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Comparing the Validity of Prospective, Retrospective, and Official Onset for Different Offending Categories

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Using data from the Cambridge Study in Delinquent Development, a prospective longitudinal study of 411 London males, the main aim of this research is to compare the age of onset of six types of offenses according to different methods of measurement – prospective self-reports, retrospective self-reports, and official records – and also to explore self-reported and official onset sequences. Results showed that ages of onset reported in retrospective accounts generally tended to be higher than those reported prospectively. Agreement rates between prospective and retrospective accounts were lowest for minor forms of offending, and highest for more serious offenses such as theft of vehicles. Males with heavy substance use habits were less likely to report the same age of onset retrospectively compared with prospectively. Denial rates were substantial in all comparisons, particularly for minor forms of offending. Comparisons between self-reported and official measures of onset revealed that there was a greater degree of agreement between the two measures for serious offenses. Whereas self-reported onset sequences suggested that minor crimes were committed before more serious offenses, official onset sequences suggested the reverse. The findings show that retrospective reports are not suitable to address research questions requiring detailed information (i.e., most criminal career parameters: age of onset, frequency, age of termination, etc.), for studying minor forms of offending, and for samples of individuals with serious substance use habits. Furthermore, official measures of offending can also produce misleading results, particularly when studying minor forms of offending.

KEY WORDS: age of onset; self-report; official; prospective; retrospective.

1. INTRODUCTION

Past research has long debated over the validity of self-reports and official records of crime as measures of offending behavior. However, comparisons of self-reports and official records have generally focussed on

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very basic criminal career parameters such as the prevalence and frequency of offending, and have rarely investigated age of onset. The criminal career paradigm has often been criticized for its reliance on prospective longitudinal data (see Gottfredson and Hirschi, 1990); it has been suggested that cross-sectional data can be an equally valid measure of offending behavior, and less costly. In contrast, other studies have found that cross-sectional data are not adequate substitutes for prospective longitudinal data (Menard and Elliott, 1990).

This paper aims to compare prospective onset ages with retrospective and official onset ages for different offense types. The key question addressed in this study is how much retrospective and official onset ages agree with prospective ages, which are assumed to be the most accurate. Issues relating to onset sequences and denial in self-reports will also be addressed.

2. METHODOLOGICAL CONSIDERATIONS

2.1. The Relevance of Age of Onset

Age of onset, the age at which offending behavior begins, is a central concept in criminal career research. Some studies have explored the predictors of onset (Farrington *et al.*, 1990; Farrington and Hawkins, 1991; Nagin and Farrington, 1992), whereas others have focused on the impact of early onset on later features of criminal careers. Age of onset is one of the best predictors of the length and intensity of the criminal career (Blumstein *et al.*, 1985; Farrington, 1973; Farrington and Hawkins, 1991; Farrington *et al.*, 1990; Farrington *et al.*, 1998; Farrington *et al.*, 2003b; Le Blanc and Fréchette, 1989; Loeber and Le Blanc, 1990). Research has also shown that delaying onset can have a considerable impact on the later criminal career (Farrington *et al.*, 1990).

Farrington (1989) concluded that the age-crime curve differed from one offense type to another. This suggests that age of onset varies from one offense category to another, although this aspect of criminal career research has been somewhat neglected (see Jolliffe *et al.*, 2003; Le Blanc and Fréchette, 1989). Farrington *et al.* (1990) also emphasized the relevance of measuring time intervals between onsets of different types of offenses to identify specific onset sequences, such as transitions from minor to more serious offenses (see Farrington *et al.*, 1990; Le Blanc and Fréchette, 1989).

Le Blanc and Fréchette (1989) provided information on the age of onset of various offense types up to age 21. Their results showed that petty larceny (8.33), shoplifting (11.35), and vandalism (11.68) had the lowest average ages of onset, whereas fraud (19.79) and homicide (19.89) had the latest onsets. Burglary (14.22), motor vehicle theft (15.24) and aggravated theft

(16.64) appeared in mid-adolescence; these results suggested a gradual progression from minor offenses to more serious forms of offending. Similarly, Svensson (2002) identified offense types committed at onset that predicted a high risk of persistent criminal offending (i.e. *strategic offenses*, see Wikström, 1995), and those that predicted a low risk. Thus, it appears clear that obtaining valid information about the onset of different types of offending is essential for criminal career research.

2.2. Official and Self-reported Measures of Offending

Several studies have compared self-reported and official offending by the same group of individuals. Farrington (1989, p. 400) argued that "... the self-reported offenders are more likely to be official offenders than are the self-reported non-offenders, and conversely the official offenders are more likely to be self-reported offenders than are the official non-offenders". He found statistically significant associations between self-reported and official offending for almost all offense types (with the exception of theft from work, vandalism, and fraud), indicating that both measures seemed to assess similar "underlying theoretical constructs". Farrington *et al.* (2003b) found that the probability of a self-reported offender becoming an official offender increased with the self-reported frequency rate. They also explained that, between ages 13 and 17, official prevalence rates appeared to increase, whereas self-reported prevalence rates remained stable. Conversely, self-reported frequency rates seemed to rise with age, while official frequency rates remained constant. Thus, as they became older, an increasing fraction of offenders appeared in court (which suggests a greater tendency for informal processing with younger offenders), but they tended to be processed for a decreasing proportion of all offenses committed at older ages.

Studies comparing self-reported and official ages of onset have been scarce. Farrington (1989) found that the first self-reported offense generally occurred before the first conviction (also see Farrington *et al.,* 2003b). Le Blanc and Fréchette's (1989) results showed that up until the early twenties, the sample of delinquent males in the Montreal Two Sample Longitudinal Study (MTSLS) had an average age of onset of 10.8 years in self-reports and 14.6 years in official records. The authors concluded that "... there is a gap of about 3 years between the commission of the first offense and the appearance of the adolescent in the justice system and of 4 years between the first offense and the first official sanction by a court" (p. 79). Loeber *et al.* (2003) found similar results: the average age of onset for self-reported serious delinquency was 11.9 years old, while the first court contact for an index offense occurred at an average age of 14.5 years old.

Moffitt *et al.* (2001) also argued that estimates of age of onset vary according to the type of data used. The authors compared the ages at first arrest, first conviction, and first self-reported offense, and found that "... investigations that rely on official data to study crime careers will ascertain age of onset approximately 3–5 years after it has happened" (p. 83).

Maxfield *et al.* (2000) offered two different hypotheses explaining the degree of concurrent validity between self-report and official offending measures, which are not only relevant to offending in general, but also to age of onset. First, it is possible that self-reported measures of arrests would be more accurate if arrests had occurred in the recent past, since respondents would be less likely to have forgotten about them; this first assumption highlights one of the most important limitations of retrospective studies. Second, however, the social stigma associated with arrests might encourage offenders to admit arrests that occurred in the distant past rather than those that occurred more recently.

2.3. Prospective versus Retrospective Measures of Offending

Few studies have compared prospective and retrospective measures of offending, and even fewer of these have focused on age of onset. It has been argued that prospective longitudinal studies are costly and unnecessary, and that cross-sectional or retrospective studies are an equally valid method of measurement (see Gottfredson and Hirschi, 1990). However, results found in the few studies that have explored the concurrent validity between prospective and retrospective onset did not support this assumption. Using data from the *National Youth Survey*, Menard and Elliott (1990) found that the degree of concurrence between prospective and retrospective onset ages was rather low (approximately 25%).

Henry *et al.* (1994) also explored the concurrent validity between prospective and retrospective measures of offending. The authors assessed the test-retest stability of ages of onset reported in interviews at 13 and 18. Their analyses revealed an overall agreement rate of 58% between both interviews. At age 18%, 14% of their respondents admitted to shoplifting, but reported a later onset than they had at age 13. Also, 28% of initial shoplifters denied the act in the second interview. The authors found that, in addition to the 97 initial shoplifters, 146 new respondents reported (at age 18) having shoplifted before age 13; it is likely that these respondents remembered their onset as earlier than it actually was. In the first interview, respondents were not asked the specific age at which they had started offending, but rather whether they had ever engaged in each act. In the subsequent interview, they were questioned about their participation in these offenses before age 13. Henry *et al.* (1994) concluded that offenders generally remembered

committing a given offense, but not the specific age at which they committed it for the first time. It seemed that "Even when retrospective reports correlated significantly with prospective data, the absolute level of agreement between the two sources was quite poor" (p. 100).

Using data from the Seattle Social Development project, Jolliffe *et al.* (2003) also found little agreement between prospective and retrospective ages of onset. Their results showed that average retrospective onset ages were lower than prospective onset ages. They also found that vandalism had the lowest (24%) concordance rate between prospective and retrospective ages of onset, whereas marijuana use, vehicle theft and drug selling had the highest (36%, 32%, 32%, respectively). In short, the few studies that have compared prospective and retrospective onset ages have generally highlighted the limitations of retrospective data.

3. METHODS

3.1. The Present Study

The main objective of this study is to contrast prospective age of onset with retrospective and official ages of onset for different offense types. Maxfield *et al.* (2000, p. 92) argued that projects that have sought to assess the validity of self-reports were generally based on samples of adolescents and that "Few studies have examined these issues with adult samples or have traced youth longitudinally into adulthood". The analyses carried out in the present study assess the validity of self-reports between early adolescence and mid-adulthood. As mentioned, Farrington (1989) found differential age-crime relationships according to offense type. Previous studies have also found that the degree of concurrent validity between official and self-reported measures of offending varies according to offense types (Maxfield *et al.*, 2000). This suggests that the use of retrospective reports or official data may be more suitable for obtaining information about particular offending categories.

In comparisons between prospective and retrospective ages of onset, it is likely that the degree of concurrent validity will be higher for more serious offenses; offenders may be more likely to remember the specific details of such incidents in contrast to acts of petty theft or other forms of minor offending. In comparisons between self-reported and official ages of onset, it is also likely that the degree of concurrent validity will be lowest for minor forms of offending and highest for more serious offenses. Serious offenses are more likely to lead to convictions and thus, the self-reported age at first offense is more likely to agree with the age at first conviction.

3.2. Data Sources

Data used in this study were collected in the Cambridge Study in Delinquent Development, which is a prospective longitudinal survey of 411 males from a working-class area of London. The respondents are mainly Caucasian, of British origin and working class; detailed descriptions of the sample can be found in previous publications (Farrington, 2003; West and Farrington, 1973; West and Farrington, 1977). They were first contacted in 1961–1962, when the boys were 8–9 years old. They were interviewed in schools at ages 8, 10, 14, in the research office at ages 16, 18, 21, and in their homes at ages 25 and 32. A new wave of data collection is currently in progress at age 48.

For the purpose of this study, data were analyzed from interviews completed at ages 14, 16, 18 and 32. These ages were selected for two main reasons; the entire initial sample was interviewed (as opposed to sub-samples at ages 21 and 25) and measures of self-reported offending were available. The initial self-report questionnaire at age 14 included 38 offense types (see West and Farrington, 1973). Farrington (1989) combined these offenses and created ten categories, six of which were used in this study: burglary, shoplifting, theft of vehicles, theft from vehicles, theft from machines (parking meters, telephone boxes...), and vandalism. Analyses were limited to these categories for the simple reason that age of onset information was available at all ages only for these six offenses. Since several offenses could make up a given category, age of onset was computed when respondents committed at least one of the acts included in the group.

3.3. Prospective, Retrospective, and Official Onset

In this study, prospective onset covers offending behavior up to age 18 (based on interviews at 14, 16 and 18). In cases where the age of onset reported in the first interview differed from the age of onset reported in a later interview, the first age reported was considered to be the prospective age of onset. For instance, if the age of onset reported at age 18 was different from the age of onset reported at age 14, the information collected at age 14 was considered to be the valid age of onset. This rule was based on the assumption that self-reported information is likely to be more accurate when the time lag between the offense and the interview is shorter; this is particularly true in cases where precise information is required, such as age of onset (see Henry *et al.*, 1994). Retrospective onset refers to the age of onset reported in the age 32 interview. Since the focus is on comparisons between prospective (up to age 18) and retrospective (age 32) ages of onset, long-term retrospective reports are being studied; these comparisons were of

course limited to individuals who had reported an onset in both prospective and retrospective reports. Official onset refers to the age at first conviction, from age 10 to 40. The main question explored in this study relates to the degree of agreement between prospective measures of onset (which are presumed to be the most accurate), to retrospective and official measures.

Jolliffe *et al.* (2003, pp. 5 and 6) explained that "All self-reports of delinquency are retrospective to some extent, in that they provide information about offending during a prior time period". Our definition of prospective onset could have been problematic if the offenses generally occurred many years prior to the interview. However, the distribution of onset ages at each interview revealed that this was not the case. For most offenses, both average and median onset ages reported at the age 14 interview generally occurred within a relatively short time period before (2 or 3 years at the most); the same was true for onset ages reported at age 16. Since minor offenses (shoplifting and vandalism) tend to onset earlier, they displayed slightly longer time lags between the time of the offense and the interview, with average and median onset ages ranging from 3 to 5 years. The main difficulty would occur if individuals reported, at the age 18 interview, an onset having occurred many years prior to the interview. However, the males were only asked about offenses committed in the past two years in this interview and thus, these measures of onset can be regarded as prospective.

Comparisons between the prospective age of onset (up to age 18) and retrospective and official ages of onset for each of the six offenses mentioned above are provided. When onset age was available for both sources, the degree of agreement between them was assessed. Paired-sample *t*-tests were also performed in cases where age of onset was available for both sources, to assess whether statistically significant differences were observed between the two sources of onset age.

4. RESULTS

4.1. Comparison of Prospective and Retrospective Ages of Onset

Two important issues will be addressed in this section, namely how age of onset varies over different measurement methods and offense types. Comparisons between prospective and retrospective ages of onset are presented in Table I. Average ages of onset are presented for cases where the offenses were admitted prospectively but denied retrospectively, denied prospectively but reported retrospectively and also when onset was admitted in both prospective and retrospective reports. In the third case, mean ages of onset are presented for each source, and the extent of the differences between prospective and retrospective onset ages is assessed (i.e., the number

Table I. Comparison of Average Prospective and Retrospective Ages of Onset

	Burglary	Shoplifting	Theft of vechicles	Theft from vechicles	Theft from machines	Vandalism	Total
Prospective admission, retrospective denial[a]	14.1 (n = 41, 48%)	12.1 (n = 81, 35%)	15.2 (n = 49, 49%)	14.8 (n = 43, 54%)	14.5 (n = 86, 63%)	11.2 (n = 243,75%)	10.6 (n = 300, 87%)
Prospective denial, retrospective admission[b]	15.9 (n = 21, 71%)	11.4 (n = 44, 93%)	19.5 (n = 25, 48%)	18.2 (n = 22, 68%)	16 (n = 25, 76%)	11.8 (n = 6,100%)	14.8 (n = 111, 76%)
Both prospective and retrospective admissions (t-test)	n = 44	n = 151	n = 51*	n = 37	n = 50	n = 80*	n = 210
Average prospective onset age	14.4	11.7	15.3	14	14.6	11	11.6
Average retrospective onset age	14.6	11.3	16.6	15.1	14.5	12.2	11.6
Prospective = retrospective	8 (18%)	17 (11%)	14 (27%)	4 (11%)	10 (20%)	9 (11%)	
Prospective > retrospective	25 (57%)	80 (53%)	13 (26%)	14 (38%)	19 (38%)	26 (33%)	
Prospective < retrospective	11 (25%)	54 (36%)	24 (47%)	19 (51%)	21 (42%)	45 (56%)	

*$p < 0.05$; **$p < 0.01$.

[a]Percentages in this row refer to denial rates at age 32, which are based on the total number of males who reported an onset in prospective reports and who were interviewed at age 32.

[b]Percentages in this row refer to the proportion of cases where the age of onset reported at age 32 was below 18, despite denial in prospective accounts (up to age 18).

Note: When respondents have reported more than one offense, average ages of onset in the total columns are based on the average age on first offense.

of cases where both sources are the same and where prospective onset is either greater or less than retrospective onset).

Table I shows that denial rates were considerably high. Overall, 87% of the males denied at least one offense at age 32 that they had admitted in prospective reports. With the exception of shoplifting, denial rates were highest for minor forms of offending (vandalism and theft from machines) and lowest for more serious offenses (burglary and theft of vehicles). Respondents may have denied minor acts if they felt that they were trivial and not worth mentioning, or may have forgotten them. The results observed for shoplifting may be a result of the fact that respondents continued to engage in acts of shoplifting long after they had stopped committing vandalism and theft from machines, and perhaps thought it would be more difficult to conceal these acts. Nonetheless, respondents were generally more reluctant to report minor offenses than more serious forms of crime.

Prospective admissions and retrospective denials were far more common than the reverse (prospective denial and retrospective admission); this is true for all offense types. It is also interesting to point out that in cases where the act was admitted only in retrospective reports, most offenses (with the exception of theft of vehicles and theft from vehicles) had an average retrospective age of onset that occurred before 18 (roughly ranging from 11 to 16 years old). Since prospective reports included offending behavior up to age 18, it appears that some offenders either tended to conceal their offending behavior in prospective accounts, or retrospectively remembered initiating these acts earlier than they actually did. Overall, 76% of individuals who admitted to offending at age 32 only reported an onset earlier than age 18 in retrospective accounts; this proportion was highest for vandalism (100%) and shoplifting (93%). However, these figures are based on small sample sizes.

When both prospective and retrospective accounts of onset were available, average retrospective ages tended to be slightly higher than prospective ages of onset, which suggests that offenders retrospectively tended to overestimate the age at which they initiated their offending behavior. However, prospective and retrospective ages were significantly different only for vandalism and theft of vehicles. In cases where the act was admitted only in retrospective reports, most offenses (with the exception of theft of vehicles and theft from vehicles) had an average retrospective age of onset that occurred before 18 (ranging from 11 to 16 years old). Since prospective reports included offending behavior up to age 18, it is possible that some offenders either tended to conceal their offending behavior in prospective accounts, or retrospectively remembered initiating these acts earlier than they actually did. These results may be a consequence of retrospective bias; in retrospect, offenders tended to forget the age at which they initiated offending.

Table I reveals that minor offenses such as shoplifting and vandalism always had the earliest onsets, regardless of whether results were available for only prospective, only retrospective or both prospective and retrospective accounts. In contrast, theft of vehicles always had the latest onset, for all accounts; these results suggest a progression in onset sequences, from minor to serious forms of offending. When both prospective and retrospective ages of onset were available, a limited proportion of subjects tended to report the same onset age in both periods (varying from 11% to 27% for all offending categories). The agreement rate between prospective and retrospective reports was lowest for vandalism, shoplifting and theft from vehicles (all 11%), and highest for theft of vehicles (27%). This result may be attributed to the fact that theft of vehicles is one of the more serious forms of offending and hence offenders were more likely to remember the specific details of these events.

What can possibly cause these low agreement rates? It is possible that individuals with heavy substance use habits were more likely to forget the specificities of offenses that occurred in the past. This issue was addressed by using drug and alcohol consumption variables measured at age 32. The males were asked about the frequency of their drug use in the past 5 years (cannabis, heroin, cocaine, amphetamines, magic mushrooms, barbiturates/downers, LSD, and nitrite) and their weekly alcohol consumption. Most males had not consumed any drugs in the previous five years (81%). Only about one fifth (22%) of males were regarded as heavy drinkers (consumption of more than 40 units of alcohol per week). Overall, 25% of males had serious drug or alcohol consumption. Chi-square tests were carried out to explore the association between serious substance use and the degree of discrepancy between prospective and retrospective ages of onset. Results showed that most males (69%) with heavy substance use habits (drugs or alcohol) were likely to report different onset ages in retrospect, in contrast to 47% of respondents who did not have serious substance use habits. This difference was statistically significant ($x^2 = 13.89$, df $= 1$, $p < 0.0001$). Thus, the limitations associated with the use of retrospective reports appear to be even more significant with samples of individuals displaying problems of substance use.

4.2. Comparison of Prospective and Official Ages of Onset

Table II compares prospective and official ages of onset, and the results are presented according to the same logic as in Table I (prospective admission only, conviction only, and both prospective admission and conviction). It was common for respondents to report offenses for which they were never convicted, but the opposite was rarely true; relatively few

Table II. Comparison of Average Prospective and Official Ages of Onset

	Burglary	Shoplifting	Theft of vehicles	Theft from vehicles	Theft from machines	Vandalism	Total
Prospective admission, no conviction	14.1 (n = 43)	11.8 (n = 214)	15.2 (n = 58)	14.6 (n = 66)	14.6 (n = 134)	11.2 (n = 319)	10.7 (n = 356)
Prospective denial, with conviction	22.8 (n = 17)	24.9 (n = 10)	22.1 (n = 18)	21.5 (n = 11)	22.3 (n = 6)	26 (n = 2)	13.9 (n = 44)
Both prospective admission and conviction (t-test)	n = 50*	n = 32*	n = 49*	n = 24**	n = 13***	n = 27*	n = 103
Average prospective onset age	14.2	12.5	15.2	14	14	10.7	11.9
Average official onset age	17.8	20.4	16.8	18.4	18.8	22.7	16.9
Prospective = official	10 (20%)	2 (6%)	19 (39%)	4 (17%)	2 (15%)	0	
Prospective > official	7 (14%)	2 (6%)	6 (12%)	5 (21%)	1 (8%)	0	
Prospective < official	33 (66%)	28 (88%)	24 (49%)	15 (62%)	10 (77%)	27 (100%)	

*$p < 0.001$; **$p < 0.01$; ***$p < 0.05$.

Note: When respondents have reported or been convicted for more than one offense, average ages of onset in the total columns are based on the average age on first offense.

respondents had been convicted for offenses that were not admitted in self-reports up to age 18.

In cases where there were both a prospective report of onset and a conviction, the average age at first conviction was always much higher than the age of onset reported prospectively; this was true for all forms of offending (particularly vandalism, shoplifting and theft from machines), and t-test results revealed that these differences were significant for all offending categories. In general, it was rather uncommon for official onset to occur before prospective onset (ranging from 0% to 21% of all respondents). Concordance rates between prospective and official ages of onset were low; they were highest for theft of vehicles (39%) and burglary (20%), and lowest for vandalism (0%) and shoplifting (6%). This suggests that the level of agreement between self-reports and official measures of offending increases with the seriousness of the offense.

Minor forms of offending had the earliest average onset ages in prospective reports, but tended to be convicted at later ages in comparison to other offending categories. Furthermore, in cases where offenders admitted to the acts in prospective reports and were also convicted for them, vandalism and shoplifting had the greatest discrepancies between prospective and official ages of onset. These high discrepancies could reflect the time lag that occurred between the first minor shoplifting or vandalism offenses in early adolescence (i.e., stealing sweets, damaging school buildings, etc.), which were highly unlikely to lead to arrest, and more serious acts that appeared later in adolescence or adulthood (stealing from shops and stores, breaking windows, etc.). Theft of vehicles and burglary had the earliest official ages of onset and showed less prominent discrepancies between prospective and official ages of onset. Discrepancies between prospective and official ages of onset appeared to be more pronounced for minor forms of offending than for more serious offenses. Thus, self-reported and official onset sequences seem to be distinguished by opposite patterns. Comparisons between prospective and retrospective self-reports suggested a progression in onset sequences, from minor to more serious forms of offending, whereas official records rather suggested a serious-to-minor onset sequence.

4.3. Onset Sequences

Table III shows self-reported onset sequences, and Table IV shows official onset sequences. Each table gives, for individuals who have committed two types of offenses, the percentage who committed each offense first (excluding cases where the onset age was the same for both offenses). To our knowledge, these particular comparisons of both self-reported and

Table III. Self-reported Onset Sequences of Specific Forms of Offending

	Reported subsequently					
Reported first	Vandalism	Shoplifting	Theft from machines	Theft from vehicles	Theft of vehicles	Burglary
Vandalism	–	59% (127/216)	86% (122/141)	84% (86/102)	92% (106/115)	77% (69/90)
Shoplifting	41% (89/216)	–	86% (107/125)	85% (76/89)	95% (96/101)	85% (67/79)
Theft from machines	14% (19/141)	14% (18/125)	–	69% (44/64)	68% (51/75)	55% (36/65)
Theft from vehicles	16% (16/102)	15% (13/89)	31% (20/64)	–	62% (34/55)	50% (27/54)
Theft of vehicles	8% (9/115)	5% (5/101)	32% (24/75)	38% (21/55)	–	30% (17/57)
Burglary	23% (21/90)	15% (12/79)	45% (29/65)	50% (27/54)	70% (40/57)	–

Note: This table only includes cases where different ages of onset are admitted for two given offenses.

Table IV. Official Onset Sequences of Specific Forms of Offending

	Convicted subsequently					
Convicted first	Vandalism	Shoplifting	Theft from machines	Theft from vehicles	Theft of vehicles	Burglary
Vandalism	–	71% (5/7)	0% (0/1)	40% (2/5)	20% (2/10)	40% (4/10)
Shoplifting	29% (2/7)	–	50% (1/2)	50% (5/10)	33% (4/12)	53% (10/19)
Theft from machines	100% (1/1)	50% (1/2)	–	50% (3/6)	50% (4/8)	44% (4/9)
Theft from vehicles	60% (3/5)	50% (5/10)	50% (3/6)	–	38% (6/16)	48% (10/21)
Theft of vehicles	80% (8/10)	67% (8/12)	50% (4/8)	62% (10/16)	–	47% (14/30)
Burglary	60% (6/10)	47% (9/19)	56% (5/9)	52% (11/21)	53% (16/30)	–

Note: This table only includes cases where first convictions for two given offenses occur at different ages.

official onset sequences for specific forms of offending have not been explored in previous research.

Table III shows that, according to self-reports, shoplifting and vandalism most frequently began before other types of offending (ranging from 85% to 95% for the former, and 77–92% for the latter). In contrast, it was less common for theft of vehicles to begin before other types of offenses (from 5% to 38%). Where respondents admitted either shoplifting or vandalism and also theft of vehicles, almost all cases of shoplifting (95%) and vandalism (92%) occurred before the incident of vehicle theft. Similarly, most cases of shoplifting (85%) and vandalism (77%) occurred before burglary. These results reveal a minor-to-serious onset sequence in self-reported offending.

In Table IV, the figures are not as easily interpretable, since the number of respondents who were convicted for both offenses is generally limited. Respondents were most likely to be convicted for theft of vehicles and burglary before any other type of offense (ranging from 47% to 80% for the former, and from 47% to 60% for the latter). Also, convictions for vandalism often tended to occur before convictions for shoplifting (71%).

The results in Tables III and IV support the assumption that self-reported and official offending indicate different onset sequences. One plausible explanation for this result relates to the differential treatment of offenders by the criminal justice system. At younger ages, when they are still strangers to the system, males are more likely to be convicted only if they commit relatively serious offenses. At older ages, or once individuals have penetrated the justice system, they may be granted less leniency and may be more likely to be convicted for any offense, regardless of how minor. It may also be that minor offenses committed at younger ages are more likely to be subject to informal handling.

5. DISCUSSION

This paper aimed to compare prospective age of onset with retrospective and official ages of onset for different types of offenses. Comparisons between prospective and retrospective onset ages revealed that in retrospect, offenders rarely remembered the exact age at which they initiated offending. Agreement rates between prospective and retrospective ages of onset were generally low, particularly for minor forms of offending and in cases where respondents had heavy substance use habits. In general, retrospective reports tended to overestimate the age of onset compared with prospective reports. Denial rates were quite high and with the exception of shoplifting, there was a negative association between offense seriousness and denial rates.

Comparisons between prospective and official ages of onset also revealed very low agreement rates, lowest for minor offenses and highest for

more serious forms of offending. Offenders may remember more accurately the specific details of more serious forms of offending. The age at first conviction was almost always higher than the age of onset admitted in prospective reports, and discrepancies between the two were more pronounced for minor offenses. Finally, self-reported and official onset sequences displayed opposite patterns (a minor-to-serious onset sequence for the former and serious-to-minor for the latter).

5.1. Results in Relation to Prior Research

Le Blanc and Fréchette (1989) provided information on the age of onset of various offense types for a sample of delinquent French-Canadian males. Our results showed that the minor forms of offending (vandalism and shoplifting) had the earliest onsets, which is consistent with Le Blanc and Fréchette's (1989) results. According to the Farrington and Hawkins (1991) definition of early onset (offending that occurs between ages 10 and 13), these two categories would be considered to have relatively early onsets; these are the only two offenses that had average prospective and retrospective onsets before age 13. It is also interesting to point out that none of the *strategic* offenses identified by Svensson (2002: vehicle theft and other thefts) had a very early onset. In fact, the categories with the earliest ages of onset in our sample were those regarded as low-risk by Svensson (2002: vandalism and shoplifting).

For those who admitted both, average prospective onset tended to occur earlier than average retrospective onset. This suggests that retrospectively, offenders had a tendency to overestimate the age at which they committed their first offense; Menard and Elliott (1990) refer to this phenomenon as *telescoping*. Jolliffe *et al.* (2003) observed the opposite pattern; their results showed that although the differences were not statistically significant, retrospective onset tended to be earlier than prospective onset, for all offending categories (*reverse telescoping*; see Menard and Elliott, 1990). However, their retrospective reports covered a much shorter time period.

Our results indicated that the agreement rate between prospective and retrospective reports was lowest for minor offenses (vandalism, shoplifting and theft from vehicles), and highest for theft of vehicles. Jolliffe *et al.* (2003) also found lower agreement rates between prospective and retrospective ages of onset for vandalism, and higher agreement rates for vehicle theft and drug selling. The present study did not include violent offenses in its analyses, due to the fact that information was not available at all ages for these offenses. Farrington (1973) compared denial rates (i.e., individuals who reported an offense in the 14–15 interview and denied it in the 16–17 interview) for various crime types. Denial rates were higher for active theft and aggressive acts in

comparison to minor and underage acts (51%, 50%, 23%, and 11%, respectively). Thus, between early and late adolescence, violent offenders were more likely to deny offenses in contrast to individuals committing more minor offenses, possibly due to the frequency of commission of minor offenses.

In comparisons with official records, most offenses never led to a conviction, which is consistent with results from past studies (Elliott, 1994; Farrington *et al.,* 2003a; Farrington *et al., 20*03b; Weis, 1986). Also in agreement with past research (Farrington, 1989; Farrington *et al., 20*03b; Le Blanc and Fréchette, 1989; Moffitt *et al*., 2001; Stattin and Magnusson, 1995), the official onset of offending tended to occur much later than the self-reported onset. Furthermore, there appeared to be a positive association between the seriousness of the offense and agreement rates between self-reported and official ages of onset (also see Farrington *et al*., 1996). This result is somewhat consistent with Jolliffe *et al.*'s (2003), which revealed that burglary had the highest concurrent validity and that vandalism had one of the lowest; however, their results showed relatively low concurrent validity for vehicle theft.

This positive association between offense seriousness and self-reported and official agreement rates might be attributed to the fact that serious offenses are characterized by an increased likelihood of sanctions (see Cusson, 1998, for a discussion on this topic). It is highly likely that many of the minor forms of offending were not considered to be serious enough to be officially convicted (see Huizinga and Elliott, 1986), and that they tended to lead to convictions only in extreme cases. Farrington *et al.*'s (2003b) results in Seattle revealed some concordance between self-reports and official records; offenses with the highest prevalence in self-reports also tended to have the highest prevalence in official records. This result was not replicated in this British sample, since offenses with the highest official prevalence rates (burglary and theft of vehicles) were characterized by the lowest self-reported prevalence rates. Thus, offenses with the highest self-reported prevalence rates (i.e. minor forms of offending) had the lowest agreement rates between prospective and official ages of onset. Maxfield *et al.*'s (2000) finding that the degree of agreement between official arrests and self-reported offending increases with the prevalence of self-reported offending was not replicated in our results. The level of concordance in age of onset could be lower in cases where offending is more frequent and versatile, since offenders would be less likely to remember the specific details of their offending activities.

5.2. Denial

Many respondents tended to deny acts that they had reported at an earlier age (see Jolliffe *et al*., 2003, and Menard and Elliott, 1990, for similar

results); this was particularly true for minor types of offending. Huizinga and Elliott (1986) also observed that the proportion of respondents who changed their answers from one interview to another was highest for minor offenses (minor assault, public disorder, vandalism, minor theft, etc.). In agreement with the results of this study, Menard and Elliott (1990) found higher agreement rates for two of the more serious forms of property offending, burglary and auto theft. However, their results also revealed that the degree of agreement between prospective and retrospective measures was lower for violent offenses (which involved physical force, i.e. rape, aggravated assault, etc.); unfortunately, these offenses could not be included in our analyses. Farrington (1973, p. 107) found that "Half of the active theft and aggressive admissions at age 14–15 turned into denials at age 16–17". Overall, 25% of initial admissions at age 14 became denials at age 16.

The negative association between offense seriousness and denial rates may also reflect concealment. Farrington (1973, p. 108) found that respondents who were more prone to denials also had increased lie scores, which "... suggests that concealment is an important factor in denial". It is possible that the boys who engaged in a greater number of acts and who were considered to be "official delinquents" had already been stigmatized and had accepted their criminal label, which could explain why they were less inclined to deny acts. Farrington (1977, p. 121) also found that convicted adolescents were likely to admit more offenses, and added that "... the major effect of public labelling is to release some of the inhibitions which formerly prevented the admission of deviant acts". Similarly, Maxfield *et al.* (2000) found that offenders who have been arrested on numerous occasions were more likely to admit these arrests in self-reports. These results support the idea that denial would be more common among the more socialized individuals, who are concerned with the social stigma associated with their responses. Maruna (2001, p. 144) also argued that "... the use of neutralizations and excuses might be interpreted as an adaptive, ego defense mechanism that actually helps to restore the speaker's bonds to society". Since denial rates increased with age, it is possible that these offenders grew increasingly preoccupied with social norms, and maintaining a facade of respectability.

5.3. Methodological Implications

Farrington *et al.* (2003b) concluded that research based on self-reports can yield different conclusions from results based on official measures of offending and thus, the two methods are likely to have different theoretical and policy implications.

Our results have demonstrated the limitations of retrospective data and support the importance of prospective longitudinal studies. Farrington (1989, p. 416) argued that "... long-term retrospective self-reports fail to detect many offenders identified in prospective self-reports". It appears clear that retrospective data cannot substitute prospective reports of offending (see Menard and Elliott, 1990). More specifically, retrospective accounts seem to be particularly inappropriate for research requiring detailed information on offending (e.g., about age of onset), as offenders are unlikely to remember these specificities after long periods of time. Since many parameters used in criminal career research require precise information (age of onset, frequency, age of desistance, etc.), retrospective data may not be best suited for this type of research. Henry *et al.* (1994, p. 100) also argued that "... if retrospective reports must be used ... they should be limited to testing hypotheses about the relative standing of individuals in a distribution...". Furthermore, since agreement rates between prospective and retrospective onset ages were lower for respondents with heavy substance use habits, the use of retrospective data would be particularly inappropriate in samples where individuals have important substance use problems. Our results also showed that agreement rates between prospective and retrospective ages of onset were lowest for minor offenses. In short, if researchers are constrained to use retrospective data, we recommend that it be used to collect general rather than detailed information, to avoid using samples of individuals characterized by heavy substance use habits, and preferably avoid focusing on minor forms of offending or other antisocial behavior.

Agreement rates between prospective and official ages of onset were highest for serious forms of offending. This result suggests that official onset may not be appropriate for minor offenses, due to the criminal justice system's tolerance and low priority given to these crimes. Similar issues apply to other criminal career parameters, such as offending rates. A comparison of self-reported and official offending frequency may yield greater agreement rates for frequent offenders, who are more likely to get caught than individuals who offend only occasionally.

Huizinga and Elliott (1986) explained that self-reported and official measures of crime "complement" each other, that each measure has its distinctive strengths and that a combination of both compensates for limitations of each (also see Erickson, 1972; Farrington, 1973). As pointed out by Farrington *et al.* (2003b), official records provide precise information (i.e. exact dates) about offenses; however, many of the specificities of offending can only be obtained through self-reports (e.g., co-offending, leaders and followers, motives, level of planning, etc.). Regardless of whether these two methods measure exactly the same underlying theoretical concepts (i.e. offending behavior versus social reaction and response bias), it appears clear

that an integration of the in-depth information contained in self-reports and the proved facts included in official records could greatly contribute to the advancement of knowledge, not only for criminal career research, but for any research topic in the field of Criminology.

In conclusion, our research shows that offenses are often denied and that retrospective onset ages seldom agree with prospective onset ages. While self-reports suggest that minor offenses are committed before serious ones, official convictions suggest the reverse. These results highlight the need for both self-report and official record measures, and for prospective longitudinal data in studying criminal career questions.

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