

RESEARCH

Open Access



How victim age affects the context and timing of child sexual abuse: applying the routine activities approach to the first sexual abuse incident

Nadine McKillop^{1*}, Sarah Brown², Richard Wortley³ and Stephen Smallbone¹

Abstract

The aim of this study was to examine from the routine activities approach how victim age might help to explain the timing, context and nature of offenders' first known contact sexual abuse incident. One-hundred adult male child sexual abusers ($M = 45.8$ years, $SD = 12.2$; range = 20–84) were surveyed about the first time they had sexual contact with a child. Afternoon and early evening (between 3 pm and 9 pm) was the most common time in which sexual contact first occurred. Most incidents occurred in a home. Two-thirds of incidents occurred when another person was in close proximity, usually elsewhere in the home. Older victims were more likely to be sexually abused by someone outside their families and in the later hours of the day compared to younger victims. Proximity of another person (adult and/or child) appeared to have little effect on offenders' decisions to abuse, although it had some impact on the level of intrusion and duration of these incidents. Overall, the findings lend support to the application of the routine activities approach for considering how contextual risk factors (i.e., the timing and relationship context) change as children age, and raise questions about how to best conceptualize guardianship in the context of child sexual abuse. These factors should be key considerations when devising and implementing sexual abuse prevention strategies and for informing theory development.

Keywords: Sexual abuse onset, Routine activities approach, Situational theories, Offence timing, Victim age, Guardianship

Background

The application of situational theories to the sexual victimization of children is a relatively new and under researched area (Smallbone and Cale 2015). Yet, the small number of available empirical studies (e.g., Leclerc et al. 2010, 2011, 2015; Terry and Ackerman 2008; Wortley and Smallbone 2006) call attention to the utility of these theories for answering specific questions about how, where and when sexual abuse incidents occur, their nature and severity. This has important implications for the design

of prevention initiatives which specifically target factors that potentially increase the risk of perpetration.

From a situational perspective, the routine activities approach may be particularly helpful for understanding factors such as the timing, location and contexts of sexual abuse incidents. In their original formulation of the routine activities approach, Cohen and Felson (1979) proposed that for any criminal act to occur three components must align in time and space: a vulnerable victim; a motivated offender; and the absence of a capable guardian. A key premise of the routine activities approach is that crime occurs when opportunities (i.e., the alignment of these factors) arise during the course of victims' and offenders' everyday routines. Other scholars (e.g., Hindelang et al. 1978; Kaufman et al. 2006) have similarly proposed that offenders' exposures to potential victims

*Correspondence: nadine.k.mckillop@griffith.edu.au

¹ Griffith Criminology Institute, Griffith University, 176 Messines Ridge Road, Mt Gravatt, QLD 4122, Australia

Full list of author information is available at the end of the article

are shaped more generally by their lifestyle factors. In the same sense, as children grow older and their lifestyles change, opportunity structures alter within their social ecologies, influencing their exposure to potential offenders and guardianship dynamics (Finkelhor and Hashima 2001). For example, younger children are more often supervised within the home; 'middle-aged' children's activities are often centred around school and after school recreational activities and friendships; while older children and adolescents are given more independence both within and outside the home and across longer time periods during the day. Thus, it is as likely that where, when, and by whom children are sexually abused will be shaped (or even dictated) by their age-related routines and lifestyles.

In his preconditions model of child sexual abuse, Finkelhor (1984) considered the role of environmental factors. He proposed that the usual external inhibitors or constraints (e.g., levels of supervision, access to unsupervised children and so on) need to be overcome before an incident of sexual abuse can occur (Finkelhor 1984). More recently in their integrated theory of sexual offending, Smallbone et al. (2008) proposed that social ecosystems demarcate the routine activities of potential victims and offenders, thereby presenting or restricting opportunity structures for sexual abuse to transpire. As situational factors are the most proximal factors within these social ecosystems, they exert the most direct and powerful influences on an individual's behaviour (Marshall and Barbaree 1990; Smallbone et al. 2008). Within this context, situations may present opportunities that an already-motivated abuser may exploit, while some situations may also precipitate abuse-related motivations that may otherwise not have arisen (Wortley and Smallbone 2006; Wortley 2008). These frameworks may be especially important for understanding offenders' first sexual abuse incident, where entrenched sexually-abusive motivations may not yet be formed (Smallbone et al. 2008).

The routine activities approach has been successfully applied to other forms of crime prevention, particularly property crime (Fisher et al. 1998; Kennedy and Forde 1990; Meithe et al. 1987; Rotton and Cohn 2003) and more recently cybercrime (e.g., Pratt et al. 2010; Reyns et al. 2011). Empirical evidence also exists for the utility of the routine activities approach for explaining personal victimization (Kennedy and Forde 1990; Stathura and Sloan 1988), including violence against women (Rodgers and Roberts 1995) and sexual assault against adults (Cass 2007; Franklin et al. 2012; Jackson et al. 2006; Schwartz and Pitts 1995). Yet, there has been some hesitation in applying these more traditional criminological frameworks to child sexual abuse incidents. Perhaps, as

Finkelhor and Hashima (2001) suggested, this is because "child victimizations do not map neatly onto conventional crime strategies" (p. 50), leading historically to a tendency for criminal justice responses to focus on the unusual (or extreme) events (e.g., child abductions) and 'stranger danger', with little regard to the risks of sexual abuse 'closer to home'. This is despite the fact that sexual abuse most commonly occurs in private settings (Colombino et al. 2011; Snyder 2000), perpetrated by known and trusted individuals (Richards 2011; Smallbone and Wortley 2001; Quadara et al. 2015; Tarczon and Quadara 2012).

Some empirical evidence derived from studies of child sexual abuse appears consistent with the routine activities approach. For example, Smallbone and Wortley's (2000) research showed that, for the most part, many child-sex offenders do not actively seek out opportunities to exploit children sexually, at least not initially. Instead they often take advantage of opportunities arising in the context of everyday lives, and particularly in the context of caregiver duties (Smallbone 2006). Evidence that younger children tend to be at greater risk of familial abuse and older children of nonfamilial abuse (Fischer and McDonald 1998; Smallbone et al. 2008; Snyder 2000) is consistent with expected changes in children's routine activities from within the home to outside the home as they grow older. Recently, Leclerc and Felson (2014) and, to a lesser extent, Deslauriers-Varin and Beaugard (2010) directly applied the routine activities approach, respectively to the investigation of adolescent-perpetrated sexual abuse incidents, and serial, stranger sexual offending against both adults and children. Both these studies demonstrated support for the routine activities approach, but this appears to be the extent of the research to date.

These studies, among others examining the situational aspects of adult sex offenders' modus operandi (e.g., Kaufman et al. 1998; Lang and Frenzel 1988; Leclerc et al. 2005, 2008), have tended to focus on the active role of the perpetrator in the offence process—how adults utilize and manipulate routines, relationships and situations to groom and sexually exploit children. Comparatively little recognition has been given to how children's routines might also drive the convergence of these factors. To our knowledge, no study has examined the onset of adult-perpetrated sexual abuse incidents from this perspective. Such investigations could therefore lead to new theoretical developments and prevention initiatives in the field of sexual violence and abuse.

One particular aspect of the routine activities approach that has received more recent attention in the sexual abuse field is the concept of guardianship (e.g., Leclerc et al. 2015). In their conceptualization, Leclerc

et al. (2015) opted for the most basic premise of guardianship, that the mere presence of someone in the vicinity of the offence location—either child or adult—can potentially play a guardianship role. There are indeed inherent challenges in the conceptualization and operationalization of guardianship in the context of sexual abuse, as Leclerc et al. (2015) have rightly acknowledged. Whilst children may be present they may not, nor should be expected to, have the emotional or physical capabilities to intervene. However, for the current study, as with that of Leclerc et al. (2015), we contend that the actual capability or intent of the guardian to intervene might be of less significance in some circumstances than the offender's perception of this risk. One such circumstance where the mere presence of someone else close by (including other children) might be particularly influential in offender decision-making is the first sexual abuse incident. Unlike Leclerc et al. (2015), we sought to isolate this first incident from subsequent offences, on the premise that this is a point in the criminal career where offenders may be especially cognizant of the potential for detection; such factors may become less influential in the commission of subsequent offences, when the offender has successfully tested such parameters.

The aim of this study was therefore to consider the characteristics of first sexual abuse incidents from the routine activities approach with a specific focus on how victim age might influence the timing (when), context (where and by whom) and nature (what happened and how) of these incidents, including any interactions with victim gender. Our rationale for focussing on the first abuse incident is simple—it is the single, most important incident to prevent. Given the known harms associated with contact child sexual abuse, more attention needs to be given to the circumstances in which child sexual abuse first unfolds so that prevention efforts can be implemented towards forestalling these incidents from occurring in the first place (see also, McKillop et al. 2012). In terms of examining the links between victim age and the timing and context of the onset sexual abuse incident we first examined whether older children would be more likely than younger children to be sexually abused:

1. by someone outside the family and during later hours of the day, and
2. outside a residential (i.e., domestic) setting and during later hours of the day.

We were also interested to examine:

3. whether other people (adults or children) were in close proximity when the abuse was initiated, and
4. how this presence may have influenced the nature this abuse incident.

Methods

Participants

The sample comprised 100 adult males convicted of at least one contact sexual offence involving a child 15 years of age or younger. Participants' average ages when surveyed was 45.79 years ($SD = 12.16$; range = 20–84 years). The majority (86%) identified as non-Indigenous Australian, 11% as Indigenous Australian, 2% as Asian and 1% New Zealand Maori. Half of the participants (51%) had completed some secondary education (up to grade 11; 15–16 years); 7% had completed their secondary education (i.e., at 17–18 years); and 17% had a primary education only (i.e., to 12–13 years only). One-quarter had completed tertiary level education (i.e., university or technical college).

The mean current sentence length was 8.28 years ($SD = 6.15$, range = 9 months–25 years). The number of current sexual offence convictions ranged from 1 to 116 ($M = 12.89$, $SD = 17.03$). Most common offences included indecent treatment of a child (77%), maintaining a sexual relationship with a child (48%) and rape (41%). Other convictions included incest (10%), unlawful carnal knowledge of a child (9%), indecent assault (3%); sexual assault (3%) and sexual homicide (2%)^a. Over one-quarter (27%) of offenders were serving a concurrent sentence for nonsexual offences. About one-quarter (27%) had previous sexual offence convictions, and about half (51%) had previous nonsexual offence convictions.

Measures

This study formed part of a larger nationally-funded research project examining the onset and progression of contact child sexual abuse incidents. The self-report instrument was designed to elicit detailed information about offenders' sexual contacts with children, regardless of whether or not these incidents had ever been reported to the police and/or prosecuted. These included offences defined under the Australian and New Zealand Standard Offence Classification (Australian Bureau of Statistics 2011) as acts involving direct physical contact with the child victim such as attempted or completed rape, carnal knowledge, incest and aggravated sexual assault. Only information pertaining to the first (i.e., onset) contact sexual abuse incident was used for this study and included the following:

Victim and offender characteristics

Each participant was asked to record his age at the time of his first sexual contact with a child, and to record the age and gender of his first sexual abuse victim.

Relationship context

Each participant was asked to select whether his relationship to the first sexual abuse victim was: (1) familial (e.g.,

biological or step-child, niece/nephew, grandchild); (2) nonfamilial (e.g., child of friend, neighbour, met through workplace); or, (3) stranger (e.g., knew child for less than 24 h). This was coded dichotomously as familial or nonfamilial (including stranger onset cases).

Offence setting

Each participant was asked to indicate the location where the sexual contact took place (e.g., in a home, school, park, shopping centre). These locations were coded as either a domestic or non-domestic (i.e., organisational or public) setting.

Offence timing

Each participant was asked the time (in 3-h time periods) when he had sexual contact with the victim. This was coded as: (1) 6 am–3 pm; (2) 3 pm–9 pm; and (3) 9 pm–6 am, to reflect morning, afternoon and evening routine-based activities.

Sexual acts

Participants were asked to disclose the types of contact sexual acts they engaged in with the child. These were coded dichotomously as penetrative (i.e., vaginal, anal, oral or digital penetration) or non-penetrative (i.e., touching or fondling breasts, genitals or bottom; masturbation).

Duration of incident

Participants were asked to record the duration of these incidents according to whether they occurred for: (1) less than 5 min; (2) 5–15 min; and (3) more than 15 min.

Presence of others

Participants were asked to record whether or not there was anyone else present or in close proximity when the abuse took place and if so, to identify, from a list, who this person was (e.g., child or adult), the relationship to that person and where this person was at the time of the offence. They were also asked whether the incident was directly witnessed or not. Both presence of others and witnesses were coded dichotomously (0 = no, 1 = yes).

The test–retest reliability of the onset offence variables has been previously demonstrated (McKillop et al. 2012).

Procedure

In line with ethical protocols stipulated by the correctional centre and from the researchers' University ethics committee, corrections staff initially approached offenders and invited them to participate in the study. Those who consented were then individually approached by a member of the research team to complete a detailed self-report questionnaire. Participants were asked to provide specific details about the

circumstances surrounding their first and subsequent (if applicable) sexual contacts with children. Official demographic and offence history data were also obtained directly from participants' correctional files. Participation was strictly confidential and voluntary. Complete anonymity was offered due to the sensitive nature of information contained in the survey. We began our analysis of the first abuse incident by examining the offence characteristics, before conducting a series of ANOVAs to examine differences in victim age according to the timing, context, and nature of these first abuse incidents.

Results

First sexual abuse incident characteristics

Victim and offender characteristics

Overall, victim ages were fairly evenly distributed across middle childhood and adolescence, with a mean age of 10.45 years old ($SD = 3.35$, range = 1–15) at the time of the first abuse incident. The risk for sexual abuse increased with age: 11% were under 5 years of age, 42% aged 6–11 and 47% over 12 years of age. Females were approximately three times more likely than males to be offenders' first victims (72 vs 28%), but on average boys and girls were of similar ages at the time of the abuse, $t(98) = .59$, $p = .56$. Offenders' average age at onset was 31.91 years old ($SD = 14.14$, range = 11–79). Almost all (90%) participants reported that they first sexually abused a child when they were an adult.

Relationship context

Over half of the sample (53%) reported a familial first victim and just under half (47%) a non-familial first victim (including 6% stranger-onset). Of those who had a prior relationship with the victim ($n = 94$), the majority of offenders (66%) had known their victims for more than 1 year prior to the first abuse incident and one-third (34%) had established relationships with the victims but for less than 1 year. The most common familial victims were step-children (25%) or biological children (13%). The most common nonfamilial victims were children of friends (13%), neighbours (7%) or children met through work (7%).

Offence location

In 80% of incidents the sexual abuse occurred in a domestic setting. Of those abused outside the domestic setting ($n = 20$), 3 were abused in an organizational setting and 17 in public.

Offence timing

These incidents most commonly occurred during the hours of 3 pm–9 pm (48%), one-third (34%)

between 6 am and 3 pm and two-fifths (18%) overnight (9 pm–6 am).

Victim age and the timing and context of the first sexual abuse incident

To examine our first two questions separate ANOVAs were conducted to investigate whether differences in victim age would be observed according to the time at which the first sexual abuse incident took place and the relationship context; then separately the timing and location of the abuse incident, including any interactions with gender.

A 2 (relationship context) × 3 (offence timing) ANOVA revealed a significant main effect for relationship context, $F(1,100) = 4.98, p = .03, \eta^2 = .05$. Familial perpetrators were more likely to sexually abuse younger-aged children ($M = 9.82$ years, $SD = 3.38$) than were nonfamilial perpetrators ($M = 11.16$ years, $SD = 3.20$). The main effect for offence timing was also statistically significant, $F(1,100) = 10.38, p < .001, \eta^2 = .18$. Post-hoc comparisons using the Tukey *HSD* test indicated that younger-aged children ($M = 8.83, SD = 3.81$) were sexually abused between the times of 6 am and 3 pm, ‘middle-aged’ children ($M = 10.83, SD = 2.85$) between 3 pm and 9 pm, and older children and adolescents ($M = 12.61, SD = 1.91$) between 9 pm and 6 am (Fig. 1). No significant interaction effect was observed, $F(1,100) = 0.005, p = .99$.

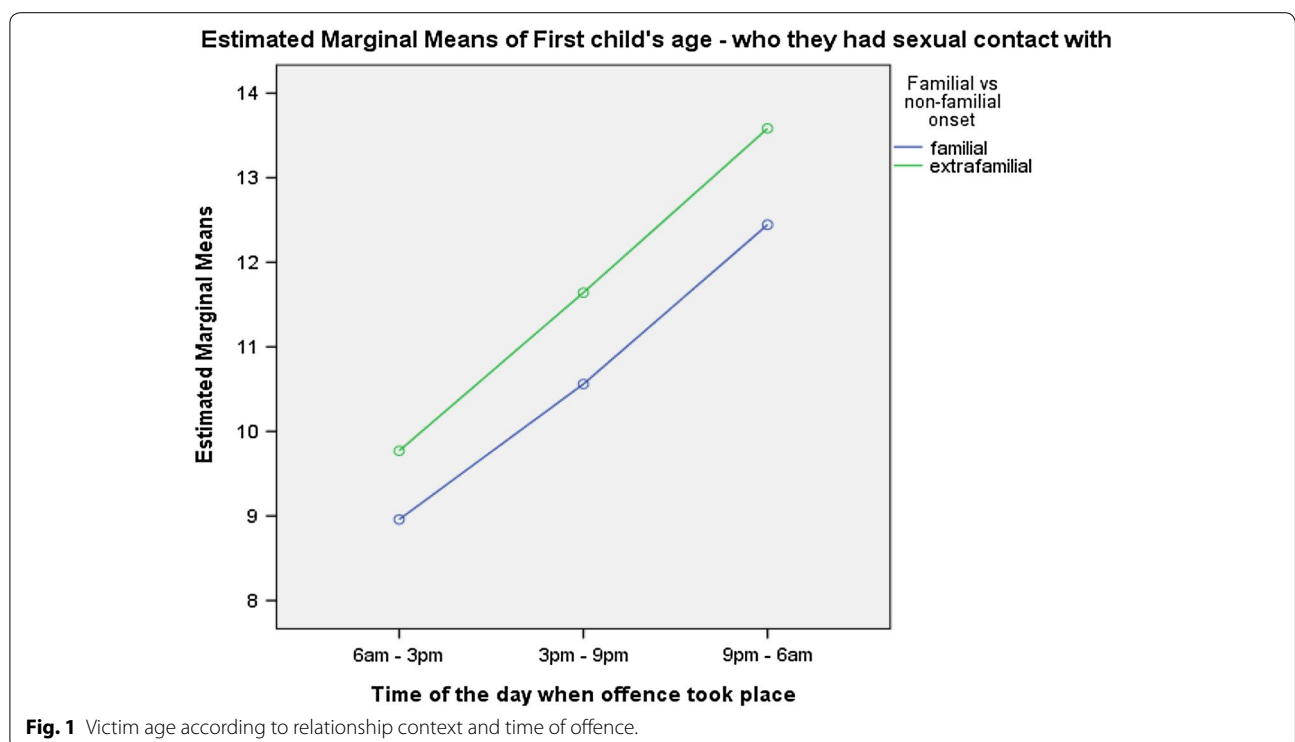
A second 2 (offence location) × 3 (offence timing) ANOVA yielded no statistically significant main effect for offence location, $F(1,100) = 1.75, p = .19$. However, a significant main effect for offence timing was found, $F(1,100) = 4.95, p = .009, \eta^2 = .10$. No interaction effect was observed, $F(1,100) = .39, p = .68$. When victim gender was included in both analyses as an independent variable, no statistically significant (main or interaction effects) findings were observed.

Nature of the first sexual abuse incident: victim age and presence of others

To assess questions 3 and 4, we examined whether the presence of others was associated with the age of the victim, relationship of the victim to the offender, types of sexual acts engaged in and the duration of the abuse incident, including any interactions with gender.

Sexual acts

Half (53%) of sexual contacts involved penetrative acts. The most common sexual acts included the perpetrator fondling the victims’ bottoms, breasts or genitals (51%); attempted or completed rape (24%); the perpetrator performing oral sex on the child (23%) or having the child masturbate them (18%). Other sexual acts included having the child perform oral sex on the perpetrator (17%), masturbating the child (16%); digital penetration (13%);



having the child fondle the perpetrator (10%); having the child masturbate themselves (5%) and having the child penetrate the perpetrator (3%)^b. Although a higher proportion of penetrative acts occurred in the absence of others (64%) than when someone was nearby (45%), this was not statistically significant, $\chi^2 (n = 99, 1) = 3.46$, $p = 0.06$, $\phi = -.19$. The 2 (presence of others) \times 2 (penetrative acts) ANOVA yielded no statistically significant difference in victim age, including when gender was incorporated.

Presence of others

More than half (60%) of incidents occurred when another person (either adult or child) was nearby, but not close enough to directly witness the incident. For those incidents that occurred in a home ($n = 80$), two-thirds (64%) occurred when someone else was nearby, most commonly in another room in the house (44%). This person was most commonly a child relative (32%) or an adult relative (22%). In a small number of cases (12%), someone was present in the same room at the time of the first sexual abuse incident, the majority of the individuals (90%) were children, although two participants reported the presence of an adult as well. For incidents that occurred outside the home ($n = 20$), two-fifths (40%) occurred in the presence of someone nearby; two-thirds (63%) of whom were less than 50 metres away. These individuals were most commonly child relatives of the perpetrator (17%) or a stranger adult (18%). A significantly higher proportion of familial incidents (74%) occurred when others were in close proximity, compared to nonfamilial incidents (45%), $\chi^2 (n = 100, 1) = 8.67$, $p = 0.003$, $\phi = -.29$. However, when examining this in relation to victim age, the 2 (presence of others) \times 2 (relationship context) ANOVA was not statistically significant.

Duration of contact

Sexual contact with the victim lasted less than 5 min in the majority (61%) of cases, between 5 and 15 min in one-fifth (20%) of incidents, and more than 15 min in the remaining one-fifth (19%) of cases. The presence of another person nearby appeared to be associated with the duration of the incident, with over two-thirds (70%) of incidents lasting less than 5 min when another person was in close proximity, compared to one-third (29%) lasting between 5 and 15 min and two-fifths (22%) of more than 15 min when no one was nearby. However, this was not statistically significant, $\chi^2 (n = 100, 3) = 5.27$, $p = 0.07$, $\phi_c = .23$. The 2 (presence of others) \times 3 (duration) ANOVA did not show statistically significant differences in victim age or interactions with gender.

Witnesses

Despite there being others in close proximity (and even in the same room) to where the abuse occurred, few (8%, $n = 8$) of these incidents were directly witnessed by a third party. Five of these witnesses were children either known or related to the perpetrator; and three were adults known or related to the perpetrator. In all but one instance (instigated by an adult), no one intervened during this first abuse incident. In this single instance, the perpetrator immediately ceased the behaviour in response to this intervention.

Discussion

The purpose of this study was to examine the characteristics of the first sexual abuse incident from the routine activities approach. In particular, we were interested in exploring how victim age might be linked to the timing, context and nature of participants' first sexual abuse incidents. Overall, our findings indicate that sexual abuse incidents first tend to occur against children to whom perpetrators have routine access, in contexts and during times where the perpetrators and victims are most likely to be interacting with each other in the milieu of their usual routines and activities.

Almost all offenders reported that they first sexually abused a child when they were adults. The average age of onset was 32 years of age. From the routine activities perspective, the mean age coincides with males assuming new family-oriented roles (i.e., as fathers, stepfathers, uncles) as well as employment-oriented roles (i.e., coaches, teachers) that routinely bring them into close contact with children, thereby increasing their exposure and access to children, oftentimes unsupervised.

Consistent with previous studies (e.g., Andrews et al. 2002; Goldman and Padayachi 1997; Putnam 2003) our findings indicate that the risk for sexual abuse increases with age. Female children were the most likely victims in these incidents. Nevertheless, both girls and boys appear to be initially at risk of abuse within the context of existing relationships with (potential) perpetrators, rather than strangers. Most victims were known to the perpetrator often having had an established nonsexual relationship with each other prior to abuse. This pattern is similar to the findings of other studies of child sexual abuse (e.g., Andrews et al. 2002; Dube and Hebert 1988; Smallbone and Wortley 2000) and suggests that individuals tend not to actively seek out victims for such incidents, at least not initially. Instead, they first offend against children with whom they are familiar, a finding which is consistent with the routine activities approach.

The first sexual abuse incidents occurred predominantly in domestic settings, regardless of victim age or

gender, and most commonly during the hours where usual routines and activities place victims and perpetrators in the same locations. From a situational perspective (Clarke and Cornish 1985; Cornish and Clarke 1986; Tewksbury and Mustaine 2010; Wortley and Smallbone 2006) domestic settings provide more routine access to victims and therefore present the most opportune offence structure posing the least amount of effort and risk to offenders. As individuals within these settings tend to have close, existing relationships with one another, this shared ecological space increases their exposure to (potential) victimization (Smallbone and Cale 2015). This is particularly so in the case of familial sexual abuse as the victim-perpetrator relationship, by nature, results in these interactions occurring frequently in the absence of other individuals who would otherwise protect or discourage such behaviour, acting as fundamental initiators of child sexual abuse (Cohen and Felson 1979; Felson 2008; Finkelhor 1984).

Regarding questions one and two, younger children tended to be sexually abused during the earlier hours of the day, 'middle-age' children during the afternoon and early evening and older children/adolescents later in the evening and overnight, regardless of gender. Consistent with Fischer and McDonald (1998) and Snyder (2000) younger children were also more likely to be sexually abused by familial perpetrators and older children by nonfamilial perpetrators. Together these findings may reflect an increase of routines situated outside the family as children age (e.g., during school and after-school recreational activities), compared with younger (non-school age) children whose routines more closely connected to the family. For adolescent victims the timing of abuse may coincide within interactions with their caregivers in the home (e.g., homework, watching TV, bedtime) and, for others, individuals outside the home (e.g., sleep over at friend's house; at a party; walking home). Thus, the timing and context of these incidents may be shaped, to some extent, by children's age-related victim routines and activities and indicates that risk factors for sexual abuse at earlier stages in children's lives may be quite different to those associated with later developmental stages. Accordingly, prevention efforts need to be responsive to lifestyle patterns associated with the developmental stages of childhood.

This convergence, however, still tended to occur within (familial or nonfamilial) domestic settings, regardless of age. As such, prevention approaches must target this setting. There already exists a repertoire of offender-centred and child-focussed approaches to the prevention of child sexual abuse. These findings emphasize the need to extend this individual focus to include creating safer relationships and environments (formally and informally)

in addition to safer individuals. Essentially such interventions should be aimed at reducing opportunities to commit crime in the social ecologies and routines of everyday living (Clarke 1992, 2008; Cornish and Clarke 2003), with a focus on the pre-offence and offence settings situated within the social and physical environments of potential victims and perpetrators (Smallbone et al. 2008).

Our initial assumption when carrying out this study was that any individual, regardless of age, could act as a potential guardian whose presence alone has the potential to deter individual from engaging in sexual abuse. We assumed that this would be particularly influential in the decision-making of individuals at the onset of their offending (rather than during subsequent offences), yet our results suggest otherwise. The majority of incidents occurred when another person was nearby, but not close enough to directly witness the incident. Again, this was regardless of victim age or gender. Similar to the findings of Underwood et al. (1999), this suggests that, in many cases, perpetrators were largely unconcerned about the risk of detection, particularly within familial contexts. That is, the mere presence of someone close by (and even in the same room) did not necessarily act as a deterrent in the decision to initiate abuse. This presence did appear to impact somewhat on the intrusiveness and duration of the incident, but not significantly so. Despite there being others in close proximity (and even in the same room) where the abuse occurred, few of these incidents were directly witnessed by a third party. In all but one instance (instigated by an adult), no one intervened during this first abuse incident.

Overall, these findings highlight two important issues. First, from both a theoretical and practical perspective, it raises questions as to whether children can actually constitute capable guardians in these types of crimes, and whether in fact, this is a key consideration in perpetrator decision-making, even in the first instance of abuse. Second, it raises questions as to whether the typical context in which these incidents occur (domestic settings and among known individuals), compromises capable guardianship, even in adults. Some insights can be drawn from Reynald's (2010) work in this regard.

First, in relation to children constituting potential guardians, Reynald (2010) discussed three components of capable guardianship, particularly within micro-spaces such as domestic settings: (1) willingness to supervise, (2) ability to detect potential offending; and, (3) willingness to intervene when necessary. Most prevention strategies to date have focussed predominantly on the second component, through education (e.g. protective behaviours) and awareness programs generally designed to increase knowledge and detection of potential abusive situations. While there is evidence for the acquisition

of such knowledge to prepare adults and children alike, the evidence remains limited regarding whether this translates into action (Finkelhor 2009). Furthermore, the components of willingness to supervise and intervene implies equality within the relationships of the perpetrator and guardian, which, as the current findings suggest, is oftentimes not the case in these incidents. Thus, the developmental (e.g., emotional and physical) vulnerabilities synonymous with childhood, likely diminishes these capabilities in children. This is likely a key consideration in offender decision-making, reducing the deterrence effect both in initiating the abuse, and for some, persisting with abuse even when witnessed, and from as early on as the first incident. Details of the ages of the children who were present were not available for this study. Studies on guardianship involving other types of crime often use a measure of age of 16 or over (e.g., Miethe and Meier 1994), perhaps for these reasons. These age-related dynamics require further exploration in the context of sexual abuse.

Second, the question becomes whether the dynamics of the relationship between the victim, perpetrator and potential guardian/s adds a layer of complexity to the situation that might alter or compromise guardianship potential, regardless of age. These complexities are not often present in other types of crimes where the routine activities approach has been applied. For example, oftentimes the perpetrator is a loved and trusted person of the guardian and/or child. This has implications for both the level of supervision and willingness to intervene. This is particularly so in the case of established, trusting caregiving relationships where many of the incidents occur in the context of innocuous, even positive parent–child routine interactions (e.g., bathing, putting to bed, comforting child). Active supervision is relaxed within such environments, and where inadvertently interrupted, can be more readily concealed, reducing capacities for detection and intervention. This dynamics are also likely to lower perpetrators' perceptions of risk in such contexts. The dependence of the relationship between perpetrators and potential guardians (especially those involving close emotional bonds) might compromise willingness to intervene or disclose due to the anticipated consequences of such action (e.g. loss of relationship, family breakdown, removal of perpetrator from home, financial loss), thereby promoting inaction on the part of some guardians in this context. The complexities underlying the conceptualisation of guardianship in these contexts therefore need to be a point of focus for clarification in the academic field, to determine how useful its application, and that of the routine activities approach, can be to the prevention of child sexual abuse.

While these findings are informative, they should be regarded within the limitations of the study. First, the sample size was modest, and may have compromised statistical power, thereby increasing possibility of Type II error (failure to detect actual differences). The sample was also drawn from a population of convicted sexual offenders, which limits the generalizability of findings from this study to all contact sexual abuse incidents. We also did not assess whether this first known contact sexual abuse incident was predated by any non-contact sexual abuse incidents, such as voyeurism or viewing child abuse images online. It is assumed that at least some of the sample may have engaged in this behaviour prior to engaging in contact sexual abuse. Second, although we purposely recruited a nonclinical sample, and applied strict confidentiality and anonymity provisions for participants, there are still the usual challenges regarding retrospective sex offender self-report data (Wood and Riggs 2009; Tan and Grace 2008). Third, this study focussed on the first contact sexual abuse incident and so it is not possible to ascertain if the patterns identified apply to other sexual abuse incidents beyond this initial offence. Feldman (1977) distinguished between factors that lead to the initial offence and factors that maintain the behaviour in the current environment and there remains the question regarding how situational factors (and routine activities) influence not only the onset offence but offence progression as well. Given that there are still very few empirical investigations of situational dimensions of sexual abuse incidents, we encourage further studies employing larger sample sizes, including community-based samples, which examine the onset and progression of sexual offending incidents from the routine activities perspective. Fourth, it was not possible from the data to establish whether or not any of the adult witnesses were active participants or facilitators in the first the sexual contact incident. This information would add another critical element to the understanding of guardianship within this context and should be a focus of future research. Finally, virtually all men encounter these opportunities, but most, it is assumed, do not sexually abuse. This requires an extension beyond mainstream criminological theory to include an understanding the person-situation interaction model of human behavior (Mischel 1968; Wortley 2012). Future studies that apply this framework to examine how dispositions or vulnerabilities of individuals interact with specific situational factors to facilitate sexual offences are encouraged. This will provide a more complete account of how sexual abuse incidents first, and subsequently, unfold.

Conclusions

Overall, our findings add to our understanding of the situational and contextual factors involved in the perpetration of contact child sexual abuse and demonstrate, more broadly, the utility of situational crime prevention models for explaining where, when and how child sexual abuse incidents first occur. In particular, these findings indicate that the timing and context of sexual abuse incidents may be influenced by age-related routine activities that define convergence settings and opportunity structures. However, these abuse incidents still tend to occur in a domestic setting, regardless of age or gender, making this setting a key target area for prevention. The findings also highlight the complexities involved in conceptualizing guardianship within the context of child sexual abuse, particularly when close, emotional bonds exist between individuals. Further theoretical and empirical exploration of the key dimensions that underpin capable guardianship for this type of crime is therefore warranted, to determine whether, and how, situational approaches can assist in understanding and preventing child sexual abuse.

Endnotes

^aMany offenders were serving sentences for more than one offence; hence the percentages do not total 100%.

^bMany offenders reported performing more than one sexual act; hence the percentages do not total 100%.

Authors' contributions

NM was responsible for the conceptualization of the study, data collection and analysis, interpretation of findings, and drafting the manuscript. SB, RW and SS were responsible for interpretation of findings, drafting and revising the manuscript. All authors read and approved the final manuscript.

Author details

¹ Griffith Criminology Institute, Griffith University, 176 Messines Ridge Road, Mt Gravatt, QLD 4122, Australia. ² Centre for Research in Psychology, Behaviour and Achievement, Coventry University, Priory Street, Coventry CV1 5FB, UK. ³ Department of Security and Crime Science, University College London, Gower Street, London WC1E 6BT, UK.

Acknowledgements

This research was supported by an Australian Research Council Linkage Grant (LP0668287) in partnership with Queensland Corrective Services. The views expressed herein are solely those of the authors, and in no way reflect the views or policies of Australian Research Council or Queensland Corrective Services.

Compliance with ethical guidelines

Competing interests

The authors declare that they have no competing interests.

Received: 1 April 2015 Accepted: 16 July 2015

Published online: 30 July 2015

References

Andrews, G., Gould, B., & Corry, J. (2002). Child sexual abuse revisited. *The Medical Journal of Australia*, 176(10), 458–459.

- Australian Bureau of Statistics. (2011). Australian and New Zealand Standard Offence Classification (ANZSOC) (3rd ed.). Canberra: Australian Bureau of Statistics.
- Cass, A. (2007). Routine activities and sexual assault: an analysis of individual- and school-level factors. *Violence and Victims*, 22(3), 350–366. doi:10.1891/088667007780842810.
- Clarke, R. V. (1992). *Situational crime prevention: successful case studies*. New York: Harrow and Heston.
- Clarke, R. V. (2008). Situational crime prevention. In R. Wortley & L. Mazzerole (Eds.), *Environmental criminology and crime analysis* (pp. 178–194). Cullompton: Willan Publishing.
- Clarke, R. V., & Cornish, D. B. (1985). Modelling offenders' decisions: a framework for policy and research. *Crime and Justice: A Review of Research*, 6, 147–185.
- Cohen, L. E., & Felson, M. (1979). Social change and crime rate trends: a routine activity approach. *American Sociological Review*, 44(4), 588–608.
- Colombino, N., Mercado, C. C., Levenson, J., & Jelic, E. (2011). Preventing sexual violence: can examination of offense location inform sex crime policy? *International Journal of Law and Psychiatry*, 34, 160–167. doi:10.1016/j.ijlp.2011.04.002.
- Cornish, D. B., & Clarke, R. V. (1986). Introduction. In D. Cornish & R. Clarke (Eds.), *The reasoning criminal* (pp. 1–16). New York: Springer-Verlag.
- Cornish, D. B., & Clarke, R. V. (2003). Opportunities, precipitators and criminal dispositions: a reply to Wortley's critique of situational crime prevention. In M. J. Smith & D. B. Cornish (Eds.), *Theory for practice in situational crime prevention* (pp. 41–96). Monsey: Criminal Justice Press.
- Deslauriers-Varin, N., & Beaugard, E. (2010). Victims' routine activities and sex offenders' target selection scripts: a latent class analysis. *Sexual Abuse: A Journal of Research and Treatment*, 22, 315–342. doi:10.1177/1079063210375975.
- Dube, R., & Hebert, M. (1988). Sexual abuse of children under 12 years of age: a review of 511 cases. *Child Abuse and Neglect*, 12(3), 321–330. doi:10.1016/0145-2134(88)90045-2.
- Feldman, P. M. (1977). *Criminal behaviour: a psychological analysis*. Chichester: Wiley.
- Felson, M. (2008). Routine activity approach. In R. Wortley & L. Mazzerole (Eds.), *Environmental criminology and crime analysis* (pp. 70–77). New York: Willan Publishing.
- Finkelhor, D. (1984). *Child sexual abuse: new theory and research*. New York: The Free Press.
- Finkelhor, D. (2009). The prevention of childhood sexual abuse. *The Future of Children*, 19, 169–194.
- Finkelhor, D., & Hashima, P. (2001). The victimization of children and youth: a comprehensive overview. In S. O. White (Ed.), *Handbook of youth and justice* (pp. 49–78). New York: Kluwer Academic/Plenum.
- Fischer, D. G., & McDonald, W. L. (1998). Characteristics of intrafamilial and extrafamilial child sexual abuse. *Child Abuse and Neglect*, 22(9), 915–929. doi:10.1016/S0145-2134(98)00063-5.
- Fisher, B. S., Sloan, J. J., Cullen, F. T., & Lu, C. (1998). Crime in the ivory tower: the level and sources of student victimization. *Criminology*, 36, 671–710. doi:10.1111/j.1745-9125.1998.tb01262.x.
- Franklin, C. A., Franklin, T. W., Nobles, M. R., & Kercher, G. A. (2012). Assessing the effect of routine activity theory and self-control on property, personal and sexual assault victimization. *Criminal Justice and Behavior*, 39, 1296–1315. doi:10.1177/0093854812453673.
- Goldman, J. D. G., & Padayachi, U. K. (1997). The prevalence and nature of child sexual abuse in Queensland, Australia. *Child Abuse and Neglect*, 21(5), 489–498. doi:10.1016/S0145-2134(97)00008-2.
- Hindelang, M. J., Gottfredson, M. R., & Garofalo, J. (1978). *Victims of personal crime: an empirical foundation for a theory of personal victimization*. Cambridge: Ballinger Publishing Co.
- Jackson, A., Gilliland, K., & Veneziano, L. (2006). Routine activity theory and sexual deviance among male college students. *Journal of Family Violence*, 21, 449–460. doi:10.1007/s10896-006-9040-4.
- Kaufman, K. L., Holmberg, J. K., Orts, K. A., McCrady, F. E., Rotzien, A. L., Daleiden, E. L., et al. (1998). Factors influencing sexual offenders' modus operandi: an examination of victim-offender relatedness and age. *Child Maltreatment*, 3, 349–361.
- Kaufman, K., Mosher, H., Carter, M., & Estes, L. (2006). An empirically based situational prevention model for child sexual abuse. *Crime Prevention Studies*, 19, 101–144.

- Kennedy, L., & Forde, D. (1990). Routine activity and crime: an analysis of victimization in Canada. *Criminology*, 2(1), 137–151. doi:10.1111/j.1745-9125.1990.tb01321.x.
- Lang, R. A., & Frenzel, R. R. (1988). How sexual offenders lure children. *Annals of Sex Research*, 1, 303–317.
- Leclerc, B., Beauregard, E., & Proulx, J. (2008). Modus operandi and situational aspects of child sexual abuse in adolescent sexual offenses: a further examination. *International Journal of Offender Therapy and Comparative Criminology*, 52(1), 46–61. doi:10.1177/0306624X07300271.
- Leclerc, B., & Felson, M. (2014). Routine activities preceding adolescent sexual abuse of younger children. *Sexual Abuse: A Journal of Research and Treatment*. Published online before print: <http://sax.sagepub.com/content/early/2014/07/23/1079063214544331>.
- Leclerc, B., Proulx, J., & McKibben, A. (2005). Modus operandi of sexual offenders working or doing voluntary work with children and adolescents. *Journal of Sexual Aggression*, 2, 187–195.
- Leclerc, B., Smallbone, S. W., & Wortley, R. W. (2015). Prevention nearby: the influence of the presence of a potential guardian on the severity of child sexual abuse. *Sexual Abuse: A Journal of Research and Treatment*, 27(2), 189–204. doi:10.1177/1079063213504594.
- Leclerc, B., Wortley, R. W., & Smallbone, S. W. (2010). Investigating mobility patterns for repetitive sexual contact in adult child sex offending. *Journal of Criminal Justice*, 38, 648–656. doi:10.1016/j.jcrimjus.2010.04.038.
- Leclerc, B., Wortley, R. W., & Smallbone, S. W. (2011). Getting into the script of adult child sex offenders and mapping out situational prevention measures. *Journal of Research in Crime and Delinquency*, 48(2), 209–237. doi:10.1177/0022427810391540.
- Marshall, W. L., & Barbaree, H. E. (1990). An integrated theory of the aetiology of sexual offending. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault: issues, theories, and treatment of the offender* (pp. 257–275). New York: Plenum.
- McKillop, N., Smallbone, S., Wortley, R., & Andjic, I. (2012). Offenders' attachment and sexual abuse onset: a test of theoretical propositions. *Sexual Abuse: A Journal of Research and Treatment*, 24, 591–610. doi:10.1177/1079063212445571.
- Meithe, T. D., Stafford, M. C., & Long, S. J. (1987). Social differentiation in criminal victimization: a test of routine activities and lifestyle theories. *American Sociological Review*, 52, 184–194.
- Miethe, T. D., & Meier, R. F. (1994). *Crime and its social context: toward an integrated theory of offenders, victims and situations*. Albany: State University of New York Press.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Pratt, T. C., Holtfreter, K., & Reisig, M. D. (2010). Routine online activity and internet fraud targeting: extending the generality of routine activity theory. *Journal of Research in Crime and Delinquency*, 47(3), 363–400. doi:10.1177/0022427810365903.
- Putnam, F. W. (2003). Ten-year research update review: child sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(3), 269–278. doi:10.1097/01.CHI.0000037029.04952.72.
- Quadara, A., Nagy, V., Higgins, D., Siegel, N. (2015). Conceptualising the prevention of child sexual abuse: final report. (Research Report No. 33). Melbourne: Australian Institute of Family Studies.
- Reynald, D. (2010). Guardians on guardianship: factors affecting the willingness to supervise, the ability to detect potential offenders, and the willingness to intervene. *Journal of Research in Crime and Delinquency*, 47, 358–390.
- Reyns, B. W., Hensen, B., & Fisher, B. S. (2011). Being pursued online: applying cyberlifestyle-routine activities theory to cyberstalking victimization. *Criminal Justice and Behavior*, 38(11), 1149–1169. doi:10.1177/0093854811421448.
- Richards, K. (2011). Misperceptions about child sex offenders. *Trends and Issues in Crime and Criminal Justice*, 429, 1–8.
- Rodgers, K., & Roberts, G. (1995). Women's non-spousal multiple victimization: a test of the routine activities theory. *Canadian Journal of Criminology*, 37(3), 361–391.
- Rotton, J., & Cohn, E. G. (2003). Global warming and U.S. crime rates: an application of routine activities theory. *Environment and Behavior*, 35, 802–825. doi:10.1177/0013916503255565.
- Schwartz, M. D., & Pitts, V. L. (1995). Exploring a feminist routine activities approach to explaining sexual assault. *Justice Quarterly*, 12(1), 9–31. doi:10.1080/07418829500092551.
- Smallbone, S. W. (2006). An attachment theoretical revision of Marshall and Barbaree's integrated theory of the etiology of sexual offending. In W. L. Marshall, Y. M. Fernandez, L. E. Marshall, & G. A. Serran (Eds.), *Sexual offenders treatment: controversial issues* (pp. 93–108). Chichester: Wiley.
- Smallbone, S. W., & Cale, J. (2015). Situational theories. In T. Ward & A. Beech (Eds.), *Theories of sexual offending*. New York: Wiley.
- Smallbone, S. W., Marshall, W. L., & Wortley, R. K. (2008). *Preventing child sexual abuse: evidence, policy and practice*. Cullompton: Willan.
- Smallbone, S. W., & Wortley, R. K. (2000). *Child sexual abuse in Queensland: offender characteristics and modus operandi (full report)*. Brisbane: Queensland Crime Commission.
- Smallbone, S. W., & Wortley, R. K. (2001). Child sexual abuse: offender characteristics and modus operandi. *Australian Institute of Criminology Trends and Issues in Crime and Criminal Justice*, 193, 1–6.
- Snyder, H.N. (2000). Sexual assault of young children as reported to law enforcement: victim, incident and offender characteristics. Washington, DC: US Department of Justice, Bureau of Justice Statistics.
- Tan, L., & Grace, R. C. (2008). Social desirability and sexual offenders: a review. *Sexual Abuse: A Journal of Research and Treatment*, 20(1), 61–87. doi:10.1177/1079063208314820.
- Tarzon, C., & Quadara, A. (2012). *The nature and extent of sexual assault and abuse in Australia* (ACSSA Resource Sheet No. 5). Melbourne: ACSSA, Australian Institute of Family Studies. Retrieved from www.aifs.gov.au/acssa/pubs/sheets/rs5/index.html.
- Terry, K. J., & Ackerman, A. (2008). Child sexual abuse in the Catholic church: how situational crime prevention can help shape safe environments. *Criminal Justice and Behaviour*, 35(5), 643–657. doi:10.1177/0093854808314469.
- Tewksbury, R., & Mustaine, E.E. (2010). Cohen, Lawrence E., and Marcus K Felson: Routine activities theory. In F.T. Cullen and P. Wilcox (Eds.), *Encyclopedia of criminological theory* (pp. 187–193). Thousand Oaks, CA: Sage Publications. doi: 10.4135/9781412959193.n52.
- Underwood, R. C., Patch, P. C., Cappelletty, G. G., & Wolfe, R. W. (1999). Do sexual offenders molest when other persons are present? A preliminary investigation. *Sexual Abuse: A Journal of Research and Treatment*, 11, 243–247.
- Wood, E., & Riggs, S. (2009). Adult attachment, cognitive distortions, and views of self, others, and the future among child molesters. *Sexual Abuse: A Journal of Research and Treatment*, 21(3), 375–390. doi:10.1177/1079063209340142.
- Wortley, R. K. (2008). Situational precipitators of crime. In R. Wortley & L. Mazzerole (Eds.), *Environmental criminology and crime analysis* (pp. 48–66). Cullompton: Willan.
- Wortley, R. K. (2012). Exploring the person-situation interaction in situational crime prevention. In N. Tilley & G. Farrell (Eds.), *The reasoning criminologist: essays in honour of Ronald V. Clarke* (pp. 184–193). London: Routledge.
- Wortley, R., & Smallbone, S. (2006). Applying situational principles to sexual offenses against children. In R. Wortley, & S. Smallbone (Eds.), *Situational prevention of child sexual abuse*. *Crime Prevention Studies* (vol. 19, pp. 7–35). Monsey, New York: Criminal Justice Press.