “training,” and “curriculum, 74,800 sites were identified; the 240 most relevant were assessed. I also conducted site-specific searches of relevant national organizations (i.e., Committee for Children, Child Welfare League, Center for Missing and Exploited Children, Prevent Child Abuse America). Thirteen curricula and manuals were selected as appropriate for review through this method.

In total, nineteen sets of materials were reviewed for their content – six were designed specifically for educators, and the remaining thirteen were targeted at mandated reporters in general. Materials came from 10 different U.S. states and were developed by a variety of sources, including: state agencies (8), non-profit organizations (5), and colleges/universities (2). For more information about the materials reviewed, see Appendix I.

A review of the materials revealed that certain topics are more likely to be covered than others. Specifically, at least 70% of the materials included information about these five main topics:

- Reporting procedures (i.e., how to make a report of suspected abuse) (100%)
- Responsibility of mandated reporters under the law to report suspected child abuse (95% included)
- Indicators of abuse (84%)
- Other aspects of the mandated reporting law (i.e., reporting of suspicions of abuse – not necessary to have proof, lack of liability if report in good faith) (74%)
- Definitions of child abuse (i.e., the types of child abuse – physical, sexual, emotional/mental, neglect) (74%)

In contrast, less than 70% of the materials reviewed included information about the following topics:

- How to support or respond to a child who has been abused (other than reporting procedures) (63%)
- Information on child protective services and what happens after report (47%)
- Prevalence of child abuse (26%)
- Effects of child abuse on the child (5%)
- Specific dynamics of child abuse (e.g., causes, characteristics of perpetrators of abuse) (3%)
- Other topics (e.g., prevention of child abuse, referral to other resources and services) (53%)

Effectiveness of Education and Training Programs

Those who have called for improved preparation of mandated reporters, most specifically through education or training programs, often assert that increased knowledge and a greater understanding of the law, including the penalties for failure to report and provision of immunity for good faith unsubstantiated reports, will result in increased compliance with mandated reporting laws (Alpert & Paulson, 1990; Beck et al., 1994; Cerezo, 2004; Crenshaw et al., 1995; Kalichman & Craig, 1991; Kenny, 2001a, 2007; Pence & Wilson, 1994). Some of those who have expressed concern about mandated reporting resulting in an increase of unsubstantiated reports also advocate increased education for mandated reporters designed to hone reporters' ability to discern between cases that should be reported and those that should not (Besharov, 1994; Larson et al., 1994).

Both cross-sectional studies and evaluation research that have been published about education and training programs on child abuse and mandated reporting suggest that these programs do increase reporters' confidence, knowledge, and awareness of mandated reporting of child abuse in the following areas:

- Responsibilities under the law (Anderson, 1997; Bonardi, 2000; Feng & Levine, 2005; Hawkins & McCallum, 2001; McCallum & Baginsky, 2001; McGrath et al., 1987; Randolph & Gold, 1994; Reiniger et al., 1995)
- Reporting procedures (Campbell & Macdonald, 1996; Cerezo & Pons, 2004; Kenny, 2007; McGrath et al., 1987; Randolph & Gold, 1994; Reiniger et al., 1995)

- Recognition of child abuse indicators (Hawkins & McCallum, 2001; Kenny, 2007; Kleemeier et al., 1988; McGrath & Bogat, 1995; Perrault, 1997; Randolph & Gold, 1994; Reiniger et al., 1995; Tilden, 1994)

However, despite the findings of positive effects of training and education programs about mandated reporting and child abuse on knowledge and awareness, less research has examined the specific impact of training or education on actual reporting behaviors (existing research includes Cerezo & Pons, 2004; Feng & Levine, 2005; Swartz, 1995) and, as such, the question of whether existing education and training programs are effective in increasing mandated reporters' compliance with mandated reporting laws has received only a cursory exploration. Swartz (1995) considered the role of training and education in mandated reporters' reporting behaviors and found that increased in-service training for teachers was associated with an increased probability of reporting child abuse, although at least three to four hours of training was required before any effect was detected.

Two studies of mandated reporters outside the United States also found relationships between education and training and reporting behaviors. In their study of an intensive training and coordination system for mandated reporting in Spain, Cerezo and Pons (2004) found that the training and ongoing coaching provided to school staff increased the rates of child abuse cases reported to child welfare. However, due to the study design, the contribution of the training versus the ongoing coaching to the increased reporting could not be assessed. Feng and Levine (2005) surveyed nurses in Taiwan and found that those who had received pre-service training on child abuse and mandated

reporting were not only more knowledgeable and confident, but were more likely to say they would report suspected cases of child abuse.

As a whole, the research literature concludes that education and training programs equip participants with the necessary information to fulfill their role as mandated reporters. However, as Hawkins and McCallum (2001) acknowledge, “educating mandated reporters about their reporting responsibilities doesn’t ensure they will comply with their legal role” (p. 1618). The majority of the child abuse education and training programs that have been evaluated claim success on the basis of increased knowledge or awareness changes. While common sense supports the concept that these changes will lead to behavior change, the findings of Crenshaw, et al. (1995), as discussed earlier, dispute this. In their research on Ohio teachers, O’Toole, et al. (1999) found that teachers’ knowledge, attitudes, and beliefs accounted for only 1% of the variance in recognizing and reporting child abuse. Overall, the link between knowledge change and behavior change is relatively unexplored by the current literature and has been challenged in other realms of education (Fishbein, Middlestadt, & Hitchcocki, 1991; Kirp, Good, & Sandhu, 2001; Reppucci et al., 1998).

The U.S. National Clearinghouse on Child Abuse and Neglect (2002) points to a lack of training or education about mandated reporting responsibilities and procedures as an explanation for the under-reporting of professionals. Given that much of the content and documented effect of this training and education is focused on knowledge and awareness, it is not surprising that some have suggested this education may be necessary, but certainly not sufficient to change reporting behaviors (Crenshaw et al., 1994; Skinner,

1999). It is quite possible that, as McCallum (2001) asserts, there has been a “mismatch between training approaches used to educate teachers about reporting procedures and the demands of the decision making process confronting teachers.” This may be particularly true if training and education programs do not include the variables that have been identified as potential factors in reporting behavior. For example, if teachers choose not to report suspected child abuse because of their negative beliefs about the potential outcomes of a report, as previously detailed, then education solely on responsibilities under the law, identifying abuse, and reporting procedures may not affect reporting behaviors.

This raises the question of whether the education on child abuse and mandated reporting currently provided to teachers actually address the necessary elements to affect behavior. This current study aims to clarify this issue by examining the potential factors related to teachers’ mandated reporting practices – both the factors most commonly addressed through education materials and trainings and factors identified through the lens of behavior change theory, specifically the Integrated Model of Behavior (Fishbein, 2000).

Exploratory Model of Teacher Reporting Behavior

Integrated Model of Behavior

The literature on individual behavior change identifies several factors that are influential in changing or encouraging specific behaviors. These include the following: (a) the attitude toward the given behavior (Ajzen & Fishbein, 1980; Rosenstock, 1974); (b) the subjective norms surrounding the behavior (Ajzen & Fishbein, 1980); (c) the self-

efficacy, i.e., a belief in one's ability to perform the desired behavior (Bandura, 1990, 2001); (d) the intention to perform the behavior (Ajzen & Fishbein, 1980); (e) the skills necessary to perform the behavior (Bandura, 1990; Fishbein, 2000), and (f) the environmental constraints that might hinder performing the behavior (Fishbein, 2000). A variety of empirical studies have provided evidence for the importance of these factors (e.g., Bandura, 1990; Fishbein et al., 1991; Slater & Kelly, 2002).

The Theory of Reasoned Action (Ajzen & Fishbein, 1980) is one of the most widely used theories to explain and predict individual behavior. The theory asserts that behavior is directly impacted by the intention to perform that behavior, which in turn is a function of both one's attitudes towards the behavior and one's perceptions of social norms surrounding the behavior. Attitudes towards a behavior are influenced by the beliefs about the outcome of that behavior, specifically the perceived consequences of the behavior and an individual's evaluation of these consequences. The influence of social norms on intended behavior is determined through a combination of the perceptions of the content of the social norms and motivation to comply with those norms, known as the subjective norms.

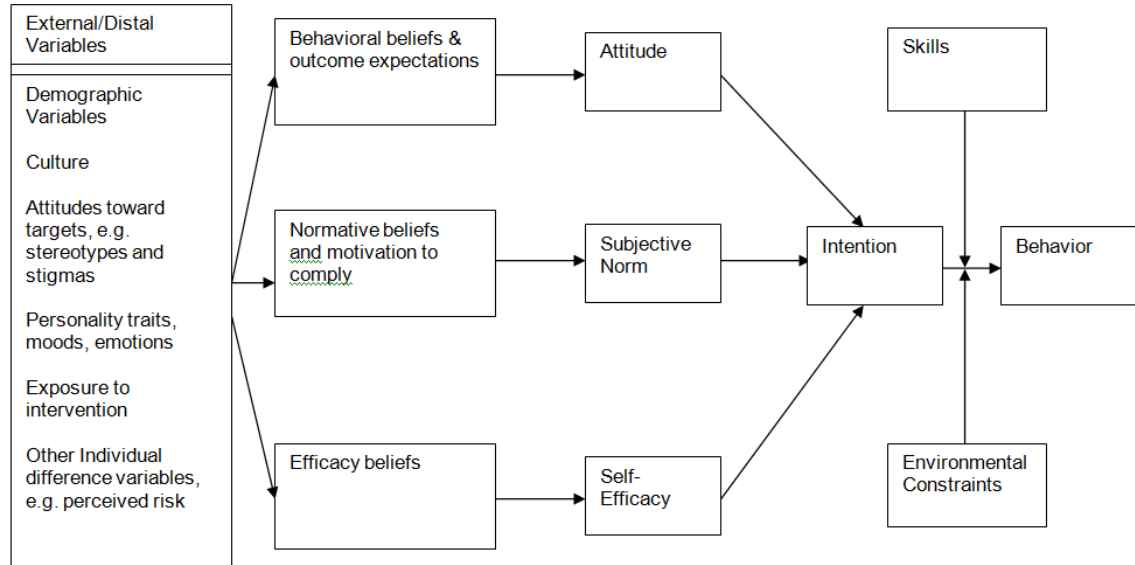
Social cognitive theory has also been influential in the field of behavior change theory. One of the most influential additions was the concept of self-efficacy. Social psychologist Albert Bandura (1977, 2001) proposed self-efficacy, defined as an individual's beliefs that he or she can perform a specific behavior, as a major determinant of individual behavior.

Fishbein (2000) incorporated the concepts from leading behavior prediction theories into one theoretical framework, the Integrated Model of Behavior (see Figure 1). This model accounts for the factors articulated in his and Ajzen's (1980) Theory of Reasoned Action and in Bandura's Social Cognitive Theory (1977, 2001).

The Integrated Model asserts that knowledge about the particular cognitive structures can lead to an understanding of the factors which influence behavior. As such, it can provide valuable information to guide program and policy development and effectiveness. Thus, the Integrated Model of Behavior will serve as a framework for examining the behavior of teachers with regard to reporting child abuse. This study examines which, if any, of the factors identified by the theory play a role in the behavior of teachers as mandated reporters of child abuse, and compares the importance of these factors with the factors most commonly addressed by education and training provided to mandated reporters.

Figure 1

Integrated Model of Behavior (Fishbein, 2000; Fishbein & Yzer, 2003)



Expert recommendations and training curricula focus on developing educators' knowledge base about child abuse and their responsibilities as mandated reporters (U.S. National Clearinghouse on Child Abuse and Neglect, 2002; Wurtele & Miller-Perrin, 1992). Clearly knowledge is important. However, whether or not knowledge is sufficient for developing desired reporting behaviors is still unknown. Recall from the earlier discussion of effectiveness of mandated reporting and child abuse education programs that evaluations of such programs often tend to use changes in knowledge as the outcome variable. Education materials often discuss their aim to change attitudes and beliefs about child abuse. Yet, even a cursory investigation reveals that these attitudes and beliefs do not correspond to the attitudes or beliefs about the outcome of the behavior that is targeted for influence – a necessary component of theories of behavior change.

The attitudes that are often referred to are attitudes about child abuse itself, not behaviors surrounding the reporting of abuse. Although rarely addressed in education or training programs, as previously discussed, attitudes towards reporting abuse have received attention in prior research on factors related to reporting suspicions of abuse (Beck et al., 1994; Crenshaw et al., 1995; Delacondre, 1996; Duncan, 2001; Hinson & Fossey, 2000; Kenny, 2001a, 2001b; McCallum, 2002; O'Toole et al., 1999; Webster et al, 2005).

An important factor in the behavior change theory literature that has received some, albeit still minimal, attention in the literature about policies and programs designed to encourage reporting of child abuse is the concept of self-efficacy. Some published research has investigated teachers' levels of confidence to identify indicators of abuse and to report suspected abuse, which can be considered measures of self-efficacy (McCallum, 2001; McCallum & Baginsky, 2001). Self-efficacy as a factor in behavior change has been explicitly examined with regards to other types of educator behavior, such as character education (Milson & Mehlig, 2002), bullying prevention (Howard, Horne, & Jolliff, 2001), and educational reforms (Evers, Brouwers, & Tomic, 2002; Shachar & Shmuelewitz, 1997).

The Integrated Model of Behavior and other aforementioned theories, such as the Theory of Reasoned Action and Social Cognitive Theory, have often been used to understand behaviors involved in numerous public health issues (Romano & Netland, 2007), such as sexually transmitted infections, including behavior that puts one at risk for HIV/AIDS (Fishbein et al., 1991; Greene et al., 1997), and, to a lesser extent, domestic

violence (Kernsmith, 2005; Nabi et al., 2002). However, behavior change theories have not yet become commonplace in the discussion of mandated reporting of child abuse.

I have only uncovered one study (detailed in Feng & Levine, 2005 and Feng & Wu, 2005) that has specifically examined the applicability of behavior change theories to mandated reporting behaviors. This study examined reporting behavior in the context of the Theory of Planned Behavior, many of the elements of which are incorporated into the Integrated Model of Behavior, specifically the subjective norms regarding child abuse and self-efficacy. The mandated reporters surveyed were nurses in Taiwan and, thus, likely behaved quite different from teachers in the United States. Hopefully, this current study can play a role in introducing behavior change theory to the development and assessment of child abuse reporting policies and education and training programs, particularly as it applies to teachers in United States schools.

Proposed Exploratory Model

Through an exploratory model, this study examines the applicability of two sets of factors in explaining the reporting behavior of educators and the potential role of education and training: (1) factors put forth by the behavior change literature, specifically the Integrated Model of Behavior (Fishbein, 2000; Fishbein & Yzer, 2003); and (2) factors most commonly addressed by education/training on mandated reporting of child abuse.

Figure 2 below details the proposed factors based on the Integrated Model of Behavior (Group A Factors). These relationships mirror the basic Integrated Model of Behavior described in Figure 1 above, with each construct referring to the specific

behavior of making a report to child protective services when child abuse is suspected. The desired behavior (making a report when suspecting abuse) requires two elements: (1) making a report; and (2) suspecting abuse. This model includes two self-efficacy constructs and two corresponding beliefs, referring to making a report of abuse and to identifying indicators that would cause one to suspect abuse.

This study focuses on three specific “external/distal variables”: (1) individual characteristics (i.e., demographic characteristics, e.g., gender, race/ethnicity); (2) school-level characteristics (e.g., locale, poverty); and (3) exposure to education/training about mandated reporting or child abuse. As the current study is interested predominantly in individual-based factors, this model does not include potential environmental constraints. In addition, as skills related to reporting of suspected abuse could not be easily assessed through the survey methodology used in this study, the “skills” construct is also not included in this model.

Figure 2

Proposed Factors of Teacher Reporting Behavior based on the Integrated Model of Behavior (Group A Factors)

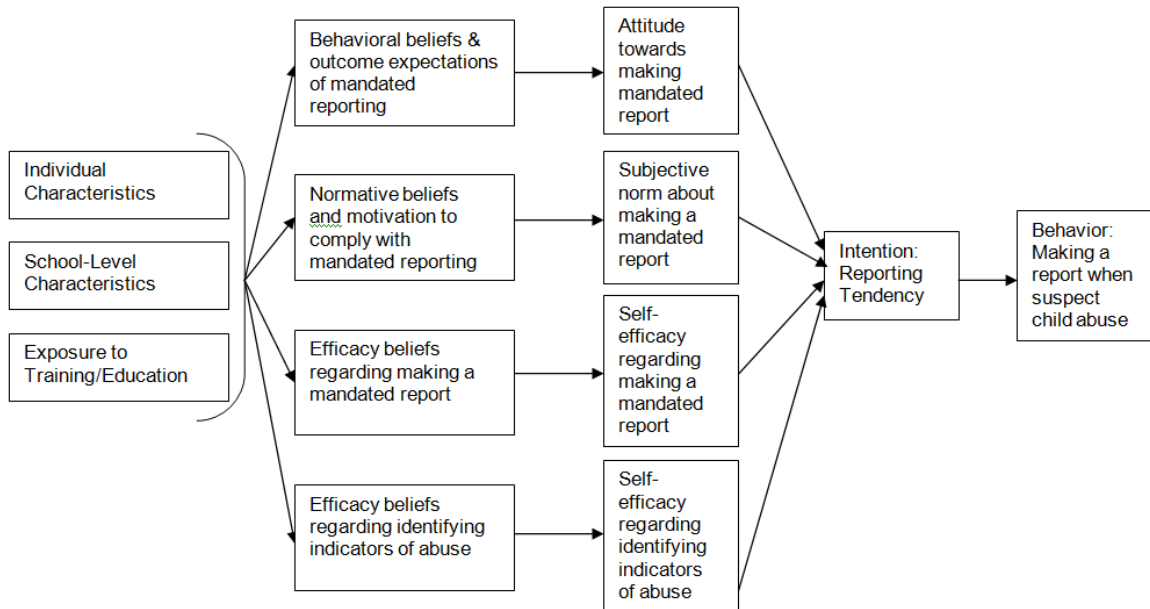


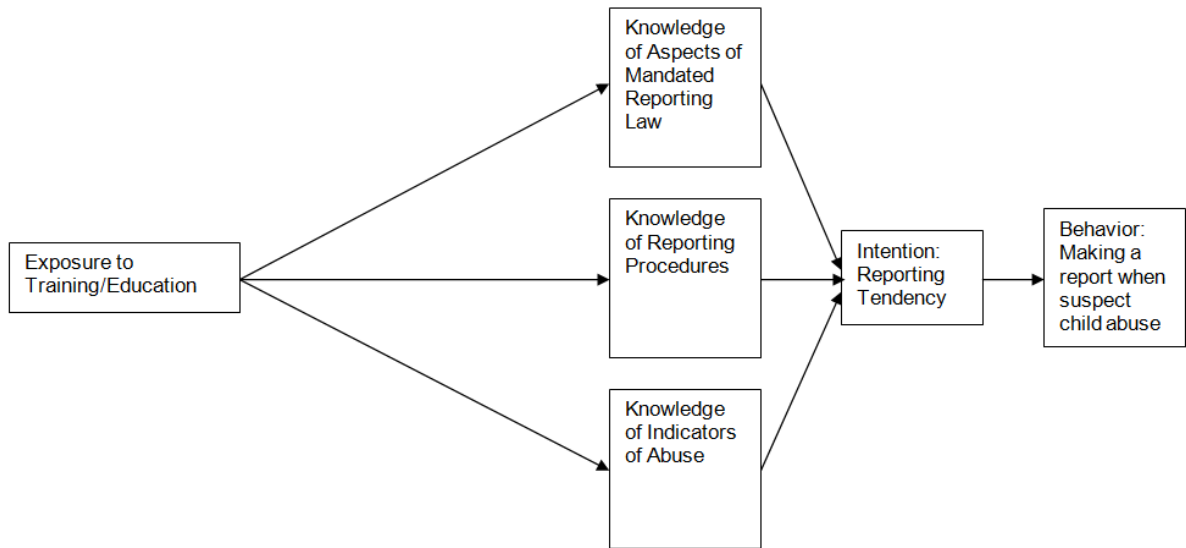
Figure 3 details the exploratory factors based on the common elements from education/training programs (Group B Factors). Three constructs are proposed to mediate the relationship between exposure to education/training and intention to report. They include: knowledge of aspects of mandated reporting laws; knowledge of reporting procedures; and knowledge of indicators of abuse. These elements were selected because they were cited in the findings from the research literature on the effectiveness of education/training programs about mandated reporting or child abuse, results from the National Teacher Survey (Abrahams et al., 1992), and my review of existing education/training materials and curriculum. Specifically, prior research on education and training programs suggests that such programs are effective in these three areas –

educators' knowledge of responsibilities under the law, awareness of reporting procedures, recognition of indicators of child abuse.

The National Teacher Survey (Abrahams et al., 1992) found that over 70% teachers reported that in-service trainings on child abuse included these three topics – teachers as mandated reporters, reporting procedures, and identification of victims. Finally, at least 70% of the educational materials and curriculum on mandated reporting of child abuse I reviewed addressed these three components – responsibilities of mandated reporters under the law and other aspects of the law (e.g., not necessary to have proof of abuse, merely suspicion and lack of liability if report in good faith), reporting procedures, and indicators of abuse. Definitions of child abuse, specifically the various types of abuse (i.e., physical abuse, sexual abuse, neglect, emotional/mental abuse) were included in 74% of the materials I reviewed. However, these were not specifically included as a model construct for two reasons: they were not mentioned by the other sources I consulted to select the common elements of the training, and the survey instrument used in this study asks specifically about each type of abuse (see Chapter 4).

Figure 3

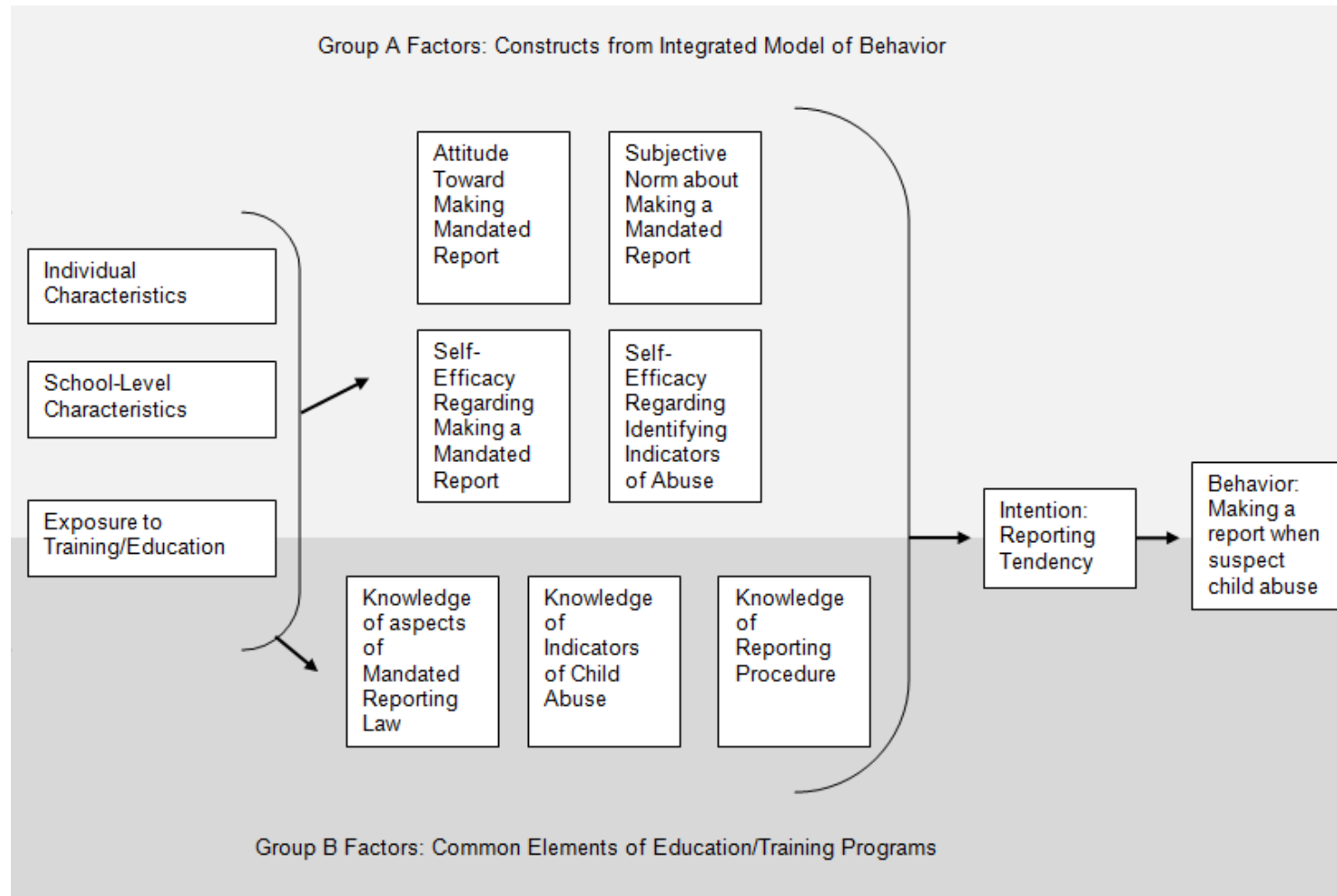
Proposed Factors of Teacher Reporting Behavior based on Common Elements of Education/Training Programs (Group B Factors)



This study examined the validity of all aspects of both sets of factors, Group A and Group B, through the exploratory model of teacher reporting behavior displayed in Figure 4.

Figure 4

Exploratory Model of Teacher Reporting Behavior



Definition of Theoretical Constructs of Exploratory Models and Corresponding Hypotheses

Constructs Common to Group A and Group B Factors

Behavior: The specific behavior of interest is reporting suspected incidents of child abuse, or causing a report to be made, to child protective services. The exploratory model hypothesizes that teachers' future behaviors regarding reporting suspected child abuse will be predicted by their current reporting tendency (intention). As this study only assesses teachers at one point in time, the full model can only be assessed for reporting tendency, not future behaviors. The survey instrument used in this study does include items about past experiences of teachers regarding suspecting and reporting of child abuse, and this information was examined separately from the full model.

Intention: In this study, intention refers to the likelihood of teachers making a report, or causing a report to be made, to child protective services when they suspect a child may have been abused. This was known as their "reporting tendency." The exploratory model hypothesizes that the stronger teachers' reporting tendency are, the more likely they are to comply with their role as mandated reporters by reporting suspected incidents of child abuse.

Exposure to Education/Training: Based upon prior research, the exploratory model predicts that the greater amount of exposure, the more likely teachers are to comply with their role as a mandated reporter. Whether exposure predicts the other constructs in the models was also examined.

Group A Constructs Only: Proposed Factors of Teacher Reporting Behavior based on Integrated Model of Behavior

Attitude towards Making a Report: This refers to teachers' overall attitudes toward reporting suspected incidents of child abuse to child protective services. The exploratory model predicts that more favorable attitudes result in a stronger reporting tendency. Attitudes are comprised of teachers' beliefs about the consequences of reporting suspected incidents of child abuse to child protective services, as well as their assessment of the effectiveness of child protective services. The more positive the beliefs about reporting suspected incidents of child abuse to child protective services are believed to be, the more favorable their attitude will be toward making a report.

Subjective Norms: This refers to the perceived norms regarding mandated reporting of child abuse, specifically their normative beliefs and motivation to comply with these beliefs. The model predicts that stronger subjective norms result in a stronger reporting tendency. Subjective norms are determined by teachers' co-workers' normative beliefs and their motivation to comply with these beliefs. The more teachers believe that their co-workers (other teachers and school administrators) think they should report suspected incidents of child abuse and the more motivated they are to comply with these beliefs, the stronger the subjective norms regarding reporting incidents of suspected child abuse will be.

Self-efficacy Regarding Making a Report: This refers to teachers' confidence in their own ability to report incidents of suspected child abuse. The model predicts that the higher level of self-efficacy regarding reporting suspected incidents of child abuse will

result in stronger reporting tendency. The more teachers believe they are capable of making a report, the greater their levels of self-efficacy towards making a report of suspected child abuse will be. This refers to teachers' confidence in their own ability to identify indicators of child abuse, physical abuse, sexual abuse, emotional/mental abuse, and neglect. The model predicts that the higher level of self-efficacy regarding identifying indicators of child abuse will result in stronger reporting tendency. The more teachers believe they are capable of identifying indicators of child abuse, the greater their levels of self efficacy towards making a report of suspected child abuse will be.

Individual Characteristics: These will include gender and race/ethnicity. As prior research is inconclusive regarding the relationship between individual characteristics and other constructs of interest and there is no strongly developed theory regarding individual characteristics (see pages 27-29), these will be considered exploratory and no directional hypothesis is predicted.

School-Level Characteristics: These include characteristics of the school where the teacher is currently employed (e.g., student enrollment, level of poverty, locality, and existing of school procedure for reporting child abuse). As prior research is inconclusive regarding the relationship between school-level characteristics and other constructs of interest and there is no strongly developed theory regarding school-level characteristic referring to any training or education teachers have received on mandated reporting and/or child abuse prior to participating in the survey.

Group B Constructs Only: Proposed Factors of Teacher Reporting Behavior based on Common Elements of Education/Training Programs

Knowledge of Aspects of Mandated Reporting Law: This refers to teachers' knowledge of the specific components of the mandated reporting law – specifically that educators are legally obligated to report suspected incidents of child abuse, that they do not need to have proof of abuse in order to make a report to child protective services, and that if they make a report of suspected child abuse in good faith and are wrong, that they cannot be held liable under the law. The exploratory model predicts that the more knowledgeable teachers are about the aspects of the mandated reporting law, the greater their reporting tendency.

Knowledge of Reporting Procedures: This refers to teachers' knowledge of the procedures for reporting suspected child abuse to child protective services. The model predicts that the more knowledgeable teachers are about how to make a report of abuse, the greater their reporting tendency.

Knowledge of Indicators of Abuse: This refers to teachers' knowledge of the indicators of child abuse – physical abuse, sexual abuse, emotional/mental abuse, and neglect. The model predicts that the more knowledgeable teachers are about the indicators of child abuse, the greater their reporting tendency.

Chapter 4: Method

This study of current students and previous graduates of University Pennsylvania's Teacher Education Program assesses their past reporting behaviors, knowledge, beliefs, attitudes, social norms, self-efficacy, reporting tendency, prior exposure to information on child abuse/mandated reporting, and level of preparation for their role as a mandated reporter. The study also examines two sets of potential factors in student teacher/teacher reporting behavior – factors drawn from the Integrated Model of Behavior (Group A Factors, see Figure 2) and the factors based on the based on the common elements of education/training programs (Group B Factors, see Figure 3) – to understand the factors predictive of compliance with the mandated reporting law.

Pilot Studies

This current study was informed by two sets of pilot studies I have previously conducted (see Appendix I for detailed information about both studies). Pilot Study #1 was an evaluation of 2-hour workshops, *Recognizing and Responding to Child Sexual Assault*, delivered to a total of 680 Philadelphia School District educators by the Phoenix Education Group, a community-based training organization (for more details see Appendix I or Greytak, 2004). Pilot Study #2 was a study of student teachers' knowledge, attitudes, beliefs, and past and future behavior regarding child abuse and mandated reporting using data collected from 250 students in the University of Pennsylvania's Graduate School of Education Teacher Education Program from 2004-2008 (see Appendix I for further information).

Findings from the pilot studies provided basic information about the constructs of interest as well as a basic understanding of how both pre-service and current educators may respond to the questionnaire items. However, by design, the pilot studies had limitations. Specifically, these pilot studies provided valuable information on educators' knowledge, beliefs, experiences, and behaviors about child abuse and mandated reporting. However, they did not examine the relationships among these variables. The pilot studies provided some information about the relationship of these variables to individual teacher characteristics, such as gender, race/ethnicity, and years of experience. However, neither of the pilot studies examined the role of school or district characteristics. Pilot Study #1 was designed to evaluate a specific training program and, thus, it was limited in scope to topics addressed by the program, including limited specifically to sexual abuse, yet the mandated reporting policy applies to physical abuse, emotional abuse and neglect, as well. Pilot Study #2 was designed as an exploratory study, specifically to pilot questionnaire items. Therefore, the actual questionnaire items varied each time data was collected.

Sample and Procedures

This study was approved the University of Pennsylvania's Institutional Review Board on January 8, 2009. The sampling frame for this study was graduates (Alumni Sample) and current students (Student Sample) of the Elementary and Secondary Teacher Education Programs of University of Pennsylvania's Graduate School of Education (GSE), and the Teach for America Program affiliated with GSE.

Alumni Sample

The Alumni Office of the University of Pennsylvania's Graduate School of Education (GSE) sent email invitations to participate in the study to the 1,160 alumni of GSE's Teacher Education Program for which there was an email address on file. The email invitations included an embedded link that when clicked brought the user directly to the online questionnaire. The questionnaire was administered through the password-protected Internet survey software, Vovici (www.vovici.com). Data was collected during February and March, 2009.

Approximately three weeks after the initial invitation was sent, the GSE Alumni Office sent a reminder email about the study to the alumni. A total of 64 emails were bounced back to the sender as "undeliverable." Eighty-two alumni completed the online survey, resulting in a 12.6% response rate. However, although the invitation to the study was sent to all alumni, only those alumni who worked as a teacher in a United States elementary or secondary school during the 2008-2009 school year were eligible to participate in the study (as was stated in the email invitation). As there was no available information of how many of the 1,160 alumni actually worked as a teacher during the current year, the 12.6% response rate may not accurately represent the proportion of those eligible to participate. Respondents who had not worked as a teacher in a United States elementary or secondary school during the 2008-2009 school year were excluded (n=19), resulting in a total of 63 alumni in the study sample.

Student Sample

Paper questionnaires were administered in-person to 103 current students of GSE's teacher education Masters three degree programs: Elementary Education, Secondary Education, and the Teach for America Urban Teacher Masters Program. Students in the Elementary and Secondary Education Programs were serving as student teachers in schools in the Philadelphia tri-state area (Pennsylvania, New Jersey, and Delaware). Students in the Teach for America Program were simultaneously students in GSE's Teacher Education Program and working as teachers in the School District of Philadelphia. Questionnaires were administered to the elementary education and secondary education students during the beginning of one class period of their Advanced Field Placement course by me (secondary education) and another GSE doctoral student (elementary education) during February 2009.

As both an incentive for instructors/program coordinators to allow me to collect data during their classes and as a demonstration of my appreciation for their cooperation, I offered to present a session to each program's students on child abuse and mandated reporting (as I had provided to students in GSE's Teacher Education Program numerous times previously throughout 2004-2008 by guest lecturing in the Field Placement Seminar courses). The instructor of the Elementary Education Advanced Field Placement Course accepted this offer and thus, several weeks prior to administration of the study questionnaire, I presented a two-hour session for Elementary Education students on the topic (see Appendix V for an outline of the session). In an effort to eliminate potential bias caused by me having presented information on the topic and then

subsequently administering questionnaires on the topic, the questionnaires for these students was administered by another PhD student in Education Policy, Management and Evaluation several weeks after I presented the session.

In lieu of presenting a two-hour session on the topic prior to administering study questionnaires, the instructor of the Secondary Education Advanced Field Placement Course requested that I provide an opportunity for students to ask questions after the questionnaire administration had concluded. Thus, immediately after all questionnaires were collected from students during the Secondary Education Course, I participated in a question and answer session about child abuse and mandated reporting which lasted for approximately 45 minutes. As this did not occur until after all the data was collected from the students, and the students did not know that they would have the opportunity to discuss the topic until after the data was collected, the question and answer session could not influence their responses on the questionnaire items.

A total of 38 of the 40 elementary education students and 31 of the 32 secondary education students completed the questionnaires, resulting in a response rate of 95.9% for the elementary and secondary education students.

Whereas questionnaires were administered to students in the Elementary and Secondary Education Programs during class time with almost all students present, questionnaires were administered to Teach for American program students during their day-long course lunch break where attendance was optional. (The Teach for America Program could not accommodate me presenting any material on child abuse and mandated reporting to its students, although I extend the offer). All 234 students in the

Teach for America Program were notified of the opportunity to participate in the study (i.e., that I would be administering questionnaires during the lunch break) via email by the program coordinator. Teach for America Program students who were present during the lunch break were asked to complete the questionnaire. The total number of students who attended the lunch break is not known, although it is estimated by the program coordinator that approximately 75% of students regularly attend the lunch break. A total of 34 Teach for America students completed the questionnaires, resulting in 14.5% of all current GSE Teach for America students completing the questionnaires.

Sample Characteristics

A total of 63 GSE Teacher Education alumni (Alumni Sample) and 103 current GSE Teacher Education students (Student Sample) participated in the study. The majority of both samples was female and White (see Table 3).

Alumni Sample respondents were asked several questions about their teaching experience, including which state their school is in, the grade level they teach, and the number of years they have taught. They represented schools in 14 different states, Guam, and a multi-state web-based school, with a majority (52.4%) teaching in Pennsylvania schools (see Table 4). As shown in Table 5, over half of the Alumni Sample (52.4%) taught in secondary schools and almost one-tenth taught in both elementary and secondary schools (9.5%). The teachers ranged in their years of experience from 1 to 32 years (see Table 5).

Table 7 details the characteristics of the schools where the study sample members worked. As students in the Teach for America Program necessarily taught in the

Philadelphia School District and a great majority of students in the Elementary and Secondary programs are usually placed in schools in the Philadelphia School District, it is not surprising that almost all of the Student Sample worked in urban schools (98.1%). In contrast, only half of the Alumni Sample (50.8%) taught in urban schools. Over two-thirds (68.4%) of the Student Sample worked in schools with over 80% of students eligible for free or reduced-price lunch, compared to less than one-third (29.5%) of the Alumni Sample. Most members of both samples taught in public schools. The schools they taught in ranged size from 130 to 3500 students, with the overwhelming majority in schools with fewer than 1000 students. In addition, a majority of members of both samples indicated that their school or school district had a procedure for reporting child abuse or neglect, although more than one-third (40.8%) of the Student Sample indicated that they were “not sure” if their school or district had a procedure, compared to less than a fifth (19.7%) of the Alumni Sample.

Table 3

Demographic Characteristics of the Study Samples [Percent (Number)]

	Alumni Sample	Student Sample	Total Sample
Gender			
Female	81.0 (51)	69.9 (72)	74.1 (123)
Male	19.0 (12)	29.1 (30)	25.3 (42)
Transgender	0.0 (0)	1.0 (1)	0.6 (1)
Other	0.0 (0)	0.0 (0)	
Race/Ethnicity			
White/Caucasian	82.5 (52)	71.8 (74)	75.9 (126)
African-American/Black	1.6 (1)	4.9 (5)	3.6 (6)
Asian/Pacific Islander	11.1 (7)	10.7 (11)	10.8 (18)
Latino(a)/Hispanic	0.0 (0)	5.8 (6)	3.6 (6)
American Indian/Native	1.6 (1)	0.0 (0)	0.6 (1)
American/Alaskan Native			
Bi/Multi-Racial	3.2 (2)	3.9 (4)	3.6 (6)
Other Race/Ethnicity	0.0 (0)	1.0 (1)	0.6 (1)
Missing data (no response)	0.0 (0)	1.9 (2)	1.2 (2)
Sample Size	63	103	166

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Table 4

States Teachers from Alumni Sample Work in [Percent (Number)]

Pennsylvania	52.4 (33)
New Jersey	15.9 (10)
Connecticut	4.8 (3)
Illinois	3.2 (2)
New York	3.2 (2)
North Carolina	3.2 (2)
California	1.6 (1)
Colorado	1.6 (1)
Delaware	1.6 (1)
Maryland	1.6 (1)
Massachusetts	1.6 (1)
Michigan	1.6 (1)
Ohio	1.6 (1)
Oregon	1.6 (1)
Not U.S. State	3.2 (2)
Missing data (no response)	1.6 (1)
Sample Size	63

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: By nature of their current participation in Teacher Education Programs of the University of Pennsylvania's Graduate School of Education, all members of the Student Sample worked in schools in Pennsylvania. Thus, the survey instrument for the Student Sample did not include an item asking what state the respondents worked in.

Table 5

Alumni Sample Grade Level and Years as Teacher [Percent (Number)]

Grade Level	
Elementary	38.1 (24)
Secondary	52.4 (33)
Both Elementary and Secondary	9.5 (6)
Years as Teacher	
3 years or less	25.0 (15)
4-6 years	28.3 (17)
7-9 years	10.0 (6)
10-12 years	8.4 (5)
13-15 years	8.4 (5)
14-16 years	10.0 (6)
17-19 years	10.0 (6)
20 years or more	6.7 (4)
Sample Size	63

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: Members of the Student Sample were not asked what grade level they work with or about their years of experience as a teacher.

Table 6

School Characteristics of Study Samples [Percentage (Number)]

	Alumni Sample	Student Sample	Total Sample
Locale			
Urban	50.8 (32)	98.1 (101)	80.1 (133)
Suburban	44.4 (28)	1.9 (2)	18.1 (30)
Rural or Small Town	4.8 (3)	0.0 (0)	1.8 (3)
Type			
Public	79.4 (50)	95.1 (98)	89.2 (148)
Charter	11.1 (7)	13.6 (14)	12.7 (21)
Magnet	7.9 (5)	13.6 (14)	11.4 (19)
Private Non-Religious	11.1 (7)	1.0 (1)	4.8 (8)
Religious	9.5 (6)	3.9 (4)	6.0 (10)
Poverty Level (percent of students eligible for free or reduced lunch)			
0%	17.5 (11)	3.9 (4)	9.0 (15)
10%	28.6 (18)	2.9 (3)	12.7 (21)
20%	6.3 (4)	2.9 (3)	4.2 (7)
30%	4.8 (3)	5.8 (6)	5.4 (9)
40%	3.2 (2)	1.9 (2)	2.4 (4)
50%	3.2 (2)	2.9 (3)	3.0 (5)

60%	0.0 (0)	3.9 (4)	2.4 (4)
70%	4.8 (3)	5.8 (6)	5.4 (9)
80%	4.8 (3)	19.4 (20)	13.9 (23)
90%	9.5 (6)	29.1 (30)	21.7 (90)
100%	14.3 (9)	16.5 (17)	15.7 (26)
Missing data (no response)	3.2 (2)	4.9 (5)	4.2 (7)
Size (number of students enrolled)			
Small (500 or less)	39.7 (25)	43.7 (45)	42.2 (70)
Medium (501-1000)	34.9 (22)	25.2 (26)	28.9 (48)
Large (More than 1000)	22.2 (14)	26.2 (27)	24.7 (41)
Missing data (no response)	3.2 (2)	4.9 (5)	4.2 (7)
Has procedure for reporting child abuse or neglect			
Yes	71.4 (45)	58.3 (60)	63.3 (105)
No	6.3 (4)	1.0 (1)	3.0 (5)
Not Sure	19.0 (12)	40.8 (42)	32.5 (54)
Missing data (no response)	3.2 (2)	0.0 (0)	1.2 (2)
Sample Size	63	103	166

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Survey Instrument

The Child Abuse & Mandated Reporting Survey (CAMRS) was developed specifically for this study (see Appendix II for survey instrument, including the modifications made to the Student Sample Instrument for the Alumni Sample). Items were drawn from measures used in published research literature and from items used in pilot studies I previously conducted (see Appendix III for description and source of each questionnaire item). The CAMRS includes items that assessed the following constructs:

- *Characteristics* – this section is composed of both individual and school-level variables.
 - Individual variables include: gender, race/ethnicity, grade(s) taught (Alumni Sample only), and years of experience (Alumni Sample only).
 - School level variables include: geographic location (for Alumni Sample only), locale (urban, suburban, rural), type (public/private/parochial), size (student enrollment), socio-economic status of students (as assessed by percent of students eligible for free or reduced-price lunch), and existence of school or district procedures for reporting child abuse.
- *Exposure to Education/Training* – these items assessed teachers' previous exposure to information on child abuse and mandated reporting, specifically they inquire about:
 - Information received during pre-service and in-service training
 - Extent and recency of information received (total hours of education received, length of time since more recent education received)

- Provider of information (e.g., college/university or their institution of employment)
- Method of receiving information (e.g., through in-person presentation, in writing)
- Preparation level (whether the information prepared them for their role as a mandated reporter)
- *Past Reporting Behaviors* – These items assessed teachers’ prior experience dealing with suspected child abuse of students, including:
 - Past suspicions of child abuse (also used to assess knowledge of indicators of abuse, see below)
 - Frequency of reporting past suspected child abuse to child protective services (used to assess past compliance with reporting laws)
 - Reasons for not reporting suspected child abuse to child protective services (e.g., did not have enough evidence, had already been reported, student did not want me to)
- *Reporting Tendency* – These items assessed the teachers’ intention to report suspected cases of child abuse through responses to vignettes similar to the ones used in the Pilot Study #2 (see Appendix II) and previous studies (Ashton, 1999, 2001, 2004; Bornstein et al., 2007; Crenshaw et al., 1995; Dukes & Kean, 1989; Feng & Levine, 2005; Ford et al., 2001; Hawkins & McCallum, 2001; Hazzard, 1984; Ibanez et al., 2006; James & DeVaney, 1994; Kenny, 2001; Kleemeier et

al., 1988; O'Toole et al., 1999; Portwood, 1998; Randolph & Gold, 1994; Zellman, 1990b)

- *Attitudes towards reporting to child protective services-* Teachers' overall attitudes toward reporting suspected incidents of child abuse to child protective services were assessed through the items related to their behavioral beliefs and outcome expectations. Specifically, these items assessed the beliefs about the consequences of reporting (positive and negative) and the effectiveness of child protective services
- *Subjective Norms Regarding Reporting Behavior-* Teachers' perceived norms regarding mandated reporting of child abuse were assessed through items related to their normative beliefs and motivation to comply with these beliefs. Specifically, these items assessed norms regarding other teachers, norms regarding their school administrators, and their motivation to comply with those norms.
- *Self-efficacy Regarding Making a Report-* Teachers' confidence in their ability to make a report of suspected child abuse were assessed through items regarding their efficacy beliefs, i.e., how capable they believe they are in making a report of suspected child abuse.
- *Self-efficacy Regarding Identifying Indicators of Abuse-* Teachers' confidence in their own ability to identify indicators of child abuse were assessed through items regarding their efficacy beliefs, i.e., how capable they believe they are in identifying indicators of child abuse.

- *Knowledge of Aspects of Mandated Reporting Law*- Teachers' knowledge of the specific components of the mandated reporting law were assessed through items addressing aspects of the law:
 - educators are legally obligated to report suspected incidents of child abuse
 - mandated reporters do not need to have proof of abuse in order to make a report to child protective service
 - if mandated reporters make a report of suspected child abuse in good faith and are wrong, then they cannot be held liable under the law
- *Knowledge of Indicators of Abuse*- Teachers' knowledge of indicators of abuse were assessed by two ways: 1) items testing their ability to recognize child abuse, specifically through responses to vignettes similar to the ones used by previous studies (Ashton, 1999, 2001, 2004; Bornstein et al., 2007; Crenshaw et al., 1995; Dukes & Kean, 1989; Feng & Levine, 2005; Ford et al., 2001; Hawkins & McCallum, 2001; Hazzard, 1984; Ibanez et al., 2006; James & DeVaney, 1994; Kenny, 2001; Kleemeier et al., 1988; O'Toole et al., 1999; Portwood, 1998; Randolph & Gold, 1994; Zellman, 1990b); 2) previous suspicions of child abuse (i.e., Tilden et al., 1994).

Items regarding physical and sexual abuse were assessed in both the Alumni and the Student Samples; items regarding neglect and emotional/mental abuse were assessed in the Alumni Sample only.

Missing Data

Amount and Type of Missing Data

The amount of missing data was assessed using a variety of methods: the complete case method, the complete variable method, the sparse-matrix method, the ratio of the sparse-matrix to the case method, and the ratio of the sparse-matrix to the variable method (McKnight et al., 2007). The complete case method assessed the portion of cases (i.e., respondents) with any missing data. The complete variable method assessed the portion of variables with any missing values. The sparse-matrix method assessed the portion of missing data within the entire data matrix (i.e., total number of respondents x total number of variables). The ratios of the sparse-matrix method to the other two methods make use of multiple methods of assessing the amount of missing data. The higher the ratio, the more missing data exist for each case or each variable. For example, the ratio of sparse-matrix to complete variable for the total sample is .07, indicating that on average 7.0% of the cases were missing for each variable. The amount of missing data for the total sample combined and for each sample individually is displayed in Table 7.

Little's test is a common way of assessing whether the missing data is missing completely at random (MCAR) (McKnight et al., 2007). If the chi-square for Little's test is not significant, then data is assumed to be MCAR (Little, 1988). Results from Little's tests revealed that the missing data in this study was MCAR, $\chi^2(309) = 269.001, p = .951$.

Table 7

Amount of Missing Data

Sample	Method Of Assessing Of Amount Of Missing Data				
	Complete Case	Complete Variable	Sparse-Matrix	Ratio of Sparse-Matrix to Case	Ratio of Sparse-Matrix to Variable
Total Sample	24.1%	90.9%	6.22%	.26	.07
Alumni Sample	36.5%	100%	15.4%	.42	.15
Student Sample	18.5%	50%	1.03%	.06	.02

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Handling of Missing Data

Due to the large amount of missing data, particularly for the Alumni Sample, results from descriptive analyses of responses to survey items include information on the number and percentage of data missing. When data is MCAR, listwise deletion is considered an acceptable method for dealing with missing data for analyses of group differences (i.e., chi-square tests and t-tests) and regression analyses (Acock, 2005; Allison, 1999). Therefore, listwise deletion was used to handle missing data for the chi-square, t-test, and regression analyses.

Structural Equation Modeling (SEM) was used to examine Research Questions 6 through 8. It is advised to impute data for latent variable analyses, such as SEM, when the dataset has more than 5.0% of its values missing (T. Little, personal communication,

June 12, 2009). As the dataset for the current study had more than 5.0% of its values missing, multiple imputation was used to replace missing values for the exploratory model analyses. Multiple imputation is the preferred method of handling missing values for multivariate analysis (Rubin, 1999), particularly in cases where parameter estimates are of specific interest (McKnight et al., 2007), as they are in the current study.

The multiple imputation was conducted through PRELIS, a component of the LISREL software program (Jöreskog & Sörbom, 2006), using the Markov chain Monte Carlo (MCMC) procedure. The MCMC procedure is robust in imputing values, even when the underlying distribution of the data is unknown or non-normal (McKnight et al., 2007). Both variables contained in the models and auxiliary variables (those not included in the model) were used in the imputation procedure. By providing additional information about the dataset, the inclusion of auxiliary variables increases the precision of the imputation process (Yoo, 2009). The auxiliary variables and variables included the model are listed in Table 8. Between three and ten imputations are generally recommended for multiple imputation (McKnight et al, 2007; Schafer, 1999), with five generally being sufficient (Royston, 2004; Schafer, 1999). Five imputations were conducted for this study, generating five separate datasets for SEM analyses.

Both the measurement models (confirmatory factor analysis) and the structural models developed for the SEM analyses of the exploratory models were assessed through LISREL. LISREL is capable of analyzing the multiple datasets created through the multiple imputation and generating parameters, standard errors, and goodness-of-fit model statistics for each of the imputed dataset. Parameter estimates and standard errors

for each dataset were combined using Rubin's rules (see: Harel & Zhou, 2007; Wayman, 2003); significance of parameter estimates were also calculated using Rubin's rules. As there is no accepted method for combining goodness-of-fit statistics across datasets, goodness-of-fit statistics are displayed and evaluated for each imputed dataset.

Table 8

Variables Used for Multiple Imputation

Variable Name	Variable Description
Model Variables	
educ	Have received information on child abuse/mandated reporting
educdose	Dosage level of prior exposure to information on child abuse/mandated reporting
scenpa1	Knowledge of indicators of physical abuse (assessed through certainty of abuse in hypothetical scenario)
scensa1	Knowledge of indicators of sexual abuse (assessed through certainty of abuse in hypothetical scenario)
proof	Correct response (false) to “I must have proof of abuse before I make a report to child protective services.”
liable	Correct response (true) to “If I report that I suspect a child is being abused in good faith and I am wrong, then I cannot be held liable under the law.”
oblig	Correct response (true) to “If an educator suspects that a student is being abused, she/he is legally obligated to report it to child protective services.”
knowrep	Know how to make a report of child abuse or neglect.
signspa	Belief in ability to identify signs of physical abuse
signssa	Belief in ability to identify signs of sexual abuse
couldrep	Belief in ability to make report of child abuse
benharm	Composite of percentage of reports of abuse to CPS benefit/harm the child
cpseffec	Effectiveness of CPS in dealing with cases of child abuse
harmpa	Reporting case of physical abuse does more harm than

Variable Name	Variable Description
	good (reverse coded)
harmsa	Reporting case of sexual abuse does more harm than good (reverse coded)
snpeer	Subjective norms regarding teacher beliefs about reporting abuse to CPS
snadmin	Subjective norms regarding administrator beliefs about reporting abuse to CPS
scenpa2	Likelihood of reporting physical abuse to CPS (response to hypothetical scenario)
scensa2	Likelihood of reporting sexual abuse to CPS (response to hypothetical scenario)
sample1	Sample (Alumni or Student)
Auxiliary Variables	
programelem	GSE elementary education program dummy variable (Student Sample only)
programsec	GSE secondary education program dummy variable (Student Sample only)
programtfa	GSE Teach for America Program dummy variable (Student Sample only)
teachPA	Teach in school in Pennsylvania dummy variable (Alumni Sample only)
yrsteach	Years working as a teacher (Alumni Sample only)
pastteach	Had worked as teacher in a school prior to beginning teacher education program at GSE (Student Sample only)
male	Gender dummy variable (male=1, non-male=0)
white	Identify race/ethnicity as White
black	Identify race/ethnicity as Black/African-American

Variable Name	Variable Description
latino	Identify race/ethnicity as Latino(a)/Hispanic
api	Identify race/ethnicity as Asian/Pacific Islander
amindian	Identify race/ethnicity as American Indian/Native American/Alaskan Native
bimulti	Identify race/ethnicity as Bi/multi-racial
raceother	Identify race/ethnicity as other race/ethnicity
elementary	Teach in elementary school
secondary	Teach in secondary school
urban	School work in is in urban area
suburban	School work in is in suburban area
rural	School work in is in rural/small town area
public	Work in public school
charmag	Work in charter or magnet school (for public school only)
frlunch	Percentage of students in school eligible for free or reduced lunch
size	Number of students enrolled in school where work
proced2	School or school district does have standard procedures for reporting child abuse dummy variable
peersup	Belief that co-workers would support actions if reported suspicions that a student was being abused or neglected
peerrep	Belief that most teachers would report their suspicions of child abuse and neglect to child protective services
prep	How well prepared for role as mandated reporter by information education, or training on child abuse and/or mandated reporting received

Variable Name	Variable Description
susppa	Previously suspected student had been physically abused
suspsa	Previously suspected student had been sexually abused
reppa	Frequency of reporting past suspicions of physical abuse
reppa	Frequency of reporting past suspicions of sexual abuse
educins	Received information about mandated reporting/child abuse during in-service training
educpre	Received information about mandated reporting/child abuse during pre-service training
educhrs	Total hours of education/training on mandated reporting/child abuse received

Data Analysis

Research Questions #1-4

Research Question #1: How likely are teachers to comply with state mandated reporting laws by reporting their suspicions of child abuse to child protective services?

Research Question #2: What are the reasons given by teachers as to why they do not always report their suspicions of child abuse to child protective services?

Research Question #3: What are teachers' levels of knowledge and self-efficacy, .i.e., a belief in one's ability to perform the desired behavior (Bandura, 1990, 2001), in regards to reporting of child abuse? What are their attitudes and social norms regarding the reporting of child abuse?

Research Question #4: What is the type and level of information teachers receive about child abuse and mandated reporting?

The first four research questions were assessed by descriptive statistics, i.e., frequencies, means, and standard deviations, of responses to relevant survey items. Differences between the Alumni Sample and the Student Sample in responses to these items were examined through cross-tabs and t-test analysis.

In order to examine how total level of exposure varied among respondents in response to Research Question #4, a dosage variable was created. As respondents could receive information about mandated reporting and child abuse through multiple delivery methods (e.g., in-person, in-writing, via the Internet), from multiple sources (e.g., school/school district, college/university, sought out on own), and for varying lengths of time, they varied in their levels of exposure to this information. To create the dosage variable, a summary variable was first created for the source and method components of dosage by adding the total number of sources or methods the respondents selected. For example, respondents could select any of the four sources (school/district, college/university, sought out on own, other); a respondent who indicated they had received information from a college/university and by seeking it out on their own would receive a score of “2” on the summary variable for source. T-scores were then computed for the source and method summary variables and for the hours variable (which ranged from 1-3 with 1 indicating one hour or less, 2 indicating between 2 and 4 hours, and 3 indicating five or more hours; respondents were asked to provide their best approximation). T-scores were used instead of z-scores in order avoid a variable with negative values. The t-scores of these three variables were averaged to create the score for the dosage variable. Respondents who had not received any information on child

abuse or mandated reporting were given a score of zero for the dosage variable. Thus, the possible range for the dosage variable was 0 to 83.4.

The findings regarding Research Questions 1 through 4 are detailed in Chapter 5.

Research Question #5

Research Question #5: Do teachers differ in their exposure to information about child abuse or mandated reporting, feelings of preparedness, behaviors, knowledge, self-efficacy, attitudes, and social norms based on individual or school-level characteristics?

This question was assessed through a series of regression models to assess whether individual or school-level characteristics were related to the other variables of interest. Specifically, the relationships between respondents' individual and school-level characteristics and their past experiences, knowledge, attitudes, beliefs, and reporting tendency were examined through a series of hierarchical regressions—ordinary least squared regression for continuous dependent variables and binary logistic regression for dichotomous dependent variables (past suspicions of abuse, past exposure to information about child abuse or mandated reporting, knowledge of aspects of mandated reporting law). In both hierarchical regression analyses and stepwise regression analyses, variables or sets of variables are entered one step at a time in order to examine the additional contribution of each to the variance of the outcome variable. In hierarchical regression, the order of entry of variables or sets of variables is based on a theory and determined a priori by the researcher, whereas in stepwise regression, the order is determined by the computer program, based on the strength of the statistical associations between the predictor variables and the outcome variables.

In these regression analyses only the individual and school-level characteristics common to both the Alumni and Student Samples were included (see pages 54-62 for descriptive information about respondents' individual and school-level characteristics).

The individual characteristics examined were gender and race/ethnicity, and the school-level characteristics included the following: type, locale, size, poverty level, and existence of a procedure for reporting child abuse. In many cases, there were differences between the two samples for both the respondent characteristics (individual and school-level) and many of the outcome variables of interest (i.e., past experiences, knowledge, attitudes, and beliefs). Thus, the sample was treated as a covariate in the regression analyses. It was entered as the first step in the hierarchical regression analyses, so that the relationship between the predictor variables (individual and school-level characteristics) and outcome variables could be examined. In the remaining steps, the sets of variables were introduced in order of what is least-to-most distant from the individual, with the set of individual characteristics (gender and race/ethnicity) entered as the second step of the analyses, the first set of school-level characteristics (type, locale, size, poverty level) as the third step, and the school-level reporting procedure variable as the final step. Although it is a school-level characteristic, the reporting procedure variable was entered as a separate step because it is the one variable that is specifically related to mandated reporting and child abuse, whereas the other school-level characteristics are more general in nature. In addition, as indicated by the relatively large portion of respondents indicating that they were “not sure” whether their school had a procedure, this variable may provide more information about what respondents know, as opposed to what their school actually has, and thus would be a somewhat different type of school characteristics than the other school-level variables.

Conducting hierarchical regression analyses in this manner provided information about the portion of the variance in the outcome variables explained by the set of individual characteristics, the set of general school-level characteristics, and the specific school-level characteristic of reporting procedure, as well as the individual contributions of each specific variable. As only respondents in the Alumni Sample were asked about emotional/mental abuse and neglect, there was no need to control for sample (Alumni or Student) when examining outcome variables related to emotional/mental abuse and neglect, and thus the hierarchical regression analyses for these outcome variables included only three steps (individual characteristics, general school-level characteristics, and school reporting procedure).

Although respondents were given the option to identify their gender in ways other than “male” or “female,” only one respondent did so, indicating they were transgender. Thus, for these regression analyses, the gender variable was collapsed into male (25.3%) and non-male (74.7%). Similarly, as there were few respondents in many of the race/ethnicity categories –with less than a quarter identifying as anything other than White – the race/ethnicity variable was collapsed into two categories: White (75.9%) and non-White (22.9%) for the regression analyses.

Regarding the school-level characteristics, the vast majority of respondents worked in public schools (89.2%), thus for these regression analyses, the categories of “private non-religious” and “religious” were collapsed to create a dichotomous variable for school type: public and non-public. Most respondents worked in schools in urban areas (80.1%), while very few respondents (1.8%) indicated that their school was in a

small town or rural area, so the locale variable was collapsed into two categories: urban and non-urban, the latter including both small town/rural and suburban. As very few respondents (3.0%) believed that their school did not have a procedure for reporting child abuse, these responses were collapsed with the “not sure” responses (32.5%), resulting in a dichotomous variable for reporting procedure: yes and no/not sure.

For the regression analyses (as well as the structural equation modeling discussed later), those who responded that they had not received any information (16.9%) and those who responded that they were not sure or did not remember whether they had received information (4.2%) were combined, so that the exposure variable was collapsed into two categories: exposed to information and not exposed or not sure if exposed information. For the regression analyses involving the dosage level of exposure as the outcome variable, only those respondents who indicated that they had received any information were included in the analyses.

The findings regarding Research Question #5 are reported in Chapter 5.

Research Questions #6-8

Research Question #6: Are teachers’ knowledge, self-efficacy, attitudes, and social norms related to their likelihood of compliance with mandated reporting laws?

- a. Do the factors most commonly addressed through training/education on child abuse or mandated reporting relate to teachers’ likelihood of compliance with mandated reporting laws?
- b. Do the factors proposed by the Integrated Model of Behavior (Fishbein, 2000; Fishbein & Yzer, 2003) as related to child abuse or mandated

reporting relate to teachers' likelihood of compliance with mandated reporting laws?

- c. Which factors addressed through training/education or factors proposed by Integrated Model of Behavior contribute most to the variance in teachers' likelihood of compliance with mandated reporting laws?

Research Question #7: Are teachers' levels of exposure to information about child abuse and mandated reporting related to their knowledge, self-efficacy, attitudes and social norms?

Research Question #8: Are teachers' levels of exposure to information about child abuse and mandated reporting related to their likelihood of compliance with mandated reporting laws?

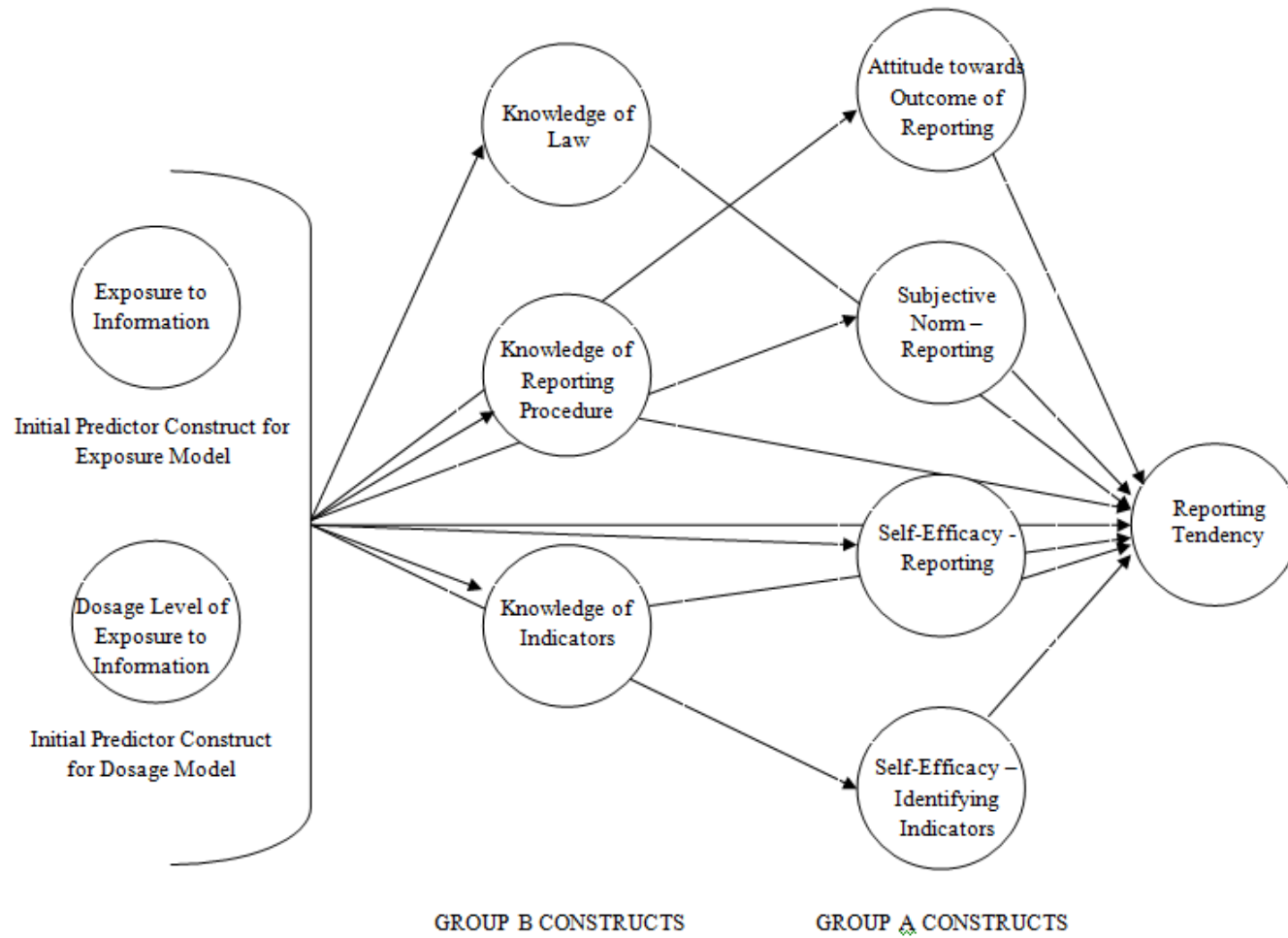
Structural equation modeling was used to examine the exploratory model of reporting behaviors. A benefit of latent construct analysis (i.e., structural equation modeling) is that it reduces the measurement error by including multiple indicators for the latent constructs (Kline, 1998). Structural equation modeling also allows for the direct assessment of mediational models, such as the models of interest for this study that examine whether knowledge, beliefs, and attitudes mediate the relationship between reporting tendency and exposure to information about child abuse or mandated reporting. It permits examination of both direct and indirect of effects.

Both the factors from the Integrated Model of Behavior (Group A factors) and factors drawn from the common elements of education/training programs (Group B factors) were examined through the exploratory models. Two models were assessed (see

Figure 5 for the conceptual models). One that examined whether having had any prior exposure to information about mandated reporting or child abuse was related to the other model constructs (knowledge, attitudes, beliefs, and reporting tendency), the “exposure model.” The other model examined whether the dosage level of exposure to information was related to the other model constructs, the “dosage model.” The only difference between the exposure model and the dosage model is whether the initial predictor variable is any exposure (a dichotomous variable) or the dosage level of exposure (a continuous variable with those who had no prior exposure receiving a dosage value of “0”). All other constructs in the model are exactly the same (e.g., knowledge, attitudes, beliefs, and reporting tendency).

Figure 5

Conceptual Model of Reporting Behavior



Regarding Group A factors, those drawn from the Integrated Model of Behavior, the variables directly assessing beliefs and social norms were considered as the observed variables (also commonly referred to as manifest or indicator variables) reflecting the larger constructs of the latent variables. As previously discussed, the Integrated Model of Behavior posits that one's attitude towards the behavior, reporting suspected abuse to CPS, is determined by one's beliefs about the outcomes related to committing that behavior. Thus, the individual items assessed beliefs about outcomes of reporting (e.g., whether reporting abuse to CPS actually harmed the child) were treated as the observed variables indicative of the larger attitude construct. Similarly, the subjective norms related to peers and administrators were considered to be reflective of the subjective norm construct, and self-efficacy beliefs were reflective the self-efficacy construct.

Although both individual and school-level characteristics are potential factors related to the reporting behavior of teachers, they are not the main factors of interest in this study. Thus, in order to ensure model convergence and relative parsimony, they were not included in the exploratory models. The relationship between these individual and school-level characteristics and the other elements of the models were examined through a series of regression analyses, as previously discussed.

In order to ensure adequate sample size for the structural equation model analyses, only variables assessed for both samples were included in the model; thus the variables regarding emotional/mental abuse and neglect (assessed only for the Alumni Sample) were not included in the analyses of the exploratory models. The models apply to physical and sexual abuse only.

Variable Transformations

In order to examine the relationships between variables in the model through structural equation modeling, some variable transformations were conducted. Administrator and peer (teachers or student teacher) subjective norms were calculated by multiplying the responses to the items assessing administrator and peer norms by the responses to the items assessing respondents' motivation to comply with administrator and peer norms, respectively. So that all variables assessing respondents' beliefs and attitudes about reporting to CPS were in the same direction, the variables assessing whether respondents agreed that reporting suspected cases of abuse to CPS usually do more harm than good were reverse coded so that higher values indicated more positive views of reporting to CPS. To calculate an overall assessment of respondents' beliefs regarding the potential benefit or harm of reporting child abuse to child protective services, a composite variable was created by subtracting the percentage of reports respondents believed harm the child from the percentage of reports respondents believed benefit the child, and adding 100 in order to avoid potential negative values. These three newly created variables (administrator subjective norms, peer subjective norms, and benefit/harm cause by reporting to CPS) and the previously created variable of dosage level of exposure to information about mandated reporting or child abuse were rescaled to reduce their means and variances, making them more closely aligned with the other variables in the model in order to ensure model convergence.

Measurement Model for Exposure Model

The measurement model was assessed through confirmatory factor analysis using a maximum likelihood (ML) model of estimation. The measurement model assessed whether the observed variables (also referred to as measured, manifest, or indicator variables) reflect the latent constructs of interest in the model. The observed variables and their corresponding constructs are listed in Table 9.

Table 9

Latent Construct and Corresponding Observed Variables

Name of Latent Construct	Description of Latent Construct
Observed Variable	
expose	Prior exposure to information on mandated reporting of child abuse
educ	
knowind	Knowledge of indicators of child abuse
scenpal	
scensal	
knowlaw	Knowledge of mandated reporting law
proof	
liable	
oblig	
knowpro	Knowledge of procedure for reporting suspected child abuse
knowrep	
seind	Self-efficacy regarding identification of indicators of child abuse
signspa	
signssa	
serep	Self-efficacy regarding reporting suspicions of child abuse
couldrep	
attitude	Attitude toward reporting suspected child abuse to child protective services
benharm	
cpseffec	
harmpa	
harmsa	
norms	Subjective social norms regarding reporting suspicions of

Name of Latent Construct	Description of Latent Construct
Observed Variable	
	child abuse
snpeer	
snadmin	
reptend	Likelihood of reporting suspicions of child abuse to child protective services (“reporting tendency”)
scenpa2	
scensa2	

The model fit statistics for the measurement model are summarized in Table 10. Although the chi-square was statistically significant for all imputations, this statistic is not sufficient to reject the model as it is relatively easy to obtain a significant t-value, and researchers are cautioned against relying on the chi-square statistic to assess model fit (Bentler & Chou, 1987; Hu & Bentler, 1995; Kline, 2005). However, as is customary, chi-square statistics will be provided for all model analyses, and are a critical component for comparing nested models, i.e., when assessing measurement invariance across samples (Hoyle & Panter, 1995). Practical fit indices are preferable approximations of the model fit. The Root Mean Square Error of Approximation (RMSEA), is an absolute fit index, where models are considered to fit the data if $RMSEA \geq .05$ (Maruyama, 1998). Values between .90-.95 for the relative fit indices of the Comparative Fit Index (CFI) and Non-Normed Fit Index (NNFI, as known as the Tucker-Lewis Index) indicate the model is an acceptable fit for the data and values of .85-.90 indicate a median fit (Hoyle & Panter, 1995; Kline, 2005). As illustrated in Table 10, these goodness-of-fit statistics indicate that model fit for the measurement model was acceptable, demonstrating the validity of the constructs in the confirmatory factor analysis.

Table 10

Fit Indices for Confirmatory Factor Analysis for Exposure Model

Imputed			RMSEA		
Data Set	χ^2 ^a	RMSEA	90% CI	NNFI	CFI
1	187.626	0.067	0.051-0.083	0.921	0.884
2	193.217	0.070	0.054-0.086	0.914	0.874
3	192.892	0.068	0.052-0.084	0.881	0.919
4	184.958	0.066	0.050-0.083	0.923	0.887
5	185.085	0.066	0.049-0.082	0.923	0.887

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a *df*= 104 *p*<.001

Table 11 depicts the unstandardized, standardized, and accompanying standard errors for factor loadings and variances/covariances of the observed variables. As previously indicated, model parameters from the five imputed datasets were combined using Rubin's rules.

Table 11

Standardized and Factor Loading and Residuals for Confirmatory Factor Analyses for Exposure Model^a

Latent Construct and Observed Variables	Factor Loading		Variances/Covariance			
	Unstandardized	Standardized ^d	Standard		Standard	
			Error	Unstandardized	Standardized ^d	Error
expose ^b [exposure to information about child abuse or mandated reporting]						
educ	0.421***	1.000	0.024	0.000	0.000	0.000
knowind ³ [knowledge of indicators of child abuse (physical and sexual)]						
scenpa1	0.439***	0.643	0.049	0.274***	0.586	0.046
scensa1	0.439***	0.569	0.049	0.403***	0.676	0.058
knowlaw [knowledge of mandated reporting law]						
proof	0.281***	0.665	0.047	0.100**	0.556	0.026
liable	0.181***	0.406	0.042	0.166***	0.835	0.021
oblig	0.038*	0.191	0.019	0.039*	0.963	0.004
knowrep ^b [knowledge of reporting procedures]						
knowpro	1.283***	1.000	0.072	0.000	0.000	0.000

Latent Construct and Observed Variables	Factor Loading		Variances/Covariance			
	Unstandardized	Standardized ^d	Standard Error	Unstandardized	Standardized ^d	Standard Error
seind ^c [self-efficacy regarding indentifying indicators of child abuse (physical and sexual)]						
signspa	0.561***	0.852	0.041	0.118***	0.273	0.028
signssa	0.561***	0.767	0.041	0.220***	0.412	0.035
serep ^b [self-efficacy regarding making a report of abuse]						
couldrep	0.930***	1.000	0.052	0.000	0.000	0.000
attitude [attitudes toward making a report of abuse]						
benharm	0.859***	0.475	0.146	2.525***	0.774	0.295
cpseffec	0.243**	0.263	0.076	0.794***	0.931	0.089
harmpa	0.890***	0.941	0.072	0.103	0.115	0.079
harmsa	0.754***	0.788	0.072	0.346***	0.378	0.067
norms ^c [subjective norms regarding making a report of abuse]						
snpeer	0.919***	0.787	0.069	0.520***	0.381	0.100
snadmin	0.919***	0.787	0.069	0.518***	0.380	0.100
reptend ^c [reporting tendency]						

Latent Construct and Observed Variables	Factor Loading		Variances/Covariance			
	Unstandardized	Standardized ^d	Standard		Standard	
			Error	Unstandardized	Standardized ^d	Error
scenpa2	0.542***	0.736	0.048	0.248***	0.458	0.044
scensa2 ^c	0.542***	0.661	0.048	0.377***	0.563	0.055

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a Coefficients and standard errors were combined across imputed datasets using Rubin's rules

^b To ensure model identification, identification, residuals of observed variables were set to zero for one-indicator constructs (i.e., latent variables with one observed variable)

^c To ensure model identification, equality constraints were imposed on factor loadings for two-indicator constructs (i.e., latent variables with two observed variables)

^d From completely standardized solution

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

To assess whether the measurement model was valid for both samples, measurement invariance was tested through multi-group confirmative factor analysis. The results from the examination of the nested models are illustrated in Table 12. Findings demonstrated configural invariance and invariance of factor loadings, although equality of intercepts was not supported. In addition, equality of variances and covariances was supported as the omnibus test of homogeneity of variances/covariances was not significant. These findings provide justification for investigation of the structural model for both samples combined, although because of the inequality of intercepts examination of the structural model needed to control for sample.

Table 12

Fit Indices for Multiple Group Confirmatory Factor Analysis Testing for Measurement Invariance for Exposure Model

Model	χ^2	$\Delta\chi^2$	RMSEA	RMSEA 90% CI	NNFI	CFI
Imputed Data Set						
Configural Invariance ^a	$df = 208$					
1	304.926	-	0.0670	0.046- 0.086	0.882	0.920
2	308.905	-	0.0688	0.048-0.087	0.874	0.915
3	291.639	-	0.0609	0.038-0.080	0.903	0.934
4	302.162	-	0.0669	0.046- 0.086	0.881	0.919
5	316.040	-	0.0713	0.052-0.089	0.864	0.908
>Loading Invariance	$df = 213$	$\Delta df = 5$				
1	313.253	8.327	0.067	0.046- 0.0853	0.882	0.918
2	314.603	5.698	0.0681	0.048- 0.086	0.877	0.914
3	299.350	7.711	0.0611	0.039-0.080	0.903	0.932
4	308.174	6.012	0.066	0.045-0.085	0.885	0.920
5	323.582	7.542	0.0709	0.051- 0.089	0.865	0.906
Intercept Invariance	$df = 222$	$\Delta df = 9$				
1	381.967	68.714*	0.0764	0.058-0.093	0.846	0.888

Model	χ^2	$\Delta\chi^2$	RMSEA	RMSEA 90% CI	NNFI	CFI
Imputed Data Set						
2	375.136	60.533*	0.0763	0.058-0.093	0.85	0.891
3	362.831	63.482*	0.0722	0.053-0.090	0.867	0.903
4	369.185	61.011*	0.0749	0.056-0.092	0.855	0.895
5	385.517	61.935*	0.0771	0.059-0.094	0.845	0.887
Homogeneity of Covariance/Variance						
	$df = 249$	$\Delta df = 36$				
1	341.108	27.855	0.0588	0.038-0.077	0.909	0.926
2	346.232	31.629	0.0627	0.043-0.080	0.896	0.915
3	331.531	32.181	0.0562	0.034-0.075	0.918	0.933
4	336.699	28.525	0.059	0.038-0.077	0.908	0.925
5	353.322	29.745	0.0644	0.045-0.082	0.889	0.910

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a For each dataset, both groups (samples) contributed relatively the same amount to the chi-square and there were no meaningful differences between groups in modification indices

Note. Each nested model contains its constraints, plus the constraints of the previous, tenable models.

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

Measurement Model for Dosage Model

The model was also assessed with the dosage level of exposure to information as the initial predictor variable. The remainder of the dosage model was the same as the model with any exposure to information as the initial predictor variable. Model fit statistics for the measurement model for dosage level are summarized in Table 13.

Indices indicate that the model was an acceptable fit for the data (i.e., RMSEA < 0.080, NNFI and CFI > 0.900), demonstrating the validity of the constructs in the confirmatory factor analysis.

Table 13

Fit Indices for Confirmatory Factor Analysis for Dosage Model

Imputed Data Set	χ^2	RMSEA	RMSEA 90% CI	NNFI	CFI
1	145.503	0.0484	0.027-0.067	0.940	0.960
2	150.648	0.0512	0.031-0.069	0.933	0.955
3	148.754	0.0496	0.029-0.068	0.939	0.959
4	139.381	0.0448	0.021-0.064	0.949	0.965
5	140.957	0.0454	0.022-0.064	0.946	0.964

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a *df* = 103 *p* < .01

Table 14 depicts the unstandardized, standardized, and accompanying standard errors for factor loadings and variances/covariances of the observed variables. As previously indicated, model parameters from the five imputed datasets were combined using Rubin's rules.

Table 14

Standardized and Factor Loading and Variances/Covariances for Confirmatory Factor Analyses for Dosage Model^a

Latent Construct and Observed Variables	Factor Loading			Variances/Covariances of Observed Variables		
	Unstandardized	Standardized ^d	SE	Unstandardized	Standardized ^d	SE
dosage ^b						
edudose	4.565***	1.000	0.281	0.000	0.000	0.000
knowind ^c						
scenpa1	0.440***	0.646	0.049	0.271***	0.584	0.046
scensa1	0.440***	0.569	0.049	0.405***	0.676	0.058
knowlaw						
proof	0.276***	0.654	0.047	0.103***	0.571	0.026
liable	0.183***	0.410	0.042	0.165***	0.831	0.021
oblig	0.039*	0.192	0.019	0.039***	0.962	0.004
knowrep ^b						
knowpro	1.283***	1.000	0.072	0.000	0.000	0.000
seind ^c						
signspa	0.560***	0.850	0.041	0.120***	0.277	0.028
signssa	0.560***	0.768	0.041	0.218***	0.410	0.035
serep ^b						

Latent Construct and Observed Variables	Factor Loading			Variances/Covariances of Observed Variables		
	Unstandardized	Standardized ^d	SE	Unstandardized	Standardized ^d	SE
couldrep	0.930***	1.000	0.052	0.000	0.000	0.000
beliefs						
benharm	1.653***	0.915	0.180	0.533	0.163	0.479
cpseffec	0.378***	0.409	0.079	0.711***	0.833	0.084
harmpa	0.465***	0.492	0.084	0.678***	0.758	0.085
harmsa	0.325***	0.340	0.083	0.809***	0.885	0.077
norms ^c						
snpeer	0.922***	0.803	0.069	0.470***	0.356	0.094
snadmin	0.922***	0.774	0.069	0.567***	0.400	0.101
reptend ^c						
scenpa2	0.544***	0.739	0.048	0.246***	0.454	0.044
scensa2 ^c	0.544***	0.662	0.048	0.379***	0.562	0.055
scenpa1/scenpa2 ^e	--	--	--	0.122***	0.243	0.036
scensa1/scensa2 ^f	--	--	--	0.304***	0.478	0.048
harmpa/harmsa ^g	--	--	--	0.525***	0.581	0.077

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a Coefficients and standard errors were combined across imputed datasets using Rubin's rules

^b To ensure model identification, identification, residuals of observed variables were set to zero for one-indicator constructs (i.e., latent variables with one observed variable)

^c To ensure model identification, equality constraints were imposed on factor loadings for two-indicator constructs (i.e., latent variables with two observed variables)

^d From completely standardized solution

^e The observed variables scenpa1 and scenpa2 were both generated from responses to the hypothetical scenarios related to physical abuse and were believed to share some common variances, thus they were allowed to covary in the measurement model.

^f The observed variables scensa1 and scensa2 were both generated from responses to the hypothetical scenarios related to sexual abuse and were believed to share some common variances, thus they were allowed to covary in the measurement model.

^g The observed variables of harmpa and harmsa were allowed to covary after reviewing the modification indices from the initial measurement model, as these variables were similar in nature in ways (asking about perceived harm of reporting physical abuse and sexual abuse with the same wording) that the other variables in the construct were not, they were allowed to covary in the measurement model.

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

To assess whether the measurement model was valid for both samples, measurement invariance was tested through multi-group confirmative factor analysis. The results from the examination of the nested models are illustrated in Table 15. Findings demonstrated configural invariance and invariance of factor loadings, although equality of intercepts was not supported. In addition, equality of variances and covariances were supported as the omnibus tests of homogeneity of variances/covariances were not significant. These findings provide justification for investigation of the structural model for both samples combined, although because of the inequality of intercepts, examination of the structural model needed to control for sample.

Table 15

Fit Indices for Multiple Group Confirmatory Factor Analysis Testing for Measurement Invariance for Dosage Model

Model	χ^2	$\Delta\chi^2$	RMSEA	RMSEA 90% CI	NNFI	CFI
Imputed Data Set						
Configural Invariance ^a	$df = 206$					
1	250.301	-	0.0391	0.000-0.063	0.960	0.973
2	259.097	-	0.0451	0.000-0.068	0.947	0.964
3	241.667	-	0.0331	0.000-0.059	0.972	0.981
4	245.762	-	0.0365	0.000-0.061	0.965	0.976
5	258.442	-	0.0429	0.000-0.066	0.951	0.967
>Loading Invariance	$df = 211$	$\Delta df = 5$				
1	256.539	6.238	0.0385	0.000- 0.062	0.962	0.974
2	262.315	3.218	0.0427	0.000- 0.066	0.952	0.967
3	246.400	4.733	0.0329	0.000- 0.059	0.972	0.981
4	249.519	3.757	0.0343	0.000- 0.060	0.969	0.979
5	264.241	5.799	0.0424	0.000- 0.065	0.952	0.967
Intercept Invariance	$df = 229$	$\Delta df = 11$				
1	360.455	103.916***	0.0696	0.051-0.087	0.875	0.906
2	359.024	96.709***	0.0695	0.050-0.087	0.879	0.909

Model	χ^2	$\Delta\chi^2$	RMSEA	RMSEA 90% CI	NNFI	CFI
Imputed Data Set						
3	346.060	99.660***	0.0675	0.048-0.085	0.887	0.915
4	338.688	89.169***	0.0642	0.044-0.082	0.896	0.922
5	356.598	92.357***	0.0659	0.046-0.084	0.889	0.917
Homogeneity of Covariance/Variance						
	$df = 256$	$\Delta df = 45$				
1	311.674	55.135	0.0413	0.000-0.063	0.956	0.963
2	310.662	48.347	0.0420	0.000-0.063	0.954	0.961
3	298.399	51.999	0.0352	0.000-0.058	0.968	0.973
4	297.512	47.993	0.0343	0.000-0.058	0.969	0.974
5	318.487	54.246	0.0457	0.015-0.066	0.945	0.954

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a For each dataset, both groups (samples) contributed relatively the same amount to the chi-square and there were no meaningful differences between groups in modification indices

Note. Each nested model contains its constraints, plus the constraints of the previous, tenable models.

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

As previously discussed, teachers' compliance with mandated reporting laws was assessed in two ways: 1) past compliance with reporting laws (i.e., frequency of making a report, or causing a report to be made, to child protective services, when had previously suspected a student had been abused), and 2) reporting tendency (assessed through self-reported likelihood of making a report, or causing a report to be made, in response to hypothetical vignettes). Similarly, teachers' knowledge of indicators of abuse were assessed in two ways: 1) past suspicions of child abuse, and 2) certainty of abuse in hypothetical vignettes.

Given the temporal arrangement of the items assessed in the exploratory models, it was not logically sound to examine whether past reporting or past suspicions could be predicted by respondents' current knowledge, attitudes, norms, or beliefs. However, it was logical to examine whether prior exposure predicted past reporting and past suspicions, as these variables were all retrospective.

Thus, in addition to examination of the exploratory models using structural equation modeling, Research Question #7 was also assessed by examining the relationship between exposure to information and past suspicions of child abuse. Similarly, Research Question #8 was also assessed by examining the relationship between exposure to information and past compliance with reporting law. The relationships between past exposure to information about child abuse or mandated reporting predicted respondents' past suspicions of abuse and their frequency of reporting these suspicions of abuse were examined through a series of hierarchical regression analyses – binary logistic regression for past suspicions of abuse and ordinary least

squared regression for frequency of past reporting. To examine whether having any prior exposure to information on these topics predicted respondents' past suspicions and reporting of abuse, the relationships between the dichotomous exposure variable (whether had any prior exposure to information on these topics) and past suspicions and reporting were assessed. To examine whether respondents who had a higher level of exposure to information were more likely to have suspected abuse and reported their suspicions, the relationships between the dosage level of exposure and past suspicions and reporting were also assessed for respondents who had any prior exposure.

In order to examine the overall relationship between exposure to information and past suspicions and reporting of abuse, the analyses controlled which sample the respondent was in, when relevant. (Variables regarding emotional/mental abuse and neglect were assessed only for the Alumni Sample.) Only the individual and school-level variables that were found to be significant predictors of the specific variables of interest for each regression analysis (any exposure to information, dosage level of exposure, past suspicions of abuse, frequency of past reporting suspicions of abuse) were controlled for in the relevant analyses. All control variables were entered as the first step in the hierarchical regression analyses and the exposure variable, either the any exposure variable or the dosage variable, was entered as the second and final step in the analyses.

The findings related to Research Questions #6-8 are discussed in Chapter 6.

Chapter 5: Results and Discussion for Research Questions #1-5

This Chapter discusses, in sequence, the relevant results for the first set of research questions (Questions #1-5). This first set of analyses, responding to Questions #1-4, is primarily descriptive. The findings are presented for both samples combined and separately, including an examination of potential differences between samples. The second set of analyses, responding to Question #5, examines the individual and school-level factors as predictors of the main variables of interest, and controls for sample. The final set of research questions (Questions #6-8) is discussed in following Chapter (Chapter 6).

Research Question #1

Research Question #1: How likely are teachers to comply with state mandated reporting laws by reporting their suspicions of child abuse to child protective services?

Teachers' compliance with mandated reporting laws was assessed in two ways: 1) teachers' past history of reporting suspicions of child abuse and 2) teachers' reporting tendency, i.e., their likelihood of reporting eligible cases in the future.

Past Suspicions of Abuse

Respondents were asked if they had ever suspected that one of their students had been abused and responses are displayed for both samples individually and the total combined sample in Table 16. Almost half of all respondents (45.8%) indicated that they suspected that one of their students had been physically abused. The eight percentage point difference between the two study samples is not a statistically significant

difference. However, over one-third of alumni respondents (36.5%) had previously suspected that one of their students had been sexually abused, compared to less than one-fifth of student respondents (14.6%) ($p = .000$).

Only respondents from the Alumni Sample were asked about their experiences regarding emotional/mental abuse and neglect. Just less than half of these respondents had previously suspected that one of their students had been a victim of emotional/mental abuse (41.3%) or neglect (47.6%).

Table 16

Ever Suspected Student Had Been Abused [Percent (Number)]

	Alumni Sample	Student Sample	Total Sample	χ^2
Physical abuse				1.333
Yes	50.8 (32)	42.7 (44)	45.8 (76)	
No	46.0 (29)	56.3 (58)	52.4 (87)	
Missing data (no response)	3.2 (2)	1.0 (1)	1.8 (3)	
Sexual abuse				12.459*
Yes	36.5 (23)	14.6 (15)	22.9 (38)	
No	57.1 (36)	85.4 (88)	74.7 (124)	
Missing data (no response)	6.3 (4)	0.0 (0)	2.4 (4)	
Emotional/mental abuse				NA
Yes	41.3 (26)	NA	NA	
No	50.8 (32)	NA	NA	
Missing data (no response)	7.9 (5)	NA	NA	
Neglect				NA
Yes	47.6 (30)	NA	NA	
No	44.4 (28)	NA	NA	
Missing data (no response)	7.9 (5)	NA	NA	
Total	63	103	166	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*statistically significant difference between Alumni Sample and Student Sample, $p < .001$
NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Past Frequency of Reporting Suspected Abuse

Respondents who indicated that they previously had suspected that a student had been abused were asked how often they reported these suspicions to child protective services (CPS), or caused a report to be made to CPS: never, some of the time, most of the time, or every time. As in past literature (Abrahams et al., 1992; Beck et al., 1994; Reiniger et al., 1995; Tite, 1993), the mandated reporters in this study varied in their compliance with reporting laws, with most not making a report every time they suspected one of their students had been abused (see Table 17). The percentage of alumni respondents who stated they *never* reported abuse ranged from 12.5% for physical abuse to 50.0% for emotional/mental abuse; 46.7% of the Student Sample said they had never reported their suspicions of sexual abuse, and 34.1% had never reported their suspicions of physical abuse. Alumni respondents reported their suspicions of physical abuse more often than student respondents ($p = .003$), although there were no significant differences between samples in their frequency of reporting sexual abuse.

Table 17

How Often Report Suspected Abuse to CPS [Percent (Number)]

	Alumni Sample	Student Sample	Total Sample	χ^2
Physical abuse				14.041*
Every Time	53.1 (17)	15.9 (7)	31.6 (24)	
Most of the Time	18.8 (6)	15.9 (7)	17.1 (13)	
Some of the Time	9.4 (3)	25.0 (11)	18.4 (14)	
Never	12.5 (4)	34.1 (15)	25.0 (19)	
Missing data (no response)	6.3 (2)	9.1 (4)	7.9 (6)	
Sample Size (those who had ever suspected a student had been abused)	32	44	76	
Sexual abuse				3.256
Every Time	47.8 (11)	26.4 (4)	39.5 (15)	
Most of the Time	4.3 (1)	6.7 (1)	5.3 (2)	
Some of the Time	4.3 (1)	20.0 (3)	10.5 (4)	
Never	43.5 (10)	46.7 (7)	44.7 (17)	
Missing data (no response)	0.0 (0)	0.0 (0)	0.0 (0)	
Sample Size (those who had ever suspected a student had been abused)	23	15	38	
Emotional/mental abuse				NA
Every Time	15.4 (4)	NA	NA	
Most of the Time	7.7 (2)	NA	NA	
Some of the Time	26.9 (7)	NA	NA	
Never	50.0 (13)	NA	NA	

	Alumni Sample	Student Sample	Total Sample	χ^2
Missing data (no response)	0.0 (0)	NA	NA	
Sample Size (those who had ever suspected a student had been abused)	26	N/A	NA	
Neglect				NA
Every Time	23.3 (7)	NA	NA	
Most of the Time	13.3 (4)	NA	NA	
Some of the Time	30.0 (9)	NA	NA	
Never	33.3 (10)	NA	NA	
Missing data (no response)	0.0 (0)	NA	NA	
Sample Size (those who had ever suspected a student had been abused)	30	NA	NA	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*statistically significant difference between Alumni Sample and Student Sample, $p < .01$
 NA indicates a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Reporting Tendency

Respondents' likelihood of reporting cases of abuse to CPS, or their reporting tendency, was assessed through responses to the hypothetical vignettes. For each type of abuse, respondents were asked to indicate how likely they would be to report the situation to CPS. With the exception of emotional/mental abuse, on average, respondents reported that they were likely to report each situation to CPS (see Table 18). There were no

statistically significant differences between the reporting tendencies of alumni respondents and student respondents.

Table 18

Reporting Tendency (assessed through hypothetical scenarios)

Likelihood of reporting situation to CPS ^b	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	Mean	SD	N(missing) ^a	Mean	SD	N(missing) ^a	Mean	SD	
Physical abuse	54 (9)	3.57	.767	102 (1)	3.39	.760	156 (7)	3.46	.765	1.148
Sexual abuse	52 (11)	3.37	.817	102 (1)	3.17	.797	154 (9)	3.23	.807	1.451
Emotional/ mental abuse	55 (8)	2.71	.975	NA	NA	NA	NA	NA	NA	NA
Neglect	57 (6)	3.18	.826	NA	NA	NA	NA	NA	NA	NA

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a number of cases of missing data, due to non-response

^b 1=very unlikely, 2=somewhat unlikely, 3=somewhat likely, 4=very likely

NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Summary and Discussion of Findings

Findings from the current study are similar to previous findings about mandated reporters' failure to report (i.e., Beck et al., 1994; Finlayson & Koocher, 1991; Kalichman & Craig, 1991; Reiniger et al., 1995; Webster et al., 2005; Zellman, 1990b). The majority of teachers in the current study who had previously suspected a student of theirs had been abused had failed to comply with the mandated reporting laws directing them to report their suspicions of child abuse to child protective services. Only about a third indicated that they made a report, or caused a report to be made, *every time* they had suspected one of their students had been physically (31.6%) or sexually abused (39.5%). Teachers were even less likely to report suspicions in cases of emotional/mental abuse or neglect, with less than a quarter saying they reported their suspicions to CPS every time (15.4% and 23.3%, respectively).

An additional half of the respondents had never previously suspected a student had been abused (physical abuse: 46.0%, sexual abuse: 57.1%, emotional/mental abuse: 50.8%, neglect: 44.4%). Given that, according to child victimization research, 1 in every 8 children has been the victim of abuse (Finkelhor et al., 2005), educators who have not previously suspected abuse have most likely encountered abused students. Some of these students may have exhibited signs of abuse that, had the educators been aware of indicators of abuse, would have aroused educators' suspicions, and thus, mandated a report.

Clearly, reports of teachers' past experiences indicate that they often fail to comply with mandated reporting laws. Findings regarding their responses to hypothetical

scenarios posed in the survey instrument may appear to paint a somewhat more positive picture of respondents' compliance with mandated reporting laws. Responses indicated that teachers would be relatively likely to report the scenarios of physical abuse, sexual abuse, and neglect to CPS (mean response on a four-point scale: $M = 3.57, 3.37, 3.18$, respectively), and somewhat less likely to report the scenario of emotional/mental abuse ($M = 2.71$). Each of the hypothetical scenarios included in the survey instrument provided multiple, strong indicators of abuse, and respondents exhibited a relatively high level of certainty that the student had been abused (mean response to scenarios of physical abuse, sexual abuse, emotional/mental abuse, and neglect on a five-point scale: $M = 4.41, 4.00, 3.69, 4.09$, respectively). Thus, the high level of respondents' reporting tendency should be interpreted with caution. In reality, signs of abuse are often not as observable or recognizable as they were in the hypothetical scenarios, most likely resulting in lower likelihood of reporting for the majority of cases educators encounter. The fact that not all respondents indicated that they would be "very likely" to report these scenarios demonstrates that teachers would fail to report cases with multiple, observable, strong indicators of abuse. Thus, the findings from this study are consistent with the literature on educators' non-compliance with mandated reporting laws (Beck et al., 1994; Reiniger et al., 1995; Webster et al., 2005; Zellman, 1990b).

Research Question #2

Research Question #2: What are the reasons given by teachers as to why they do not always report their suspicions of child abuse to child protective services?

Respondents who had suspected that a student of theirs had been abused, but indicated that they did not always either report these suspicions to CPS or cause a report to be made were asked the reasons why they did not. Respondents were asked to select any of the following reasons that applied, and/or to write in additional reasons: the student did not want me to, it had already been reported, I did not have enough evidence of physical abuse; it was not part of my job; did not know how to make a report; I did not want to get caught up in legal proceedings; a report would make things worse for the student; and the principal or other school staff members (teachers, guidance counselor, etc.) did not want me to.

Responses for physical abuse and sexual abuse are displayed in Table 19 for both samples individually and combined. Only respondents in the Alumni Sample were asked about their experiences with emotional/mental abuse and neglect, their responses for these types of abuse are displayed in Table 20. Although many respondents indicated that they there were times when they did not report their suspicions to CPS, or cause a report to be made, none of the respondents indicated that they did not report because it “was not their job.” This suggests that both teachers in this study believe that it is their professional obligation to report their suspicions of abuse, which corresponds with previous research finding teachers to be relatively aware of their role as mandated reporters of child abuse (Crenshaw et al., 1995; Hawkins & McCallum, 2001; Zellman, 1990). This raises an

interesting potential discrepancy in educators' decisions around reporting of child abuse; even when they believe it is their job to report suspicions of abuse to CPS, they still sometimes use their discretion and, at times, decide not to report their suspicions. Thus, it appears that for the respondents in this study, like those in previous research (Crenshaw et al., 1995), factors other than the law or professional obligation, play a role in whether they report suspicions of abuse.

One of the factors involved may be how educators interpret their responsibility to report their suspicions of abuse. It may be that for them, this responsibility is qualified by the certainty of their suspicions (Abrahams et al., 1992; Desiz et al., 1996; Hawkins & McCallum, 2001; Hinson & Fossey, 2000; Kenny, 2004; Perrault, 1997). For all types of abuse and across both samples, the most common reason given for not reporting suspicions of child abuse was because the respondent "did not have enough evidence of abuse," a reason cited by approximately half of all respondents for each type of abuse (see Tables 19 and 20). Thus, although the law clearly states otherwise, perhaps educators believe it is their responsibility to report suspicions of child abuse *only when they have enough evidence of abuse*.

Another of the more commonly cited reasons for not always reporting suspicions of abuse was that they "had already been reported." Mandated reporting laws state that mandated reporters must make a report whenever they suspect child abuse, they do not provide exceptions for cases that have been previously reported. Yet, some educators may not be aware of this, believing that if a report has already been made about a child, they need not make another one. In cases of physical abuse, alumni respondents were

more likely than student respondents to select that a report had already been made as a reason for not making a report than were student respondents ($p = .030$). Alumni respondents were also more likely to indicate that they did not report suspicions of physical abuse because other school staff members “did not want them to” ($p = .030$).

It may be that given their longer tenure, alumni respondents have had more exposure to their co-workers, and are more likely to be aware of and influenced by the beliefs and behaviors of their co-workers, i.e. whether their co-workers have reported cases of abuse or endorse doing so. Although the Kansas teachers studied by Crenshaw, et al. (1995) frequently mentioned the lack of support from school administration as a reason for not reporting their suspicions of abuse during their preliminary focus groups, Crenshaw, et al.’s full quantitative study revealed no relationship between beliefs of administrative support and teachers’ reporting tendency for each type of abuse. Findings from the current study were similar in that, other than the Alumni Sample for cases of physical abuse, as discussed above, respondents were unlikely to indicate that they did not report abuse because administrators or co-workers “did not want them to.” No respondents indicated that they did not report suspicions of sexual abuse for this reason and only 13.6% citing this reason for not reporting emotional/mental abuse or neglect.

Prior research indicated that one of the key reasons why mandated reporters choose not to report cases of abuse to CPS is their belief that reporting would make things worse for the child (Beck et al., 1994; Hinson & Fossey, 2000; Kenny, 2001; Webster, 2005; Zellman, 1990b). In the current study, I also found that, in cases of physical abuse, this fear was one of the more commonly stated reasons for not reporting.

Just over one-quarter of respondents (28.3%) indicating this was why they did not report their suspicions. However, in cases of the other types of abuse less than 10% of respondents cited this reason.

Some respondents gave reasons other than those specifically offered in the survey instrument for their decision not to report their suspicions of child abuse. The most common “other” reasons given was that they shared their concerns with another school staff member (i.e., a counselor or principal) who then handled the situation. In a few cases, the respondent indicated that the staff person reported the case to the proper authorities, whereas in other cases the respondent did not indicate whether or not a report was made about the case. For example, one teacher stated that she “reviewed my concerns and requirements with counseling director and turned things over to him at his request.” At times, the response of school staff was to provide counseling for the student, potentially without reporting their suspicions to CPS. Several respondents indicated that they did not make a report to CPS, but instead spoke with the student’s parents, as was the policy of their school. One teacher who had not reported her suspicions of neglect to CPS explained that “we have an in-school process that all issues go through and bring in the parents first.” Another teacher described her school’s procedure to explain why she did not report her suspicions of child sexual abuse to CPS, “our CSAP team works on it with [the] family and child's outside counselor. If parents aren't cooperative, it goes to the legal system through the school counselor and/or nurse.”

Table 19

Reasons Not Report Suspected Physical Abuse and Sexual Abuse Every Time [Percent (Number)]

	Alumni Sample	Student Sample	Total Sample	χ^2
Physical abuse				
The student did not want me to	0.0 (0)	15.2 (5)	10.9 (5)	2.210
It had already been reported	53.8 (7)	21.2 (7)	30.4 (14)	4.691*
Did not have enough evidence	46.2 (6)	57.6 (19)	54.3 (25)	.490
It was not part of my job	0.0 (0)	0.0 (0)	0.0 (0)	NA
Did not know how to make a report	23.1 (3)	30.3 (10)	28.3 (13)	.240
Did not want to get caught up in legal proceedings	7.7 (1)	9.1 (3)	8.7 (4)	.023
Making a report would make things worse for the student	38.5 (5)	24.2 (8)	28.3 (13)	.930
The other school staff members did not want me to*	23.1 (3)	3.0 (1)	8.7 (4)	4.721
Other reason	30.8 (4)	18.2 (6)	21.7 (10)	.869
Missing data (no response)	15.4 (2)	12.1 (4)	13.0 (6)	
Sample Size (those who did not always report when suspected student had been abused)	13	33	46	
Sexual abuse				
The student did not want me to	0.0 (0)	0.0 (0)	0.0 (0)	NA
It had already been reported	33.3 (4)	27.3 (3)	30.4 (7)	.100

	Alumni Sample	Student Sample	Total Sample	χ^2
Did not have enough evidence	50.0 (6)	63.6 (7)	56.4 (13)	.434
It was not part of my job	0.0 (0)	0.0 (0)	0.0 (0)	NA
Did not know how to make a report	0.0 (0)	27.3(3)	13.0 (3)	3.764
Did not want to get caught up in legal proceedings	0.0 (0)	18.2 (2)	8.7 (2)	2.390
Making a report would make things worse for the student	0.0 (0)	9.1 (1)	4.3 (1)	1.140
The other school staff members did not want me to	0.0 (0)	0.0 (0)	0.0 (0)	NA
Other reason	33.3 (4)	18.2 (2)	26.1 (6)	.683
Missing data (no response)	16.7 (2)	18.2 (2)	17.4 (4)	
Sample Size (those who did not always report when suspected student had been abused)	12	11	23	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*statistically significant difference between Alumni Sample and Student Sample, $p < .05$
 NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample or because the cell count was not large enough to calculate a chi-square statistic.

Note: Respondents could report multiple reasons for not reporting suspicions of abuse. Thus, percentages do not sum to 100.

Table 20

Reasons Not Report Suspected Emotional Abuse and Neglect Every Time for Alumni Sample [Percent (Number)]

	Alumni Sample
Emotional abuse	
The student did not want me to	0.0 (0)
It had already been reported	18.2 (4)
Did not have enough evidence	63.6(14)
It was not part of my job	0.0 (0)
Did not know how to make a report	13.6 (3)
Did not want to get caught up in legal proceedings	4.5 (1)
Making a report would make things worse for the student	9.1 (2)
The other school staff members did not want me to	13.6 (3)
Other reason	13.6 (3)
Missing data (no response)	13.6 (3)
Sample Size (those who did not always report when suspected student had been abused)	22
Neglect	
The student did not want me to	4.3 (1)
It had already been reported	26.1 (6)
Did not have enough evidence	56.5 (13)
It was not part of my job	0.0 (0)
Did not know how to make a report	13.0 (3)

	Alumni Sample
Did not want to get caught up in legal proceedings	0.0 (0)
Making a report would make things worse for the student	8.7 (2)
The other school staff members did not want me to	13.0 (3)
Other reason	26.1 (6)
Missing data (no response)	13.0 (3)
Sample Size (those who did not always report when suspected student had been abused)	23

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Note: Respondents could report multiple reasons for not reporting suspicions of abuse. Thus, percentages do not sum to 100.

Summary and Discussion of Findings

Overwhelmingly, the most common reason given by teachers for having not reported suspicions of abuse to child protective services was that they did not have enough evidence of abuse to report, cited by over half of respondents (physical abuse: 54.3%, sexual abuse: 56.4%, emotional/mental abuse: 63.6%, neglect: 56.5%). This suggests that the teachers who failed to report their suspicions of abuse are not comfortable reporting unless they are relatively certain of abuse and/or believe that reporting abuse required "proof." In fact, more than a fifth of all respondents (22.3%) incorrectly agreed with the statement "I must have proof of abuse before I make a report to child protective services."

The next most common reason respondents gave for having not reported their suspicions of abuse to CPS was that it had already been reported (physical abuse: 30.4%, sexual abuse: 30.4%, emotional/mental abuse: 18.2%, neglect: 26.1%). This raises a dilemma rarely addressed by mandated reporting laws, yet often encountered by educators who suspect abuse. Educators are in a unique position in that, unlike physicians, social workers or other professionals who are mandated to report child abuse, many educators work closely together and regularly interact with the same youth. In cases where an educator suspects a student has been abused but knows that one of his/her colleagues has already filed a report of abuse with CPS, are they legally obligated to file a report of their own? Whereas mandated reporting law may seem to indicate that the educator would be required to also report their suspicions, educators may not be aware of this or may see it as impractical or pointless.

It is worth noting that none of the respondents selected “it wasn’t part of my job” as one a reason for why they failed to report suspicions of abuse, indicating that teachers in this study were aware of their professional obligation to report child abuse.

Research Question #3

Research Question #3: What are teachers' levels of knowledge and self-efficacy in regards to reporting of child abuse? What are their attitudes and social norms regarding the reporting of child abuse?

In this study, respondents were asked a variety of questions about their knowledge of mandated reporting laws, procedures for reporting abuse and indicators of abuse. The survey also assessed respondents' attitudes regarding reporting of suspicions to child protective services (CPS) and their beliefs about their self-efficacy regarding making a report of abuse and identifying signs of abuse. In addition, respondents were asked about their social norms regarding reporting of suspicions of abuse.

Knowledge

The majority of respondents in this study answered the three true/false questions about the mandated reporting law correctly, indicating that they are relatively knowledgeable about the various aspects of the law. Table 21 displays the responses for each of the three items. There were no differences between the portions of the Alumni Sample and the Student Sample who responded correctly or incorrectly.

Although the respondents were relatively knowledgeable about mandated reporting law, their knowledge of procedures to make a report was not as high. Alumni respondents were more likely than student respondents to know how to make a report of suspected child abuse to CPS ($p = .027$) (see Table 22).

Respondents' level of knowledge of the indicators of abuse was assessed through their responses to the hypothetical vignettes. Each vignette described scenarios including

a multiple number of the common signs of a specific type of abuse. For each vignette, respondents were asked how certain they were that the student in the scenario was a victim of abuse. Higher ratings of certainty suggested higher levels of knowledge of the indicators of abuse. Means and standard deviations are displayed in Table 23. Alumni Sample respondents exhibited higher levels of knowledge of the indicators of physical and sexual abuse than did student respondents ($p = .000$, $p = .010$, respectively).

Table 21

Knowledge of Mandated Reporting Law [Percent (Number)]

	Alumni Sample	Student Sample	Total Sample	χ^2
I must have proof of abuse before I make a report to child protective services				.318
Correct (false)	65.1 (41)	74.8 (77)	71.1 (118)	
Incorrect (true)	17.5 (11)	25.2 (26)	22.3 (37)	
Missing data (no response)	17.5 (11)	0.0 (0)	6.6 (11)	
If an educator suspects that a student is being abused, she/he is legally obligated to report it to child protective services				1.161
Correct (true)	77.8 (49)	95.1 (98)	88.6 (147)	
Incorrect (false)	4.8 (3)	3.9 (4)	4.2 (7)	
Missing data (no response)	17.5 (11)	1.0 (1)	7.2 (12)	
If I report that I suspect a child is being abused in good faith and I am wrong, then I cannot be held liable under the law.				.271
Correct (true)	63.5 (40)	68.0 (70)	66.3 (110)	
Incorrect (false)	19.0 (12)	31.1 (32)	26.5 (44)	
Missing data (no response)	17.5 (11)	1.0 (1)	7.2 (12)	
Sample Size	63	103	166	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Table 22

Knowledge of Reporting Procedures

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
I know how to make a report of child abuse or neglect. ^a	50 (13)	3.82	1.19	101 (2)	3.32	1.35	151 (12)	3.48	1.32	2.241*

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a 1=strongly disagree, 2=somewhat disagree, 3=not sure, 4=somewhat agree, 5=strongly agree

*statistically significant difference between Alumni Sample and Student Sample, $p < .05$

Table 23

Knowledge of Indicators of Abuse (assessed through hypothetical scenarios)

Level of certainty that student is being abused ^a	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
Physical abuse	54 (9)	4.41	.687	102 (1)	3.97	.621	156 (10)	4.12	.675	4.028*
Sexual abuse	52 (11)	4.00	.840	100 (3)	3.65	.757	152 (114)	3.77	.801	2.603**
Emotional/mental abuse	55 (8)	3.69	.940	NA	NA	NA	NA	NA	NA	NA
Neglect	57 (6)	4.09	.662	NA	NA	NA	NA	NA	NA	NA

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^aScale from 1 to 5, with 1=certain student is not being abused and 5=certain student is being abused

*statistically significant difference between Alumni Sample and Student Sample, $p < .05$

**statistically significant difference between Alumni Sample and Student Sample, $p < .001$

NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Self-Efficacy

As illustrated by Table 24, respondents did not have high levels of confidence in their abilities to identify the signs of abuse – the mean scores for all types of abuse were below 3.00, indicating that on average, respondents were less than “somewhat confident” in their abilities.

Although student respondents exhibited a lower level of knowledge of indicators of abuse, than did alumni respondents, there were no differences between samples in their levels of confidence (see Table 24). Student and alumni respondents also did not differ significantly in their assessment of their ability to make a report of child abuse to CPS. With an overall mean of 4.03, respondents indicated “somewhat agreed” that they would be able to make a report if they wanted to (see Table 24).

Table 24

Self-Efficacy Beliefs

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
How confident are you in your ability to identify the signs of abuse or neglect? ^a										
Physical abuse	50 (13)	2.72	.607	103 (0)	2.60	.705	153 (13)	2.64	.675	1.015
Sexual abuse	50 (13)	2.40	.670	103 (0)	2.44	.750	153 (13)	2.42	.723	-.295
Emotional/mental abuse	49 (14)	2.78	.550	NA	NA	NA	NA	NA	NA	NA
Neglect	49 (14)	2.45	.614	NA	NA	NA	NA	NA	NA	NA
If I wanted to make a report of child abuse or neglect, I would be able to. ^b	49 (14)	4.20	.912	100 (3)	3.95	.968	149 (17)	4.03	.954	1.534

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a 1=not at all confident, 2=not very confident, 3=somewhat confident, 4=very confident

^b 1=strongly disagree, 2=somewhat disagree, 3=not sure, 4=somewhat agree, 5=strongly agree

NA indicates that a statistic is “not applicable,” because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Attitudes and Beliefs towards Child Protective Services and the Outcomes of Reporting Abuse

On average, respondents believed that slightly more than half (54.51%) of all reports made to CPS benefit the child and approximately one-third (32.73%) of reports actually harm the child (see Table 25). Mean responses to items that asked whether respondents agreed that reporting suspected cases of abuse to CPS usually do more harm than good ranged from 2.18 to 2.54. This suggests that, on average, respondents did not agree with these statements. Alumni respondents and student respondents did not differ significantly in their beliefs about the outcomes of reporting abuse, although there were differences in their assessment of CPS' effectiveness. Alumni respondents rated the CPS system as less effective in dealing with cases of child abuse than did student respondents ($p = .000$), although on average, respondents from both samples rated the CPS as less than effective (see Table 25).

Table 25

Beliefs about CPS and Outcomes of Reporting

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
Percentage of the reports made to CPS that:										
Benefit the child	52 (11)	54.42	21.8	101 (2)	54.55	21.61	153 (10)	54.51	21.61	-.036
Harm the child	52 (11)	32.12	19.1	102 (1)	33.04	20.72	154 (9)	32.73	20.14	-.268
How effective think the CPS system is in dealing with cases of child abuse and neglect? ^b Reporting a	52 (11)	2.04	.862	103 (0)	2.92	.825	155 (8)	2.63	.934	-6.204*

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
case of suspected abuse to CPS usually does more harm than good ^c										
Physical abuse	51 (12)	2.41	.920	103 (0)	2.40	.984	154 (9)	2.40	.960	.083
Sexual abuse	51 (12)	2.39	1.00	103 (0)	2.30	.958	154 (9)	2.33	.971	.547
Emotional abuse	50 (13)	2.54	.994	NA	NA	NA	NA	NA	NA	NA
Neglect	49 (14)	2.18	.882	NA	NA	NA	NA	NA	NA	NA

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^anumber of cases of missing data, due to non-response

^b1=not at all effective, 2=not very effective, 3=not sure, 4=somewhat effective, 5=very effective

^c1=strongly disagree, 2=somewhat disagree, 3=not sure, 4=somewhat agree, 5=strongly agree

*statistically significant difference between Alumni Sample and Student Sample, $p < .001$

NA indicates that a statistic is "not applicable," because questions about emotional/mental abuse and neglect were not asked of the Student Sample.

Social Norms Regarding Reporting Suspicions of Child Abuse

To assess their social norms regarding reporting suspicions of child abuse to CPS, respondents were asked how strongly they agreed or disagreed with statements about the beliefs of their school administrators and fellow teachers. On average, respondents did not disagree that their co-workers were in favor of reporting of suspected child abuse to CPS (see Table 26).

Alumni respondents were more likely than student respondents to agree that if they reported their suspicions, their co-workers would support their actions ($p = .000$), and that their building administrators think they should report their suspicions of child abuse to CPS ($p = .035$). However, compared to alumni respondents, student respondents were less likely to want to do what their fellow teachers think they should do ($p = .013$). The samples were not significantly different in indicators of their motivation to comply with what their administrators think they should do. They did not differ significantly in their beliefs regarding whether most teachers would report their suspicions of child abuse or think that the respondent should report their suspicions (see Table 26).

Table 26

Beliefs about Other Teachers and Administrators

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
If I reported my suspicions that a student was being abused or neglected, my co-workers would support my actions. ^b	50 (13)	4.42	.810	102 (1)	3.86	.934	152 (11)	4.05	.930	3.605**
Most teachers would report their suspicions of child abuse and neglect to CPS. ^b	50 (13)	3.32	1.04	103 (0)	3.17	1.11	153 (10)	3.22	1.084	.777
I want to do what my fellow	50 (13)	2.62	1.24	103 (0)	3.15	1.21	153 (10)	2.97	1.240	-2.500*

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
teachers think I should do. ^b										
I want to do what my building administrator(s) think I should do. ^b	50 (13)	3.40	1.16	103 (0)	3.19	1.25	153 (10)	3.26	1.218	.980
Most of my fellow teachers think that I should report my suspicions of child abuse or neglect to CPS. ^b	49 (14)	3.76	1.03	103 (0)	3.72	.857	152 (11)	3.73	.913	.231
My building administrator(s) think that I	50 (13)	4.00	.881	103 (0)	3.65	.987	153 (10)	3.76	.965	2.126*

	Alumni Sample			Student Sample			Total Sample			<i>t</i>
	N(missing) ^a	M	SD	N(missing) ^a	M	SD	N(missing) ^a	M	SD	
should report my suspicions of child abuse or neglect to CPS. ^b										

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^anumber of cases of missing data, due to non-response

^b1=strongly disagree, 2=somewhat disagree, 3=not sure, 4=somewhat agree, 5=strongly agree

*statistically significant difference between Alumni Sample and Student Sample, $p < .05$

**statistically significant difference between Alumni Sample and Student Sample, $p < .001$

Summary and Discussion of Findings

Knowledge

Mandated Reporting Law. Findings indicated that most teachers were knowledgeable about aspects of mandated reporting law assessed by this study: being obligated to report suspicions of abuse to CPS (88.6%), not requiring proof to report (71.1%), not being held liable if making a report in good faith (66.3%). However, at least one-third of teachers (33.7%) were not familiar with each of these components of the mandated reporting law. This is consistent with prior research on teachers in Australia (Hawkins and McCallum, 2001) and Canada (Beck et al., 1994) that found that although most teachers were familiar with the mandated reporting law, a significant minority were not familiar with all of its key components.

Reporting Procedures. Teachers indicated that they did not have a strong grasp of how to make a report of child abuse, with student respondents having less knowledge than alumni respondents (responses on a five-point scale $M=3.32$, 3.82 , respectively). This is to be expected given that alumni respondents have most likely been working as educators for a longer period of time than those in the Student Sample, and would have had more opportunity to become familiar with the procedures of making a report. The teachers in this study, like the mandated reporters studied by Reiniger et al. (1995) and Kenny (2001), were less knowledgeable about reporting procedures than they were about indicators of child abuse.

Indicators of Abuse. The teachers in this study had relatively high levels of knowledge of indicators of abuse, as assessed through their responses regarding how

certain they were that the student described in the hypothetical vignette was a victim of abuse. (responses to scenarios of physical abuse, sexual abuse, emotional/mental abuse, and neglect on a five-point scale: $M = 4.41, 4.00, 3.69, 4.09$, respectively). Alumni respondents demonstrated greater knowledge of indicators of abuse than student respondents. However, it is important to note that, by design, these vignettes included multiple observable indicators of abuse and thus may not provide the best assessment of respondents' knowledge of each indicator on its own or of more obscure indicators. However, it may be a more accurate measure of respondents' knowledge of indicators than their own perception of their knowledge.

Self-Efficacy

Ability to Identify Indicators of Abuse. Although most teachers were able to recognize indicators of abuse in the hypothetical vignettes, they had low relatively low levels of self-efficacy related to their ability to identify the signs of child abuse. On average, respondents rated themselves as less than "somewhat confident" in their abilities (responses to signs of physical abuse, sexual abuse, emotional/mental abuse, and neglect on a four-point scale: $M = 2.72, 2.40, 2.78, 2.45$, respectively). This is consistent with previous findings regarding educators' relatively low confidence in their abilities to identify signs of abuse (Hawkins & McCallum, 2001; Hinson & Fossey, 2000; Kenny, 2004; McIntyre, 1987).

Ability to Make a Report. Respondents had higher levels of self-efficacy regarding their ability to make a report of child abuse to child protective services if they chose to (responses on a five-point scale $M = 4.03$).

Attitudes and Beliefs about CPS and the Outcomes of Reporting Abuse.

The beliefs of respondents regarding CPS and the outcomes of reporting abuse to CPS were relatively similar to those of other mandated reporters described in prior research (i.e., Beck et al., 1994; Delacondre, 1996; Deisz et al., 1996; Hinson & Fossey 2000; Kenny, 2001; McCallum, 2001; Webster, 2005; Zellman, 1990b), in that a number of reporters hold relatively negative views of CPS and doubt the benefits of reporting abuse. Although on average respondents were not likely to believe that making a report of child abuse would be harmful, they also did not heartily endorse the benefits of reporting (mean percentage of reports that actually benefit the child: $M = 54.5$) nor the effectiveness of child protective services in dealing with child abuse or neglect (responses on a five-point scale: $M = 2.63$). Perhaps because of their greater opportunity for involvement with CPS, alumni respondents rated CPS as less effective than student respondents ($M = 2.04, 2.92$, respectively).

Social Norms Regarding Reporting Suspicions of Abuse

Overall, teachers indicated that they “somewhat agreed” that their co-workers would support them if they reported their suspicions of abuse, although alumni respondents more strongly agreed than student respondents (responses on a five-point scale: $M = 4.42, 3.86$, respectively). Respondents were less likely to believe that their fellow co-workers would actually make reports themselves ($M = 3.22$) or that their fellow teachers or building administrators think they should report their suspicions (teachers: $M = 3.73$, administrators: $M = 3.76$). Similar to their views about whether they would be supported if they reported their suspicions, alumni respondents agreed more strongly than

student respondents that their building administrator thinks they should report their suspicions ($M = 4.00, 3.65$, respectively). These findings are somewhat in contrast to prior research indicating that teachers often doubted that their school administrators would support them in reporting their suspicions of child abuse (Duncan, 2001; Hinson & Fossey, 2000; Kenny, 2001b, 2004).

Respondents' motivation to comply with the social norms of their fellow teachers were relatively low, although student respondents indicated a stronger desire to comply than alumni respondents (responses on a five-point scale: $M = 3.15, 2.62$, respectively). Not surprisingly, respondents had a stronger motivation to comply with what their building administrators thought they should do ($M = 3.26$).

Research Question #4

Research Question #4: What is the type and level of information teachers receive about child abuse and mandated reporting?

The survey assessed the extent of information respondents have received about mandated reporting and child abuse. Respondents were also asked about how well they felt this information had prepared for their role as a mandated reporter.

Information Received on Child Abuse or Mandated Reporting

Survey respondents were asked whether they had received any information about mandated reporting or child abuse, including whether the information was provided during their pre-service training and/or in-service training. As displayed in Table 27, over two-thirds of all respondents (69.6%) had received information on child abuse or mandated reporting. The majority (57.8%) had received this information during their pre-service training, although respondents in the Alumni Sample were more likely than those in the Student Sample to have received information during their in-service training, ($p = .000$). This difference is to be expected, given that alumni of the Teacher Education Program at the University of Pennsylvania's Graduate School of Education (GSE) have worked as professional teachers longer than current GSE students and thus, have had more opportunities to receive information during their in-service training.

Table 27

Prior Exposure to Information on Child Abuse and Mandated Reporting [Percent (Number)]

Received Information	Alumni Sample	Student Sample	Total Sample	χ^2
Received any information				1.126
Have received information	65.1 (41)	72.8 (75)	69.9 (116)	
Have not received information	3.0 (5)	22.3 (23)	16.9 (28)	
Not sure/don't remember	2.4 (4)	2.9 (3)	4.2 (7)	
Missing data (no response)	20.6 (13)	1.9 (2)	9.0 (15)	
Sample Size	63	103	166	
Received information during pre- service or in-service (can select all that apply)				
Received information during pre-service	44.4 (28)	67.3 (68)	57.8 (96)	1.853
Received information during in- service	31.7 (20)	11.7 (12)	19.3 (32)	15.833*
Sample Size (those who had received information)	41	75	116	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*statistically significant difference between Alumni Sample and Student Sample, $p < .001$

Respondents who had received information about child abuse or mandated reporting were asked a series of questions about the type and amount of information they received. Respondents were asked if they received this information through any of the following sources: provided by college/university they attended; provided by school/school district they had worked for; sought out on their own; not sure/don't remember; or "other." Responses are detailed in Table 28. The most common ways they received information was through their college/university or their school/school district. However, there were differences between the Alumni Sample and Student Sample. The alumni respondents were more likely than student respondents to have received information from a school/school district ($p = .000$); and the student respondents were more likely than alumni respondents to have received information from a college/university ($p = .001$). These differences are not surprising given that alumni respondents have spent a longer time working in schools, and current students probably have better recall for any information provided by a college/university. In addition, two of the classes surveyed as part of the Student Sample had received a guest lecture about mandated reporting of child abuse this year as part of their curriculum. Student respondents were also more likely to say that they had received information through some other method ($p = .014$), such as a former employer (e.g., summer camp, childcare facility).

Respondents who had received information about child abuse or mandated reporting were also asked about the method of delivery of this information. As displayed in Table 28, by far, the majority of respondents had received this information both in-

person (80.2%) and in-writing (73.3%). Very few respondents obtained this information from the Internet (1.7% participated in an online course, 1.7% received information via the Internet in another manner). There were no statistically significant differences between samples in the ways they received information on these topics.

Respondents were also asked about how recently they had received any education or training on child abuse or mandated reporting. Student respondents reporting have received education or training much more recently than the alumni respondents ($p = .000$), with over 90% (92.0%) of students having received education or training this past school year, compared to less than one-fifth of alumni (14.6%). Again, this is to be expected given that current students are currently in the process of their pre-service education, so any pre-service training they receive would be more recent than the pre-service training received by alumni respondents. And, as previously mentioned, two of the classes surveyed as part of the Student Sample had received a guest lecture about mandated reporting of child abuse this year.

Those respondents who had received information about child abuse and mandated reporting were also asked how many total hours of education or training they had received in this topic during the course of their pre-service training and teaching career. As illustrated in Table 28, the most common response was “between two and four hours.” Surprisingly, even though alumni respondents have had a longer tenure in their career and thus more opportunities to have received education or training, student respondents reported receiving a greater number of hours of education and training ($p = .014$). Perhaps the student respondents were more likely to remember the education/training

they received, as it was recent, whereas the specific amount of training had faded from the memories of alumni respondents. It is also quite possible that the Teacher Education Program at the University of Pennsylvania's Graduate School of Education is spending more time on issues of child abuse and mandated reporting now than it had in the past.

The total dosage level of prior exposure to information about child abuse or mandated reporting did not vary between alumni and student responses (see Chapter 4 for description of how the dosage variable was calculated). The range of values for the dosage variable was 0 to 77.43, means and standard deviations are displayed in Table 29.

Table 28

Details of Prior Exposure to Information on Child Abuse and Mandated Reporting

[Percent (Number)]

	Alumni Sample	Student Sample	Total Sample	χ^2
Where received information				
from (can select all that apply)				
School/School District	53.7 (22)	16.0 (12)	29.3 (34)	18.144**
College/University	48.8 (20)	78.7 (59)	68.1 (79)	10.900*
Sought out on own	4.9 (2)	8.0 (6)	6.9 (8)	.402
Not sure/don't remember	0.0 (0)	2.7 (2)	1.7 (2)	1.113
Other	0.0 (0)	13.3 (10)	8.6 (10)	5.982*
Missing data (no response)	29.3 (12)	0.0 (0)	10.3 (12)	
Method of delivery of information (can select all that apply)				
In-person training/presentation	70.7 (29)	85.3 (64)	80.2 (93)	3.555
In-writing	73.2 (30)	73.3 (55)	73.3 (85)	.000
Online course	4.9 (2)	1.3 (1)	1.7 (2)	1.322
Via Internet (not online course)	0.0 (0)	2.7 (2)	1.7 (2)	1.113
Not sure/don't remember	2.6 (3)	4.0 (3)	5.2 (6)	.595
Other	2.6 (3)	8.0 (6)	7.8 (9)	.017
Missing data (no response)	4.9 (2)	1.3 (1)	2.6 (3)	
When most recently received information				66.604

	Alumni Sample	Student Sample	Total Sample	χ^2
This school year (08-09)	14.6 (6)	92.0 (69)	64.7 (75)	
Last school year (07-08)	7.3 (3)	8.0 (6)	7.8 (9)	
2-5 years ago	29.3 (12)	0.0 (0)	10.3 (12)	
6-10 years ago	17.1 (7)	0.0 (0)	6.0 (7)	
Over 10 years ago	2.4 (1)	0.0 (0)	0.9 (1)	
Missing data (no response)	29.3 (12)	0.0 (0)	10.3 (12)	
Total number hours				8.498*
One hour or less	19.5 (8)	13.3 (10)	15.5 (18)	
2-4 hours	36.6 (15)	81.3 (61)	65.5 (76)	
More than 4 hours	12.2 (5)	5.3 (4)	7.8 (9)	
Missing data (no response)	31.7 (13)	0.0 (0)	11.2 (13)	
Sample Size (those having received information on child abuse/mandated reporting)	41	75	116	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*statistically significant difference between Alumni Sample and Student Sample, $p < .05$

**statistically significant difference between Alumni Sample and Student Sample, $p < .001$

Table 29

Descriptive Statistics for Dosage of Exposure to Information on Mandated Reporting or Child Abuse

Alumni Sample			Student Sample			Total Sample			<i>t</i>
N (missing) ^a	Mean	Standard Deviation	N (missing) ^a	Mean	Standard Deviation	N (missing) ^a	Mean	Standard Deviation	
37 (26)	42.42	24.92	99 (4)	37.13	22.88	138 (28)	38.55	23.47	1.174

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^anumber of cases of missing data, due to non-response

Preparation for Mandated Reporter Role

Almost one-third of the teachers trained by GSE's Teacher Education Program reported not having received any information about their role as mandated reporters of child abuse. Although this may be concerning in and of itself, having received information does not guarantee that educators are prepared for their role as mandated reporters. In fact, when asked how well they felt the information, education, or training they received (or did not receive) had prepared them for their role as a mandated reporter of child abuse, respondents indicated that they had not been well prepared. On a scale from 1 (not at all prepared) to 5 (completely prepared), respondents averaged a 2.76 (see Table 30). There were no differences between the Alumni Sample and the Student Sample in feelings of preparedness.

One would predict that those who had received some level of information, education or training about mandated reporting or child abuse would be better prepared than those who had not received any information on these topics. And, in fact, those who had received information believed themselves to be more prepared than those who had not received information ($p = .000$) (see Table 31). However, similar to Crenshaw et al.'s (1995) findings about Kansas teachers, even respondents who had received information did not feel all that well prepared (see Table 32). A higher level of exposure was related to feeling more prepared ($p = .000$) – even among those who had received information, the dosage of exposure mattered ($p = .000$).

Table 30

How Well Prepared for Role as Mandated Reporter of Child Abuse

	Alumni Sample		Student Sample		Total Sample		<i>t</i>
	Mean	SD	Mean	SD	Mean	SD	
How well prepared feel for role as mandated reporter of child abuse. ^a	2.93	0.78	2.68	1.08	2.76	1.00	1.435
Sample Size (Missing Data/No Responses)	45 (18)		99 (4)		144 (22)		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^aResponses were on a scale from 1 to 5, with 1 = not at all prepared and 5 = completely prepared

Table 31

Feelings of Preparation by Prior Information Received on Mandated Reporting/Child Abuse

Received Information on Mandated Reporting/Child Abuse	N	Mean	Standard Deviation	<i>t</i>
Yes	115	3.02	.882	-7.281***
No/Don't Know	29	1.72	.848	

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*** $p = .000$

Table 32

Pearson Correlations for Feelings of Preparation and Dosage of Exposure to Information on Mandated Reporting/ Child Abuse

Group	N	R
Both those who received information and those who had not	131	.643***
Only those who had received information	102	.537***

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

*** $p = .000$

Summary and Discussion of Findings

Most of the teachers (69.9%) in this study had received some sort of information about mandated reporting or child abuse. However, 16.9% reported not having received any information at all. Respondents were more likely to have received this information during their pre-service training (57.8%) than during their in-service training. Not

surprisingly, a greater portion of alumni respondents, who have had more in-service opportunities than student respondents, did receive information on these topics during their in-service training (31.7% vs. 11.7%).

In comparison with the teachers from other studies, the alumni of GSE Teacher Education Programs may be somewhat less likely to have received information on these topics during their in-service training, but may be more likely to have received it during their pre-service training. Findings from the National Teacher Survey conducted by the National Committee for Prevention of Child Abuse (Abrahams et al., 1992) indicated that half of teachers' schools provided in-service workshops (49.0%) and written material (51.0%) on child abuse. However, only a third of Miami-Dade teachers (Kenny, 2004) and Illinois teachers (McIntyre, 1987) reported having received pre-service training about child abuse, compared with 44.4% of the alumni respondents in this study.

Most respondents who had received information did so through in-person trainings or presentations (80.2%) and/or in writing (73.3%) (these findings are similar to those of Abrahams et al., 1992, as cited above). Although online courses are an emerging method of training mandated reporters (i.e., Kenny, 2007), very few respondents had received their information through an online course (1.7%) or another method on the Internet (1.7%). Overall, respondents reported having received a limited amount of training on mandated reporting or child abuse – most respondents reported having had four or less hours of training (81.0%). Over three-quarters of alumni respondents (78.1%) had not received any information on the topic in the last two years, whereas all the student respondents had received information in the last two years.

Given the limited exposure that survey respondents had to information about mandated reporting or child abuse, it is not surprising that they did not feel well prepared by the level of information they had, or had not, received (responses on a five-point scale: $M=2.76$). A greater exposure to information was related to higher feelings of preparation, yet even those who had received some type of information did not feel well prepared ($M=3.02$). Similarly, the National Teacher Survey revealed that two-thirds of teachers believed the training their school provided them on child abuse was insufficient (Abrahams et al., 1992) and other research has found that teachers believe themselves to be rather poorly prepared for their role as mandated reporters (Crenshaw et al., 1995; Hawkins & McCallum, 2001; Kenny, 2001, 2004).

Research Question #5

Research Question #5: Do teachers differ in their exposure to information about child abuse or mandated reporting, feelings of preparedness, behaviors, knowledge, self-efficacy, attitudes, and social norms based on individual or school-level characteristics?

Findings from the regression analyses indicate that most of the outcome variables were not heavily influenced by individual and school-level characteristics. The assessed school-level characteristics appear to play a greater role in the outcomes than the individual characteristics of gender and race/ethnicity. The school-level variable of reporting procedure was the most common predictor of the outcome variables; given that this variable is the one variable that is specifically about the reporting of child abuse, this is to be expected.

Past Suspicions of Abuse

Tables 33 and 34 display the results of binary logistic regression analyses for each type of abuse. As indicated by the overall omnibus test of model coefficients, respondents' individual and school-level characteristics did not significantly predict whether or not respondents had previously suspected that a student had been a victim of neglect ($\chi^2 = 15.31$ $df = 8$, $p = .05$).

The overall models were significant for suspicions of physical abuse ($\chi^2 = 20.20$ $df = 9$, $p = .017$), sexual abuse ($\chi^2 = 29.93$ $df = 9$, $p = .001$), and emotional/mental abuse ($\chi^2 = 22.40$ $df = 8$, $p = .004$). The set of individual characteristics were not significant predictors of whether respondents had suspected physical abuse ($\chi^2 = 0.36$ $df = 2$, $p = .837$.) or emotional/mental abuse ($\chi^2 = 3.37$ $df = 2$, $p = .186$), although they were

significant for suspicions of sexual abuse ($\chi^2 = 9.99$ $df = 2$, $p = .007$). Specifically, the odds of having suspected a student had been sexually abused were lower for male respondents than for non-male respondents ($B = -1.69$, $p = .012$). In contrast to the set of individual variables, the set of school-level variables were significant for suspecting physical abuse ($\chi^2 = 18.79$ $df = 5$, $p = .002$) and emotional/mental abuse ($\chi^2 = 19.03$ $df = 5$, $p = .002$), although for emotional/mental abuse, none of the individual variables in the set were significant on their own. For suspecting physical abuse, the school-level poverty was significant, in that the odds of having had suspected a student had been physically abused increased as school-level poverty (as measured by percent of students eligible for free or reduced-price lunch) increased ($B = 1.52$, $p = .001$). Although the set of school-level variables was not significant for sexual abuse, the individual school-level poverty variable was significant ($B = 1.92$, $p = .014$). Respondents' knowledge of school procedure for reporting child abuse did not predict respondents' past suspicions of child abuse (physical abuse: $\chi^2 = 0.02$ $df = 1$, $p = .892$; sexual abuse: $\chi^2 = .809$ $df = 1$, $p = .368$; emotional/mental abuse: $\chi^2 = .011$ $df = 1$, $p = .918$; neglect: $\chi^2 = .003$ $df = 1$, $p = .954$).

Table 33

Influence of Individual and School-Level Variables on Past Suspicions of Physical or Sexual Abuse

Step/Variable	Physical Abuse			Sexual Abuse		
	B	SE	Exp(b)/O.R	B	SE	Exp(b)/O.R
Constant	-.104	.161	.901	-1.88	1.18	0.15
Sample	Nagelkerke's $R^2 = 0.01$ Omnibus Test: $\chi^2=1.04, df=1$			Nagelkerke's $R^2 = 0.09$ Omnibus Test: $\chi^2= 9.88^{**}, df=1$		
Alumni Sample	1.17*	0.48	3.24	1.29**	0.50	3.65
Individual Characteristics	Nagelkerke's $R^2 = 0.01$ Omnibus Test: $\chi^2= 0.36, df=2$			Nagelkerke's $R^2 = 0.01$ Omnibus Test: $\chi^2= 0.52, df=2$		
Male	0.12	0.40	1.13	-1.69*	0.67	0.19
White	0.54	0.44	1.72	0.78	0.60	2.19
General School-Level Characteristics	Nagelkerke's $R^2 = 0.16$ Omnibus Test: $\chi^2= 18.79^{**}, df=5$			Nagelkerke's $R^2 = 0.25$ Omnibus Test: $\chi^2= 8.27, df=5$		
Public	0.62	0.71	1.85	-0.67	0.78	0.51
Urban	-0.08	0.67	0.92	-1.18	0.81	0.31
Size: Medium (Small)	-0.06	0.43	0.92	-0.36	0.52	0.70
Size: Large (Small)	0.65	0.43	1.92	-0.32	0.53	0.72
Poverty Level	1.51*	0.60	4.51	1.92*	0.78	6.80

Step/Variable	Physical Abuse			Sexual Abuse		
	B	SE	Exp(b)/O.R	B	SE	Exp(b)/O.R
School Reporting Procedure	Nagelkerke's $R^2 = 0.16$			Nagelkerke's $R^2 = 0.26$		
	Omnibus Test: $\chi^2 = 0.02, df=1$			Omnibus Test: $\chi^2 = 0.81, df=1$		
School Reporting Procedure	-0.05	0.37	0.95	0.41	0.46	1.51
Sample Size	154			152		
Omnibus Test of Model Coefficients	$\chi^2 = 20.20^*, df=9$			$\chi^2 = 28.93^{***}, df=9$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Variables in parenthesis serve as reference category for dummy variables.

Percentage who have suspected physical abuse: 45.8%; Percentage who have suspected sexual abuse: 22.9% (represents percentages for full sample, may differ slightly from the actual percentages for cases included in this analysis because of deletion for missing data)

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

Table 34

Influence of Individual and School-Level Variables on Past Suspicions of Emotional/Mental Abuse and Neglect

Step/Variable	Emotional/Mental Abuse			Neglect		
	B	SE	Exp(b)/O.R	B	SE	Exp(b)/O.R
Constant	-6.64**	2.35	0.00	-1.44	1.61	0.24
Individual Characteristics	Nagelkerke's $R^2 = 0.08$ Omnibus Test: $\chi^2= 3.37, df=2$			Nagelkerke's $R^2 = 0.06$ Omnibus Test: $\chi^2=2.85, df=2$		
Male	0.90	0.86	2.45	-0.48	0.82	0.62
White	3.58*	1.49	35.77	-0.27	1.06	0.77
General School-Level Characteristics	Nagelkerke's $R^2 = 0.43$ Omnibus Test: $\chi^2= 19.03**, df=5$			Nagelkerke's $R^2 = 0.31$ Omnibus Test: $\chi^2=12.46*, df=5$		
Public	1.49	1.13	4.44	1.44	0.99	4.20
Urban	1.33	0.87	3.78	0.45	0.81	1.56
Size: Medium (Small)	1.83	1.01	6.20	1.02	0.87	2.77
Size: Large (Small)	-7.44	0.89	0.48	-1.09	0.80	0.34
Poverty Level	1.41	0.95	4.09	1.04	0.89	2.83
School Reporting Procedure	Nagelkerke's $R^2 = 0.43$ Omnibus Test: $\chi^2=0.01, df=1$			Nagelkerke's $R^2 = 0.31$ Omnibus Test: $\chi^2=0.00, df=1$		
School Reporting Procedure	0.08	0.80	1.09	0.04	0.76	1.04

Step/Variable	Emotional/Mental Abuse			Neglect		
	B	SE	Exp(b)/O.R	B	SE	Exp(b)/O.R
Sample Size	58			58		
Omnibus Test of Model Coefficients	$\chi^2 = 22.30^{**}, df = 8$			$\chi^2 = 15.31, df = 8$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who have suspected emotional/mental abuse: 41.3%; Percentage who have suspected neglect: 47.6% Percentage who have suspected sexual abuse: 22.9%

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

Past Frequency of Reporting Suspected Abuse

Results of ordinary least squares multiple hierarchical regression analyses for frequency of past reporting suspicion of abuse are displayed in Table 35. These results revealed no significant relationships between the sets of individual and school-level variables and frequency of reporting suspicions of physical abuse (individual: $\Delta R^2 = .03$, $p = .354$; general school-level: $\Delta R^2 = .05$, $p = .556$; school reporting procedure: $\Delta R^2 = .03$, $p = .126$), sexual abuse (individual: $\Delta R^2 = .05$, $p = .401$; general school-level: $\Delta R^2 = .21$, $p = .159$; school reporting procedure: $\Delta R^2 = .02$, $p = .391$), emotional/mental abuse (individual: $\Delta R^2 = .15$, $p = .150$; general school-level: $\Delta R^2 = .20$, $p = .384$; school reporting procedure: $\Delta R^2 = .05$, $p = .232$), or neglect (individual: $\Delta R^2 = .02$, $p = .731$; general school-level: $\Delta R^2 = .28$, $p = .162$; school reporting procedure: $\Delta R^2 = .04$, $p = .869$). Although, as a whole, the set of general school-level characteristics did not significantly predict the variance in frequency of reporting suspicions of neglect, two individual variables of the set of general school-level characteristics were significant: public school ($B = 2.17$, $p = .020$) and the “medium” dummy variable for school size ($B = 1.15$, $p = .042$).

Table 35

Influence of Individual and School-Level Variables on Frequency of Reporting Past Suspicions of Abuse

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	2.09	0.87	-	1.71	1.17	-	2.16	1.74	-	-0.44	1.06	-
Sample	$\Delta R^2 = 0.17$ ***			$\Delta R^2 = 0.02$			N/A			N/A		
Alumni Sample	0.79	0.34	0.33*	0.48	0.54	0.167	N/A	N/A	N/A	N/A	N/A	N/A
Individual Characteristics	$\Delta R^2 = 0.03$			$\Delta R^2 = 0.05$			$\Delta R^2 = 0.15$			$\Delta R^2 = 0.02$		
Male	-0.53	0.32	-0.20	1.39	0.89	0.27	-0.72	0.66	-0.28	-0.17	0.69	-0.05
White	-0.08	0.30	-0.03	0.46	0.78	0.11	-1.82	1.18	-0.32	0.33	0.60	0.11
General School-Level Characteristics	$\Delta R^2 = 0.05$			$\Delta R^2 = 0.21$			$\Delta R^2 = 0.20$			$\Delta R^2 = 0.28$		
Public	0.26	0.71	0.07	-1.31	0.84	-0.32	1.26	0.94	0.42	2.18*	0.87	0.64
Urban	-0.74	0.54	-0.24	-1.96	0.94	-0.62	0.40	0.70	0.17	0.78	0.67	0.32
Size: Medium (Small)	0.14	0.35	0.05	-0.02	0.54	-0.01	0.64	0.55	0.29	1.15*	0.53	0.50
Size: Large (Small)	0.23	0.32	0.09	-0.05	0.56	-0.01	0.81	0.63	0.27	0.32	0.69	0.10
Poverty Level	0.00	0.01	0.14	0.03	0.01	0.91	-0.01	0.01	-0.44	-0.01	0.01	-0.28
School Reporting Procedure	$\Delta R^2 = 0.03$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.05$			$\Delta R^2 = 0.00$		
School Reporting Procedure	0.47	0.40	0.19	0.45	0.52	0.15	0.71	0.57	0.30	-0.08	0.50	-0.03
Sample Size	67			38			26			30		

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Final Adj R ²	0.17			0.08			0.13			0.04		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome for physical abuse: 2.60 Standard deviation for physical abuse: 1.211; Mean outcome for sexual abuse: 2.39

Standard deviation for sexual abuse: 1.405; Mean outcome for emotional/mental abuse: 1.88 Standard deviation for

emotional/mental abuse: 1.107; Mean outcome for neglect: 2.27 Standard deviation for neglect: 1.172 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Prior Exposure to Child Abuse or Mandated Reporting Information

Results of the binary logistic hierarchical regression analysis is displayed in Table 36. The omnibus test of model coefficients indicated that the regression model, which included the sample variable as a control, significantly predicted the odds of having been exposed to information about mandated reporting or child abuse ($\chi^2 = 28.67$ $df = 9$, $p = .001$). However, neither the set of individual characteristics ($\chi^2 = .320$ $df = 2$, $p = .852$) nor the set of general school-level characteristics ($\chi^2 = 8.50$ $df = 5$, $p = .131$) were significant, although the individual dummy variable for school size, “large,” was a significant predictor ($B = -1.145$, $p = .037$). School procedure for reporting child abuse was a significant predictor of having been exposed to information about child abuse or mandated reporting ($\chi^2 = 17.85$ $df = 1$, $p = .000$), with those reporting that their school had a procedure being more than six times more likely to have been exposed to information than those who did not report that their school had a procedure ($B = 1.862$, $p = .000$). Given that learning of a school’s procedure for reporting child abuse could be considered exposure to some information about mandated reporting and child abuse, this finding is to be expected.

As displayed in Table 37, results from the regression analyses examining the individual and school-level variables to dosage level of exposure demonstrate that school reporting procedure significantly contributed to the variance in dosage level of exposure to information about child abuse or mandated reporting ($B = 5.83$, $p = .002$). Neither the set of individual variables nor the set of general school-level variables resulted in significant improvement in the model’s ability to predict dosage level (individual: $\Delta R^2 =$

.04, $p = .159$; general school-level: $\Delta R^2 = .04$, $p = .159$). Similarly, neither individual nor general school-level characteristics were significant predictors of respondents' assessment of how well they had been prepared for their role as mandated reporters of child abuse (individual: $\Delta R^2 = .01$, $p = .577$; general school-level: $\Delta R^2 = .01$, $p = .887$). School reporting procedure did significantly contribute to the variance in respondents' level of preparedness ($B = 0.86$, $p = .000$), as respondents who indicated that their school had a procedure for reporting child abuse felt more prepared for their role as mandated reporters.

Table 36

Influence of Individual and School-Level Variables on Exposure to Information about Mandated Reporting or Child Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-0.87	1.27	0.42
Sample	Nagelkerke's $R^2 = 0.02$ Omnibus Test: $\chi^2 = 2.00, df=1$		
Alumni Sample	0.47	0.62	1.60
Individual Characteristics	Nagelkerke's $R^2 = 0.02$ Omnibus Test: $\chi^2 = .320, df=2$		
Male	0.34	0.53	1.41
White	-0.26	0.59	0.77
General School-Level Characteristics	Nagelkerke's $R^2 = 0.11$ Omnibus Test: $\chi^2 = 8.50, df=5$		
Public	1.26	0.96	3.53
Urban	1.60	1.06	4.96
Size: Medium (Small)	-0.01	0.56	0.99
Size: Large (Small)	-1.15*	0.54	0.32
Poverty Level	-1.58	0.99	0.21
School Reporting Procedure	Nagelkerke's $R^2 = 0.27$ Omnibus Test: $\chi^2 = 17.85^{***}, df=1$		
School Reporting Procedure	1.86***	0.47	6.44
Sample Size	141		
Omnibus Test of Model Coefficients	$\chi^2 = 28.72^{***}, df=9$		

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who had received prior information: 69.9% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 37

Influence of Individual and School-Level Variables on Dosage Level of Exposure to Information about Mandated Reporting or Child Abuse and Level of Preparation for Role as Mandated Reporter

Step/Variable	Dosage Level of Exposure			Preparation		
	B	SE	β	B	SE	β
Intercept	54.17*	4.42	-	2.53***	0.47	-
Sample	$\Delta R^2 = 0.12^{***}$			$\Delta R^2 = 0.02$		
Alumni Sample	3.13	1.87	0.19	-0.04	0.22	-0.02
Individual Characteristics	$\Delta R^2 = 0.04$			$\Delta R^2 = 0.02$		
Male	-4.43*	1.74	-0.26	-0.07	0.19	-0.03
White	0.33	1.89	0.02	0.17	0.21	0.07
General School-Level Characteristics	$\Delta R^2 = 0.04$			$\Delta R^2 = 0.01$		
Public	-5.18	3.67	-0.18	-0.40	0.37	-0.12
Urban	-2.53	3.11	-0.11	-0.02	0.34	-0.01
Size: Medium (Small)	1.83	1.76	0.11	-0.03	0.20	-0.01
Size: Large (Small)	-1.95	1.89	-1.09	-0.11	0.20	-0.05
Poverty Level	0.01	0.03	0.03	-0.00	0.00	-0.03
School Reporting Procedure	$\Delta R^2 = 0.09^{**}$			$\Delta R^2 = 0.15^{***}$		
School Reporting Procedure	5.83**	1.81	0.33	0.86***	0.18	0.41
Sample Size	93			135		
Final Adj R ²	0.20			0.13		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R^2 represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome for dosage: 38.55 Standard deviation for dosage: 23.47; Mean outcome for preparation: 2.76 Standard deviation for preparation: 1.00 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Knowledge

Knowledge of Mandated Reporting Law. Results of the regression analysis examining relationships between individual and school-level characteristics and knowledge of mandated reporting law are displayed in Table 38. Omnibus tests of model coefficients were not significant for any of the three outcome variables (obligation: $\chi^2 = 7.83$ $df = 9$, $p = .597$; proof: $\chi^2 = 14.00$ $df = 9$, $p = .122$; liability: $\chi^2 = 9.10$ $df = 9$, $p = .428$), indicating that neither individual or school-level characteristics significantly predicted whether respondents answered the true/false questions about these aspects of the law correctly. However, although the omnibus tests of the full model did not rise to level of statistical significance, the individual step regarding having a school procedure for reporting abuse was significant for not needing to have proof of abuse ($\chi^2 = 9.36$ $df = 1$, $p = .002$) and for not being held liable if report is made in good faith ($\chi^2 = 4.84$ $df = 1$, $p = .028$).

Table 38

Influence of Individual and School-Level Variables on Knowledge of Aspects of Mandated Reporting Law

Step/Variable	Obligated to Report			Need Proof of Abuse			Not Liable if in Good Faith		
	B	SE	Exp(b)/ O.R.	B	SE	Exp(b)/ O.R.	B	SE	Exp(b)/ O.R.
Constant	0.65	2.22	1.92	1.45	1.26	4.25	0.26	1.13	1.30
Sample	Nagelkerke's $R^2 = 0.00$			Nagelkerke's $R^2 = 0.01$			Nagelkerke's $R^2 = 0.01$		
	Omnibus Test: $\chi^2=0.14, df=1$			Omnibus Test: $\chi^2= 0.60, df=1$			Omnibus Test: $\chi^2=1.10, df=1$		
Alumni Sample	0.38	1.27	1.47	-0.21	0.51	0.81	0.05	0.50	1.05
Individual Characteristics	Nagelkerke's $R^2 = 0.01$			Nagelkerke's $R^2 = 0.01$			Nagelkerke's $R^2 = 0.04$		
	Omnibus Test: $\chi^2= 0.37, df=2$			Omnibus Test: $\chi^2= 0.52, df=2$			Omnibus Test: $\chi^2= 2.74, df=2$		
Male	.070	.957	1.072	-0.11	0.48	0.90	-0.45	0.44	0.64
White	.494	.951	1.639	0.41	0.50	1.51	0.68	0.46	1.96
General School-Level Characteristics	Nagelkerke's $R^2 = 0.14$			Nagelkerke's $R^2 = 0.05$			Nagelkerke's $R^2 = 0.04$		
	Omnibus Test: $\chi^2= 5.99, df=5$			Omnibus Test: $\chi^2= 3.52, df=5$			Omnibus Test: $\chi^2= 0.42, df=5$		
Public	2.30	1.50	9.93	-0.86	0.89	0.42	-0.11	0.80	0.89
Urban	1.68	1.65	5.36	-1.45	0.87	0.96	-0.27	0.80	0.77
Size: Medium (Small)	-1.178	1.23	0.31	-0.04	0.49	0.96	0.03	0.47	1.03

Step/Variable	Obligated to Report			Need Proof of Abuse			Not Liable if in Good Faith		
	B	SE	Exp(b)/ O.R.	B	SE	Exp(b)/ O.R.	B	SE	Exp(b)/ O.R.
Size: Large (Small)	-1.95	1.28	0.14	0.31	0.52	2.63	-0.03	0.48	0.97
Poverty Level	-1.10	1.72	0.33	0.97	0.65	2.63	0.08	0.64	1.09
School Reporting Procedure	Nagelkerke's $R^2 = 0.16$ Omnibus Test: $\chi^2 = 0.88, df = 1$			Nagelkerke's $R^2 = 0.14$ Omnibus Test: $\chi^2 = 9.36, **,$ $df = 1$			Nagelkerke's $R^2 = 0.09$ Omnibus Test: $\chi^2 = 4.84*, df = 1$		
School Reporting Procedure	0.81	0.87	2.25	1.32**	0.44	3.75	0.89*	0.41	2.44
Sample Size	145			146			146		
Omnibus Test of Model	$\chi^2 = 7.83, df = 9$			$\chi^2 = 14.00, df = 9$			$\chi^2 = 9.10, df = 9$		
Coefficients									

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation

and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percent correct for obligated to report: 71.1%; Percent correct for need proof of abuse: 88.6%; Percent correct for not liable if in good faith: 66.3% (represents percentages for full sample, may differ slightly from the actual percentages for cases included in this analysis because of deletion for missing data)

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

Knowledge of Indicators of Abuse. Results of regression analyses for knowledge of indicators of abuse, displayed in Table 39, demonstrate that neither individual nor school-level characteristics predicted respondents' knowledge of indicators of physical (individual: $\Delta R^2 = .01, p = .625$; general school-level: $\Delta R^2 = .04, p = .240$; school reporting procedure: $\Delta R^2 = .00, p = .905$), sexual (individual: $\Delta R^2 = .01, p = .602$; general school-level: $\Delta R^2 = .07, p = .070$; school reporting procedure: $\Delta R^2 = .02, p = .096$), or emotional/mental abuse (individual: $\Delta R^2 = .04, p = .350$; general school-level: $\Delta R^2 = .08, p = .488$; school reporting procedure: $\Delta R^2 = .07, p = .060$). However, individual characteristics were significant predictors of knowledge of indicators of neglect ($\Delta R^2 = .13, p = .025$). Specifically, Whiteness was significantly related to knowledge of indicators of neglect ($B = -0.74, p = .006$) so that White respondents had lower levels of knowledge of indicators of neglect than non-White respondents. School reporting procedure was also a significant predictor of knowledge of indicators of neglect ($\Delta R^2 = .08, p = .025$), as respondents who indicated that their school had a procedure had higher levels of knowledge ($B = 0.45, p = .025$). The set of general school-level characteristics were not related to knowledge of indicators of neglect ($\Delta R^2 = .09, p = .394$).

Table 39

Influence of Individual and School-Level Variables on Knowledge of Indicators of Child Abuse

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	4.11***	0.31	-	3.82***	0.37	-	3.39***	0.62	-	4.41***	0.40	-
Sample	$\Delta R^2 = 0.11***$			$\Delta R^2 = .05^*$			N/A			N/A		
Alumni Sample	0.46***	0.14	0.33	0.37*	0.17	0.22	N/A	N/A	N/A	N/A	N/A	N/A
Individual Characteristics	$\Delta R^2 = 0.01$			$\Delta R^2 = 0.01$			$\Delta R^2 = 0.04$			$\Delta R^2 = 0.13^*$		
Male	0.05	0.13	0.03	-0.06	0.16	-0.03	-0.19	0.34	-0.08	0.12	0.22	0.08
White	-0.20	0.14	-0.12	-0.13	0.17	-0.06	-0.41	0.39	-0.15	-0.74**	0.26	-0.37
General School- Level Characteristics	$\Delta R^2 = 0.04$			$\Delta R^2 = 0.07$			$\Delta R^2 = 0.08$			$\Delta R^2 = 0.09$		
Public	0.26	0.24	0.12	-0.13	0.29	-0.05	0.40	0.45	0.17	0.01	0.29	0.01
Urban	0.03	0.22	0.02	-0.21	0.27	-0.10	-0.06	0.38	-0.03	0.20	0.24	0.16
Size: Medium (Small)	-0.22	0.13	-0.15	-0.30	0.16	-0.24	-0.09	0.32	-0.05	-0.36	0.21	-0.26
Size: Large	-0.02	0.13	-0.01	-0.44**	0.16	-0.24	0.07	0.35	0.03	0.04	0.22	0.02

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
(Small)												
Poverty Level	-0.00	0.00	-0.16	0.00	0.00	0.20	0.00	0.01	-0.01	0.00	0.00	-0.04
School Reporting Procedure	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.07$			$\Delta R^2 = 0.08^*$		
School Reporting Procedure	-0.01	0.12	-0.01	0.24	0.14	0.14	0.60	0.31	0.28	0.45*	0.20	0.31
Sample Size	146			142			55			57		
Final Adj R ²	0.10			0.08			0.05			0.17		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome for physical abuse: 4.12 Standard deviation for physical abuse: .675; Mean outcome for sexual abuse: 3.77

Standard deviation for sexual abuse: .801; Mean outcome for emotional/mental abuse: 3.69 Standard deviation for

emotional/mental abuse: .940; Mean outcome for neglect: 4.09 Standard deviation for neglect: .662 (represents means and

standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Knowledge of Procedures for Making a Report of Child Abuse. As illustrated in Table 40, neither the set of individual characteristics nor the set of general school-level characteristics was significantly related to respondents' self-reported knowledge of procedures for making a report of child abuse (individual: $\Delta R^2 = .01, p = .391$; general school-level: $\Delta R^2 = .05, p = .230$). As expected, having a school reporting procedure was predictive of knowledge of procedures for making a report of child abuse ($\Delta R^2 = .08, p = .001$), in that respondents working in schools with a procedure reported higher levels of knowledge of how to make a report of child abuse ($B = 0.81, p = .001$).

Table 40

Influence of Individual and School-Level Variables on Knowledge of Procedures for Making a Report of Child Abuse

Step/Variable	B	SE	β
Intercept	3.41***	0.60	-
Sample	$\Delta R^2 = 0.04^*$		
Alumni Sample	0.18	0.27	0.06
Individual Characteristics	$\Delta R^2 = 0.01$		
Male	-0.01	0.25	0.00
White	.324	0.27	0.10
General School-Level Characteristics	$\Delta R^2 = 0.05$		
Public	-0.24	0.46	-0.06
Urban	-0.48	0.43	-0.14
Size: Medium (Small)	-0.49	0.26	-0.17
Size: Large (Small)	-0.41	0.26	-0.14
Poverty Level	.002	.005	.054
School Reporting Procedure	$\Delta R^2 = 0.08^{***}$		
School Reporting Procedure	0.81***	0.23	0.30
Sample Size	141		
Final Adj R^2	0.12		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R^2 represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome: 3.48 Standard deviation: 1.32 (represents mean and standard deviation for full sample, may differ slightly from the actual mean and standard deviation for cases included in this analysis because of deletion for missing data)

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

Self-Efficacy

Self-Efficacy Regarding Identifying Indicators of Abuse. Table 41 displays the results of the regression analysis for self-efficacy beliefs regarding indicators of abuse. The set of individual characteristics was not significantly related to respondents' confidence in their ability to recognize indicators of physical abuse ($\Delta R^2 = .00, p = .735$), sexual abuse ($\Delta R^2 = .04, p = .058$), emotional/mental abuse ($\Delta R^2 = .09, p = .130$), or neglect ($\Delta R^2 = .03, p = .536$). However, although the set of individual variables did not rise to statistical significance for sexual abuse, the individual "male" variable was significantly related ($B = -.34, p = .015$), so that male respondents were less confident than non-male respondents in their ability to identify signs of sexual abuse.

The set of general school-level variables was not a significant predictor of confidence in ability to identify signs of emotional/mental abuse ($\Delta R^2 = .13, p = .267$) or neglect ($\Delta R^2 = .07, p = .682$). The set of general school-level characteristics was a significant predictor of confidence in identifying signs of physical abuse ($\Delta R^2 = .11, p = .007$) and sexual abuse ($\Delta R^2 = .08, p = .036$), with school size as significant predictors of both physical ("medium:" $B = -.37, p = .006$; "large:" $B = -.32, p = .019$) and sexual abuse ("medium:" $B = -.30, p = .041$; "large:" $B = -.35, p = .019$), so that respondents in medium and large schools (i.e., schools with more than 500 students) were less confident in their abilities to identify signs of sexual or physical abuse than respondents on small schools (schools with 500 students or less). Being in an urban school was also a significant predictor of confidence-level in identifying signs of sexual abuse ($B = -.48, p$

= .047) – respondents working in urban schools were less confident than those working in suburban schools or schools in small towns or rural areas.

Having a school procedure for reporting child abuse was not related to confidence in ability to identify indicators of sexual abuse ($\Delta R^2 = .02, p = .054$), emotional/mental abuse ($\Delta R^2 = .02, p = .265$), or neglect ($\Delta R^2 = .02, p = .359$). However, having a school procedure was significantly predictive for physical abuse ($\Delta R^2 = .04, p = .009$), in that respondents who indicated that their school had a procedure for reporting child abuse were more confident in their abilities to identify signs of physical abuse ($B = 0.31, p = .009$).

Self-Efficacy Regarding Making a Report of Child Abuse. Results displayed in Table 42 demonstrate that the set of individual characteristics was not predictive of respondents' beliefs that they would be able to make a report of child abuse if they wanted to ($\Delta R^2 = .00, p = .901$). Both the set of general school-level variables ($\Delta R^2 = .08, p = .038$) and the school reporting procedure variable ($\Delta R^2 = .07, p = .001$) were significant predictors. Specifically, respondents from urban schools were less likely ($B = -0.42, p = .003$) and respondents in schools with a reporting procedure ($B = 0.55, p = .001$) were more likely to believe they would be able to make a report of child abuse.

Table 41

Influence of Individual and School-Level Variables on Self-Efficacy Regarding Indicators of Child Abuse

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	2.84***	0.31	-	3.12***	0.33	-	2.48***	0.42	-	2.94***	0.40	-
Sample	$\Delta R^2 = 0.01$			$\Delta R^2 = 0.00$			N/A			N/A		
Alumni	-0.02	0.14	-0.02	-0.23	0.15	-0.15	N/A	N/A	N/A	N/A	N/A	N/A
Sample												
Individual	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.04$			$\Delta R^2 = 0.09$			$\Delta R^2 = 0.03$		
Characteristics												
Male	-0.05	0.13	-0.03	-0.35*	0.14	-0.20	-0.44	0.24	-0.29	-0.28	0.23	-0.20
White	-0.01	0.14	0.00	0.04	0.15	0.02	0.08	0.27	0.04	-0.058	.260	-0.04
General	$\Delta R^2 = 0.11^{**}$			$\Delta R^2 = 0.08^*$			$\Delta R^2 = 0.13$			$\Delta R^2 = 0.07$		
School-Level												
Characteristics												
Public	0.05	0.24	0.02	-0.48	0.26	-0.20	-0.10	0.33	-0.07	-0.06	0.32	-0.04
Urban	0.03	0.22	0.02	-0.48*	0.24	-0.25	-0.39	0.27	-0.32	-0.28	0.26	-0.26
Size:	-0.37**	0.13	-0.25	-0.30*	0.14	-0.19	-0.10	0.22	-0.01	-0.12	0.22	-0.11
Medium												
(Small)												

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Size:	-0.32*	0.13	-0.21	-0.35*	0.15	-0.21	-0.34	0.23	-0.25	-0.06	0.24	-0.05
Large (Small)												
Poverty Level	0.00	0.00	-0.22	0.01	0.00	0.23	0.01	0.00	0.31	0.00	0.00	0.10
School Reporting Procedure	$\Delta R^2 = 0.04^{**}$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.02$		
School Reporting Procedure	0.31**	1.19	2.22	0.25	0.13	0.17	0.25	0.22	0.18	0.20	0.21	0.16
Sample Size	143			143			49			49		
Final Adj R ²	0.11			0.09			0.09			-0.06		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome for physical abuse: 2.64 Standard deviation for physical abuse: .675; Mean outcome for sexual abuse: 2.42 Standard deviation for sexual abuse: .723; Mean outcome for emotional/mental abuse: 2.78 Standard deviation for emotional/mental abuse: .550; Mean outcome for neglect: 2.45 Standard deviation for neglect: .614 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 42

Influence of Individual and School-Level Variables on Self-Efficacy Regarding Making a Report of Child Abuse

Step/Variable	B	SE	β
Intercept	4.69***	0.44	-
Sample	$\Delta R^2 = 0.01$		
Alumni Sample	-0.19	0.20	-0.10
Individual Characteristics	$\Delta R^2 = 0.00$		
Male	-0.21	0.18	-0.10
White	0.03	0.19	0.01
General School-Level Characteristics	$\Delta R^2 = 0.08^*$		
Public	-0.42	0.34	-0.14
Urban	-0.97**	0.32	-0.39
Size: Medium (Small)	-0.01	0.19	-0.01
Size: Large (Small)	-0.34	0.19	-0.16
Poverty Level	0.01	0.00	0.23
School Reporting Procedure	$\Delta R^2 = 0.07^{***}$		
School Reporting Procedure	0.55***	0.15	0.28
Sample Size	140		
Final Adj R^2	0.07***		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R^2 represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean outcome: 4.03 Standard deviation: .954 (represents mean and standard deviation for full sample, may differ slightly from the actual mean and standard deviation for cases included in this analysis because of deletion for missing data)

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

Beliefs about Child Protective Services and the Outcomes of Reporting Abuse

Results from the series of regression analyses regarding respondents' beliefs about child protective services (CPS) and the outcomes of reporting abuse are displayed in Tables 43 and 44. Neither the set of general school-level variables nor the school reporting procedure variable significantly predicted respondents' assessment of the percentage of reports that benefit the child (general school-level: $\Delta R^2 = .05, p = .179$; reporting procedure: $\Delta R^2 = .00, p = .885$) or harm the child (general school-level: $\Delta R^2 = .06, p = .122$; reporting procedure: $\Delta R^2 = .00, p = .501$). The set of individual characteristics was not related to assessments of the percentage of reports that harm the child ($\Delta R^2 = .01, p = .659$), but were predictive of assessments of the percentage of reports that benefit the child ($\Delta R^2 = .06, p = .017$). Specifically male respondents believed that a higher percentage of reports benefit the child than did non-male respondents ($B = 11.09, p = .011$).

Respondents' beliefs about CPS' effectiveness were not related to the set of individual characteristics ($\Delta R^2 = .03, p = .066$), but were significantly related to the set of general school-level variables ($\Delta R^2 = .07, p = .033$). Respondents in schools with higher levels of poverty rated CPS as less effective ($B = -0.01, p = .023$).

The set of individual characteristics was also not significantly related to respondents beliefs of whether reporting a case of abuse does more harm than good (physical abuse: $\Delta R^2 = .02, p = .187$; sexual abuse: $\Delta R^2 = .01, p = .432$; emotional/mental abuse: $\Delta R^2 = .05, p = .294$; neglect: $\Delta R^2 = .05, p = .279$). Beliefs about whether reporting cases of emotional/mental abuse or neglect does more harm than good were also not

predicted by the general set of school variables (emotional/mental abuse: $\Delta R^2 = .14, p = .223$; neglect: $\Delta R^2 = .15, p = .186$). However, beliefs about whether reporting cases of abuse to CPS does more harm than good were predicted by the set of general school characteristics for cases of physical ($\Delta R^2 = .08, p = .048$) and sexual abuse ($\Delta R^2 = .10, p = .016$). Although the set of general school characteristics was significant for physical abuse, none of the individual or general school-level variables were statistically significant on their own. For sexual abuse, the “large” dummy variable for school size was a significant predictor of beliefs about whether reporting does more harm than good ($B = -.55, p = .006$) in that respondents in large school (over 1000 students) were less likely than respondents in small schools (students with 500 or fewer students) to believe that reporting sexual abuse to CPS did more harm than good. The school reporting procedure variable was not related to beliefs about reporting to CPS doing more harm than good for any of the types of abuse (physical abuse: $\Delta R^2 = .00, p = .759$; sexual abuse: $\Delta R^2 = .00, p = .534$; emotional/mental abuse: $\Delta R^2 = .05, p = .112$; neglect: $\Delta R^2 = .07, p = .066$).

Table 43

Influence of Individual and School-Level Variables on Beliefs about CPS and Outcomes of Reporting Abuse

Step/Variable	% Reports Harm Child			% Reports Benefit Child			Effectiveness of CPS		
	B	SE	β	B	SE	β	B	SE	β
Intercept	64.84***	10.34	-	18.88	9.63	-	3.41***	0.40	-
Sample	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.00$			$\Delta R^2 = 0.19***$		
Alumni Sample	-4.79	4.66	-0.10	5.57	4.34	0.13	-1.06***	0.18	-0.53
Individual	$\Delta R^2 = 0.06^*$			$\Delta R^2 = 0.01$			$\Delta R^2 = 0.30$		
Characteristics									
Male	11.09*	4.32	0.22	-2.52	3.97	-0.06	0.33	0.16	0.14
White	0.02	4.65	0.00	0.78	3.97	0.02	-0.29	0.18	-0.12
General School-Level	$\Delta R^2 = 0.05$			$\Delta R^2 = 0.06$			$\Delta R^2 = 0.07^*$		
Characteristics									
Public	1.47	7.96	0.02	4.68	7.41	0.07	-0.06	0.31	-0.02
Urban	-5.50	7.35	-0.10	5.43	6.84	.010	0.11	0.28	0.04
Size: Medium	0.88	4.47	0.02	-0.70	4.41	-0.02	0.11	0.17	.053
(Small)									
Size: Large	-6.20	4.53	-0.13	-3.16	4.21	-0.07	-0.07	0.17	-0.03
(Small)									
Poverty Level	-0.10	0.08	-0.17	0.09	0.08	0.16	-0.01*	0.00	-0.28

Step/Variable	% Reports Harm Child			% Reports Benefit Child			Effectiveness of CPS		
	B	SE	β	B	SE	β	B	SE	β
School Reporting Procedure	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.00$			$\Delta R^2 = 0.01$		
School Reporting Procedure	-0.58	3.98	-0.01	-2.49	3.69	-0.06	0.18	0.15	0.09
Sample Size	143			144			148		
Final Adj R ²	0.05			0.00			0.25		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for percentage benefit: 54.51 Standard deviation of outcome for percentage benefit: 21.61; Mean of outcome for percentage harm: 32.73 Standard deviation of outcome for percentage harm: 20.14; Mean of outcome for effectiveness of CPS: 2.63 Standard deviation of outcome for effectiveness of CPS: .932 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 44

Influence of Individual and School-Level Variables on Beliefs about Whether Reporting Abuse to CPS does more Harm than Good

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	2.10***	0.46	-	2.07***	0.45	-	2.19**	0.66	-	1.67**	0.58	-
Sample	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.01$			N/A			N/A		
Alumni Sample	0.29	0.21	0.15	0.38	0.45	0.19	N/A	N/A	N/A	N/A	N/A	N/A
Individual Characteristics	$\Delta R^2 = 0.02$			$\Delta R^2 = 0.01$			$\Delta R^2 = 0.05$			$\Delta R^2 = 0.05$		
Male	-0.25	0.19	-0.11	-0.16	0.19	-0.07	-0.11	0.38	-0.04	-0.02	0.25	-0.01
White	0.15	0.20	0.06	0.13	0.20	0.05	0.01	0.41	0.00	-0.03	0.36	-0.01
General School- Level Characteristics	$\Delta R^2 = 0.08^*$			$\Delta R^2 = 0.10^*$			$\Delta R^2 = 0.14$			$\Delta R^2 = 0.15$		
Public	-0.38	0.35	-0.12	-0.16	0.35	0.12	-0.54	0.52	-0.22	-0.52	0.46	-0.24
Urban	0.31	0.33	-0.12	0.30	0.32	0.12	0.58	0.43	0.29	0.60	0.39	0.34
Size: Medium (Small)	-0.018	0.20	-0.08	-0.23	0.19	-0.11	-0.34	0.35	0.17	-0.06	0.31	-0.03

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Size: Large (Small)	-0.23	0.20	-0.11	-0.55**	0.20	-0.25	-0.13	0.39	-0.06	0.02	0.35	0.01
Poverty Level	0.01	0.00	0.22	.004	0.00	0.13	0.01	0.01	0.21	0.01	0.01	0.24
School Reporting Procedure	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.00$			$\Delta R^2 = 0.05$			$\Delta R^2 = 0.07$		
School Reporting Procedure	-0.06	0.18	-0.03	-0.11	0.17	-0.05	0.57	0.25	0.25	0.59	0.31	0.29
Sample Size	144			144			50			49		
Final Adj R ²	0.04			0.06			0.09			0.13		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for physical abuse: 2.40 Standard deviation of outcome for physical abuse: .960; Mean of outcome for sexual abuse: 2.33 Standard deviation of outcome for sexual abuse: .971; Mean of outcome for emotional/mental abuse: 2.54

Standard deviation of outcome for emotional/mental abuse: .994; Mean of outcome for neglect: 2.18 Standard deviation of outcome for neglect: .882 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Social Norms Regarding Reporting Suspicions of Child Abuse

As reported in Tables 45-47, there were very few relationships between individual and school-level characteristics and the social norms regarding child abuse reporting. The set of individual variables, the set of general school-level variables, and the school reporting procedure variable were all unproductive of respondents' beliefs that their co-workers would be supportive of them reporting suspicions of child abuse (individual: $\Delta R^2 = .00, p = .866$; general school-level: $\Delta R^2 = .05, p = .162$; reporting procedure: $\Delta R^2 = .00, p = .522$). They also did not predict whether other teachers would report their suspicions of child abuse to CPS (individual: $\Delta R^2 = .01, p = .675$; general school-level: $\Delta R^2 = .04, p = .315$; reporting procedure: $\Delta R^2 = .01, p = .421$).

There were also no statistically significant relationships among the set of individual variable or the school reporting procedure variable and the degrees to which respondents believed that most of their fellow teachers (individual: $\Delta R^2 = .00, p = .845$; reporting procedure: $\Delta R^2 = .00, p = .972$) or their building administrator (individual: $\Delta R^2 = .01, p = .366$; reporting procedure: $\Delta R^2 = .00, p = .748$) think they should report their suspicions of abuse to CPS. However, although the set of general school-level variables was not a predictor of respondents' beliefs about whether their building administrator thought they should report their suspicions of abuse to CPS ($\Delta R^2 = .03, p = .460$), it was a significant predictor of their beliefs about whether other teachers thought they should report their suspicions ($\Delta R^2 = .10, p = .014$), in that respondents working in public schools were more likely to agree that other teachers thought they should report than respondents working in non-public schools ($B = 0.79, p = .019$).

The relationships between individual and school-level characteristics and respondents' motivation to comply with the social norms varied depending on whether the compliance was to their peers (i.e., other teachers) or their supervisor (i.e., building administrators) (see Table 47). The set of individual characteristics was not significantly related to respondents' beliefs about whether they want to do what their fellow teachers think they should do ($\Delta R^2 = .02, p > .05$), but it was related to beliefs regarding wanting to do what their building administrator thinks they should do ($\Delta R^2 = .05, p = .039$). Specifically, male respondents were less likely to want to do what their building administrator thinks they should (B = -.48, $p = .044$). Regarding the set of general school-level characteristics, it was not significantly related to the motivation to comply with other teachers ($\Delta R^2 = .04, p = .308$) nor their building administrator ($\Delta R^2 = .02, p = .637$). However, although the set of general school-level variables was not significant, the individual urban school and school-level poverty variables were significant predictors for motivation to comply with other teachers (urban: B = 0.94, $p = .025$; poverty: B = -0.01, $p = .035$) in that respondents working in urban schools were more motivated to comply than those in suburban or rural/small town schools, and those in higher- poverty schools were less motivated to comply with what other teachers think they should do. In addition, although motivation to comply with building administrators was not predicted by school reporting procedure variable ($\Delta R^2 = .00, p = .617$), the school reporting procedure variable did predict the motivation to comply with other teachers ($\Delta R^2 = .03, p = .035$). Specifically, respondents in schools with a procedure for reporting child abuse

were less motivated to comply with what other teachers think they should do ($B = -.47, p = .035$).

Table 45

Influence of Individual and School-Level Variables on Social Norms about Co-Workers and Reporting of Child Abuse

	If I reported suspicions of abuse, my co-workers would support my actions			Most teachers would report their suspicions of abuse		
Step/Variable	B	SE	β	B	SE	β
Intercept	4.37***	0.44	-	3.02***	0.51	-
Sample	$\Delta R^2 = 0.08^{***}$			$\Delta R^2 = 0.00$		
Alumni Sample	0.39*	0.20	0.20	.091	.234	.041
Individual Characteristics	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.01$		
Male	-0.11	0.18	-0.05	0.17	0.21	0.07
White	-0.16	0.20	-0.07	-0.10	0.23	-0.04
General School-Level Characteristics	$\Delta R^2 = 0.05$			$\Delta R^2 = 0.04$		
Public	0.16	0.34	0.05	0.53	0.40	0.15
Urban	-0.23	0.31	-0.09	0.19	0.37	0.07
Size: Medium (Small)	-0.01	0.19	-0.00	-0.18	0.22	-0.08
Size: Large (Small)	0.28	0.20	0.13	-0.12	0.22	-0.05
Poverty Level	0.00	0.00	-0.16	-0.01	0.00	-0.25
School Reporting Procedure	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.01$		

	If I reported suspicions of abuse, my co-workers would support my actions			Most teachers would report their suspicions of abuse		
Step/Variable	B	SE	β	B	SE	β
School Reporting Procedure	-0.11	0.17	-0.06	0.16	0.20	0.07
Sample Size	142			143		
Final Adj R ²	0.08			-0.01		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for "If reported suspicions . . .": 4.05 Standard deviation of outcome for "If reported suspicions . . .": 9.30;
 Mean of outcome for "Most teachers would report . . .": 3.22 Standard deviation of outcome for "Most teachers would report . . .": 1.084 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 46

Influence of Individual and School-Level Variables on Social Norms about Co-Workers and their Beliefs about Reporting Suspicions of Child Abuse to CPS

	Most of fellow teachers think should report suspicions of abuse			Most of administrators think should report suspicions of abuse		
Step/Variable	B	SE	β	B	SE	β
Intercept	3.88***	0.44	-	4.05***	0.46	-
Sample	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.03^*$		
Alumni Sample	-0.08	0.20	-0.04	0.24	0.21	0.12
Individual Characteristics	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.01$		
Male	0.02	0.19	0.01	0.11	0.19	0.05
White	-0.21	0.20	-0.09	-0.26	0.21	-0.11
General School-Level Characteristics	$\Delta R^2 = 0.10^*$			$\Delta R^2 = 0.03$		
Public	0.79*	0.33	0.26	0.33	.35	.11
Urban	-0.31	0.32	-0.12	-0.46	.33	-.18
Size: Medium (Small)	-0.22	0.19	-0.11	-.00	0.20	0.00
Size: Large (Small)	-0.08	0.19	-0.04	0.02	0.20	-0.01
Poverty Level	-0.01	0.00	-0.20	0.00	0.00	-0.03
School Reporting Procedure	$\Delta R^2 = 0.00$			$\Delta R^2 = 0.00$		

Step/Variable	Most of fellow teachers think should report suspicions of abuse			Most of administrators think should report suspicions of abuse		
	B	SE	β	B	SE	β
School Reporting Procedure	-0.01	0.17	0.00	-0.06	0.18	-0.03
Sample Size	142			143		
Final Adj R ²	0.04			0.02		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for "Most of fellow teachers think should. . .": 3.73 Standard deviation of outcome for "Most of fellow teachers think should. . .": .913; Mean of outcome for "Most of administrators think should. . .": 3.76 Standard deviation of outcome for "Most of administrators think should. . .": .965 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 47

Influence of Individual and School-Level Variables on Motivation to Comply with Social Norms

Step/Variable	Want to do what my fellow teachers think I should do			Want to do what my administrators think I should do		
	B	SE	β	B	SE	β
Intercept	2.82***	0.58	-	3.16***	0.59	-
Sample	$\Delta R^2 = 0.04$			$\Delta R^2 = 0.05$		
Alumni Sample	-0.30	0.27	-0.11	0.27	0.26	0.11
Individual Characteristics	$\Delta R^2 = 0.02$			$\Delta R^2 = 0.05^*$		
Male	-0.26	0.24	-0.09	-0.48*	0.24	-0.18
White	-0.06	0.26	-0.02	0.06	0.26	0.02
General School-Level Characteristics	$\Delta R^2 = 0.04$			$\Delta R^2 = 0.02$		
Public	0.55	0.45	0.14	-0.02	0.45	0.00
Urban	0.94*	0.42	0.28	0.58	0.41	0.18
Size: Medium (Small)	-0.08	0.25	-0.03	-0.20	0.25	-0.08
Size: Large (Small)	0.14	0.25	0.05	0.08	0.25	0.03
Poverty Level	-0.01*	0.01	-0.29	0.00	0.01	-0.12
School Reporting Procedure	$\Delta R^2 = 0.03^*$			$\Delta R^2 = 0.00$		
School Reporting	-0.47*	0.22	-0.18	-0.11	0.22	-0.04

Step/Variable	Want to do what my fellow teachers think I should do			Want to do what my administrators think I should do		
	B	SE	β	B	SE	β
Procedure						
Sample Size	143			143		
Final Adj R ²	0.07			0.01		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for "Want to do what my fellow teachers. . .": 2.97 Standard deviation of outcome for "Want to do what my fellow teachers. . .": 1.240; Mean of outcome for "Want to do what my administrator. . .": 3.26 Standard deviation of outcome for "Want to do what my administrators. . .": 1.218 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Reporting Tendency

Results, as displayed in Table 48, demonstrate that neither the set of individual variables nor the set of general school-level variables were predictive of respondents' reporting tendency, i.e., their likelihood of reporting the hypothetical case to CPS. There was no relationship between individual or general school-level variables and respondents tendency to report physical abuse (individual: $\Delta R^2 = .01, p = .578$; general school-level: $\Delta R^2 = .06, p = .140$), sexual abuse (individual: $\Delta R^2 = .00, p = .806$; general school-level: $\Delta R^2 = .04, p = .342$), emotional/mental abuse (individual: $\Delta R^2 = .02, p = .668$; general school-level: $\Delta R^2 = .13, p = .235$), or neglect (individual: $\Delta R^2 = .04, p = .335$; general school-level: $\Delta R^2 = .11, p = .227$).

Having a school or district reporting procedure was predictive of respondents' tendency to report cases of physical ($\Delta R^2 = .03, p = .043$) and sexual abuse ($\Delta R^2 = .07, p = .001$), such that respondents in a school with a reporting procedure were more likely to say they would report the hypothetical physical ($B = 0.28, p = .043$) and sexual abuse ($B = 0.47, p = .001$) to CPS. However, school reporting procedure was not significantly related to respondents' likelihood of reporting the hypothetical cases of emotional/mental abuse ($\Delta R^2 = .02, p = .353$) or neglect ($\Delta R^2 = .00, p = .759$).

Table 48

Influence of Individual and School-Level Variables on Reporting Tendency

	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
Step/Variable	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Intercept	3.82***	0.36	-	3.11***	0.37	-	2.28***	0.65	-	3.73***	0.54	-
Sample	$\Delta R^2 = 0.20$			$\Delta R^2 = 0.02$			N/A			N/A		
Alumni	0.00	0.16	0.07	0.09	0.17	0.05	N/A	N/A	N/A	N/A	N/A	N/A
Sample												
Individual	$\Delta R^2 = 0.01$			$\Delta R^2 = 0.00$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.04$		
Characteristics												
Male	0.12	0.15	0.07	0.02	0.16	0.01	-0.10	0.36	-0.04	0.08	0.30	0.04
White	-0.07	0.16	-0.04	0.01	0.17	0.01	-0.23	0.42	-0.08	-0.48	0.35	-0.19
General School-	$\Delta R^2 = 0.06$			$\Delta R^2 = 0.04$			$\Delta R^2 = 0.13$			$\Delta R^2 = 0.11$		
Level												
Characteristics												
Public	-0.27	0.28	-0.11	-0.15	0.29	-0.06	0.33	0.47	0.14	0.16	0.39	0.08
Urban	-0.36	0.26	-0.18	-0.48	0.27	-0.22	-0.57	0.40	-0.30	-0.42	0.33	-0.26
Size:	-0.10	0.15	-0.06	0.02	0.16	0.01	0.38	0.33	0.19	0.11	0.28	0.06
Medium												
(Small)												

Step/Variable	Physical Abuse			Sexual Abuse			Emotional Abuse			Neglect		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Size: Large (Small)	0.19	0.16	0.11	-0.20	0.16	-0.20	0.47	0.37	0.21	0.42	0.30	0.22
Poverty Level	0.00	0.00	-0.02	0.01	0.00	0.25	0.01	0.01	0.22	0.01	0.01	0.23
School Reporting Procedure	$\Delta R^2 = 0.03^*$			$\Delta R^2 = 0.70^{***}$			$\Delta R^2 = 0.02$			$\Delta R^2 = 0.00$		
School Reporting Procedure	0.28*	0.14	0.17	0.47***	0.14	0.28	0.31	0.33	0.14	0.08	0.27	0.05
Sample Size	146			144			55			57		
Final Adj R ²	0.05			0.07			0.01			0.01		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for physical abuse: 3.46 Standard deviation of outcome for physical abuse: .765; Mean of outcome for

sexual abuse: 3.23 Standard deviation of outcome for sexual abuse: .807; Mean of outcome for emotional/mental abuse: 2.71

Standard deviation of outcome for emotional/mental abuse: .975; Mean of outcome for neglect: 3.18 Standard deviation of outcome for neglect: .826 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Summary and Discussion of Findings

In general, this study found little evidence that the outcome variables were influenced by teachers' individual or school-level characteristics. However, there was some evidence that school-level characteristics, particularly having a school/district procedure for reporting suspicions of child abuse, were related to prior exposure to information about child abuse/mandated reporting, knowledge, self-efficacy, and reporting tendency of physical and sexual abuse. Table 49 presents a summary of the significant individual and school-level predictors for the outcome variables assessed.

Table 49

Summary of Significant Individual and School-Level Predictors of Outcome Variables

Outcome Variables	Individual Characteristics		School-Level Characteristics					
	Male	White	Public	Urban	Size: Medium	Size: Large	Poverty	Reporting Procedure
Past suspicions of physical abuse							+	
Past suspicions of sexual abuse	-						+	
Frequency of past reporting of suspicions of neglect			+		+			
Any prior exposure to information about child abuse/mandated reporting							-	+
Dosage level of exposure to information about child abuse/mandated reporting	-							+
Level of preparation for role as mandated reporter								+
Knowledge of law: needing proof of abuse to report								+
Knowledge of law: not held liable if repot in good faith								+

Outcome Variables	Individual Characteristics		School-Level Characteristics					
	Male	White	Public	Urban	Size: Medium	Size: Large	Poverty	Reporting Procedure
Knowledge of indicators of sexual abuse							-	
Knowledge of indicators of neglect		-						+
Knowledge of procedures for making report of child abuse								+
Self-efficacy regarding ability to identify indicators of physical abuse					-	-		+
Self-efficacy regarding ability to identify indicators of sexual abuse		-		-	-	-		
Self-efficacy regarding making report of child abuse				-				+
Percentage of reports to CPS that harm the child	+							
Effectiveness of CPS							-	
Reporting sexual abuse CPS does more harm than good							-	
Want to do what my building administrators think I should do	-			+			-	-

Outcome Variables	Individual Characteristics		School-Level Characteristics					
	Male	White	Public	Urban	Size: Medium	Size: Large	Poverty	Reporting Procedure
Reporting tendency for physical abuse								+
Reporting tendency for sexual abuse								+

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: From results to Research Question #5 discussed in Chapter 5.

Note: Only variables with at least one individual or school-level significant predictor are displayed.

+Indicates a positive association

- Indicates a negative association

Individual Characteristics

Overall, after controlling for sample and school-level characteristics, the individual characteristics of race and gender were significant predictors of a few of the outcome variables. Gender was predictive of past suspicions and self-efficacy regarding identification of indicators of sexual abuse. Males were less likely than non-males to have previously suspected that a student had been sexually abused, and were less likely to believe they could identify the indicators of sexual abuse. There were no gender differences in actual knowledge of indicators of sexual abuse, however, males were also less likely to be motivated to comply with what their building administrator wants them to do, although there were no differences in their motivation to comply regarding their co-workers. Males believed that a higher portion of reports to child protective services harmed the child, although there were no gender differences in the portion of reports that benefitted the child.

There were no gender differences in whether teachers in the study sample had received any information on child abuse or mandated reporting. Yet, among those who had received information, males reporting having received lower dosage levels. Although some prior research found gender differences in reporting of abuse (Kenny, 2001; O'Toole et al., 1999; Tilden et al., 1994; Zellman, 1990c), findings from this study were consistent with those that found no differences in reporting tendencies based upon gender (Ashton, 2004; Crenshaw et al., 1995; Webster et al., 2005).

Whereas some past research has found that Whites were more likely to report child abuse to authorities than reporters of other races/ethnicities (Ashton, 2004; Kenny,

2001; Ibanez et al., 2006; Webster et al., 2005), this study – similar to Perrault, (1997) and Portwood (1998) – found no differences between White teachers and those of other races/ethnicities regarding reporting of child abuse. However, White teachers were less knowledgeable about indicators of neglect, and were more likely to have previously suspected a student had been emotionally/mentally abused.

School-level Characteristics (other than school reporting procedure):

The collection of school-level variables predicted a great many more of the outcome variables than did the set of individual characteristics. The school reporting procedure itself was a significant predictor of one-third (33.33%) of the outcome variables. The collection of school-level variables, other than school reporting procedure, (school type, size, locale, poverty level) were also significant predictors of almost one-third (31.11%) of the outcome variables.

Working in a public school was only related to one outcome variable: teachers working in public schools were more likely to believe that their fellow teachers think they should report their suspicions of child abuse. There were no differences between those in public and non-public schools on any other outcomes, including the outcomes related to social norms.

Teachers working in urban schools and in medium or large schools (compared to small schools) had lower levels of self-efficacy regarding their ability to identify indicators of sexual abuse. Those in medium or large schools also had lower levels of self-efficacy regarding indicators of physical abuse than those in small schools. However, urbanicity and school size were not related to knowledge of indicators of

physical abuse. Those in large schools did have lower levels of knowledge of indicators of sexual abuse. Teachers in urban schools also had lower levels of self-efficacy regarding their ability to report suspicions of child abuse to child protective services than those not working in urban schools (i.e., schools in suburban or rural/small town areas).

Those in urban schools were more motivated to comply with what other teachers think they should do, whereas those in schools with higher poverty levels were less motivated to comply. Higher levels of poverty were also related to increased likelihood of having suspected physical and sexual abuse in the past and lower likelihoods of judging CPS as effective in dealing with cases of child abuse.

Compared to those working in small schools, teachers in large schools were less likely to agree that reporting cases of sexual abuse to CPS usually does more harm than good. Those in large schools were also less likely to have received any information on child abuse or mandated reporting in the past.

Some prior research found differences in reporting of child abuse based on individual (Ashton, 2004; Kenny, 2001; Ibanez et al., 2006; Tilden et al., 1994; Webster et al., 2005; Zellman, 1990c) and school-level characteristics (O'Toole et al., 1999; Webster et al, 2005). However, in this study, the sets of individual or school-level characteristics discussed above were not related to teachers' frequency of past reporting or likelihood of reporting in the future (reporting tendency). Although as a whole, the set of school-level characteristics was not a significant predictor of past reporting, school type and school size were significant predictors of past reporting of neglect, in that being in a public school and a medium-sized school were positive predictors of

frequency of reporting past suspicions of neglect. Having a procedure regarding the reporting of child abuse was predictive of teachers' reporting tendency of physical and sexual abuse, in addition to a number other outcome variables.

School Procedure for Reporting Abuse

Consistent with the findings of Zellman (1990b,c) and Kenny (2004), teachers who knew that their school had a procedure for reporting child abuse were more likely to report suspicions of physical and sexual abuse to child protective services. However, consistent with Crenshaw, et al (2005), there were no differences in either the reporting tendency for emotional/mental abuse or neglect or frequency of reporting past suspicions of any type of abuse.

Awareness of a school procedure for reporting child abuse was predictive of both teachers' knowledge of how to make a report of abuse and their self-efficacy related to their ability to make a report of abuse. Those in schools with a procedure were also more knowledgeable of aspects of the mandated reporting laws (specifically regarding not needing proof to report and not being held liable if report in good faith). Teachers in schools with a procedure were more knowledgeable about indicators of neglect, though they had higher levels of self-efficacy regarding their ability to identify indicators of physical abuse only. In addition, the motivation of teachers to comply with what other teachers think they should do was weaker among those who knew of a reporting procedure than those in who were not aware of such a procedure.

Teachers in schools with a procedure were also more likely to have received information on child abuse or mandated reporting in the past than those who were not

aware of a reporting procedure for their school (having a procedure was predictive of both have had any prior exposure and the dosage level of prior exposure). In addition, teachers in schools with a procedure felt that they were better prepared for their role as mandated reporters.

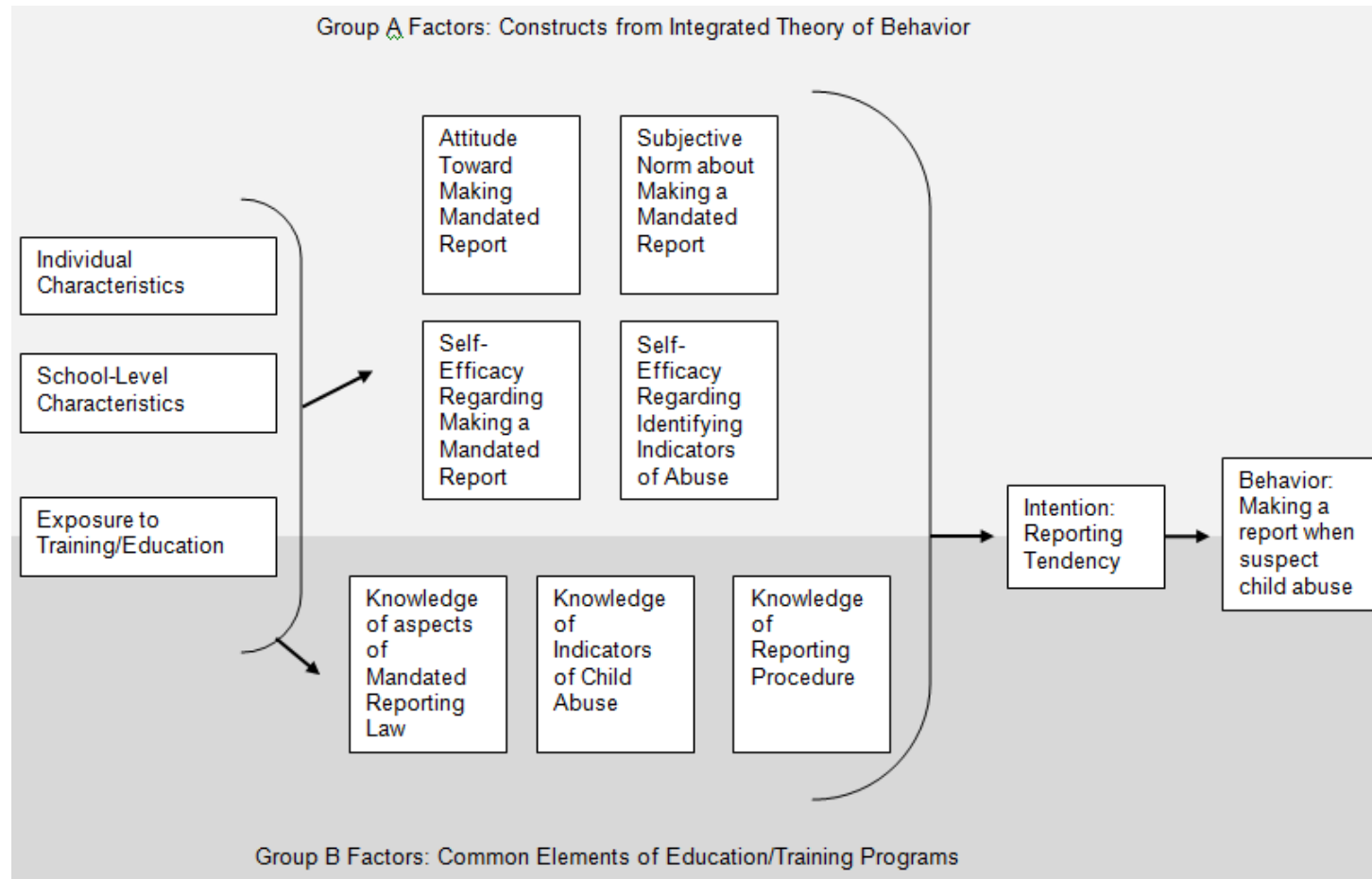
Importantly, this study did not examine the role of years of teaching experience (James & DeVaney, 1994; Kenny, 2004; O'Toole et al., 1999; Webster et al., 2005) and or school/grade level taught (Webster et al., 2005), both of which might affect the outcomes of interest.

Chapter 6: Results and Discussion for Research Questions #6-8

This Chapter presents the findings related to Research Questions #6-8. It examines the relationships in the Exploratory Model of Teacher Reporting Behavior proposed in Chapter 3 and displayed again below in Figure 4. The findings regarding individual and school-level characteristics were presented in Chapter 5. This Chapter presents the two sets of analyses used to assess the validity of the other aspects of the Exploratory Model: 1) assessment of the model through structural equation modeling with teachers' reports of their current knowledge, attitudes and beliefs as the mediators of the relationship between prior exposure to information about child abuse/mandated reporting and reporting tendency and 2) assessment of the relationships between prior exposure to information about child abuse/ mandated reporting and both the knowledge of indicators of abuse and actual reporting behavior, using teachers' past experiences suspecting abuse and reporting those suspicions through regression analyses.

Figure 4

Exploratory Model of Teacher Reporting Behavior



Research Question #6: Are teachers' knowledge, self-efficacy, attitudes, and social norms related to their likelihood of compliance with mandated reporting laws?

- a. Do the factors most commonly addressed through training/education on child abuse or mandated reporting relate to teachers' likelihood of compliance with mandated reporting laws?
- b. Do the factors proposed by the Integrated Model of Behavior (Fishbein, 2000; Fishbein & Yzer, 2003) as related to child abuse or mandated reporting relate to teachers' likelihood of compliance with mandated reporting laws?
- c. Which factors addressed through training/education or factors proposed by Integrated Model of Behavior contribute most to the variance in teachers' likelihood of compliance with mandated reporting laws?

Research Question #7: Are teachers' levels of exposure to information about child abuse and mandated reporting related to their knowledge, self-efficacy, attitudes and social norms?

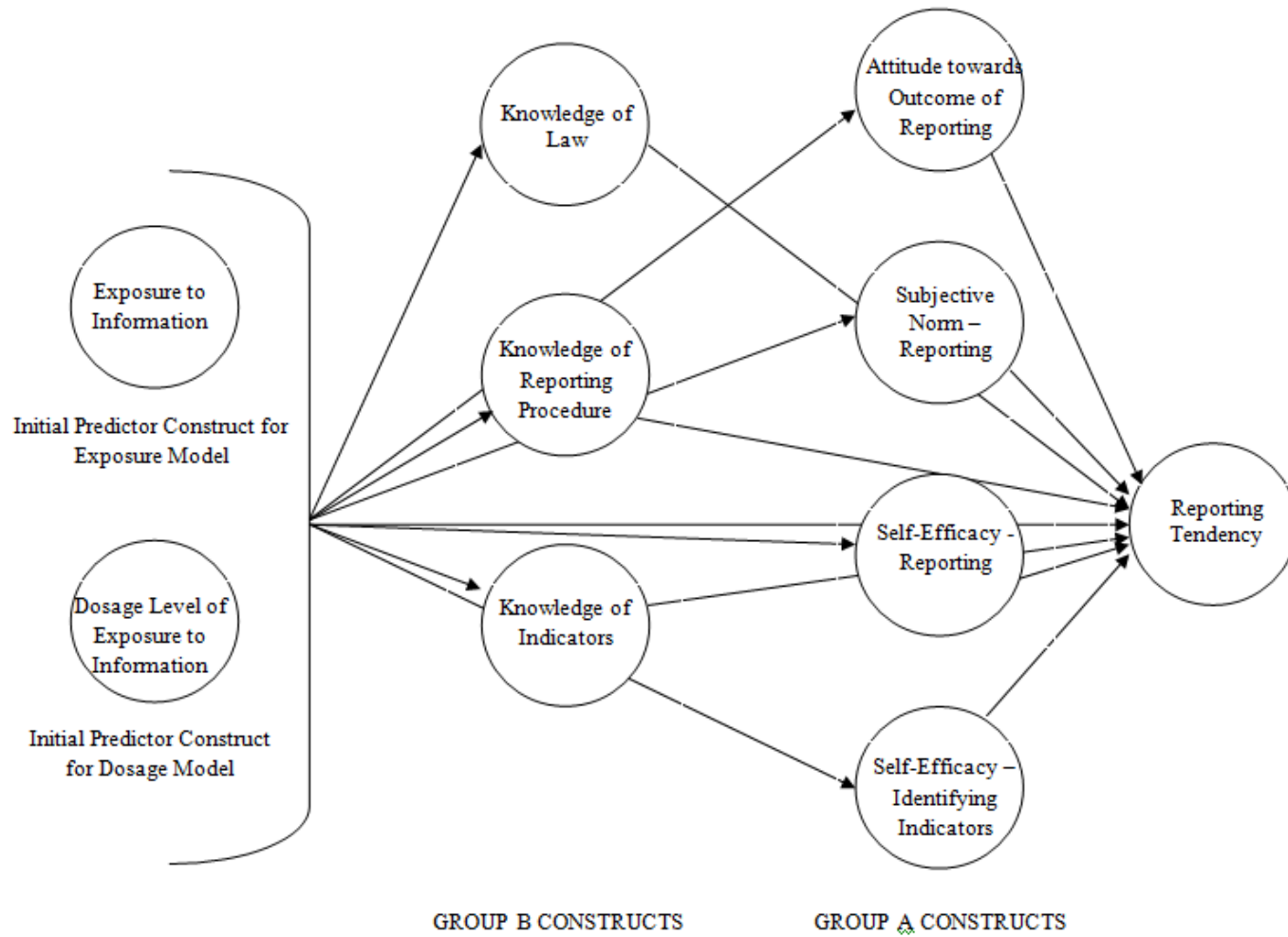
Research Question #8: Are teachers' levels of exposure to information about child abuse and mandated reporting related to their likelihood of compliance with mandated reporting laws?

As discussed in Chapter 4, Research Questions #6, 7 and 8 were assessed through evaluation through two structural equation models based on the conceptual model of teacher reporting behavior (Research Questions #7 and 8 were also assessed through regression analyses, results will be described later in this chapter). The conceptual model

is displayed in Figure 5 (first displayed in Chapter 4 and displayed again below). The exposure model examined whether having had any prior exposure to information about mandated reporting or child abuse was related to the other model constructs (knowledge, attitudes, beliefs, and reporting tendency). The dosage model examined whether the dosage level of exposure to information was related to the other model constructs. The only difference between the exposure model and the dosage model is whether the initial predictor variable is any exposure (a dichotomous variable) or the dosage level of exposure (a continuous variable with those who had no prior exposure receiving a dosage value of “0”). All other constructs in the model are exactly the same (e.g., knowledge, attitudes, beliefs, and reporting tendency).

Figure 5

Conceptual Model of Reporting Behavior



Exposure Structural Model

Figure 6 displays the fully-saturated structural exposure model.⁶ As configural invariance, loading invariance, and homogeneity of variances/covariances were previously established (see Chapter 4), it was justified to combine both samples (Alumni Samples and Student Sample) for the examination of path coefficients, and to include the sample indicator as a control variable. As listed in Table 50, the model included both factors drawn from Integrated Model of Behavior (Group A constructs) and factors drawn from common elements of education/training programs on mandated reporting (Group B constructs).

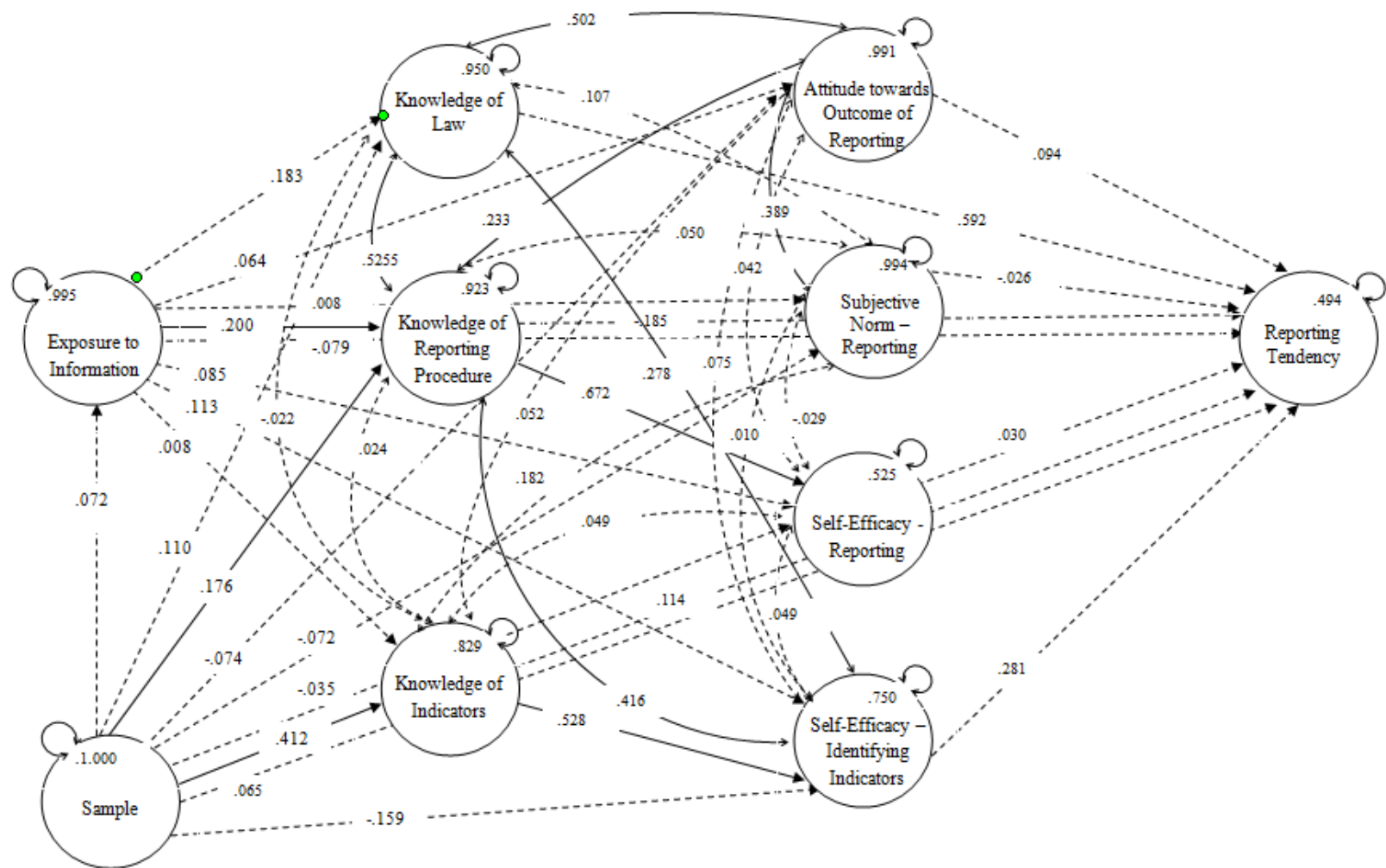
The model includes direct paths from the exposure to information about mandated reporting or child abuse construct (“exposure”) to all the other constructs (with the exception of the sample control). There are direct paths from all constructs to the reporting tendency construct (“reptend”). In addition, because having knowledge of a concept could increase one’s self-efficacy regarding that concept, direct paths were predicted from two of the Group B knowledge constructs to the accompanying Group A self-efficacy constructs. Thus, the following paths were included in the model: knowledge of reporting procedure (“knowpro”) was hypothesized to predict self-efficacy regarding ability to make a report of abuse (“serep”); and knowledge of indicators of abuse (“knowind”) was hypothesized to predict self-efficacy regarding ability to identify indicators of abuse (“seind”).

⁶ A fully saturated model is one where all possible parameters are estimated, i.e., all relationships between the latent constructs are estimated, either as covariances or as predictive paths.

Fit statistics for the structural model for exposure are shown in Table 51. Based on the criteria previously discussed in Chapter 4, the statistics indicate that the model is an acceptable fit for the model (i.e., RMSEA < 0.080, NNFI and CFI > 0.900). Model parameters from the five imputed datasets were combined using Rubin's rules. The path coefficients and accompanying standard errors are display in Table 52. The sample control was predictive of knowledge of reporting procedure ("knowpro") ($b = 0.176, p = .028$) and knowledge of indicators of abuse ("knowind") ($b = 0.412, p = .001$). Prior exposure to information ("expose") was a significant predictor of knowledge of reporting procedure ("knowpro") ($b = 0.200, p = .013$), but was not a predictor of any of the other constructs. As hypothesized, knowledge of indicators of abuse ("knowind") was predictive of self-efficacy related to the ability to indentify indicators of abuse ("seind") ($b = 0.528, p = .001$) and knowledge of reporting procedure was predictive of self-efficacy related to ability to make a report ("serep") ($b = 0.672, p = .000$). None of the model constructs predicted the final outcome variable of reporting tendency ("reptend").

Figure 6

Completely Standardized Solution for Structural Model for Exposure



Solid lines indicate statistically significant paths and covariances at $p < .05$.
 Dotted lines indicate non-significant paths and covariances.

Table 50

Latent Constructs in Structural Model for Exposure

Construct Label	Construct Name	Construct Type
Control		
sample	Sample	exogenous
Initial Predictor		
exposure	Exposure to information	exogenous
Group A: Elements from Integrated Model of Behavior		
seind	Self-efficacy regarding identifying indicators	endogenous
serep	Self-efficacy regarding reporting	endogenous
attitudes	Attitude towards outcome of reporting	endogenous
norms	Subjective norms regarding reporting	endogenous
Group B: Common Elements of Education/Training Programs		
knowlaw	Knowledge of law	endogenous
knowpro	Knowledge of reporting procedures	endogenous
knowind	Knowledge of indicators	endogenous
Final Outcome		
reptend	Reporting tendency	endogenous

Table 51

Fit Indices for Structural Model for Exposure Model

Imputed			RMSEA		
Data Set	χ^2 ^a	RMSEA	90% CI	NNFI	CFI
1	171.294	0.0555	0.037-0.072	0.917	0.946
2	176.642	0.0572	0.039-0.074	0.911	0.942
3	176.976	0.0569	0.039-0.073	0.914	0.944
4	168.029	0.0533	0.035-0.070	0.923	0.950
5	164.538	0.0509	0.031-0.068	0.928	0.954

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a *df*= 111 *p*<.001

Table 52

Path Coefficients and Standard Errors for Structural Model for Exposure^{a,b}

Path	Unstandardized	Standard Error	Standardized
Paths from Control to all Constructs			
sample→exposure	0.072	0.082	0.072
sample→knowlaw	0.113	0.121	0.110
sample→knowpro	0.183*	0.083	0.176
sample→knowind	0.452***	0.130	0.412
sample→seind	-0.185	0.135	-0.159
sample→serep	-0.049	0.082	-0.035
sample→attitude	-0.074	0.093	-0.074
sample→norms	-0.072	0.095	-0.072
sample→reptend	0.095	0.210	0.065
Paths from Initial Predictor to Group A Constructs			
expose→knowlaw	0.188	0.120	0.183
expose→knowpro	0.207*	0.083	0.200
expose→knowind	0.009	0.110	0.008
Paths from Initial Predictor to Group B Constructs			
expose→seind	0.130	0.103	0.113
expose→serep	0.118	0.082	0.085
expose→attitude	0.064	0.091	0.064
expose→norms	0.008	0.090	0.008
Paths from Initial Predictor to Final Outcome			
expose→reptend	-0.113	0.151	-0.079
Paths from Group A Constructs to Final Outcome			
knowlaw→reptend	0.835	0.619	0.592
knowind→reptend	0.147	0.295	0.114
knowpro→reptend	-0.259	0.349	-0.185
Select Paths from Group A to Group B Constructs			

Path	Unstandardized	Standard Error	Standardized
knowind→seind	0.555**	0.170	0.528
knowpro→serep	0.891***	0.105	0.672
Paths from Group B Constructs to Final Outcome			
seind→reptend	0.350	0.246	0.281
serep→reptend	0.030	0.145	0.030
attitude→reptend	0.129	0.300	0.094
norms→reptend	-0.036	0.188	-0.026

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a Coefficients and standard errors were combined across imputed datasets using Rubin's rules

^b From completely standardized solution

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

Dosage Structural Model

The full structural model for dosage with the standardized solution is displayed in Figure 7. Fit statistics for the dosage model are shown in Table 53. Based on the criteria previously discussed, the statistics indicate that the model is an acceptable fit for the data (i.e., RSMEA < 0.080, NNFI > 0.850, and CFI > 0.900). Model parameters from the five imputed datasets were combined using Rubin's rules. The path coefficients and accompanying standard errors are displayed in Table 54. The sample control was predictive of knowledge of reporting procedure ("knowpro") ($b = 0.179, p = .022$) and knowledge of the indicators of abuse ("knowind") ($b = 0.410, p = .001$). Dosage level of exposure to information ("dosage") was a significant predictor of both knowledge of reporting procedure ("knowpro") ($b = 0.272, p = .001$) and knowledge of mandated reporting law ("knowlaw") ($b = 0.258, p = .033$), but was not a predictor of any of the other constructs.

As hypothesized and as in the exposure model, knowledge of indicators of abuse was predictive of self-efficacy related to ability to identify indicators of abuse ("seind") ($b = 0.521, p = .001$), and knowledge of reporting procedure was predictive of self-efficacy related to ability to make a report ("serep") ($b = 0.675, p = .000$). None of the model constructs predicted the final outcome variable of reporting tendency ("reptend").

Figure 7

Completely Standardized Solution for Structural Model for Dosage

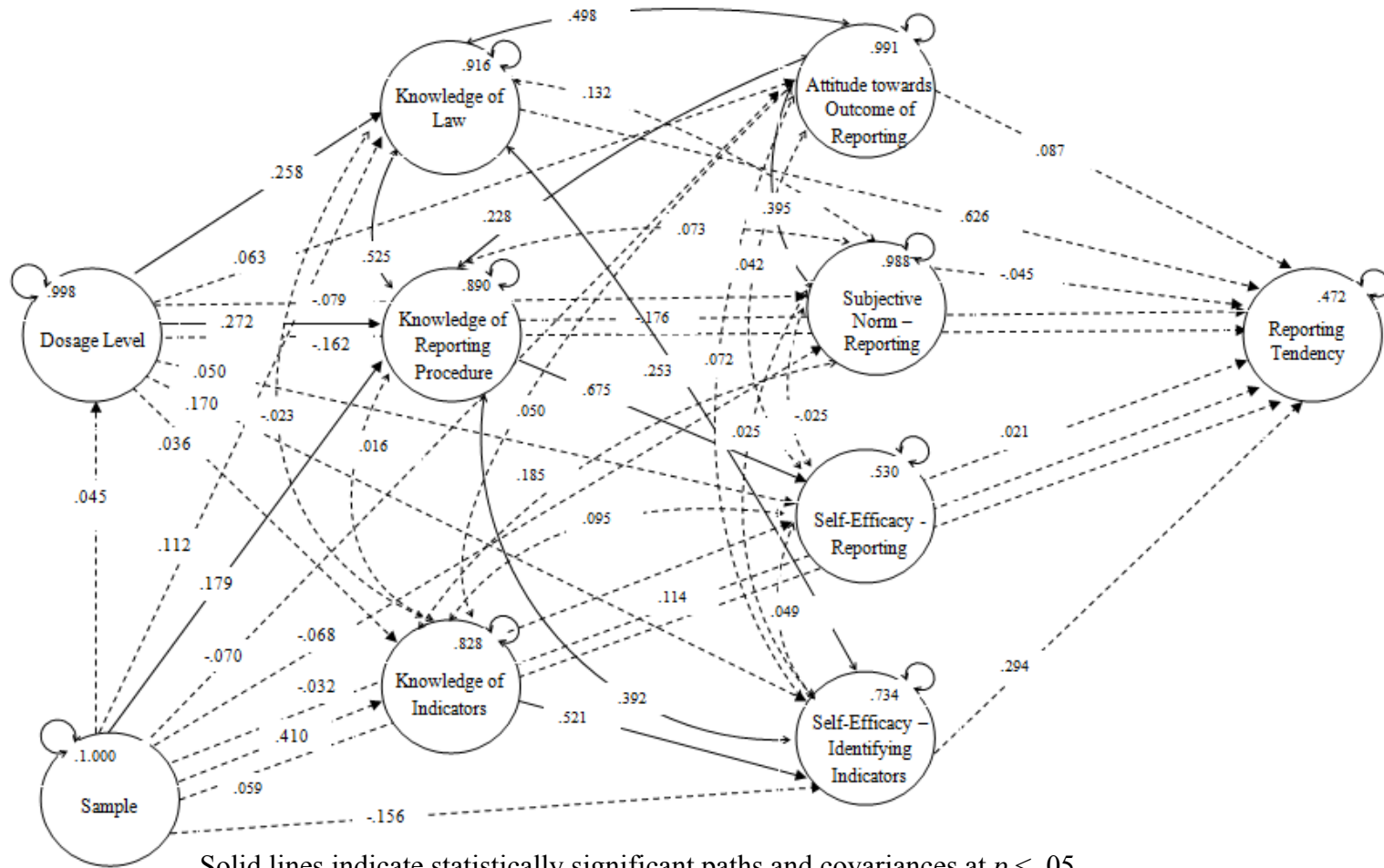


Table 53

Fit Indices for Structural Model for Dosage Model

Imputed		RMSEA			
Data Set	χ^2 ^a	RMSEA	90% CI	NNFI	CFI
1	220.225	0.0698	0.054-0.085	0.870	0.915
2	217.753	0.0699	0.054-0.085	0.869	0.914
3	217.069	0.0694	0.054-0.085	0.874	0.917
4	206.237	0.0656	0.050-0.081	0.884	0.924
5	212.403	0.0662	0.050-0.082	0.880	0.921

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a *df*= 112 *p*<.001

Table 54

Path Coefficients and Standard Errors for Structural Model for Dosage^{a,b}

Path	Unstandardized	Standard Error	Standardized
Paths from Control to all Constructs			
sample→dosage	0.045	0.081	0.045
sample→knowlaw	0.117	0.124	0.112
sample→knowpro	0.190*	0.083	0.179
sample→knowind	0.451***	0.130	0.410
sample→seind	-0.182	-0.156	0.170
sample→serep	-0.044	0.083	-0.032
sample→attitude	-0.070	0.093	-0.070
sample→norms	-0.069	0.095	-0.068
sample→reptend	0.090	0.221	0.059
Paths from Initial Predictor to Group A Constructs			
dosage→knowlaw	0.270*	0.126	0.258
dosage→knowpro	0.288***	0.083	0.272
dosage→knowind	0.040	0.112	0.036
Paths from Initial Predictor to Group B Constructs			
dosage→seind	0.198	0.103	0.170
dosage→serep	0.069	0.083	0.050
dosage→attitude	0.063	0.092	0.063
dosage→norms	-0.079	0.090	-0.079
Paths from Initial Predictor to Final Outcome			
dosage→reptend	-0.239	0.191	-0.162
Paths from Group A Constructs to Final Outcome			
knowlaw→reptend	0.892	0.714	0.626
knowind→reptend	0.149	0.308	0.114
knowpro→reptend	-0.250	0.381	-0.176
Select Paths from Group A to Group B Constructs			

Path	Unstandardized	Standard Error	Standardized
knowind→seind	0.555**	0.172	0.521
knowpro→serep	0.875***	0.104	0.675
Paths from Group B Constructs to Final Outcome			
seind→reptend	0.372	0.268	0.294
serep→reptend	0.020	0.157	0.021
attitude→reptend	0.120	0.326	0.087
norms→reptend	-0.065	0.197	-0.045

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

^a Coefficients and standard errors were combined across imputed datasets using Rubin's rules

^b From completely standardized solution

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

Additional Examination of Research Question #7

One component of Research Question #7 is the relationship between teachers' prior exposure to information about child abuse and mandated reporting and teachers' knowledge of indicators of child abuse. This was examined in two ways: 1) evaluation of the exploratory models using structural equation modeling with knowledge of indicators of abuse as assessed through responses to hypothetical vignettes, and 2) assessment of the relationship between prior exposure to information and knowledge of indicators of abuse as assessed through past suspicions of abuse (see Chapter 4 for a full discussion of these methods). The results of the structural equation modeling were discussed in the previous section. The following section discusses the findings from the series of regression analyses examining whether past exposure to information predicts past suspicions of abuse.

Findings from the binary logistic regression analyses for prior exposure to information about mandated reporting or child abuse and having suspected a student had been abused in the past are reported in Tables 55-58. Having had any past exposure to information was not a significant predictor of whether respondents had previously suspected that one of their students had been a victim of physical abuse, emotional/mental abuse, or neglect (physical: $\chi^2 = 0.30$ $df = 1$, $p = .583$; emotional/mental: $\chi^2 = 1.53$ $df = 1$, $p = .216$; neglect: $\chi^2 = 1.64$ $df = 1$, $p = .200$). However, prior exposure was a significant predictor of respondents' past suspicions of sexual abuse ($\chi^2 = 12.75$ $df = 1$, $p = .000$), although in the opposite direction as was expected. Respondents who had prior exposure to information about child abuse or

mandated reporting were *less* likely to have reported ever suspecting that one of their students had been sexually abused ($B = -1.99, p = .001$).

The level of exposure had no effect on whether respondents had previously suspected that one of their students had been abused – among respondents who had some prior exposure to information on these topics, dosage level was not a significant predictor of previous suspicions of physical abuse, sexual abuse, emotional/mental abuse, nor neglect (physical: $\chi^2 = 0.03 df = 1, p = .854$; sexual: $\chi^2 = 1.49 df = 1, p = .700$; emotional/mental: $\chi^2 = 1.56 df = 1, p = .212$; neglect: $\chi^2 = 0.27 df = 1, p = .606$). Findings from these OLS regression analyses are reported in Tables 59-62.

Table 55

Influence of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Physical Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-2.28***	0.68	.102
Controls	Nagelkerke's $R^2 = 0.18$ Omnibus Test: $\chi^2=20.80^{**}$, $df=5$		
Alumni Sample	1.18*	0.48	3.27
Size: Medium (Small)	0.06	0.44	1.06
Size: Large (Small)	0.93*	0.45	2.533
Poverty Level	1.86***	0.51	6.39
School Reporting Procedure	-0.08	0.42	1.29
Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.19$ Omnibus Test: $\chi^2= 0.30$, $df=1$		
Had Prior Exposure	0.25	0.46	0.30
Sample Size	142		
Omnibus Test of Model Coefficients	$\chi^2 = 21.10^{**}$, $df= 6$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Variables in parenthesis serve as reference category for dummy variables.
Percentage who have suspected physical abuse: 45.8% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)
* $p < .05$, ** $p \leq .01$, *** $p \leq .001$

Table 56

Influence of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Sexual Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-1.51	0.77	0.22
Controls	Nagelkerke's $R^2 = 0.26$ Omnibus Test: $\chi^2=27.74^{***}$, $df=6$		
Alumni Sample	1.89***	0.55	6.64
Male	-2.10**	0.93	0.12
Size: Medium (Small)	-0.21	0.56	0.81
Size: Large (Small)	-0.69	0.57	-0.50
Poverty Level	1.09	0.57	2.99
School Reporting Procedure	1.30*	0.58	3.68
Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.37$ Omnibus Test: $\chi^2=12.75^{***}$, $df=1$		
Had Prior Exposure	-1.99***	0.59	0.14
Sample Size	142		
Omnibus Test of Model Coefficients	$\chi^2 = 40.49^{***}$, $df = 7$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall

regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Variables in parenthesis serve as reference category for dummy variables.

Percentage who have suspected sexual abuse: 22.9% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 57

Influence of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Emotional/Mental Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-0.34	1.62	0.711
Controls	Nagelkerke's $R^2 = 0.29$ Omnibus Test: $\chi^2=12.04^*$, $df= 4$		
White	2.00	1.23	7.39
Size: Medium (Small)	0.79	0.77	2.71
Size: Large (Small)	-1.44	0.88	0.24
School Reporting Procedure	-0.61	0.83	0.55
Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.32$ Omnibus Test: $\chi^2=1.54$, $df= 1$		
Had Prior Exposure	-1.16	0.98	0.31
Sample Size	49		
Omnibus Test of Model Coefficients	$\chi^2 = 13.57^*$, $df= 5$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Variables in parenthesis serve as reference category for dummy variables.

Percentage who have suspected emotional/mental abuse: 41.3% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 58

Influence of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Neglect

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-0.43	0.95	0.65
Controls	Nagelkerke's $R^2 = 0.13$		
	Omnibus Test: $\chi^2=5.08$, $df= 3$		
Size: Medium (Small)	0.26	0.70	1.29
Size: Large (Small)	-1.48	0.82	0.23
School Reporting Procedure	-0.28	0.78	2.89
Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.71$		
	Omnibus Test: $\chi^2=1.64$, $df= 1$		
Had Prior Exposure	1.06	0.85	2.89
Sample Size	49		
Omnibus Test of Model Coefficients	$\chi^2=6.72$, $df= 4$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Variables in parenthesis serve as reference category for dummy variables.

Percentage who have suspected neglect: 47.6% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 59

Influence of Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Physical Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-2.81	1.81	0.06
Controls	Nagelkerke's $R^2 = 0.22$ Omnibus Test: $\chi^2=17.30^{**}$, $df= 4$		
Alumni Sample	1.24	0.64	3.46
White	0.58	0.56	1.78
Poverty Level	2.10***	0.64	8.20
School Reporting Procedure	0.89	0.56	2.44
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.22$ Omnibus Test: $\chi^2=0.03$, $df= 1$		
Dosage level	-0.01	0.03	0.99
Sample Size	96		
Omnibus Test of Model Coefficients	$\chi^2=17.33^{**}$, $df= 5$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who have suspected physical abuse: 45.8% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 60

Influence of Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Sexual Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-4.35	3.01	0.013
Controls	Nagelkerke's $R^2 = 0.39$ Omnibus Test: $\chi^2=26.21^{***}$, $df= 5$		
Alumni Sample	2.52**	0.80	12.372
Male	-1.93	1.11	0.15
White	0.78	0.95	2.18
Poverty Level	1.17	0.78	3.21
School Reporting Procedure	2.00	1.18	7.351
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.40$ Omnibus Test: $\chi^2=0.15$, $df= 1$		
Dosage level	-0.02	0.05	0.98
Sample Size	96		
Omnibus Test of Model Coefficients	$\chi^2=26.36^{***}$, $df= 6$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall

regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who have suspected sexual abuse: 22.9% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 61

Influence of Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Emotional/Mental Abuse

Step/Variable	B	SE	Exp(b)/O.R.
Constant	-4.78	4.16	0.00
Controls	Nagelkerke's $R^2 = 0.09$ Omnibus Test: $\chi^2=1.86$, $df= 2$		
White	1.39	1.325	4.03
School Reporting Procedure	-1.53	1.51	0.22
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.15$ Omnibus Test: $\chi^2=1.56$, $df= 1$		
Dosage level	0.09	0.07	1.09
Sample Size	28		
Omnibus Test of Model Coefficients	$\chi^2=3.42$, $df= 3$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who have suspected emotional/mental abuse: 41.3% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Table 62

Influence of Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse on Past Suspicions of Neglect

Step/Variable	B	SE	Exp(b)/O.R.
Constant	19.09	23039.14	0.00
Controls	Nagelkerke's $R^2 = 0.22$ Omnibus Test: $\chi^2=5.09$, $df= 2$		
White	0.37	1.31	1.45
School Reporting Procedure	-21.79	23039.14	0.00
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	Nagelkerke's $R^2 = 0.23$ Omnibus Test: $\chi^2=0.27$, $df= 1$		
Dosage level	.035	.068	1.035
Sample Size	28		
Omnibus Test of Model Coefficients	$\chi^2=5.35$, $df= 3$		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

Exp(b)/O.R. indicates the exponential of the regression coefficient (B), also known as the odds ratio, which represents the value of change in the odds of the outcome variable corresponding to a one-unit change in the independent variable.

B, SE, and Exp(b)/O.R. displayed are from final step in the equation with all the variables entered.

Nagelkerke's R^2 represents the relative predictive power of the independent variables in the model at that step in the equation, including the variables in all the previous steps, but not those in the following step.

The omnibus test of model coefficients assesses whether the model with the independent, predictor variables is significantly different from the model with only the intercept. Chi-squares for the omnibus tests are provided at each step in the equation and for the overall regression equation. A significant chi-square for an omnibus test indicates that the individual step or the model overall is an adequate fit for the data.

Percentage who have suspected neglect: 47.6% (represents percentage for full sample, may differ slightly from the actual percentage for cases included in this analysis because of deletion for missing data)

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

Additional Examination of Research Question #8

Research Question #8 was examined in two ways: 1) evaluation of the exploratory models using structural equation modeling with reporting tendency as the indicator of compliance with reporting laws, and 2) assessment of the relationship between prior exposure to information and compliance, with past frequency of reporting suspicions of child abuse as the indicate of compliance (see Chapter 4 for a full discussion of these methods). The results of the structural equation modeling were discussed in the previous section. The following section discusses the findings from the series of regression analyses examining whether past exposure to information predicts past reporting of suspicions of abuse.

Findings from the regression analyses indicate that there was no relationship between prior exposure to information about mandated reporting or child abuse and frequency of reporting physical abuse, sexual abuse, or neglect (physical: $\Delta R^2 = .01$, $p = .309$; sexual: $\Delta R^2 = .01$, $p = .590$. ; neglect: $\Delta R^2 = .04$, $p = .395$), (see Tables 63 and 64). However, having had any prior exposure was a significant predictor of frequency of reporting emotional/mental abuse ($\Delta R^2 = .19$, $p = .029$), in that respondents who had been exposed information on the topics had reported their suspicions of emotional/mental abuse to CPS more often ($B = 1.09$., $p = .029$). Similarly, the dosage of exposure to some type of information about child abuse or mandated reporting was not significantly related to the frequency with which they had reported past suspicions of physical abuse, sexual abuse, emotional/mental abuse, or neglect (physical: $\Delta R^2 = .01$, $p = .471$; sexual: $\Delta R^2 =$

.20, $p = .074$; emotional/mental: $\Delta R^2 = .06$, $p = .368$; neglect: $\Delta R^2 = .28$, $p = .078$), (see Tables 65 and 66).

Table 63

Influence of Exposure to Information about Mandated Reporting or Child Abuse on Past Reporting of Suspicions of Physical and Sexual Abuse

Step/Variable	Physical Abuse			Sexual Abuse		
	B	SE	β	B	SE	B
Intercept	1.61***	0.35	-	1.76**	0.56	-
Controls	$\Delta R^2 = 0.21^{**}$			$\Delta R^2 = 0.05$		
Alumni Sample	0.82**	0.30	0.33	0.28	0.57	0.10
Size: Medium (Small)	-0.03	0.37	-0.01	0.30	0.59	0.10
Size: Large (Small)	0.22	0.33	0.09	0.05	0.62	0.02
School Reporting Procedure	0.41	0.36	0.16	0.70	0.64	0.23
Exposure to Information on Mandated Reporting or Child Abuse	$\Delta R^2 = 0.01$			$\Delta R^2 = 0.01$		
Had Prior Exposure	0.42	0.41	.015	-0.36	0.66	-0.13
Sample Size	63			36		
Final Adj R ²	0.16			-0.10		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for physical abuse: 2.60 Standard deviation of outcome for physical abuse: 1.211; Mean of outcome for sexual abuse: 2.39 Standard deviation of outcome for sexual abuse: 1.405 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 64

Influence of Exposure to Information about Mandated Reporting or Child Abuse on Past Reporting of Suspicions of Emotional/Mental Abuse and Neglect

Step/Variable	Emotional/Mental Abuse			Neglect		
	B	SE	β	B	SE	β
Intercept	0.24	0.50	-	1.12	0.94	-
Controls	$\Delta R^2 = 0.22$			$\Delta R^2 = 0.07$		
Size: Medium (Small)	0.68	0.43	0.31	0.65	0.56	0.27
Size: Large (Small)	1.01	0.64	0.30	0.62	0.86	0.17
School Reporting Procedure	0.53	0.44	0.23	0.14	0.61	0.05
Exposure to Information on Mandated Reporting or Child Abuse	$\Delta R^2 = 0.19^*$			$\Delta R^2 = 0.04$		
Had Prior Exposure	1.09*	0.46	0.45	0.71	0.81	0.20
Sample Size	24			24		
Final Adj R^2	0.27			-0.09		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R^2 represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for emotional/mental abuse: 1.88 Standard deviation of outcome for emotional/mental abuse: 1.107; Mean of outcome for neglect: 2.27 Standard deviation of outcome for neglect: 1.172 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 65

Influence of Dosage Level of Exposure to Information about Mandated Reporting or Child Abuse on Past Reporting of Suspicions of Physical and Sexual Abuse

Step/Variable	Physical Abuse			Sexual Abuse		
	B	SE	β	B	SE	β
Intercept	1.37	1.17	-	-2.14	3.40	-
Controls	$\Delta R^2 = 0.16$			$\Delta R^2 = 0.18$		
Alumni Sample	0.80	0.40	0.33	-0.02	0.91	-0.01
White	-0.01	0.50	-0.00	-0.27	1.05	-0.06
School Reporting Procedure	0.24	0.55	0.07	-1.37	1.43	-0.22
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	$\Delta R^2 = 0.01$			$\Delta R^2 = 0.20$		
Dosage level	0.02	0.21	0.13	0.11	0.06	0.55
Sample Size	42			17		
Final Adj R^2	0.08			0.17		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered.

ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R^2 represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for physical abuse: 2.60 Standard deviation of outcome for physical abuse: 1.211; Mean of outcome for sexual abuse: 2.39 Standard deviation of outcome for sexual abuse: 1.405 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Table 66

Influence of Dosage Level of Exposure to Information about Mandated Reporting or Child Abuse on Past Reporting of Suspicions of Emotional/Mental Abuse and Neglect

Step/Variable	Emotional/Mental Abuse			Neglect		
	B	SE	β	B	SE	β
Intercept	-0.23	3.60	-	-3.70	3.06	-
Controls	$\Delta R^2 = 0.32$			$\Delta R^2 = 0.07$		
White	-1.84	1.20	-0.41	-0.33	0.99	-0.09
School Reporting Procedure	1.06	0.89	0.32	0.60	0.85	0.20
Dosage Level of Exposure to Information on Mandated Reporting or Child Abuse	$\Delta R^2 = 0.06$			$\Delta R^2 = 0.28$		
Dosage level	0.05	0.06	0.25	0.11	0.06	0.54
Sample Size	13			13		
Final Adj R ²	0.17			0.14		

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

B indicates the unstandardized regression coefficient.

SE indicates the standard error of the regression coefficient.

β indicates the standardized regression coefficient.

B, SE, and β displayed are from final step in the equation with all the variables entered. ΔR^2 represents the additional variance in the outcome variable explained by the set of predictor variables at each step.

Final Adj R² represents the portion of the variance in the outcome variable explained by the full model with all sets of variables entered into the equation.

Variables in parenthesis serve as reference category for dummy variables.

Mean of outcome for emotional/mental abuse: 1.88 Standard deviation of outcome for emotional/mental abuse: 1.107; Mean of outcome for neglect: 2.27 Standard deviation of outcome for neglect: 1.172 (represents means and standard deviations for full sample, may differ slightly from the actual means and standard deviations for cases included in this analysis because of deletion for missing data)

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

Summary and Discussion of Findings

Research Question #6

As summarized in Table 67 below, the exploratory models of teacher reporting behavior conducted through structural equation modeling found none of the factors to be predictive of reporting tendency. The factors most commonly addressed in training and education for mandated reporters – knowledge of mandated reporting law, knowledge of indicators of child abuse, and knowledge of the procedure for reporting abuse – did not predict teachers' likelihood of reporting suspicions of abuse. Similarly, none of the factors proposed by the Integrated Model of Behavior – self-efficacy related to identifying indicators of abuse and of making a report, subjective norms regarding reporting suspicions of abuse, and attitude towards reporting – predicted compliance with mandated reporting laws.

Table 67

Summary of Findings Regarding Factors Related to Teachers' Likelihood of Compliance with Mandated Reporting Laws

Factors	Predictive of Reporting Tendency
Common Elements of Education/Training Programs	
Knowledge of mandated reporting law	N
Knowledge of reporting procedures	N
Knowledge of indicators of abuse	N
Elements from Integrated Model of Behavior	
Self-efficacy regarding identifying indicators of abuse	N
Self-efficacy regarding reporting	N
Attitude towards outcome of reporting	N
Subjective norms regarding reporting	N

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: From results to Research Question #6 as detailed in Chapter 6.

Y Indicates that the exposure variable was a significant predictor of the outcome variable.

N Indicates that the exposure variable was not a significant predictor of the outcome variable.

Although some research has examined the relationship of these factors to reporting abuse, many studies have done so through educators' self-reports regarding their decision making related to reporting (Abrahams et al., 1992; Beck et al., 1994; Hinson & Fossey, 2000; Kenny, 2001a; Zellman, 1990). For example, Kenny (2001a) found that 16% of teachers said that they did not report their suspicions of abuse because they believed that child protective services were generally not helpful. Research that has statistically examined the relationship between reporters' reporting behaviors or intentions and their knowledge, attitudes, and beliefs is sparse. A study of Ohio teachers did find a small relationship between reporting behaviors and beliefs about the outcome of the reports for the child (detailed in both O'Toole et al., 1999; Webster et al., 2005). The other main study to statistically examine relationships between reporters' knowledge, attitudes, and beliefs and their reporting tendency was conducted by Crenshaw, et al. (1995) with school personnel in Kansas. Similar to the findings of this current study, Crenshaw, et al. found no relationship between educators' willingness to report suspicions of abuse and their knowledge of mandated reporting policies or their beliefs about administrators' support for reporting their own suspicions of abuse.

Research Question #7

As summarized in Table 68 below, findings suggest that exposure to information may increase teachers' knowledge, but has no effect on teachers' efficacy, attitudes, or social norms related to reporting suspicions of child abuse to child protective services.

Table 68

Summary of Findings Regarding Prior Exposure to Information on Child Abuse/Mandated Reporting as Predictor of Teachers' Knowledge, Self-Efficacy, Attitudes, and Social Norms

Outcome Variable	Any Exposure	Dosage of Exposure
Knowledge of Mandated Reporting Law	N	Y
Knowledge of Reporting Procedures	Y	Y
Knowledge of Indicators of Abuse		
Assessed through hypothetical vignettes of physical and sexual abuse	N	N
Assessed through past suspicions of abuse		
Physical abuse	N	N
Sexual abuse	Y (negative)	N
Emotional/mental abuse	N	N
Neglect	N	N
Attitude toward Outcome of Reporting	N	N
Subjective Norms Regarding Reporting	N	N
Self-Efficacy Beliefs Regarding Reporting	N	N
Self-Efficacy Beliefs Regarding Identifying Indicators of Abuse	N	N

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: From results to Research Question #7 as detailed in Chapter 6.

Note: Relationships between the exposure variables and knowledge of indicators of abuse assessed through hypothetical vignettes were assessed through structural equation modeling. Relationships between the exposure variables and knowledge of indicators of abuse assessed through past suspicions of abuse were assessed through a series of regression analyses. Relationships between exposure variables and all other outcome variables were assessed through structural equation modeling.

Y Indicates that the exposure variable was a significant predictor of the outcome variable.

N Indicates that the exposure variable was not a significant predictor of the outcome variable.

Having exposure to information about mandated reporting or child abuse was predictive of teachers' knowledge. Specifically, both having had any prior exposure and the level of dosage of exposure were predictive of the procedures for making a report. Dosage of exposure was also predictive of knowledge of aspects of the mandated reporting law. However, exposure to information did not predict knowledge of indicators of abuse.

Findings from the structural equation modeling analysis suggest that the only constructs influenced by exposure to information were two of three constructs representing the common elements of education and training programs. In addition, the finding that exposure to information predicted knowledge of the law and of reporting procedures is consistent with prior research (Anderson, 1997; Bonardi, 2000; Campbell & Macdonald, 1996; Cerezo & Pons, 2004; Feng & Levine, 2005; Hawkins & McCallum, 2001; Kenny, 2007; McCallum & Baginsky, 2001; McGrath et al., 1987; Randolph & Gold, 1994; Reiniger et al., 1995).

In contrast of prior research (Hawkins & McCallum, 2001; Kenny, 2007; Kleemeier et al., 1988; McGrath & Bogat, 1995; Perrault, 1997; Randolph & Gold, 1994; Reiniger et al., 1995), this study did not find evidence that education and training programs increase recognition of indicators of abuse. In an effort to have greater external validity, the methods in which knowledge of indicators was assessed in this study were: 1) recognition of abuse in hypothetical vignettes and 2) past actual suspicions of abuse.

These methods of assessing knowledge of indicators were different from the way this knowledge was assessed in much of the literature where knowledge of indicators was assessed through multiple choice or true/false items (e.g., Kenny, 2007; Kleemeier et al., 1988) or self-report of knowledge gained from an education or training program (e.g., Reiniger et al., 1995). This difference may provide a partial explanation for the discrepancy in the results of this current study and past research regarding the relationship of exposure to information and knowledge of indicators of abuse. Although, Tilden, et al. (1994), using a method similar to the one in this study, concluded that education about mandated reporting was related to increased recognition of signs of abuse because mandated reporters with education on the topic had higher rates of suspecting abuse. And yet, the current study did not find a relationship between prior exposure to information and whether or not the teacher had ever suspected that a student had been physically abused, emotionally/mentally abused, or neglected. And indeed, having had any exposure was *negatively* related to having ever suspected a student had been sexually abused.

Contrary to findings regarding school personnel in Australia, (Hawkins & McCallum, 2001), exposure to information was not predictive of self-efficacy regarding identifying indicators of abuse. It is important to note that the structural equation model analysis only included indicators of physical and sexual abuse, so the current study provides no information about the impact of exposure to information on the knowledge or self-efficacy regarding indicators of emotional/mental abuse or neglect. However, exposure was also not directly predictive of self-efficacy related to making a report of

abuse or ability, although it was an indirect predictor, mediated by knowledge of reporting procedures.

In the current study, exposure did not predict either attitude toward making a report or social norms regarding reporting suspicions of abuse. Prior research has not examined the relationship between exposure to information, i.e., education or training, and attitude or social norms.

Research Question #8

As summarized in Table 69 below, overall, findings failed to find evidence that exposure to information affects teachers’ compliance with mandated reporting laws.

Table 69

Summary of Findings Regarding Prior Exposure to Information on Child Abuse/Mandated Reporting as Predictor of Teachers’ Compliance with Mandated Reporting Laws

Outcome Variable	Any Exposure	Dosage of Exposure
Reporting tendency (physical and sexual abuse)	N	N
Frequency of past reporting of suspicions of child abuse		
Physical abuse	N	N
Sexual abuse	N	N
Emotional/mental abuse	Y	N
Neglect	N	N

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania’s Graduate School of Education Teacher Education Program in February-March 2009.

Note: From results to Research Question #8 as detailed in Chapter 6.

Note: Relationships between the exposure variables and reporting tendency were assessed through structural equation modeling. Relationships between the exposure variables and frequency of past reporting of suspicions of child abuse were assessed through a series of regression analyses.

Y Indicates that the exposure variable was a significant predictor of the outcome variable.

N Indicates that the exposure variable was not a significant predictor of the outcome variable.

Analyses of the exploratory models through structural equation models found no evidence that exposure to information affects teachers' reporting tendency, i.e., their likelihood of reporting child abuse. Because reporting tendency was assessed through scenarios designed to include a number of strong indicators of abuse, these results cannot necessarily be generalized to more ambiguous cases of abuse, such as those with fewer observable indicators. It is possible that in the real world, these less obvious cases are more common.

In addition to assessing reporting tendency, the relationship between exposure to information and frequency of actual past suspicions of abuse was examined through regression analyses. Similar to the findings from the structural equation modeling analyses of reporting tendency, neither having had any prior exposure to information nor the dosage level of that exposure was predictive of frequency of reporting suspicions of physical abuse or sexual abuse. The structural equation models only assessed physical and sexual abuse; analysis of past frequency of abuse assessed neglect and emotional/abuse for the Alumni Sample, in addition to physical and sexual abuse for both samples. Results of the analysis of past reporting behaviors found that exposure was not related to past reporting of neglect. However, having had any prior exposure to information about child abuse or mandated reporting was predictive of past frequency of reporting suspicions of emotional/mental abuse, in that those who had received education were more likely to report suspicions.

There is little prior research on the relationship between actual reporting behaviors and exposure to information about mandated reporting or child abuse. The one

identified study to date of mandated reporters in the U.S. that examined this relationship (Swartz, 1995) did find that increased training for teachers was associated with an increased probability of reporting child abuse, although at least three to four hours of training was required before any effect was detected. Overall, the findings from this current study found no evidence that exposure to information, or dosage of that exposure, impacts reporting of physical abuse, sexual abuse, or neglect. However, findings indicated that having any prior exposure was predictive of past reporting of suspicions of emotional/mental abuse.

Chapter 7: Limitations and Conclusions

This study explored possible factors accounting for the variability in teachers' compliance with mandated reporting laws, including factors addressed by education and training programs and those suggested by the Integrated Model of Behavior. The study also documented how prepared teachers who have been trained by the University of Pennsylvania's Graduate School of Education Teacher program are for their role as mandated reporters of child abuse. In addition, the study provided information on the effects of exposure to information on mandated reporting or child abuse on teachers' knowledge, attitudes, beliefs and behaviors related to the reporting of suspected child abuse.

Findings from this study indicate that both current students and alumni of GSE's Teacher Education Programs could benefit from a greater level of preparation for their role as mandated reporters of child abuse. Although most (69.9%) reported having received some type of information about mandated or child abuse, overall, they did not feel well prepared, and the majority had failed to comply with mandated reporting laws at some point in their career. Teachers' responses to the hypothetical cases, while indicating a relatively high likelihood of reporting abuse cases with numerous observable indicators, suggest that at least some of these educators would not necessarily report all their suspicions of abuse and/or would fail to suspect abuse when perhaps they should.

Few of the factors explored in this study were related to teachers' compliance with mandated reporting laws (see Table 70 below). Teachers' race/ethnicity and gender were not related to their compliance with mandated reporting laws. In addition, the

school-level characteristics of locale (urban vs. suburban or rural) and poverty level were not related to compliance. School size (small vs. medium, small vs. large) and school type (public vs. private/parochial) were related to reporting of past suspicions of neglect, but were not related to reporting for any other type of abuse. Having a standard school or school district procedure for reporting abuse was predictive of teachers' likelihood of reporting physical and sexual abuse, but not emotional/mental abuse or neglect; and having a procedure was not related to the frequency of reporting of past suspicions of abuse.

Neither the main factors of the Integrated Model of Behavior (attitudes, social norms, and self-efficacy) nor the common elements of education/training programs (knowledge of law, knowledge of reporting procedure, knowledge of indicators of abuse) were predictive of teachers' likelihood of reporting physical or sexual abuse⁷ (see also Table 70 below). Furthermore, findings from this study indicated that exposure to information about child abuse or mandated reporting (e.g., through education or training) was predictive of knowledge, but was not related to teachers' reporting tendency nor their frequency of reporting past suspicions of physical abuse, sexual abuse, or neglect (see also Table 70). However, having had any exposure to information was a positive predictor of frequency of reporting past suspicions of emotional/mental abuse.

⁷ Relationships between reporting tendency and the factors in Integrated Model of Behavior and the common elements of education/training programs were only assessed for reporting of physical and sexual abuse. This was because these relationships were assessed using structural equation modeling (SEM) with data from both samples, and only the Alumni Sample was asked about reporting tendency for emotional/mental abuse and neglect.

Table 70

Summary of Findings Regarding Predictors of Teachers' Compliance with Mandated Reporting Laws

Examined Predictor Variables	Reporting Tendency	Past Reporting of Suspicions of Abuse
Individual Characteristics		
Race/Ethnicity	N	N
Gender	N	N
School-Level Characteristics (other than procedure)		
Type (public vs. private/parochial)	N	Y (neglect only)
Locale	N	N
Size	N	Y (neglect only)
Poverty	N	N
School/District Procedure for Reporting Abuse	Y (physical and sexual only)	N
Exposure to Information (Education/Training)		
Any exposure	N	Y (emotional/mental only)
Dosage of exposure	N	N
Factors from Integrated Model of Behavior		
Attitude toward making a report	N	N
Subjective norms about making reporting	N	N
Self-efficacy – making a report	N	N
Self-efficacy – identifying indicators of abuse	N	N
Common Elements of Education/Training Programs		
Knowledge of mandated reporting law	N	N
Knowledge of indicators of abuse	N	N
Knowledge of reporting procedures	N	N

Source: Child Abuse and Mandated Reporting Survey, completed by 166 alumni and current students of University of Pennsylvania's Graduate School of Education Teacher Education Program in February-March 2009.

Note: From results to Research Questions #5, as detailed in Chapter 5, and Questions #6 and #8, as detailed in Chapter 6.

Y Indicates that the predictor variable was a significant predictor of the variable assessing compliance with mandated reporting law.

N Indicates that the predictor variable was not a significant predictor of the variable assessing compliance with mandated reporting law.

Limitations

There are a number of limitations to the current study. By design, the generalizability of findings is limited to current and former students of the University of Pennsylvania's Graduate School of Education (GSE) Teacher Education Program who are teaching or student teaching in K-12 schools. External validity of findings is also compromised by potential response bias, particularly among alumni and students in the Teach for America Program. The method of data collection varied both by sample and by program, and in turn, so did the response rates (12.5% for Alumni Sample⁸, 95.9% for students in the elementary and secondary programs, 14.5% for students in the Teach for America Program). It is quite possible that those who chose to participate in the study generally differed from those who did not participate. For example, those who participated might have been more interested in the topic, had more free time, or had more positive feelings towards GSE and thus were more willing to help out a current student.

⁸ The number of alumni who were actually eligible to participate in the study (i.e., working as teachers in a K-12 school) is unknown, so it is possible that this underestimates the response rate for those who were actually eligible to participate in the study.

Like most research utilizing survey designs, the findings may be limited by self-report bias. Although respondents participated anonymously, validity of responses may be still compromised by social desirability bias in reporting. This may be particularly true for students in the elementary and secondary programs as the questionnaires were administered during a course with their instructor present.

This study was also limited by its relatively small sample size (N=166), particularly when examining sub-groups (i.e., among two samples or only those who had previously suspected abuse). In addition to prohibiting certain analyses, the sample size limited the power to detect statistically significant differences for outcomes with small true effect sizes. Given that many of the variables in this study were skewed in the more desirable direction (likely a result of both respondents' true score and social desirability), this may have been particularly limiting in this study's ability to detect predictive relationships between the variables, and may partially account for the preponderance of null findings in this study.

The hypothetical vignettes employed in this study are just that – hypothetical. Teachers' responses to these vignettes may not accurately reflect their responses in real world situations. In an effort to address this limitation, respondents were also asked about their past behaviors regarding recognizing and reporting child abuse. This allowed for both past behaviors as well as future intention (likelihood of reporting in cases of hypothetical scenarios) to be examined in the study.

The cross-sectional design of this study limits any conclusions about causality, although attempts were made to address this by limiting analyses to those that were temporally logical.

For example, past exposure was examined as a predictor of current knowledge, attitudes, and beliefs which were, in turn, examined as predictors of future behavioral intention. In addition, the relationships between current knowledge, attitudes, and beliefs and past reporting behaviors were not assessed, although the relationships between past behaviors and past exposure to information about mandated reporting or child abuse were examined.

Implications

Findings from this study suggest that teachers trained by GSE may not be adequately prepared for their role as mandated reporters, even though most have received some sort of information about mandated reporting and child abuse. For at least the past five years, GSE has prepared teachers by, at most, providing them with a one-session presentation on mandated reporting – ranging from one hour to three hours. This method does not appear to have been very effective. Perhaps GSE could consider other methods of equipping teachers, such as the mentored learning approach discussed by McCallum (2003). This approach moves beyond a one-time educational session, and focuses on providing continual support to student teachers in the real-world context, making connections between the topical information and actual practical experiences. GSE could incorporate a similar strategy into their Field Placement courses, or perhaps provide training and support to the lead teachers of the classrooms where student teachers are

placed. These lead teachers could then serve as coaches to the student teachers around issues of mandated reporting, engaging them in discussion and reflection as they deal with these real-world issues in an applied setting.

Few factors explored in this study were related to the reporting of abuse, the findings provide limited guidance to teacher educators or policymakers regarding how to better prepare teachers and ensure compliance with mandated reporting laws. This study examined the applicability of behavior change theory, particularly the Integrated Model of Behavior, as a framework for understanding educators' reporting behaviors. Based on the findings, the Integrated Model of Behavior and its various components do not adequately account for the variability in educators' behavior and, in fact, have no explanatory power for reporting of physical or sexual abuse. Of course, this is only one study and of a very specific population. Behavior change theories might still serve as a useful tool for understanding mandated reporters' behaviors, and should be explored in future research.

Prior research has demonstrated the effectiveness of education/training programs on child abuse and mandated reporting in increasing knowledge and self-efficacy (e.g., Hawkins & McCallum, 2001; Kenny, 2007; Reiniger et al., 1995), but most studies have not examined their influence on actual reporting behaviors. This is one of the few studies to examine the effect of exposure to information about mandated reporting or child abuse on actual reporting behaviors, as opposed to the effect on knowledge, attitudes, or beliefs (for past research assessing actual reporting behaviors, see: Cerezo & Pons, 2004; Feng & Levine, 2005; Swartz, 1995). Findings from this study suggest that exposure to

information does increase educators' knowledge, but does not result in increased reporting of physical abuse, sexual abuse, or neglect. However, having exposure to information was predictive of reporting past suspicions of emotional/mental abuse. These findings call into question the effectiveness of education and training programs on mandated reporting and child abuse with regard to increasing compliance with mandated reporting law, particularly in cases of physical abuse, sexual abuse and neglect. Future research and evaluation studies should focus on examining the impact of education and training specifically on reporting behaviors, not solely on knowledge, attitudes, or beliefs.

This study, like prior research (e.g., Hinson & Fossey, 2000; Kenny 2001a; Zellman & Antler, 1990), has explored professionals' reasons for non-reporting. It would be useful to examine reasons why professionals *did* choose to report. Research could identify teachers who had reported suspicions of child abuse to child protective services and inquire about the circumstances and rationale surrounding these reports. Furthermore, research could examine professionals in schools where reports of abuse have been made and learn from school staff about their various experiences with the specific children whose cases were reported. This might provide insight into how various school professionals come to suspect or fail to suspect abuse. It could develop understanding not only around professionals' reporting decisions, but also about what arouses suspicion, and what type of indicators of abuse school personnel are likely to encounter.

Only one of the factors explored in this study was related to compliance with mandated reporting laws in cases of physical or sexual abuse – having a standard

school/district procedure for reporting abuse. Teachers who reported that their school or school district has such a procedure were more likely to report physical and sexual abuse than teachers who reported their school/district did not have such a procedure or did not know if there was a procedure. Thus, findings from this study suggest that implementing a school or district-wide standard procedure for reporting suspicions of child abuse may be an effective method for increasing teachers' compliance with mandated reporting laws. However, implementation alone may not be enough. In order for the procedure to have an impact, teachers must be aware of it and thus, schools/districts must be sure to notify their staff of the procedure. In addition to school procedure, the school-level characteristics of school size and school type were predictive of frequency of past reporting of neglect, in that teachers in public schools and in schools with between 501-1000 students (compared to schools with 500 or fewer students) had reported their past suspicions of neglect more often.

Although school-level characteristics were the most common predictors of compliance with reporting laws, this study, like most prior research, focused predominantly on individual determinants of teacher behavior (i.e., individual demographics, exposure to information, attitudes, and knowledge). Research and practice efforts designed to increase compliance with mandated reporting laws might benefit from greater attention to school-level factors that may facilitate or inhibit reporting of suspected child abuse. The majority of current interventions designed to increase teachers' recognition and reporting of child abuse focus on providing education or training to individual teachers. However, given that much of the research, including

this study, fails to support this as an effective approach, other innovative efforts should be considered.

Findings from this study suggest that a shift in focus in research and practice regarding mandated reporting by school professionals may be necessary. Instead of focusing on what makes school professionals report their suspicions, perhaps it is time to consider what makes a school a place where its staff are likely to report their suspicions. This study points to a standard procedure for reporting abuse as one component of a school environment that fosters reporting. Are there other aspects of a school culture that promote reporting? Future research on mandated reporting by school professionals should examine schools as the unit of analysis. For example, researchers could identify schools that have various rates of mandated reporting and examine the particular culture of each of these schools to help identify the elements of high-, medium- and low-reporting schools.

New interventions that focus on the school context, instead of just the individual teacher, should also be explored. For example, instead of requiring that all knowledge and agency reside in individual teachers, perhaps there should be a focus on the collective wisdom of a school staff around how to best address concerns regarding particular students. The development of coordinated teams where school professionals could bring their concerns might reduce isolation and uncertainty. Indeed, it appears that some teachers are already choosing to talk with their colleagues about their suspicions, instead of complying with the law and reporting these suspicions to child protective services. For example, a number of teachers in the current study indicated that they shared their

concerns with another staff member instead of reporting their suspicions to child protective services. Perhaps providing a more formalized mechanism for school personnel to receive support and guidance, one that funnels reports into child protective services when appropriate, would result not only in increased compliance with mandated reporting law, but also improved outcomes for students. Regardless of the requirements of the law to report suspicions of abuse, teachers may be uneasy about reporting to child protective services when their suspicions are weak (Abrahams et al., 1992; Desiz et al., 1996; Hawkins & McCallum, 2001; Hinson & Fossey, 2000; Kenny, 2004; Perrault, 1997). And, in fact, the most common reason given by teachers in this study for not reporting suspicions of abuse was that they did not have enough evidence of abuse. By bringing the collective experience to bear on any given student's situation, it may become more clear that a report should be made – as a number of school staff may have suspicions that on their own may not have compelled any individual staff member to make a report, but together they would result in a decision to report.

Findings from this study also highlight the importance of the type of abuse when considering issues of mandated reporting of child abuse. Recall that items related to emotional/mental abuse and neglect were only assessed in the Alumni Sample. Still, numerous differences were found in teachers' responses depending upon the type of abuse. For example, respondents were less likely to have suspected a student had been sexually abused than to have suspected any other type of abuse. They were also less knowledgeable about the indicators of sexual abuse. In contrast, educators were most knowledgeable about indicators of physical abuse and were most likely to have

previously suspected physical abuse than any other type of abuse. Likelihood of reporting based on the hypothetical vignettes was lower for cases of emotional/mental abuse and neglect than for cases of physical and sexual abuse. In addition, relationships between certain variables and individual and school-level characteristics varied depending upon the type of abuse. For example, gender (i.e., identifying as male) predicted whether respondents had previously suspected sexual abuse, but not any other type of abuse, whereas school-level characteristics were related to past suspicions of physical abuse and emotional/mental abuse, but not to suspicions of sexual abuse or neglect. Race/ethnicity (i.e., identifying as White) was significantly related to knowledge of indicators of neglect, but not to knowledge of indicators of other types of abuse. Yet, knowledge of indicators of physical abuse and sexual abuse were predicted by school size, although knowledge of indicators of emotional/mental abuse and neglect were not. Being aware of a school procedure for reporting abuse was related to reporting tendency for physical and sexual abuse, but not for emotional/mental abuse or neglect.

Given differences in mandated reporters' experiences, knowledge, attitudes, beliefs, and behavior by type of abuse found in this study and in prior research (Crenshaw et al., 1994; Delaondre, 1996), it would be important to specifically address each type of abuse, in both practice and research. It may be that effective strategies for increasing compliance with mandated reporting law may be specific to certain types of abuse. In addition, these findings highlight the limitations of the current study, in that the exploratory models only included physical and sexual abuse, not neglect or emotional/mental abuse. Thus, it is possible that the factors explored in the models have

significant effects for neglect and emotional/mental abuse. Further research assessing the applicability of behavior change theory, the effectiveness of exposure to information about mandated reporting and child abuse, and teachers' compliance with mandated reporting laws should be sure to address emotional/mental abuse and neglect, in addition to sexual and physical abuse.

Regardless of what strides are made in research and practice to increase teachers' rates of reporting, key questions remain about the efficacy of mandated reporting laws. Mandated reporting laws have operated on the implicit assumption that requiring professionals to report suspicions of abuse will improve child outcomes – through the prevention and treatment of child abuse, as well as the identification of children and families who could benefit from additional services, even if there is no abuse. Yet, this assumption remains untested. Do children who come to the attention of child protective services through mandated reports of abuse fare better than those who do not? And what about potential unintentional consequences of the mandated reporting laws – do, as Bersharov (1991) and Larson, et al. (1994) suggest, the reports made by mandated reporters result in a diversion of resources from cases that might need the most attention to cases that were reported regardless of their actual need for services? Before investing more valuable resources in efforts to increase mandated reporters compliance with the law, perhaps it is necessary to rethink whether the current mandated reporting laws are truly the best approach. Researchers could analyze the dispersment of child protection resources to examine whether cases brought to the attention of child protective services by mandated reporters divert resources from other, potentially more needy cases. In

addition, the actual benefits of mandated reporting could be explored, perhaps through a retrospective study with adult survivors of child abuse. Outcomes of abuse victims who had been brought to the attention of child protective services could be compared to outcomes of victims who had not been involved with child protective services. A study like this, provided it included a strong research design and appropriate statistical controls, could provide valuable information on the effectiveness of child protective services, and in turn, the soundness of mandated reporting laws as a viable method for improving children's lives.

Appendices

Appendix I: Materials Reviewed for Content Analysis of Information Provided to Mandated Reporters

(see Chapter 3 for information about how materials were identified)

Table 70

Materials Reviewed for Content Analysis of Information Provided to Mandated Reporters

Title	State	Year Published	Developer	Source
<i>For Educators as Mandated Reporters</i>				
Child Abuse Reporting School District www.fresno.k12.ca.us/divdept/health/CHILDABUSETRAUG06.ppt	CA	2006	School District	Fresno Unified
Child Abuse Source Book for Florida School Personnel: A Prevention and Intervention Tool www.fldoe.org/ese/ppt/amm/ChildAbuse.ppt	FL	2004	State Agency	Florida Department of Education
The Child Sexual Abuse Prevention: Teacher Training Workshop Curriculum	GA	1988	Educators	Randolph & Gold (1994)

Recognizing & Responding to Child Sexual Assault	PA	2003	Other Organization	Tapestry Workshop
Web-based Training (untitled)	FL	2007	College/University	Florida International University/ Kenny (2007)
Child Sexual Abuse Training for Teachers	GA	1988	Researcher	Kleemier, et al. (1998)
<i>For Mandated Reporters in General</i>				
Recognizing Child Abuse: A Guide for the Concerned	MD	unknown	College/University	University of Maryland, Welfare Reform Academy
www.welfareacademy.org/childabusetraining				
Manual for Mandated Reporters	IL	2006	State Agency	Illinois Department of Children & Family Services
www.state.il.us/DCFS/docs/Mandated.pdf				
Reporting of Maltreatment	MN	unknown	State Agency	Minnesota Department of Human Services
www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&Rendition=Primary&allowInterrupt=1&dDocName=dhs16_139112				
Mandated Reporters: Knowing Your Role in the Protection of Our Children	PA	2009	Non-Profit Organ.	Bucks County Network of Victim Assistance
Mandated Reporter Training: Identifying and Reporting Child Abuse				

and Maltreatment/Neglect	unknown	unknown	Non-Profit Organ.	International Center for Talent Development
www.internationalcenterfortalentdevelopment.com/sitebuildercontent/sitebuilderfiles/mandatedreportertraining.pdf				
Summary Guide for Mandated Reporters in New York State	NY	unknown	State Agency	New York State Office of Children & Family Service
www.ocfs.state.ny.us/main/publications/Pub1159text.asp				
Mandated Reporter Training for Suspected Child Abuse and Neglect Services	ME	unknown	State Agency	Maine Child and Family
www.maine.gov/dhhs/ocfs/cps/index.htm				
Recognizing & Reporting Child Abuse: Training for Mandated Reporters	IL	unknown	State Agency	Chicago Board of Education
www.dcfstraining.org/manrep/index.jsp				
What Mandated Reporters Need to Know Children	CT	unknown	State Agency	Connecticut Department of & Families
www.caisct.org/cais/Quickforms/viewform.aspx?PostingID=151				
Identifying and Reporting Child Abuse and Neglect York	NY	unknown	Non-Profit Organ.	Prevent Child Abuse New York
preventchildabuseny.org/pdf/MandatedReportGuide.pdf				
The California Child Abuse & Neglect				

Reporting Law: Issues and Answers for Mandated Reporters Social www.ehsd.org/child/pdfs/PUB132.pdf	CA	unknown	State Agency	California Department of Services
Identification and Reporting of Child Abuse and Maltreatment	NY	1995	Non-Profit Organ.	Reiniger, et al. (1995)
Recognizing and Reporting Child Abuse: Training for Mandated Reporters Alliance	PA	2007	Non- Profit Organ.	Pennsylvania Family Support

Appendix II: Pilot Studies

This dissertation was informed by two sets of pilot studies I have conducted. These studies are detailed below.

Pilot Study 1: Evaluation of Child Sexual Abuse Training Workshops

Description. Phoenix Education Group (formerly Tapestry Workshop) was contracted by the School District of Philadelphia to deliver *Recognizing and Responding to Child Sexual Assault*, a 2-hour training workshop during the 2002-2003 and 2003-2004 school years. I served as the evaluator of these workshops, first as an element of my field placement with the School District's Research and Evaluation department, then as a consultant for Phoenix Education Group.

During the 02-03 school year, Phoenix Education Group (then known as Tapestry Workshops) delivered 24 workshops to over 180 educators at 17 Philadelphia School District schools. In 03-04, they delivered workshops to over 450 educators at 29 schools. The training addressed the following topics:

- Myths and facts about child sexual abuse
- Definitions of child sexual abuse
- Statutory sexual assault laws
- Handling disclosures of child sexual abuse
- Mandated reporting policies and procedures
- Responding to sexually inappropriate behaviors

Evaluation Purpose and Methods. In an attempt to assess the implementation and impact of the training, in addition to providing information for program improvement and development, the evaluation included formative, process, and summative components.

A pre-post design was used to evaluate this program. These questionnaires were administered via hard copy at the beginning of the training workshops and between approximately 6 weeks and 4 months later via a web-based questionnaire. Based upon the goals of the training workshop as determined by Phoenix Education Group, this questionnaire assessed educators on five domains related to child sexual abuse: 1) reporting laws and policies, 2) handling disclosures and talking to students, 3) behaviors, 4) statutory sexual assault law, 5) myths of child sexual abuse (in 02-03) or unspecified knowledge (meaning they did not correspond to any one unifying topic, in 03-04). Educators also gave their opinions about the training workshops through anonymous questionnaires completed at the end of each workshop. All questionnaires included both forced-choice quantitative items and open ended qualitative items.

The pre and post workshop questionnaires were composed of the following items:

- Demographics (13 items): includes both forced choice items and write-in items
- Self-report comfort and comprehension levels (4 items): four point likert-type scale items ranging from strongly disagree to strongly agree
- Self-report frequency of behaviors (2 items): four point likert-type scale items ranging from not-at-all to almost-all-the-time
- Self-report knowledge (4 items): three point likert-type scale items ranging from not-at-all-knowledgeable to very-knowledgeable
- Actual knowledge (5 items): forced choice of true or false
- The post-workshop questionnaire added an additional domain to assess the use of the “Teaching Safe Kids” booklet that participants received by adding six additional items (2 forced choice items and 3 likert-type scale items and one open ended item). Two open-ended questions were also included to solicit participant

feedback about future training needs and participants were asked to indicate if they were interested in receiving summary report of the evaluation findings.

Sample. 150 educators from 16 schools completed the pre-questionnaire in 02-03 and 432 educators from 55 schools in 03-04. In both years, most participants were female, White or African-American, and teachers. Approximately half of the participants had worked in the Philadelphia School District for over 10 years. Only 12 workshop participants in 02-03 and 33 participants in 03-04 completed both the pre and the post questionnaires.

Findings. Overall, the findings from the 02-03 and 03-04, pre-questionnaires, assessing educators' incoming knowledge, beliefs, and behaviors regarding child sexual abuse and mandated reporting, were similar. These findings are summarized below.

Most educators knew and understood the laws and policies, but a quarter of educators did not. Most educators felt comfortable talking with sexually abused students or those suspected to be abused, but over a quarter of educators did not feel comfortable. Most educators report intervening in behaviors sexually inappropriate for schools at least some of the time. Fewer educators talk with students about abuse prevention. Educators believed themselves to be knowledgeable about statutory sexual assault, however in 02-03 educators actually knew less than they claimed they did, while in 03-04 educators demonstrated their self-proclaimed knowledge by correctly responding to the true/false questions. Almost three-quarters of educators did *not* believe the myth that children often make false accusations of sexual abuse.

Relationships between items in each Domain were investigated, Domains 1-3 are of most relevance to this dissertation. Domain 1 included questions about reporting laws and policies. Responses to items assessing self-confidence in their understanding of their

responsibilities were significantly related to responses related to self-perceived knowledge about the laws and policies ($p < .001$). Yet responses to these items were not related to the items assessing educators' actual knowledge. Thus, educators who rated themselves higher in their comprehension of the responsibilities in dealing with a sexually abused student were more likely to feel knowledgeable about the policies and laws, yet they were not more likely to demonstrate actual knowledge of these laws and policies.

Domain 2 included questions about handling disclosures of sexual abuse and talking to abused students. Responses to all three questions of this domain were significantly associated with each other ($p < .001$).

Domain 3 included items about various educator behaviors related to intervening in inappropriate sexual behavior and imparting information related to prevention of sexual abuse. Responses to all questions significantly correlated ($p < .001$) with each other, indicating that those who reported intervening in sexual behavior were more likely to be those who reported talking to their students about sexual abuse prevention.

In both years 02-03 and 03-04, differences in responses based on educator characteristics were examined. While the responses of educators followed the overall trends regardless of individual characteristics, differences based on gender, years of experience, position, and race/ethnicity were found in both years. However, the type of differences were not always the same. In 02-03 the responses of educators working at the district between five and ten years were somewhat distinct from their peers with shorter or longer tenure. A greater percentage of educators having worked between five and ten years at the District exhibited desirable responses to a number of items in comparison to the percentages of the other two groups. Yet, in the 03-04 sample, educators newer to the

district reported significantly lower levels of understanding about their responsibilities as a mandated reporter under the Child Protective Services Law and their knowledge of the school district mandated reporting policy than their more than their more seasoned counterparts.

In 03-04 teachers were consistently significantly less likely to feel confident or knowledgeable and to provide correct answers to questions about statutory sexual assault or mandated reporting policies as compared to school administrators, guidance counselors/mental health professionals, and school police officers. However, these results must be interpreted with caution as teachers outnumbered educators in other positions in the sample by over 200 and thus demonstrated a greater variation in their responses. In 02-03, the numbers of educators in other positions was too few to have any meaningful analysis of responses by position.

In both years, African-American/Black educators self-reported higher confidence and knowledge around issues of child sexual abuse laws, reporting, and responding than White educators. Yet, African-American/Black educators had higher rates of incorrect response to the true/false items, demonstrating a slightly stronger adherence to child sexual abuse myths.

In 02-03, females gave a greater percentage of desirable responses than the males for the two items assessing comfort level discussing sexual abuse issues with children. Females were also more knowledgeable about what characterizes statutory sexual assault. Yet males gave more desirable responses for two relatively action oriented items, intervening in inappropriate sexual behavior between students and discussing prevention of sexual abuse. A greater proportion of males than females knew that “proof of abuse” was not needed to “make a mandated report.” However, in 03-04 while male educators

did self-report higher levels of knowledge in certain areas, there were no significant differences between males and females' actual knowledge.

Impact of Training Workshop. Assessments of differences in participant responses from pre-to-post questionnaires suggest that the training workshop was able to impact the attitudes and confidence of educators, but not actual knowledge or behavior.

Pilot Study 2: Preliminary Assessment of University of Pennsylvania's Teacher Education Students' Preparation to Serve as Mandated Reporters of Child Abuse

Since Spring 2004, I have been invited as a guest lecturer on child abuse and mandated reporting in the seminar course for students of University of Pennsylvania's Graduate School of Education Teacher Education Program. I have delivered this program six times (three times to elementary education and three times to secondary education students). With the permission of the course instructors, I have administered a pre-training questionnaire in each of these sessions.

This questionnaire was designed to assess students' incoming knowledge, attitudes, beliefs, and past and future behavior regarding child abuse and mandated reporting. It also asked about their prior exposure to education or training on these topics. In addition to questions about individual characteristics, the questionnaire items include:

- Self-assessed knowledge of reporting laws and policies
- Factual questions about mandated reporting policy
- Examples of indicators of various types of abuse
- Self-efficacy regarding role as mandated reporter and identification of signs of abuse
- Professional norms around reporting child abuse
- Likelihood of future behavior

Questionnaires were administered to approximately 250 individuals. Findings from questionnaires administered in the Spring 2006 to students of the Elementary Teacher Education course are discussed below.

Twenty-seven students completed the questionnaire, most were female and White. Half had worked previously as an educator. Approximately a quarter of students reported having received training on child abuse in the past, with less than 20% having received any training on mandated reporting.

Approximately a third of students were “neutral” when asked if they agreed with statements about understanding their responsibilities as a mandated reporter, knowing what constituted child abuse, or feeling comfortable talking with a student who had disclosed abuse. Approximately a quarter of students were neutral about the statement “I know what to do if I suspect a child is being abused.” About 20% of students disagreed with all of the above statements. Almost two-thirds of students were neutral about whether reporting suspected abuse results in a positive outcome for the child or whether they would be supported by their co-workers if they made a report. Half of students were neutral about whether an educator should report suspected abuse to law enforcement or child protective services, though about half students agreed that an educator should report.

About half of students did not know the actual mandated reporting policy, as 48% believed that you had to have proof of abuse before making a report and did not know that if they made a report in good faith that they would not be held liable.

Most students believed that they could identify the signs of physical abuse or neglect, while only about one-third believed they could identify signs of sexual abuse, and about ten percent thought they could identify signs of mental/emotional abuse. When asked to list some of the signs of these various types of abuse, students gave the fewest number of indicators for mental/emotional abuse, followed by physical abuse, and sexual abuse, giving the highest number of signs for neglect.

When asked what they would do if they suspected a student was being abused, over two-thirds would be very likely to talk to a coworker and about 60% would be very likely to tell a school administrator. Less than 20% indicated they would be very likely to make a report to child protective services or the ChildLine hotline or contact law enforcement. Almost all reported they would “somewhat” or “very likely” to talk to the child themselves while about 60% would not be likely to talk to the child’s parents. One-third of students would be “very likely” to search out help from an outside source, with an additional 44% indicating they would be “somewhat likely” to do so.

Student Sample Survey Instrument

GSE Teacher Education Student Questionnaire

Introduction

This research study is about teachers' and student teachers' experiences as mandated reporters of child abuse. You are being asked to participate in this research study because you are a student of a teacher education program at the University of Pennsylvania's Graduate School of Education. This study is being conducted by Emily Greytak, a doctoral student at the University of Pennsylvania's Graduate School of Education. The findings from this survey will be used for a doctoral dissertation about mandated reporting of child abuse.

What am I being asked to do?

As a participant in the study, you are being asked to complete this questionnaire. It will likely take most participants approximately ten minutes to complete the questionnaire. Completing this questionnaire is voluntary and you may stop at any time. You can also skip any question for any reason.

What are the benefits, risks and inconveniences of the study?

Although you will receive no direct benefit from completing this questionnaire, you may feel some satisfaction from participating in a study designed to learn about teachers' and student teachers' experiences as mandated reporters of child abuse.

The risks to study participants are negligible and limited to possible minor discomfort at answering the questionnaire questions. A possible inconvenience may be the time it takes to

complete the questionnaire.

If you find that completing the questionnaire causes you emotional distress, the following resources are available for counseling, referrals or support:

- Childhelp National Child Abuse Hotline: 1-800-4-A-CHILD (1-800-422-4452) or online at www.childhelp.org
- National Sexual Assault Hotline, run by RAINN (Rape, Abuse and Incest National Network): 1-800-656-HOPE (4673) or online at www.rainn.org

In addition, if completing the questionnaire raises any questions about reporting child abuse or your role as a mandated reporter, you may contact:

- Childline, the 24-hour Pennsylvania child-abuse hotline at 1-800-932-0313 or visit their website at www.dpw.state.pa.us/PartnersProviders/ChildWelfare/003670361.htm

How will my personal information be protected?

Neither your name nor the name of your school will be collected and therefore they will never be used to identify participant responses. The only personal information collected is participants' self-reported gender and race/ethnicity. All questions are optional and you can choose to skip any question for any reason. All questionnaires will be kept in a locked cabinet and data will be kept in password protected files accessible only by the Principal Investigator.

If you have any questions about this study you may contact the Principal Investigator, Emily Greytak at egreytak@dolphin.upenn.edu or 215-280-3343. The faculty advisor for this

research is Rebecca Maynard, Ph.D. This research has been approved by the University of Pennsylvania's Institutional Review Board.

1) Please indicate whether or not you agree to participate in this study.

- Yes, I have read the information statement describing the study being conducted and I agree to participate by completing this questionnaire.
- No, I do not want to complete this questionnaire

- IF YES, PLEASE CONTINUE ON TO THE NEXT PAGE -

Part I

This first set of questions asks about some of your personal and professional characteristics.

2) Have you worked as teacher in a school prior to beginning this program at GSE?

Yes

No

3) How would you describe your gender? (circle all that apply)

Female

Male

Transgender

Other (please specify) _____

4) How would you best describe your race or ethnicity? (circle all that apply)

White/Caucasian

Black/African-American

American Indian/Native

Alaskan Native

American/

Latino(a)/Hispanic

Asian/Pacific Islander

Bi/Multi-Racial

Other (please specify) _____

This next set of questions asks about the school where you currently teach or do your student teaching. (If you work in more than one school, please select one school and answer all the following questions about that school.)

5) How would you characterize the location of your school?

Urban or city area

Suburban area next to a city

Small town or
rural area

6) How would you characterize the type of school you work in?

Public

Religious

Private Non-Religious

7) Is your school a charter and/or a magnet school?

Charter school

Magnet school

Both Charter and Magnet school

Neither a Charter nor a Magnet school

8) What percentage of students in your school are eligible for free or reduced lunch?

Your best estimate is fine.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9) In total, how many students attend your school? Your best estimate is fine.

_____ students

10) Does your school or school district have standard procedures for reporting child abuse?

Yes No Not Sure

- PLEASE CONTINUE ON TO THE NEXT SECTION -

Part II

This next set of questions asks about experiences you have had during your career as a teacher.

11) Have you ever suspected that one of your students had been PHYSICALLY ABUSED? (If no, skip to question 14)

No

Yes

12) When you have suspected that one of your students had been physically abused, how often did you report it, or cause a report to be made, to child protective services?

Never

Some of the Time

Most of the Time

Every Time

13) During the times when you suspected that one of your students had been physically abused, but did *not* report it, or cause a report to be made, to child protective services, why did you not make a report? (select all that apply)

- The student did not want me to
- It had already been reported
- Did not have enough evidence of physical abuse
- It was not part of my job
- Did not know how to make a report
- Did not want to get caught up in legal proceedings
- Making a report would make things worse for the student
- The principal or other school staff members (teachers, guidance counselor, etc.) not want me to

Other (please specify) _____

14) Have you ever suspected that one of your students had been SEXUALLY ABUSED?

(If no, skip ahead to Part III)

No

Yes

15) When you have suspected that one of your students had been sexually abused how often did you report it, or cause a report to be made, to child protective services?

Never

Some of the Time

Most of the Time

Every Time

16) During the times when you suspected that one of your students had been sexually abused, but did *not* report it, or cause a report to be made, to child protective services, why did you not make a report? (select all that apply)

- The student did not want me to
- It had already been reported
- Did not have enough evidence of sexual abuse
- It was not part of my job
- Did not know how to make a report
- Did not want to get caught up in legal proceedings
- Making a report would make things worse for the student
- The principal or other school staff members (teachers, guidance counselor, etc.) did not want me to
- Other (please specify) _____

- PLEASE CONTINUE ON TO THE NEXT SECTION -

Part III

This next set of questions asks about potential situations you may encounter in your role as a teacher. The following two scenarios each describe a situation you may face in your teaching career. Please read each scenario carefully and respond to the questions that follow.

SCENARIO 1

On various occasions, a student has come to school with noticeable bruises on [her/his] face, arms, and/or legs. The facial bruises are usually around the eye or cheek and are of a size and shape consistent with being struck by a hand or fist. The bruises on the arm/or leg are rectangular and oblong. Although the [girl/boy] sometimes gets into fights at school, each has been quickly ended without visible injury - making this an unlikely source. You have met the parents at conference and they usually seem interested and cooperative.

The [girl/boy] often gets very upset, particularly when disciplined by an adult - an occurrence which has become increasingly common. During P.E. and other activities, [she/he] is excessively aggressive and easily "flies off the handle" (crying, pushing, yelling, etc.). When other students get upset or angry, this [girl/boy] seems oddly fascinated and worried, particularly when a teacher has to intervene. You have talked with other colleagues and they have also noticed these same bruises and behaviors. After getting into a fight with another student, you ask the [girl/boy] to meet with you and another teacher after school. You talk with [her/him] about [her/his] behavior as you have on previous occasions, but this time you ask [her/him] how [she/he] got the bruises. [She/he] begins to cry but refuses to respond.

17) Given the information in this scenario do you believe this student is a victim of abuse or neglect? Circle your response on a scale of 1 to 5, with 1 being certain that the student is NOT being abused or neglected and 5 being certain that the student IS being abused or neglected.

Certain the student is NOT
being abused/neglected

1

2

3

Certain the student IS
being abused/neglected

4

5

18) Regardless of your response to the previous question, how likely would you be to report this situation to the child protective services (or cause a report to be made through school administration)?

Very unlikely
to report

Somewhat unlikely
to report

Somewhat likely
to report

Very likely
to report

SCENARIO 2

One of your students has been having trouble all year. [She/he] has almost no friends and acts younger than appropriate most of the time. Your rapport is good with this student and [she/he] has told you of two incidents when [she/he] has run away from home. Most noticeable is [her/his] sexual behavior toward other students and even some teachers. [She/he] displays a knowledge of sexual matters which you consider excessive for [her/his] age and freely uses a sexual vocabulary. On occasion, the [girl/boy] has been caught exposing [her/his] genitals or attempting to engage in sexual touching with other students.

At conferences, the parents seem very edgy. The step-father seems very concerned about the [girl/boy] and could even be called over protective--defending [her/him] as a "special child who has different needs." However, the step-father admits [she/he] is very upset about the [girl's/boy's] sexual behavior. The mother seems distant and passive, commenting only to agree with her husband.

You and a colleague (e.g., school counselor, other teacher) meet with the [girl/boy] during an after-school disciplinary session to discuss [her/his] ongoing sexual behavior. On a hunch, you ask if the [girl/boy] has ever been sexually abused (using age appropriate language and explanations). [She/he] says [she/he] was just "fooling around" with other kids.

29) Given the information in this scenario do you believe this student is a victim of abuse or neglect? Circle your response on a scale of 1 to 5, with 1 being certain that the student is NOT being abused or neglected and 5 being certain that the student IS being abused or neglected.

Certain the student is NOT
being abused/neglected

1

2

3

Certain the student IS
being abused/neglected

4

5

20) Regardless of your response to the previous question, how likely would you be to report this situation to the child protective services (or cause a report to be made through school administration)?

Very unlikely
to report

Somewhat unlikely
to report

Somewhat likely
to report

Very likely
to report

- PLEASE CONTINUE ON TO THE NEXT SECTION -

Part IV

The next set of questions asks about the legal role of educators as reporters of child abuse. Please indicate whether you believe the following statements to be true or false by circling your response.

21) I must have proof of abuse before I make a report to child protective services.

True

False

22) If I report that I suspect a child is being abused in good faith and I am wrong, then I cannot be held liable under the law.

True

False

23) If an educator suspects that a student is being abused, she/he is legally obligated to report it to child protective services.

True

False

Next we would like to ask about reporting child abuse and child protective services, also referred to as the child welfare system.

24) In your opinion, what percentage of the reports made to child protective services actually benefit the child?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

25) In your opinion, what percentage of the reports made to child protective services actually harm the child?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

26) Overall, how effective do you think the current child protective services system is in dealing with cases of child abuse and neglect?

Not At All Effective	Not Very Effective	Not Sure Effective	Somewhat Effective	Very Effective
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Indicate how strongly you agree or disagree with the following statements by circling your response.

27) Reporting a case of suspected child SEXUAL ABUSE to child protective services usually does more harm than good.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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28) Reporting a case of suspected child PHYSICAL ABUSE to child protective services usually does more harm than good.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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This next set of questions asks your opinion about other educators. Please indicate how strongly you agree or disagree with the following statements by circling your response.

29) If I reported my suspicions that a student was being abused or neglected, my co-workers would support my actions.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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30) Most teachers and/or student teachers would report their suspicions of child abuse and neglect to child protective services.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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31) Generally speaking, I want to do what my *fellow teachers and/or student teachers* think I should do.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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32) Generally speaking, I want to do what my *building administrator(s)* think I should do.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
----------------------	----------------------	----------	-------------------	-------------------

33) Most of my *fellow teachers and/or student teachers* think that I should report my suspicions of child abuse or neglect to child protective services.

Strongly	Somewhat	Not Sure	Somewhat	Strongly
Disagree	Disagree		Agree	Agree

34) My *building administrator(s)* think that I should report my suspicions of child abuse or neglect to child protective services.

Strongly	Somewhat	Not Sure	Somewhat	Strongly
Disagree	Disagree		Agree	Agree

- PLEASE CONTINUE ON TO THE NEXT PAGE -

This next of questions asks about your ability to identify signs of child abuse and neglect and to report child abuse and neglect.

35) How confident are you in your ability to identify accurately the signs of *child physical abuse*?

Not at all confident Not very confident Somewhat Very confident

36) How confident are you in your ability to identify accurately the signs of *child sexual abuse*?

Not at all confident Not very confident Somewhat Very confident

Please indicate how strongly you agree or disagree with the following statements.

37) If I wanted to make a report of child abuse or neglect, I would be able to.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
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38) I know how to make a report of child abuse or neglect.

Strongly Disagree	Somewhat Disagree	Not Sure	Somewhat Agree	Strongly Agree
----------------------	----------------------	----------	-------------------	-------------------

- PLEASE CONTINUE ON TO THE LAST SECTION -

Part V

This last set of questions asks about your experiences learning about child abuse or neglect and mandated reporting, including experiences during the program you are currently enrolled in at GSE.

39) Have you received any information about child abuse/neglect or mandated reporting?

- Yes, during my pre-service training (including student-teaching and this program at GSE)
- Yes, during my in-service education (during employment as a teacher, if have been employed as teacher)
- Both during my pre-service and in-service education
- No, I have no received any information
- Not sure/don't remember
- Other (please specify) _____

If you answered “No” or “Not sure,” skip question and go to question 45.

40) How did you receive information about child abuse/neglect or mandated reporting?

(select all that apply)

- In writing (handouts, policies, etc.)
- Through in-person training/presentation
- Through an online course
- On the Internet, other than an online course

- Not sure/don't remember
- Other (please specify) _____

41) Which of the following describes where you received education or training on child abuse/neglect or mandated reporting in your professional career? (select all that apply)

- Provided by a school/district I have worked for
- Provided by college or university I attended
- I sought it out on my own
- Not sure/don't remember
- Other (please specify) _____

42) How recently did you receive any education or training on child abuse/neglect or mandated reporting? (select only the most recent)

- During this school year (08-09), including over the summer 2008
- During the last school year (07-08), including over the summer 2007
- Between 2-5 years ago (prior to summer 2007)
- Between 6-10 years ago
- Over 10 years ago
- Never

43) Over the course of your pre-service education, including this program at GSE, and your career as a professional educator, approximately how many total hours of education or training on child abuse/neglect and/or mandated reporting have you received? Your best guess is fine.

- None
- 1 hour or less
- Between 2- 4 hours
- Between 5-7 hours
- Between 8-10 hours
- More than 10 hours

44) Overall, how well do you feel the information, education or training on child abuse and/or mandated reporting you have received has prepared you for your role as a mandated reporter of child abuse/neglect? Circle your response on a scale from 1 to 5, with 1 being not at all prepared and 5 being completely prepared.

Not at all prepared

Completely prepared

1 2 3 4 5

YOU HAVE COMPLETED THE QUESTIONNAIRE!

THANK YOU SO MUCH FOR YOUR PARTICIPATION

PLEASE KEEP THE LAST PAGE FOR YOUR REFERENCE.

TEAR OFF THIS SHEET AND KEEP FOR FUTURE REFERENCE

If you have any questions about this research study, you may contact:

- Principal Investigator: Emily Greytak, M.S.Ed.
Doctoral Candidate, Policy, Management and Evaluation Division
University of Pennsylvania, Graduate School of Education
egreytak@dolphin.upenn.edu
- Faculty Sponsor: Rebecca Maynard, Ph.D.
University Trustee Professor of Education and Social Policy
University of Pennsylvania, Graduate School of Education
rmaynard@gse.upenn.edu

For support, information or referrals regarding sexual abuse, including child sexual abuse, you can contact RAINN (Rape, Abuse and Incest National Network) through the 24-hour, toll-free telephone hotline at 1-800-656-HOPE (1-800-656-4673) or the National Sexual Assault Online Hotline at www.rainn.org.

For support, information or referrals regarding child abuse, contact the 24 hour, toll-free Childhelp National Child Abuse Hotline at 1-800-4-A-CHILD (1-800-422-4453) or online at www.childhelp.org.

For questions or guidance regarding reporting child abuse or your role as a mandated reporter, contact ChildLine, the 24-hour Pennsylvania child-abuse hotline at 1-800-932-

0313 or visit their website at

www.dpw.state.pa.us/PartnersProviders/ChildWelfare/003670361.htm.

Modifications for Alumni Sample Instrument (web-based administration)

- Because of limited time available to administer the Student Sample (as it was administered during class time), the instrument for the Student Sample includes items only for physical and sexual abuse, whereas the instrument for the Alumni Sample included items for emotional/mental abuse and neglect, in addition to physical abuse and sexual abuse.
- Language throughout survey is changed from “teachers and pre-service teachers” to “teachers”
- Changes to Assent Information
 - Changes to “Introduction”:

This research study is about teachers’ experiences as mandated reporters of child abuse. You are being asked to participate in this research study because you are a graduate of a teacher education program at the University of Pennsylvania’s Graduate School of Education. If you are, or have been, a teacher in any school (K-12) during this 2008-2009 school year, you are eligible to participate in the study. This study is being conducted by Emily Greytak, a doctoral student at the University of Pennsylvania’s Graduate School of Education. The findings from this survey will be used for a doctoral dissertation about mandated reporting of child abuse.
 - Changes to “What am I being asked to do?”:

As a participant in the study, you will be asked to complete an online questionnaire. It will likely take most participants between ten and twenty minutes to complete the questionnaire. Completing this questionnaire is voluntary and you may stop at any time. You can also skip any question for any reason.

- Changes to “How will my personal information be protected?”:

Neither your name nor the name of your school will be collected and therefore they will never be used to identify participant responses. Your email address will also not be collected. The only personal information collected is participants’ self-reported gender, race/ethnicity, and years of teaching experience (within a range). All questions are optional and you can choose to skip any question for any reason. All responses will be kept in password protected files accessible only by the Principal Investigator.

- Items added to assess eligibility (need to have worked as a teacher in U.S. elementary or secondary school during 2008-2009)
 - Are you currently employed as a teacher in a United States school? (if the response is “yes,” participants continue on to survey; if the response is “no,” they continue on to question below)
 - Have you been employed as a teacher in a United States school at any point during this school year (’08-’09)? (if the response is “yes,” they continue on to the survey, if the response is “no,” they are not allowed to complete the survey and are directed to a “thank you” page explaining this).

- Items changed or added about teaching experience
 - Q2. Item “Have you worked as teacher in a school prior to beginning this program at GSE?” changed to “How many years have you been working as a teacher (do not include your student teaching)?” (open-ended item)
 - Q2a. What state do you teach in? (drop down menu with all states and the District of Columbia, and “other” option that includes a space for open-ended response)
 - Q2b. What grade level(s) do you currently teach? (select all that apply) (presented with options from Pre-K through 12th grade)
- Items added about neglect (same response sets as parallel items about physical and sexual abuse)
 - Q16a Have you ever suspected that one of your students had been NEGLECTED?
 - Q16b When you have suspected that one of your students had been neglected, how often did you report it, or cause a report to be made, to child protective services?
 - Q16c During the times when you suspected that one of your students had been neglected, but did not report it, or cause a report to be made, to child protective services, why did you not make a report? (select all that apply)
 - Q20a, 20b Additional scenario with accompanying two questions (same items and response sets as parallel items about physical and sexual abuse – Q17, Q18, Q19, and Q20)

On several occasions while going to lunch a student mentions how hungry [she/he] is, adding that there hasn't been any food in [his/her] home for a couple of days. As you think back on other experiences with this [girl/boy], you recall that [she/he] often comes to school dirty and without proper clothing (e.g., under-clothed for winter, clothes in disrepair, etc.). [She/he] is often absent or tardy, reporting that [she/he] was up all night caring for younger brothers and sisters whose bedroom [she/he] shares. When asked, the [girl/boy] says [his/her] parent "went out again last night" and wasn't at home to take care of the children. These stories are confirmed by the teacher of one of the siblings. This teacher suggests this to be common in the family and says the parent is rarely at home.

At school, the [girl/boy] has few friends and keeps to [him/her] self. [She/he] seems overly mature and over responsible for his/her] age. [She/he] relates better to you than [his/her] peers, even to the point of being overly dependent. You believe the [girl/boy] to be of average intelligence, but [his/her] schoolwork lacks organization and structure. [She/ he] also lacks problem-solving skills and is easily distracted. [She/he] often gets frustrated with tasks and gives up.

The student's parent is very difficult to contact and does not return your calls. When you have gotten through, the parent never seems to follow through on your discussions. Of particular concern is the [girl's/boy's] daily prescription medication for asthma. When the medication runs out, it often takes more than

a week for the parent to send replacement. You have asked the [girl/boy] how things are going at home, but [she/he] nervously denies that there are problems.

- Q28a Reporting a case of suspected child NEGLECT to child protective services usually does more harm than good. (same response set as parallel items about physical abuse and sexual abuse – Q27 and Q28)
- Q36a How confident are you in your ability to identify accurately the signs of *emotional or mental abuse*? (same response set as parallel items about physical abuse and sexual abuse – Q35 and Q36)
- Items added about and emotional/mental abuse (same response sets as parallel items about physical and sexual abuse)
 - Q16d Have you ever suspected that one of your students had been EMOTIONALLY OR MENTALLY ABUSED?
 - Q16e When you have suspected that one of your students had been emotionally or mentally abused, how often did you report it, or cause a report to be made, to child protective services?
 - Q16f During the times when you suspected that one of your students had been emotionally or mentally abused, but did not report it, or cause a report to be made, to child protective services, why did you not make a report? (select all that apply)

- Q20c, 20d Additional scenario with accompanying two questions (same items and response sets as parallel items about physical and sexual abuse – Q17, Q18, Q19, and Q20)

A [girl/boy] in your class has inadequate social behavior for [her/his] age and usually keeps to [her/himself]. It is common for [her/him] to fight when provoked or to destroy other people's property in revenge. The student has one friend upon whom [she/he] is excessively dependent. [She/he] has very low self-esteem and other teachers agree that [she/he] seems constantly worried and depressed. [She/he] makes average grades but gets upset when [she/he] makes mistakes or doesn't do well on an assignment. On one occasion, the [girl/boy] even ran away from home for two days after getting a bad grade on [her/his] report card.

After returning to school you had a conference with [her/his] parents. They seemed concerned and cooperative, but were very critical of the [girl/boy], despite your attempts to point-out [her/his] strengths. You have good rapport with this student, and try to help [her/him] with [her/his] behavior and school work. However, [she/he] usually gets frustrated and says things like "I'm just a stupid idiot" or "I don't care anymore." You ask why [she/he] gets so "down" on [herself/himself]. After talking awhile, the [girl/boy] discloses that [her/his] parent often gets very angry and tells [her/him] that [she/he] is "worthless and stupid" and has occasionally said "I'm sorry you were ever born."

When asked, the [girl/boy] says [her/his] parent has sometimes threatened to hit [her/him] but has never followed through. The [girl/boy] says [she/he] feels sad and upset most of the time, and sometimes even wishes [she/he] weren't alive.

- Q28b Reporting a case of suspected child MENTAL ABUSE OR NEGLECT to child protective services usually does more harm than good. (same response set as parallel items about physical abuse and sexual abuse – Q27 and Q28)
- Q36b How confident are you in your ability to identify accurately the signs of *emotional or mental abuse*? (same response set as parallel items about physical abuse and sexual abuse – Q35 and Q36)

Appendix IV: Description and Source of Child Abuse & Mandated Reporting Survey (CAMRS) Items

Item #*	Topic	Description	Sources
PART I: RESPONDENT CHARACTERISTICS			
2, 2a, 2b,	Individual Characteristics	These items provide information about respondents' individual demographic characteristics and other personal characteristics, which allows for an examination of potential differences in responses to other questionnaire items based on these characteristics.	<ul style="list-style-type: none"> - Pilot Study #1: Evaluation of CSA Training - Pilot Study #2: GSE Teacher Education Workshop Questionnaires
3, 4			<p>Items about specific individual-based characteristics also drawn from the following sources:</p> <ul style="list-style-type: none"> - Gender: Anderson (1997), Ashton (2004), Bonardi (2000), Bornstein, et al. (2007), Crenshaw, et al. (1995), Dukes and Kean (1989), Kenny (2001),

Item #*	Topic	Description	Sources
			<p>Perrault (1997), Portwood (1998), Seidl (1993), Webster, et al. (2005), Zellman (1990a)</p> <ul style="list-style-type: none"> - Race/ethnicity: Ashton (2004), Bonardi (2000), Portwood (1998), Kenny (2001), Ibanez, et al. (2006), Webster, et al. (2005) - Years of teaching/employment experience: Crenshaw, et al. (1995), James and DeVaney (1994), Kenny (2004), Seidl (1993), Webster, et al. (2005), Zellman (1990a) - Grade level teach: Anderson (1997), James and DeVaney (1994), O'Toole and Webster

Item #*	Topic	Description	Sources
2a, 5-10	School-Based Characteristics	These items provide information about the school in which respondents teach, which allows for an examination of potential differences in responses to other questionnaire items based on these school characteristics.	<p>(1999), Zellman (1990b,c)</p> <p>Items about specific school -based characteristics drawn from the following sources:</p> <ul style="list-style-type: none"> - School geographic location (state): Zellman (1990c) - School locale (urban, rural, suburban): O’Toole and Webster (1999) - School type (public, private, religious): O’Toole and Webster (1999), Webster. et al. (2005) - School size: O’Toole and Webster (1999), Zellman (1990c) - School poverty level: Zellman

Item #*	Topic	Description	Sources
			(1990c) - Mandated reporting procedure/policy: Cerezo and Pons (2004), Kenny (2001, 2004), Webster, et al. (2005), Zellman (1990b,c)
PART II: PAST EXPERIENCE WITH CHILD ABUSE REPORTING			
11, 12, 14, 15, 16,16a, 16c, 16d, 16e	Frequency of Reporting	These items assess respondents past experience suspecting and reporting child abuse by asking if the respondent has ever suspected that one of their students has been abused. If the respondent has ever suspected that a student had been abused, the items ask how often they reported their suspicions to child protective services. Behavior is asked about each type of abuse	- Adapted from Crehnshaw, et al. (1995), Kenny (2001, 2004), Tilden et al. (1994), Zellman (1990c), Zellman and Antler (1990)

Item #*	Topic	Description	Sources
13, 16, 16c, 16f	Reasons for Not Reporting	<p>(physical and sexual, for both samples, emotional and neglect also asked of Alumni sample) separately. The relationship between past suspicions of child abuse and responses to the corresponding items about reporting behavior will be examined to determine how often respondents reported their suspicions of abuse.</p> <p>These items assess respondents past reasons for not reporting cases of suspected child abuse. If the respondent indicated that they have suspected a student has been abused and that they did not report their suspicions to child protective services every time they suspected, respondents are asked to select from eight possible reasons why they did not report (they can select all that apply and</p>	<p>- Adapted from Zellman (1990c), Zellman and Antler (1990), Crehnshaw, et al. (1995)</p>

Item #*	Topic	Description	Sources
		<p>there is also an “other” option). The eight reasons correspond to different constructs (e.g., “did not know how to make a report” reflects respondents’ efficacy beliefs). Reasons for non-reporting are asked about each type of abuse separately.</p>	
PART III: REPORTING TENDENCY			
18, 20, 20b, 20d	Likelihood of Reporting Suspected Abuse	<p>Each of these items includes a vignette describing a potential case of suspected child abuse and a question assessing how likely the respondent would be to report the situation to child protective services. (These include vignettes about physical and sexual abuse for both samples, vignettes about emotional abuse and neglect are also presented to the Alumni sample). These</p>	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Actual vignettes adapted from Crenshaw, et al. (1995) - Items adapted from Feng and Levine (2005), Webster, et al. (2005), Zellman (1990a)

Item #*	Topic	Description	Sources
		items assess respondents' likelihood of making a report, aka their "reporting tendency".	
PART III & PART IV: KNOWLEDGE			
11, 14, 16a, 16d, 17, 19, 20a, 20c	Indicators of Abuse	<p>regarding 11, 14, 16a, 16d: These items ask if the respondent has ever suspected that one of their students has been abused (there is a separate item for each type of abuse: physical, sexual, emotional/mental and neglect). "Yes" responses will be considered to be an indicator of greater knowledge of indicators of abuse than "no" responses, in that this demonstrates a greater recognition of indicators of abuse.</p> <p>regarding 17, 19, 20a, 20c:</p>	<p>regarding 11, 14, 16a, 16d: - Adapted from Tilden et al., 1994</p> <p>regarding 17, 19, 20a, 20c: - Actual vignettes adapted from Crenshaw, et al. (1995) - Items adapted from Webster, et al. (2005), Zellman (1990a)</p>

Item #*	Topic	Description	Sources
21-23	Mandated Reporting Law	<p>Each of these items includes a vignette describing a potential case of suspected child abuse and a item asking respondents' level of certainty that child in vignette is being abused. (These include vignettes about physical and sexual abuse for both samples, vignettes about emotional abuse and neglect are also presented to the Alumni sample). The levels to which respondents perceive this as being "abuse" will be considered a measure of their ability to correctly identify indicators of abuse (i.e, their knowledge of indicators of abuse).</p> <p>Assess respondents' level of knowledge of mandated reporting law using three true/false items.</p>	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Pilot Study #2: Evaluation of

Item #*	Topic	Description	Sources
			CSA Training
			- Adapted from Feng and Levine (2005), Crenshaw, et al. (1995), Zellman (1990c), Zellman and Antler (1990).
PART IV: ATTITUDES ABOUT REPORTING ABUSE			
24, 25, 27. 28, 28a, 28b	Beliefs about Outcomes of Reporting Abuse to Child Protective Services	Assesses respondents' beliefs about the outcomes resulting from making a report of suspected child abuse to child protective services. (These include outcomes specifically for physical and sexual abuse for both samples, and also for emotional abuse and neglect for the Alumni sample).	- Adapted from Anderson (1997), Zellman (1990c), Zellman and Antler (1990)
26	Beliefs about Effectiveness of Child Protective Services	Assess respondents' attitudes of the effectiveness of child protective services in dealing with cases of child abuse.	- Adapted from Anderson (1997), McCallum (2001), Zellman (1990c), Zellman and Antler (1990)

Item #*	Topic	Description	Sources
PART IV: SOCIAL NORMS ABOUT REPORTING OF ABUSE			
29,30,33,34	Normative Beliefs	Assess respondents' beliefs about the behavior and the attitudes of their peers and their supervisor regarding reporting of child abuse.	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Adapted from Crenshaw, et al. (1995), Feng and Levine (2005), Kenny (2001, 2004), Ajzen and Fishbein (1980)
31,32	Motivation to Comply	Assess respondents' desires to follow the wishes of their peers and their supervisor.	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Adapted from Feng and Levine (2005), Ajzen and Fishbein (1980)

PART IV: SELF-EFFICACY

Item #*	Topic	Description	Sources
35,36,36a, 36b	Identifying Indicators	Assesses respondents' beliefs about their abilities to identify signs of abuse. (These include indentifying physical and sexual abuse for both samples, and also emotional abuse and neglect for the Alumni sample).	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Pilot Study #1: Evaluation of CSA Training - Adapted from Kenny (2004, 2007), Feng and Levine (2005), Ward, et al. (2004)
37,38	Making a Report of Abuse	Assesses respondents' beliefs about their abilities to make a report of suspected child abuse to child protective services, if they wanted to.	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop Questionnaires - Pilot Study #1: Evaluation of CSA Training - Adapted from Kenny (2004, 2007), Feng and Levine (2005), Ward, et al. (2004)

Item #*	Topic	Description	Sources
PART V: EXPOSURE TO INFORMATION, EDUCATION & TRAINING			
39,40,41,4 2,43,44	Exposure	Assesses level of exposure education/training respondents have received on mandated reporting or child abuse.	<ul style="list-style-type: none"> - Pilot Study #2: GSE Teacher Education Workshop - Questionnaires - Pilot Study #2: Evaluation of CSA Training - Kenny (2001, 2004)
44	Adequacy of Preparation	Assesses respondents' perception of how well the training/education they received prepared them for their role as a mandated reporter.	<ul style="list-style-type: none"> - Adapted from Kenny (2001, 2004)

*Item numbers correspond to item numbers on survey instrument for Student Sample and the additional items (those indicated with letters, e.g. 16a, 36b, etc.) as indicated in the "Modifications for Alumni Sample Instrument" – see Appendix II for both.

Appendix V: Session Child Abuse and Mandated Reporting for Elementary Education

Students

Agenda

Reporting & Responding to Child Abuse

GSE Teacher Education Class

Monday, February 9, 2009

Agenda

- I. Introduction
- II. Review of agenda
 - What are your responsibilities under the law?
 - What is child abuse?
 - What are indicators of child abuse?
 - How do I report abuse?
- III. Background
- IV. Responsibilities under the law
- V. Types of abuse, definitions
 1. physical
 2. sexual
 3. emotional
 4. neglect
- VI. Indicators of abuse, suspicion
- VII. Procedure for child abuse reports

VIII. Other issues

- i. Suspected teacher abuse
- ii. Communicating with child/ handling disclosure
- iii. Communicating with family
- iv. Preventing child abuse (students, parents/guardians)
- v. Others?

Evaluation

Handout Packet

Recognizing, Reporting, and Responding to Child Abuse:

Session for Teacher Education Students

Graduate School of Education, University of Pennsylvania

February 9, 2009 Emily A. Greytak, M.S.Ed.

Packet Contents:

- Indicators of Physical Abuse
- Indicators of Sexual Abuse
- Indicators of Emotional Maltreatment
- Responding to Disclosures
- Talking to Children & Parents
- Child Abuse Resources
 - Hotlines
 - Local Resources
 - National Resources
 - For Further Reading
- Pennsylvania's Child Protective Services Law (selected sections)
 - Subchapter A. Child Protective Services of Chapter 3490 of PA Code
 - Office to Children and Youth Bulletin – 2006 Amendments to CPSL

If you have any questions or would like any additional information, do not hesitate to contact me at egreytak@dolphin.upenn.edu or 215.280.3343.

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