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### Article

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**Cold case reviews of serious sexual offenders: an exploration of pre and post-index offending patterns**

Abstract

This exploratory study investigates offending patterns of perpetrators of serious sexual offences who were not initially identified at the time of the offence. The existing body of literature is limited in scope and often confined to incarcerated sexual offenders post-conviction (Riser, Pegram, & Farley, 2013). This study aims to explore whether offenders continue to commit crime after the commission of a serious sexual assault (SSA), if they are at liberty to do so, and if so, are there any identifiable patterns in their pre and post offence criminality. The sample consisted of thirty-eight adult male offenders recently convicted of a SSA through Operation Advance, a phased approach programme which forensically reviewed sexual offence cases submitted to the Forensic Science Service during 1989 to 1999 from all police forces. Results indicated that approximately one-third of the SSA offenders received a post-offence conviction for a sexual-contact offence. Results showed greater chronicity and versatility of the subsequent offences for those younger index offenders. Explanations for the findings are discussed with implications for suspect prioritisation.

**Key words:** serious sex assault; cold case review; post-index offence, chronicity; versatility.

## **Introduction**

It is widely acknowledged that a large proportion of sexual offences are not reported to the police, with conviction rates low if the case makes it to court (Langevin et al., 2004), which often limits the findings of sexual offending studies (Hargreaves & Francis, 2014). Furthermore, research has reported that an average of 10-16 years elapses between a sexual offender's first sexual offence and their first arrest (Ahelmeyer, Heil, McKee & English, 2000). Although there is a plethora of research that has examined sexual offenders' recidivism rates and previous criminal histories, this time lapse from committing an offence, to their first arrest/conviction may highlight a gap in the offending pathway. This study takes a unique perspective by examining pre and post-index offending patterns of serious sexual abusers who were not identified at the time of the offence.

Soothill et al (2002) defines serious sexual assault as an offence of rape or more serious cases of indecent assault (SSA), which is the definition used within this study. For a full review of the UK trends of sexual offences and the types of offences included within UK legislation, see McManus and Almond (2014). When exploring offending pathways of those engaging in serious sexual offending, two key hypotheses have been proposed: the specialisation hypothesis and the generality hypothesis (Lussier, 2005). This theoretical debate concerns the notion that sexual offenders can differ in the extent to which their criminal careers are characterised by specialism or generality. Specialism is seen as the tendency to repeat offences of the same type, whereas generality is committing a diverse range of offences (Guerette, Stenius, & McGloin, 2005). The ability to determine whether an offender is a

generalist or specialist often requires exploration of their offending behaviour across their criminal career: those that occurred prior to the index (SSA offence) and those committed post-index.

#### Precursors for serious sexual assault

Although there are difficulties in establishing the true extent of sexual offending in today's society, the ability to predict the likelihood of committing a serious sexual offence from general criminal populations, has been well documented (e.g., Lievore, 2004; Soothill, Francis, Ackerley, & Fligelstone, 2002). In a retrospective study, Soothill et al. (2002) reported that precursors such as unusual criminal activities (occurring in less than 2% of sample) may indicate an increased likelihood of future serious sexual offending. Some examples included cruelty to or neglect of children, kidnapping, and other sexual offences. They found offenders with a child cruelty or neglect conviction (important to note this was based on conviction, not the behaviour of child cruelty/neglect, which is seen as occurring more frequently) in their criminal history were nearly ten times as likely to be convicted of a serious sexual assault (SSA). Similarly, when an individual had a history of less serious sexual offences (indecent assault on an adult female, non-custodial), they were twelve times more likely to be convicted of a SSA.

In addition, Lievore (2004) postulated that the majority of SSA offenders were more likely to have prior convictions for violence and general offences than for sexual offences. Similarly, Soothill and Francis (1999) documented that nearly half of those committing a SSA received a previous conviction for violence. Subsequently, Soothill et al. (2002) found analogous

results as they reported that among sex offenders, prior convictions for offences such as wounding, robbery and stealing in a dwelling were also frequent. As violence and power are a central element of these convictions, such findings suggest a continuity between violent and sexual offending (Lievore, 2004). Taken together, criminal histories including either violent and/or unusual criminal activities appear to indicate an increased likelihood of future sexual offending. However, Harris, Smallbone, Dennison and Knight (2009) explored official criminal histories of 566 men convicted of sexual offences between 1959 and 1984 exploring the extent of their offence specialisation and versatility. They used various thresholds based on previous research to assess specialisation (50%, 75%, 100%), with results suggesting the sexual offenders, generally, are more likely to display criminal versatility. However, when exploring the specific types of sexual offenders (rape, child molesters, incest offenders and mixed) they found that child molesters showed a more specialised offending history than rapists, although they state overall, child molesters were still seen to be criminally versatile.

#### Sexual offending recidivism studies

Much of the previous work on the offending patterns of sexual offenders has focused on recidivism and for many in the community, sexual offenders are frequently assumed to be highly recidivistic, as well as specialists engaging in sexual offending only (Tewksbury, Jennings, & Zgoba, 2012). Conversely, an extant body of research has suggested that the majority of sex offenders are not reconvicted for sexual crimes (e.g., Hanson & Bussière, 1998; Lievore, 2004).

A recent study, by Hargreaves and Francis (2014), examined a sample of 920 juvenile sexual offenders over a 35 year follow up period, one of the longest follow-up periods to date. They concluded that overall reconviction rates were low across the follow-up period with 7% reconvicted of a sexual offence at the five year follow-up, reaching 13% by the end of the 35 year follow-up. This supports much of the previous work that suggests low rates of sexual reconviction (Broadhurst & Maller, 1991, 1992; Hanson & Bussiere, 1998; Hagan & Gust-Brey, 1999). However, rates of non-sexual reconvictions have been reported at a consistently higher rate. Additionally, when considering the longitudinal patterns of offending across the entire criminal career, Smallbone and Wortley (2004) noted that both preceding and following a SSA conviction, offenders are two times more likely to be convicted of a non-sexual offence than one of a sexual nature. Hargreaves and Francis (2014) have recently reported similar patterns, with a lower number of sexual reconvictions (13.1%), compared to violent reconviction (32.8%). Similarly, Hanson et al. (2002) reported lower rates of general recidivism for treated and untreated sexual offenders (28% and 39% respectively), with lower sexual recidivism rates (12% and 17%) for these offenders. Higher rates of recidivism are often reported when comparing a control group with a treatment group (Worling, Littlejohn & Brookalom, 2010) and for those studies utilising self-report measures (Bremer, 1992).

In light of such findings, it appears that a considerable number of sexual offenders display criminally versatility and, therefore, do not engage in sexual offences only (Miethe, Olson, & Mitchell, 2006; Sample & Bray, 2003; Smallbone, Wheaton & Hourigan, 2003; Piquero et al., 2012). Despite these

research findings, sexual offenders can nevertheless differ in their individual criminal careers and are thus commonly recognised as a heterogeneous population with various patterns and precursors of offending (Gleb, 2007). Such research serves to highlight the complications surrounding both the investigation of reoffending patterns and the generality/speciality dichotomy.

When operationalising age of onset in sexual offending, two key methods of obtaining data on this has resulted in significant discrepancies. Self-report measures of age of onset has been found to result in a younger age of onset compared to official age of onset (first conviction). Lussier and Mathesius (2012) within their sample of 332 first time convicted sex offenders, found an age gap of around 7 years between actual age of onset (early thirties) and official age (late thirties). They explore the notion of detection avoidance, with those who avoid detection for longer (more than a decade) were more likely to abuse prepubescent children, with these victims waiting till much later in life before reporting any abuse. They discuss the impact of detection avoidance allowing offenders to persist in their offending due to expectation that they will not be caught. The authors reported the average duration of sexual offending was around 5 years, with around 20% of their sample in the process of desisting by the time they were convicted. This is important as it highlights the importance of detection within sexual offending and in the context of the current study, how an undetected serious sexual offence impact on their later offending behaviour.

Current Study

Whilst the extent to which serious sexual offenders are characterised by specialisation is currently unclear, the existing body of literature only concerns adjudicated or incarcerated sexual offenders and consequently overlooks offenders who may remain at liberty. The paucity of research examining non-incarcerated sexually abusive individuals may be largely due to the difficulty in attaining samples of offenders who have not been detected by the criminal justice system (Riser, Pegram, & Farley, 2013). However, the importance of such research becomes apparent when current estimations suggested that between 75-95% of sexual offenders never come into contact with the criminal justice system (HMIC/HMCPs, 2007) and with the time gap between the first offence and arrest (Ahelmeyer et al., 2000). Hence, only a small number of sexual offenders have been subjected to punitive measures and therefore, such offenders are not representative of all sexual offenders; rather, they reflect only those who have committed a SSA and subsequently been imprisoned.

Incarceration may deter future offending as interventions that are often undertaken within prisons are designed to alter an offender's behaviour (Glaser, 2003). This then leads to problems with generalising subsequent offending behaviours, as those SSA offenders who have been incarcerated are more likely to receive treatment and support than non-incarcerated sexual offenders (Lisak & Roth, 1988). Therefore, the current research aims to expand on existing recidivism studies by examining the longitudinal reoffending patterns of individuals who have committed a SSA, but were not identified as the perpetrator at that time, and thus have not received any punitive measures for that historical sexual offence.

## **Method**

### *Sample*

Data pertaining to persons apprehended for SSA was acquired from the National Crime Agency (NCA). All offenders in the sample were successfully convicted of a SSA through Operation Advance. Operation Advance was a programme sponsored by the Police and Partnership Standards Unit (PPSU) of the Home Office and conducted by the Forensic Science Service (FSS), with support of the Association of Chief Police Officers (ACPO). It involved the review of sexual offences submitted to the FSS, from 1989 to 1999 inclusive, from all police forces excluding the Metropolitan Police Service. As a direct response to Operation Advance, 39 individuals were convicted of historical sex offences.

Research into sexual offending patterns has traditionally concentrated on male perpetrators and female victims (Lievore, 2003) and this was also the case in the current research. The final sample comprised thirty-eight adult male offenders from the United Kingdom who had committed a serious historical sexual assault (SSA), hereby referred to as the index offence, against an adult female, where SSA was defined to be an offence of rape or more serious cases of indecent assault (Soothill et al., 2002). One individual convicted as a direct response to Operation Advance was removed from the final sample due to lack of information.

The median age of onset of offending was 15.96 with a range of 9 years to 34.92 years. The median age of the offenders at the time of their index offence was 25.38 with a range of 14.5 years to 39 years. The Police

National Computer (PNC) was the data source selected to ascertain the known criminal histories of the SSA offenders (Soothill et al., 2002) and the data was pre-coded. When exploring the number of convictions prior to the index offence, the median number of offences was recorded as 8, ranging from 0 to 53. For over a quarter of the sample (26.3%, n = 10) the index offence was their first offence. Two offenders recorded 52 and 53 convictions prior to the index offence. When exploring the point in their sexual offending career (including both the offence categories of sexual-contact and sexual-threat), the index offence was the first offence for 71.1% of the sample (n = 27), with 13.2% (n = 5) convicted of one previous offence (therefore, resulting in a median of 0). The number of sexual convictions prior to the index offence ranged from 0 to 9. Ten offenders had been convicted of at least one 'sexual-contact' offence prior to the index offence, with three offenders convicted of a 'sexual-threat' offence.

### *Procedure*

Details of each offender's offence history (including pre-index offences, index offence and post-index offences) were collected from police records held in the PNC. Table 1 shows a summary of the different categories of pre-offence convictions and post-offence convictions.

Table 1: Summary of the Different Categories of Pre-offence and Post-offence Convictions

Pre and Post offence conviction categories	Offences included in this category
Arson	Arson
Burglary	Burglary dwelling; burglary non-dwelling, house-breaking; school-breaking; shop-breaking; incl. attempts
Criminal damage	Criminal damage; damage to property; and threats to damage property
Criminal justice matters	Breach of orders; failure to notify authorities of changes in circumstances; contempt; perverting course of justice; obstructing/resisting police
Driving	Minor road traffic offence; driving whilst unfit through drink/drugs; driving whilst disqualified; no insurance; no driving licence; failure to provide breath specimen; reckless driving, etc.
Drugs	Possession or supply of Class A to C drugs
Weapon	Possession of firearm, ammunition or bladed/pointed article
Kidnap	Kidnap or false imprisonment
Miscellaneous	Drunk and disorderly; bomb hoax; inducing child to run away from responsible person; etc.
Robbery	Robbery, including attempts
Sexual-contact	Gross indecency; indecent assault; rape; buggery; including attempts
Sexual-threat	Indecent exposure; possession of indecent/obscene material; outraging public decency
Theft	Offences of deception, theft, handling and going equipped
Violence-contact	Assaultive crimes: common assault, ABH, GBH, wounding, battery and murder
Violence-threat	Violent disorder; affray; using threatening, abusive, insulting words or behaviour; intimidating a witness, etc.

The additional variables used were general offender variables such as onset age, index age and criminal career variables such as versatility (a wide range of convictions) and chronicity (the number of criminal events). Age at criminal onset was defined by the age of their first criminal conviction, as used by Piquero, Farrington, & Blumstein, 2007. Age at index offence was defined

as, and measured by, the age at which the offender committed the SSA identified by Operation Advance.

Versatility scores for each sexual offender were based on the diversity of offending index (Sullivan, McGloin, Pratt & Piquero, 2006). Sullivan et al. (2006) calculated a single average versatility index for each individual's criminal history using the formula:  $k-1/k$ . The versatility scores could range from 0 which indicates perfect specialisation (only committing one type of crime), with 1 indicating perfect versatility by committing at least one offence from each category. This method was also adopted by Harris et al. (2009). Sullivan et al. (2006) argued that recording offence types in broad categories could bias the likelihood of specialisation. Similarly to this paper, they argue that the use of 10 offence categories is a more accurate method for assessing versatility. Within the current study, offences were coded into 15 separate categories.

Lastly, chronicity was measured by the total number of convictions each offender had received and therefore a scale of chronicity commences at one offence conviction and increases as the number of offence convictions increases (Gittens, 2007). Chronicity was scored by the total number of convictions each offender received. The scale, devised by Gittens (2007), was selected as it used a five category typology, rather than the four category typology (Svensson, 2002). Svensson (2002) used a four category typology of criminal career profiles where the highest level of chronicity was 'chronic offender' (an offender with 9 convictions or more) the other categories being repeat, occasional and rare offender. However, Svensson (2002) noted that this category of offenders ('chronic offenders') were responsible for half of the

total number of offences. Taking this into consideration, and the fact that this study was exploring criminality in serious sexual offenders across their entire criminal career, it was deemed appropriate to adopt the five category typology devised by Gittens (2007). Therefore, based on their entire offence history, offenders were categorised as being either a *rare offender* (having received one or two convictions), an *occasional offender* (having received three to five convictions), a *repeat offender* (having received six to ten convictions), a *chronic offender* (having received more than ten convictions, but less than twenty convictions) or a *career offender* (having received more than twenty convictions) (Gittens, 2007).

#### *Analysis.*

For the first set of analyses, the extent of post-offence criminality was determined using descriptive statistical analysis in order to examine whether non-incarcerated SSA offenders were specialists or criminally versatile. Following this descriptive summary, further analysis was conducted in order to identify any patterns in post-offence criminality using Chi-square analysis and Spearman's correlational analysis as the data was non-parametric. The former examined the associations between the post-offence conviction categories, whereas the latter examined the relationship between the number of post-offence convictions.

Furthermore, an overview of criminality in SSA offenders across the entire criminal career was determined using descriptive statistical analysis. Further analysis was conducted in order to identify any patterns between pre-offence criminality and post-offence criminality using Chi-square analysis and

Spearman's correlational analysis. Additionally, a correlational analysis was utilised in order to investigate the relationship between the total pre-offence convictions and total post-offence convictions and also the relationship between the pre-offending rate and post-offending rate. Lastly, the current research also systematically addressed issues of onset age and index age in relation to versatility and chronicity, using correlational analyses.

## **Results**

### *Post-offence criminality in serious sexual offenders*

Descriptive analysis indicated that offenders spent a median of 12.88 years at liberty following their index offence with a range of 0.92-23.50 years. Out of the total number of offenders ( $N = 38$ ), 5 (or 13.2% of the sample) had no post-offence convictions and the majority of the sample (86.8%) had twelve or fewer post-offence convictions (including those offenders who had no post convictions). The maximum number of post-offence convictions sustained by an individual was 39 and the median number of post-offence convictions was 5.50, with a median offending rate during the post-offence period of 0.44 offences per year. A summary of the total number of post offence convictions for the sample is shown in Figure 1.

Figure 1: Number of post-offence convictions in a sample of serious sexual offenders during the time spent at liberty following the commission of a SSA.

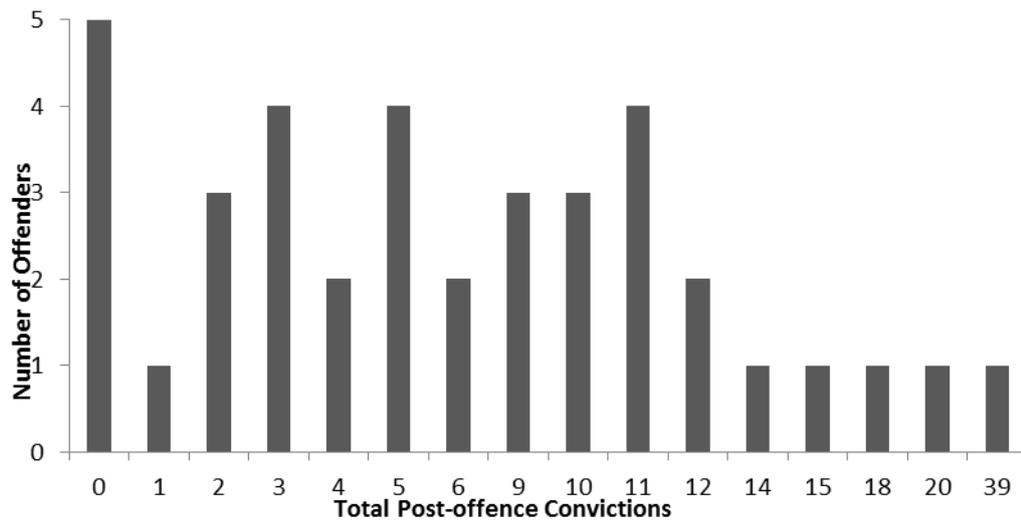


Table 2 shows the number of offenders who were convicted after committing a serious sexual offence at least once for an offence of that type. For example, it can be seen that the most common post-offence conviction was a violence-contact conviction, with almost half of the offenders having a conviction within this category during the post-offending period (44.7%).

Table 2: *Types of offence appearing in the post-offence history of SSA offenders*

No. of offenders with post convictions for:		All SSA offenders (N=38)	Only those with post convictions (N=33)
Violence-contact	17	44.7%	51.5%
Theft	16	42.1%	48.5%
CJ matters	15	39.5%	45.5%
Sexual-contact	12	31.6%	36.4%
Violence-threat	10	26.3%	30.3%
Burglary	10	26.3%	30.3%
Driving	9	23.7%	27.3%
Weapon	6	15.8%	18.2%
Criminal damage	5	13.2%	15.2%
Drugs	5	13.2%	15.2%
Robbery	5	13.2%	15.2%
Sexual-threat	4	10.5%	12.1%
Miscellaneous	3	7.9%	9.1%
Kidnap	1	2.6%	3.0%
Arson	0	0%	0%

Note. An SSA offender may have post-index offence convictions of more than one type, so may appear in the figures for more than one row.

With regards to sexual offending, just over 36% of those with other post-offence convictions had a conviction for a sexual-contact offence, however, just over 12% of those with any other post-offence convictions had a conviction for a less serious sexual offence. Both theft convictions (48.5%) and criminal justice matters convictions (45.5%) also appear frequently in the post-offence criminal history of these offenders, and more frequently than sexual offences. Overall, these results show that whilst sexual-contact offences were more commonly committed than a number of other types of offences during the post-offence period, other non-sexual offences (theft, violence and criminal justice matters) recorded higher frequencies.

Chronicity was determined by the total number of convictions received by each offender during the post-offence period. Within this sample, the

median chronicity score was 5.5 during this period and ranged from 0 to 39 convictions.

Versatility refers to the number of different offence types an offender has been convicted for. From the 15 offence categories, the median versatility score during the post-offence period was .67 (with 1 indicating perfect versatility), with post offence scores ranging from 0 to .89., and within this sample the median versatility score was 3.00 during the post-offence period. The summary of the versatility scores can be found in Table 3, where it can be seen that 15 offenders scored .50 or less (39.47%).

Table 3: Summary of versatility scores for offenders during the post-offence period

	No. of offenders	% of offenders	Cumulative %
.0	9	23.7%	23.7%
.50	6	15.8%	39.5%
.67	9	23.7%	63.2%
.75	6	15.8%	78.9%
.80	3	7.9%	86.8%
.83	2	5.3%	92.1%
.86	2	5.3%	97.4%
.89	1	2.6%	100%

Chi-square tests were performed to analyse the associations between the different offence categories during the post-offence period and Cramer's V was used to measure effect sizes. Table 4 shows that certain offence convictions were found to be more likely to occur in conjunction with other offence convictions during the post-offence period. For instance, a Chi-square test for independence found a significant association between violence-contact offence and committing a burglary offence during the post offending

period,  $\chi^2(1, 38) = 6.83$ ,  $p < .01$ , with a Cramer's V value of 0.43, thus nearly 18% of the variation in frequencies of receiving a violence-contact offence conviction during the post offence period can be explained by receiving a burglary conviction during the post-offence period.

Table 4: Significant chi-square associations between post-offence convictions

Post-offence associations	$\chi^2$	p	Cramer's V
Driving & CJ matters	7.24	0.007*	0.44
Violence-contact & Burglary	6.83	0.009*	0.43
Theft & CJ matters	6.13	0.013	0.40
Violence-threat & Driving	5.20	0.023*	0.37
Weapon & CJ matters	5.74	0.027*	0.39
Weapon & Burglary	5.98	0.031*	0.40

Spearman's correlational analyses were performed to analyse the relationships between the numbers of post-index offence convictions (see Table 5). A significant positive correlation was found between the number of sexual-contact offences and the number of sexual-threat offences committed during the post-offence period,  $r_s = .40$ ,  $N = 38$ ,  $p < .05$ . In addition, significant positive correlations were also found between the number of kidnapping offences and the number of both sexual threat offences,  $r_s = .46$ ,  $N = 38$ ,  $p < .01$ , and sexual-contact offences,  $r_s = .34$ ,  $N = 38$ ,  $p < .05$  committed during the post-offence period.

Table 5: Significant correlational analyses between the numbers of different post-offence convictions

Post-offence correlations	$r_s$	$p$
Kidnap & Sexual threat	0.46	0.003
Drugs & CJ matters	0.44	0.006
Driving & CJ matters	0.42	0.008
Sexual-contact & Sexual-threat	0.40	0.012
Weapon & CJ matters	0.40	0.013
Violence-threat & Driving	0.38	0.018
Theft & CJ matters	0.38	0.019
Violence-contact & Burglary	0.37	0.024
Driving & Drugs	0.36	0.027
Weapon & Burglary	0.35	0.032
Kidnap & Sexual-contact	0.34	0.039

### Overview

Descriptive analysis indicated that these offenders had a median criminal career length of 20.80 with a range of 8 years to 43 years. The median total number of pre-index offence convictions was 8.00 and the median offending rate during the pre-offence period was 1.03 per year.

Chronicity was also determined for the total number of convictions received by each offender across their entire criminal career. Within this sample, the median chronicity score received by offenders across their entire career was 18.00 and ranged from 0 to 58 convictions. Chronicity was further distinguished by levels of chronicity (see Table 6). The most common offender type within the sample was Career Offender, with 44.7% of the offender sample falling within this category.

Table 6: Summary of offenders according to level of chronicity

	Rare (1-2)	Occasional (3-5)	Repeat (6-10)	Chronic (11-19)	Career 20+
No. of offenders	1	5	3	12	17
%	2.6%	13.2%	7.9%	31.6%	44.7%
Cumulative %	2.6%	15.8%	23.7%	55.3%	100%

Versatility was also determined across each offender's entire criminal career and the median versatility score was .73. The summary of versatility scores is shown in Table 7, where it can be seen that the majority of offenders (86.8%) received a versatility score over .5. Thus, indicating a high presence of versatility across the entire criminal career within the sample.

Table 7: Summary of versatility scores for offenders across their entire criminal career

Versatility score	No. of offenders	% of offenders	Cumulative %
0	3	7.9%	7.9%
.50	2	5.3%	13.2%
.67	4	10.5%	23.7%
.75	7	18.4%	42.1%
.80	1	2.6%	44.7%
.83	4	10.5%	55.3%
.86	6	15.8%	71.1%
.88	5	13.2%	84.2%
.89	5	13.2%	97.4%
.90	1	2.6%	100%

#### *Pre-Offence and Post-offence Criminality in Serious Sexual Offenders*

Chi-square tests were performed to analyse the associations between the different pre-offence conviction categories and post-offence conviction categories, and Cramer's V was used to measure effect sizes. A Chi-square test for independence found a significant association between committing a theft offence before the commission of a SSA and committing a sexual-threat

offence after the commission of a SSA,  $\chi^2(1, 38) = 5.52, p < .05$ . The value of Cramer's  $V$  was 0.38 – thus nearly 17% of the variation in frequencies of receiving a sexual-threat conviction during the post-offence period can be explained by receiving a theft conviction during the pre-offence period.

Table 8: Significant chi-square associations between the different types of pre-offence categories and post-offence categories

Associations	$\chi^2$	p	Cramer's $V$
Pre Burglary & Post CJ Matters	5.40	0.020	0.38
Pre Theft & Post Sexual-threat	5.52	0.032*	0.38
Pre Violence-threat & Post CJ Matters	5.35	0.039*	0.38

A series of correlational analyses were conducted to analyse the relationship between the number of pre-convictions and post-convictions for each offence type (see Table 9). A significant positive correlation was found between committing more robbery offences during the pre-offence period and committing more robbery offences during the post-offence period,  $r_s = .33, N=38, p < .05$ . Hence, if an individual commits more robbery offences before the commission of a SSA they are more likely to commit more robbery offences after they have committed a SSA.

Table 9: Significant Correlational Analyses between the Number of Pre-offence Convictions and Post-offence Convictions

Correlations	$r_s$	p
Pre Violence-threat & Post CJ matter	0.41	0.011
Pre Robbery & Post Robbery	0.39	0.017
Pre Violence-threat & Post Violence-contact	0.33	0.041
Pre Burglary and Post CJ matters	-0.35	0.031

Overall, a correlational analysis found a non-significant correlation between total pre-offence convictions and total post-offence convictions, *and* the pre-offence offending rate and the post-offence offending rate,  $ps > .05$ .

#### *Analysis of Onset Age, Index Age and Key Criminal Career Variables*

Lastly, to investigate the relationship between age at onset of offending and age at index offences with chronicity and versatility across offenders' entire criminal career, a series of linear correlations were conducted. Most noticeably, there were significant negative correlations between onset age and chronicity,  $r_s = -.55$ ,  $N=38$ ,  $p < .001$ , and versatility,  $r_s = -.46$ ,  $N=38$ ,  $p < .01$ . That is, the earlier the age of onset of the criminal career, the greater the chronicity and versatility of the offences. Furthermore, there were also significant negative correlations between index age and chronicity,  $r_s = -.34$ ,  $N=38$ ,  $p < .05$ , and versatility,  $r_s = -.41$ ,  $N=38$ ,  $p < .05$ , which suggests that the earlier the age of offender at index offence, the greater the chronicity and versatility of the subsequent offences.

### **Discussion**

The aim of the current research was to address the lack of empirical research conducted on reoffending patterns of individuals who have committed a SSA, but had not been detected, thus not subject to any punitive measures for this index offence at the time. Data was collected through a systematic exploration of post-index offence offending patterns within a sample of male serious sexual offenders by Operation Advance. Operation

Advance involved the review of historical serious sexual offences submitted to the FSS between 1989 and 1999 inclusive.

As this study was exploratory in nature, several important findings have emerged. Firstly, the descriptive analysis revealed that offenders have, on average 12-13 years at liberty following the commission of a SSA and this finding is analogous to Ahelmeyer et al. (2000) as they documented that on average 10-16 years elapse between a sex offender's first sex offence and their first arrest. Taken together, such findings suggest that even if sexual offenders remain at liberty for an extensive period of time following the commission of a SSA they may potentially come to the attention of the police or authorities for other matters. Lussier and Mathesius (2012) on their exploration of detection avoidance reported that around 20% of their offenders were in the process of desisting from sex offending when they were convicted, on average, 7 years later, for the sexual offence. That this detection avoidance may lower expectation of future detection for similar offences, therefore, allowing them to persist.

With regards to the extent of post-offence criminality, descriptive findings revealed that the most common post-offence conviction category was violent-contact offending, with almost half of the offenders receiving a conviction for a violence-contact offence during this period. This finding provides support for previous research by Soothill and Francis (1999), who documented that nearly half of those committing a SSA will also have a conviction for violence on another occasion, with the recent Hargreaves and Francis (2014) reported a rate of 32.8% of violent offending reconvictions. Similarly, the current findings lend support to Broadhurst and Maller (1991,

1992) who noted a widespread pattern of violent behaviour after the commission of a SSA. In addition to this, descriptive findings revealed a large degree of general reoffending within the sample as convictions for both theft and criminal justice matters also appeared frequently in the post-offence criminal history of these SSA offenders. As these offences appeared more frequently than sexual offence reconvictions, this may suggest that non-incarcerated serious sexual offenders tend to have versatile criminal careers, with their sexual offending embedded in more general offending behaviour. This supports previous research that has demonstrated that incarcerated sexual offenders tend to reoffend generally, with non-sexual crimes appearing more so than sexual crimes in their reoffending history (Broadhurst & Maller, 1991; Hagan & Gust-Brey, 1999; Hanson & Bussière, 1998; Hargreaves & Francis, 2014).

Despite this, a considerable degree of specialisation was still found within the sample as the descriptive analysis also revealed that almost one-third of individuals reoffended sexually, receiving a post-conviction for a sexual-contact offence. Such a degree of sexual reoffending is considerably larger than that found in previous recidivism studies such as those conducted by Sample and Bray (2003), and Hanson et al. (2002), who documented sexual recidivism levels of twelve per cent and seven per cent respectively. Thus, overall, whilst the descriptive findings lend support to the generality hypothesis within sexual offending (Harris et al., 2009), they also suggest a greater degree of specialist sexual reoffending in offenders who have not been subjected to any punitive measures for a SSA. Despite the importance of these descriptive findings, it should be noted that only when directly

comparing the post-offences of SSA offenders with those of criminals who have not been convicted of SSA is it possible to say something about the significance of these offences in the post-offending history (Soothill et al., 2002).

With regards to patterns in post-offence criminality, the findings revealed that certain offence convictions were found to be more likely to occur in conjunction with other offence convictions during the post-offence offending period. However, as this is the first study to investigate post-index offence offending patterns in those offenders not detected at the time of their SSA index offence, there is no existing literature against which these findings can be directly compared. Nevertheless, it is important to note that some degree of sexual specialisation was evident from this part of the analysis, as during the post-offending period it was revealed that there was an association between committing a sexual-threat offence and sexual-contact offence. This association supports the aforementioned descriptive findings that suggested a considerable amount sexual offenders continue to reoffend sexually. Additionally, a relationship between kidnapping and both sexual-contact offences and sexual-threat offences was revealed during the post-offence period, and interestingly, Soothill et al. (2002) reported that kidnapping is a precursor for SSA. Therefore, in light of the current findings, this offence category is worthy of further investigation.

Overall, the above exploratory analysis revealed that the majority of SSA offenders who have not been incarcerated following the commission of a SSA show similar general reoffending patterns to those found by previous recidivism studies using incarcerated SSA offenders (Soothill et al. (2002).

Importantly, the analysis also highlights differences in the degree to which offenders continue to sexually reoffend following the commission of a SSA. The current findings showed a greater degree of sexual reoffending compared to those studies using incarcerated SSA offenders suggesting the positive effects of incarceration on future recidivism. Unfortunately, as the current research was an exploratory investigation, the sample comprised of only non-incarcerated sexual offenders, therefore, future research should compare reoffending patterns of incarcerated and non-incarcerated SSA offenders to further explore this issue.

The second section of the exploratory analysis focussed on offending patterns between the pre-offence and post-offence period in non-incarcerated SSA offenders. To date the nature of the association between previous and future offending is unclear (Lievore, 2004). However, the current findings revealed that there was an association between receiving a violence-threat conviction before the commission of a SSA and receiving a violence-contact conviction after the commission of a SSA. Therefore, the current findings support previous research (e.g., Lievore, 2004) in that a considerable continuity between sexual and violent offending was evident among this sample of non-incarcerated serious sexual offenders. However, determining the nature of this continuity is beyond the scope of the current investigation, and future research would be required to help establish the theoretical knowledge surrounding associations between sexual and violent offending.

With regards to the relationship between onset age and the two key criminal career variables, as found in previous research (Piquero et al., 2007), the age at which offenders commenced their criminal careers was inversely

related to both versatility and chronicity. Similarly, age at index offence commission was also inversely related to both versatility and chronicity. This suggests that the earlier the age of offender at index offence, the greater the chronicity and versatility of the subsequent offences during the post-offence period, supporting much of the previous literature (Lussier & Mathiesus, 2012).

Overall, the findings presented here provide a greater understanding of the reoffending patterns of those individuals who have committed a SSA, but not been subjected to any punitive measures at the time of the offence. Such an understanding is beneficial for a number of agencies, in particular law enforcement agencies, specifically cold case teams with regards to the investigation of unsolved historical sexual offences. For instance, the current research revealed that during the significant period of time following the index offence, sexual offenders continue to offend in a general manner, thus coming into contact with the police or authorities. Therefore, if there is incomplete information about an offender, clues to the suspect may lie in police records that were created after the commission of a SSA, rather than in the police records that were created before as this systematic exploration has revealed that serious sexual offenders do continue to offend if they are at liberty to do so. Additionally, focusing on particular categories of post-convictions, such as violence-contact offences, may also be beneficial when investigating cold cases as such convictions appear frequently in the post-offence criminal history of these SSA offenders, with the continuity between sexual and violent offending has been evidenced within this sample. This information could also be used in the continued development of sexual offender risk assessments,

with much movement within law enforcement and criminal justice to actuarial measures to assess risk (Hanson & Morton-Bourgon, 2009).

The current findings provide some insight to investigators regarding post-offence criminality. However, it is difficult to state with confidence that the co-occurrence of two particular post-offences would be useful to investigators in narrowing down potential suspects during the investigation of a cold case. As this study is exploratory at this stage, a beneficial expansion of the current research would be to analyse index-offence behaviours to identify any features of the index offence that are predictive of future offending patterns. However, previous research into the criminal career paradigm has primarily focused on the association between behaviours displayed during a SSA and previous convictions (Davies, Wittebrood, & Jackson, 1998); thus investigating the relationship between behaviours displayed within a SSA and future offending patterns would also be a beneficial expansion of the existing literature. Perhaps more importantly, investigators may combine both index offence behaviours and patterns in post-offence criminality to narrow down their pool of suspects when investigating a cold case. Therefore, with regards to suspect prioritisation, such implications would be highly relevant to behavioural investigative advisers.

Despite the promising implications of the current research, a variety of limitations exist which hinder the extent to which these implications can be taken into serious consideration. Perhaps the most important limitation is the use of conviction data as firstly, such data cannot account for any offences which an individual may have committed, but not received a conviction for (Farrington et al., 1990) as convictions only relate to those found on the Police

National Computer (PNC) records. The results of this study can, therefore, not be generalised to offenders who do not come to the attention of the Criminal Justice system. More specifically, previous research has acknowledged a gap between the age of onset reported in self-report studies and those found in studies based on official police data with the former age of onset being younger (Lussier & Mathesius, 2012; Smallbone & Wortley, 2004). In addition, it is not known how knowledgeable the offender was around the index offence, whether they were arrested and not charged, or charged and not prosecuted, or if the offender was incarcerated for another offence. Although utilising offenders known criminal activity is limited, in practice this information is all that would be available and consequently, the inferences drawn from the current study may be directly more relevant to law enforcement.

Another major limitation of the current research is the small sample size ( $N=38$ ) which is particularly important when interpreting the findings, as the sample is not representative of all non-incarcerated sexual offenders. Therefore, the current findings cannot be used to generalise to the remainder of the non-incarcerated sexual offender population. Thus, future research with a considerably larger sample size would need to be undertaken before any firm conclusions can be drawn. Similarly, as the data used in the current study was collected from offences committed between 1989 and 1999, it may not take into account particular offending patterns concerning sexual offences utilising novel communication technology and data sharing capabilities. It could be that as such technology has advanced in recent years, an increasing number of offenders have been involved in committing online sexual offences (McManus & Almond, 2014) and the prevalence of such offences may be

masked in the current investigation. Therefore, to account for such possibilities an expansion of the current study should include more recent sexual offence data, and particularly online sexual offence data.

In addition, previous work, such as Harris et al. (2009), have reported that the type of SSA may impact on the versatility of offending. They concluded that although all of their sexual offenders could be seen as criminally versatile, that child molesters showed more specialised criminal histories than rapists. Information regarding the type of SSA was not available in the current sample. Consequently, future research should explore the type of sexual offending and the potential impact this may have pre and post the index SSA offence.

The findings of the current paper provide an alternative perspective in the exploration of pre and post-index offence criminality of serious sexual offenders. As the current study is the only research to explore post-offence offending patterns of individuals who have not been identified as the perpetrator at that time, future research should endeavour to validate the findings presented here, which would give the aforementioned theoretical and practical implications more empirical recognition as the subject of pre and post-offence patterns still remains in an exploratory stage.

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