

The Monetary Cost of Criminal Trajectories for an Ontario Sample of Offenders

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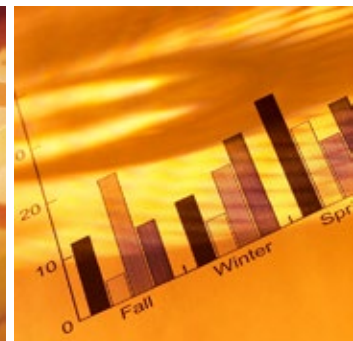
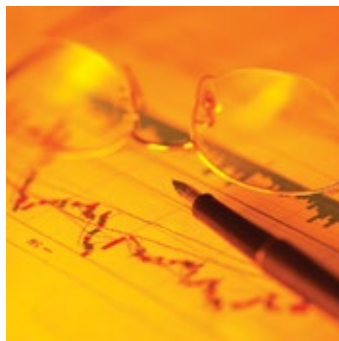
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Abstract

The past 15 years have seen a growing interest in studies that estimate the costs of crime. In that time, there have been advances in data linkage and methodological procedures that have resulted in better cost estimates of official and unofficial offending. Such information is crucial for cost-benefit analysis which seeks to understand whether the long-term costs of crime can be offset by investments in early intervention. This report presents findings on the longitudinal costs of criminal offending for a sample of 386 male offenders in Ontario whose offence costs were tabulated for a 15-year period, between the ages of 12 and 26 years. Cost estimates were obtained for four components: 1) victim costs; 2) correctional costs; 3) other criminal justice system (CJS) costs, for example, police, court, prosecution, and legal aid expenditures; and 4) costs associated with undetected crimes. The results indicated that the aggregate longitudinal cost of offending for this sample was \$2.26 billion, an average of \$5.86 million per person. Moreover, costs differed across risk trajectory groups and across developmental periods. Costs were disproportionately higher for the small group of high-rate offenders and disproportionately lower for the large group of low-rate offenders. The most costly period was mid to late adolescence, between the ages of 15 and 17, which accounted for 40% of the total costs. These results suggest that tremendous costs savings can be gained if effective developmental crime prevention programs successfully target high-risk children and youth.

Author's Note

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Executive Summary

Since the mid-1990s, there has been a growing interest in efforts to estimate the monetary costs of crime. This increase is likely the result of at least two factors: First, significant methodological advances have enabled researchers to generate more precise cost figures for the various domains affected by crime, such as victim costs, offender costs, and criminal justice costs. Second, there is increasing recognition that such information could be used to conduct cost-benefit analyses of crime reduction programs, so that policy makers charged with influencing and making difficult decisions about the allocation of scarce resources can do so in an evidence-based manner. What is most exciting about these developments is the steady accumulation of cost estimates that have become available to researchers, making it easier and more efficient to derive high quality estimates (within the limits of the methods and underlying data sources) across jurisdictions and with different populations. As a result, there is now a growing body of published and unpublished material from around the world, making it increasingly possible to assess the global economic burden of crime, as well as quantify the potential return on investment that can be achieved through early intervention.

In keeping with these developments, the present report aims to contribute a Canadian perspective to this literature by estimating the longitudinal costs of crime incurred by a sample of 386 high-risk male criminal offenders in Ontario. By doing so, we are replicating three studies of offence trajectories that have recently been conducted in the United States, the United Kingdom, and Australia. Because our offence data are longitudinal, we were able to track the pattern of costs by age, as the offenders developed across adolescence and into adulthood. This is significant in that it allowed us to assess whether the monetary costs of crime mirror the well-known age-crime curve, whereby involvement in criminal activity rises sharply around 15 to 17 years of age, followed by a steady decline into adulthood. Examining the costs of crime from a longitudinal perspective is useful to potentially highlight the age periods that could be targeted for early intervention to reduce the costs of criminal offending in Canada.

The offence histories of the present sample were tracked for an average of 16.4 years, and offence costs were tabulated for a 15-year period, between the ages of 12 and 26 years. Costs included both tangible and intangible costs, as well as victim-related costs and disposition-related correctional costs. Cost estimates were scaled up to include other criminal justice costs (e.g., police, courts, legal aid), as well as costs associated with undetected crimes. All dollar values were converted to 2013 Canadian dollars. The main research questions addressed in this report were:

1. What are the monetary costs of crime imposed on society by a sample of 386 high-risk offenders in Ontario over the length of the 15-year follow-up period?
2. What are the costs imposed by offenders across various offending trajectories?
3. How do the costs differ for offences committed in adolescence versus adulthood?
4. What are the costs associated with provincial sentences versus federal sentences?

The Sample

The study sample comprised 386 high-risk male offenders who had been sentenced between 1986 and 1997 as juvenile offenders to one of two open custody facilities in Toronto, operating within the scope of the children's mental health system. Offenders were, on average, 17.7 years at the time of admission into the facility, and the average sentence length was 122.6 days.

Offence Data

For the entire sample, criminal offence records were accumulated across a 29-year period, from as early as June 29, 1978, to September 26, 2007, the end of the follow-up period. The average follow-up period was 16.4 years, from late childhood/early adolescence into adulthood. Their average age at the end of follow-up was 32.0 years. For the purposes of this study, the follow-up period was standardized to 15 years to ensure that all participants had a uniform interval of follow-up.

The measure of criminal activity for the study was based on a count (tabulated by age) of all their *unique court contacts arising from a new set of charges* (Day et al., 2008). Over the follow-up period, the sample amassed a total of 7,257 offences across 4,657 unique court contacts. These offences spanned 313 discrete offence codes, which were subsequently collapsed into 29 offence categories to facilitate data analysis and reporting.

Trajectory Analysis

One objective of this study was to estimate the costs of crime associated with subgroups of offenders, based on their longitudinal pattern of offending. For these analyses, we used the seven criminal trajectory groups generated from a previous analysis of the study sample (Day et al., 2012). The following heuristic labels were applied (with the percentage of the total sample) based on the rate and shape of their offence trajectories, to identify the seven trajectory groups:

- (T1) *moderate late persister* (3.6%);
- (T2) *high late* (3.9%);
- (T3) *high early* (4.4%);
- (T4) *moderate adolescence-peaked* (11.7%);
- (T5) *moderate early persister* (14.2%);
- (T6) *low desister* (29.8%); and
- (T7) *low persister* (32.4%).

Cost Data

Cost estimates for the study were obtained for four components pertaining to the societal impact of offending: 1) victim costs; 2) correctional costs; 3) other criminal justice system (CJS) costs, for example, police, court, prosecution, and legal aid expenditures; and 4) costs associated with undetected crimes. In order to obtain cost estimates for each of these four components, information was drawn from a variety of sources, including the published literature (for victim costs, other CJS costs, and costs for undetected crimes), as well as the grey literature and other government publications and sources (for correctional costs). For this study, there were various ways to calculate costs but, where possible, we erred in the direction of using conservative figures, so as not to overestimate the costs of crime.

Analyses

For the purpose of this report, cost estimates are provided for offences occurring over a 15-year period, from ages 12 to 26 years. Because the criminal offence data were longitudinal, the results (for each of the four components and the total, aggregate costs) are presented by age. The 15-year age period from 12 to 26 years was divided into two sets of intervals. First, in the body of the text, the findings for two broad age categories, 12 to 17 years (youth) and 18 to 26 years (adult) are presented. Second, as Appendices to the report, the costs are further desegregated into five age categories, 12 to 14 years, 15 to 17 years, 18 to 20 years, 21 to 23 years, and 24 to 26 years. Additionally, the results are also presented for the seven criminal trajectory groups, in order to differentiate the costs for different subgroups of offenders.

Results

First, considering only offences that resulted in official convictions in court (i.e., excluding undetected crimes), the aggregate cost of offending for the sample was \$671 million or \$1,739,176 per person over the 15-year follow-up period. Including estimates for undetected crimes contributed an additional \$1.6 billion in aggregate costs, bringing the total aggregate, longitudinal cost of offending to \$2.26 billion, an average of \$5.86 million per person. The aggregate costs for each of the four components were as follows:

- aggregate victim costs – \$182,602,699;
- aggregate correctional costs – \$122,179,765;
- aggregate other CJS costs – \$366,539,294; and
- aggregate undetected crime costs – \$1,588,830,864

As indicated by these numbers, including costs for undetected crime substantially increased the overall cost estimates. These estimates were derived using the best available scaling-up procedures and monetary per-crime estimates from published empirical studies. However, even when we *discounted* the costs of undetected crimes to temper these costs, the aggregate undetected crime costs were roughly \$800 million. This resulted in a decrease in the overall aggregate costs of crime from \$2.26 billion to \$1.5 billion over the same timeframe, or approximately \$3.8 million per person.

Second, in addition to calculating aggregate costs of crime for the sample, we also examined how costs accumulated over time. Consistent with Piquero et al. (2013), the most costly developmental period was mid- to late adolescence, between the ages of 15 and 17 years, which accounted for 40% of the total costs. This was a time when the average correctional, other criminal justice system, and victim costs were at their highest, relative to other age intervals. This was also the time when the costs associated with both property and violent crimes were at their highest.

Third, as expected, there was a considerable difference in the aggregate costs (excluding undetected crimes) for the least expensive (\$66,509) and most expensive (\$9.9 million) offenders in our sample. These differences are further reflected in our estimates of the average cost of crime per individual across seven trajectory groups. In these analyses, we found that high-rate offenders (T2 and T3) cost between \$12 and \$17 million each; medium-rate individuals (T1, T4, and T5) cost approximately \$8 million each; and low-rate offenders (T6 and T7) cost about \$3.5 million each. These findings reinforce the idea that even within a high-risk offender sample, there is heterogeneity in the frequency, severity, and timing of offending, and among the dispositions received in response to it.

Conclusions

Based on the results of this study, a number of conclusions may be drawn:

- The exercise of estimating the costs of crime in Canada is important, as the results may inform policy decisions about resource allocation for crime prevention and reduction;
- The aggregate cost of crime for this sample was substantial;
- The costs were highest for the developmental period of mid- to late-adolescence, between the ages of 15 to 17 years;
- Across the criminal trajectories, costs were disproportionately higher for the small group of high-rate offenders, and disproportionately lower for the large group of low-rate offenders.

The study has some important strengths that contribute to the validity of the results and advance our knowledge and methods of calculating the costs associated with crime. First, we capitalized on a very detailed criminal history dataset in calculating the number of days served for each of eight separate disposition types. With these numbers, we used the best available per-diem correctional estimates in Ontario, the province in which the sentences were overwhelmingly served. Therefore, we arrived at highly accurate estimates of correctional costs for the study participants. Second, the relatively long follow-up period of 15 years provided a longitudinal look of the costs of crime during the peak adolescent years and into early adulthood, intervals when crime prevention approaches should be applied with vigour if cost savings are to be maximized.

Third, the list of per-crime victim costs drawn from the literature also extends the work of Farrington and Koegl (2014) to include a longer list of crime types. We were also able to develop new estimates based on a careful matching of offence-specific codes with per-crime estimates. Fourth, we are confident that we have calculated cost estimates that reasonably correspond to the degree of victim harm, yet take into account the unique characteristics of the separate youth and adult criminal justice systems in Canada. Lastly, the detailed coding of the data also allowed us to track costs as they occurred for each offender

on an annual basis. In fact, the findings reproduce the well-recognized age-crime curve (albeit, with a peak two years later compared to curves based on offending and not adjudication costs *per se*).

The limitations of the study also need to be acknowledged. First, our results may be biased by cohort effects. The present study mitigates this problem somewhat, since participants were admitted to the referring institution over a ten-year period, between 1986 and 1997. Therefore, they represent offenders of different ages and exposures to the criminal justice system at different times. Notwithstanding this issue, it should be noted that the offenders in this sample were drawn from an era in which youth incarceration was used more frequently than is currently the case. As such, we might expect youth custody costs to be lower with a sample of offenders followed-up prospectively, given the system's current preference to use extra-judicial, non-custodial measures allowable under the *Youth Criminal Justice Act* (YCJA).

Second, our results are specific to a particular sample, which may be a higher risk group than one generated by randomly selecting a sample from the general offender population. Two factors contribute to this possibility. First, the current sample had all been sentenced to a custodial facility (i.e., open custody) in their late teens. As such, they had already penetrated the juvenile justice system more deeply than, for example, a youth who had committed a low severity offence (e.g., shoplifting) at the age of 15 and never offended again. Second, as the open custody facility from which the sample came was operated by a children's mental health centre, with a greater availability of services and access to mental health specialists, the youth sentenced to this facility may have been considered to be more "at-risk," with more mental health problems and criminogenic needs than the general population of juvenile offenders. This, of course, would limit the generalizability of the study findings to all offenders. This conclusion may be offset, however, by the fact that there was variability in the frequency of offending within the sample. For example, our sample included offenders who committed only one or a few offences in their criminal careers (9.3% had three or less convictions to age 26). Therefore, although they may have been higher risk, they were not all high-rate offenders.

Third, as noted earlier, our estimates of victim costs were based on non-Canadian figures, and therefore, their applicability to the Canadian context could be called into question. Fourth, due to data limitations, we relied on crude calculations to estimate other criminal justice system costs, such as policing, courts, prosecution and legal aid. Unfortunately there are no good data in Canada to be able to apply estimates by type of offence. Therefore, we universally scaled-up correctional costs by a factor of three to create an averaged index. A related limitation is that it was not possible to code the number of disposition days served by offence type. Doing so would have allowed us to calculate criminal justice system costs for each offence.

A final limitation is that we did not explicitly disaggregate costs to the offender from those accrued by victims of crime (e.g., loss of productivity). Indeed, it could be rightfully argued that our costs underestimate the total economic burden on Canadian society. At present, there is no gold standard method for estimating the costs of crime, and every study is subject to its own limitations. In other ways, some social costs, such as the loss of social cohesion in a low-income neighbourhood, personal costs of a child growing up with an incarcerated parent, and family costs of grieving the loss of a child to a life of crime are impossible to quantify, making the true cost of crime incalculable.

In summary, we found that the cost of criminal offending incurred by this sample of 386 high-risk male offenders in Ontario was substantial. As expected, we also found considerable differences in all the component costs as the sample aged from adolescence to adulthood, and as we parsed the sample into different trajectory groups based on their rate of offending over time. Although the issues are complex and potentially politically charged, based on the results of this study, we would argue that the best option to reduce the costs of crime, that is, to get the “biggest bang for the buck,” is through strategic prevention and early intervention programming. We know from studies that have calculated cost-benefit ratios, that early intervention and prevention programs have the potential to yield substantial cost savings with a high degree of confidence on the return on investment. For example, in a recent analysis of the Stop Now and Plan (SNAP®) program, a Canadian-based early intervention program, Farrington and Koegl (2014) found that for every \$1.00 invested in the program, between \$3.07 and \$5.64 was saved in costs of crime expenditures over a nine-year follow-up period. Accordingly, we believe that the lion’s share of investment should be made in early intervention and prevention programs, taking into account the mandate of the criminal justice system to provide public safety and treatment to offenders.

1.0 Literature Review

1.1 Why is it Important to Estimate the Cost of Offending?

A safer society is a worthy investment. But how much of an investment is required to bring about a safer society? How should the investment be distributed to yield the biggest impact? How should funds be allocated to effectively reach certain “high-risk” groups, both within the criminal justice system (e.g., through high-intensity rehabilitative services for high-rate, persistent offenders), and outside the criminal justice system (e.g., through strategic early intervention programs for pre-delinquent children with multiple risk factors), as well as more moderate- and low-risk individuals within and outside the justice system? These are important questions for the development of an effective and efficient national crime reduction and prevention strategy. Decisions about the allocation of resources should be informed by the best available evidence about the costs of crime, and by the potential cost savings to be gained by different crime reduction programs.

Since the mid-1990s, there has been an increased interest in the economics of crime. There is a growing recognition that such information may have practical utility for both researchers interested in evaluating the cost-benefit ratios of crime reduction programs, and policy makers charged with influencing and making difficult decisions about the allocation of scarce resources. Putting a dollar figure on the costs of crime provides an easily understood metric to compare the financial burden of different types of crimes. It also provides a standardized means to convey information that could aid decisions about allocating scarce resources among a set of crime prevention and crime control programs and policies (Miller, Cohen, & Rossman, 1993). In these regards, crime cost estimates may be used for a number of policy-relevant purposes. Cohen (2005, p. 4) lists three: “1) comparison of the relative harm caused by type of crime; 2) comparison of the aggregate harm from crime with other social ills; and 3) benefit-cost analysis of alternative crime control policies.”

With respect to the latter, and in reference to crime prevention efforts specifically, rather than crime control strategies such as community policing (Welsh & Farrington, 2012), there is a growing recognition that early intervention and prevention programs may be effective to prevent or forestall the onset of antisocial and delinquent behaviour in at-risk children and youth (Farrington & Welsh, 2006; Welsh & Farrington, 2000). The argument in favour of proactive crime prevention strategies versus more reactive offender rehabilitation approaches has been bolstered by the growing literature on both the staggering costs imposed by crime on society (Anderson, 1990, 2012; Zhang, 2011), and the cost savings gained by reducing the number of participants involved in criminal activity through prevention (Aos, Phipps, Barnoski, & Lieb, 2001).

The prioritization of crime-related programs, for both prevention and rehabilitation, is of interest to criminal justice policy makers, given that a small number of offenders account for a disproportionate amount of crime (Cohen, Piquero, & Jennings, 2010a). For example, Wolfgang, Figlio, and Sellin (1972) reported that 6% of their Philadelphia birth cohort accounted for 50% of the criminal acts of the cohort to age 17. More recently, Welsh, Loeber, Stevens, Stouthamer-Loeber, Cohen, and Farrington (2008) reported that 10% of their sample from the Pittsburgh Youth Study (PYS) accounted for 50% of all self-reported offences. These high-rate and chronic offenders begin their criminal activity at an early age and persist into adulthood, commit both serious and violent crimes, and pose a considerable challenge

to the criminal justice system (Piquero, Farrington, & Blumstein, 2003). Using data from the Second Philadelphia Birth Cohort (Tracy & Kempf-Leonard, 1996; Tracy, Wolfgang, & Figlio, 1990), Cohen et al. (2010a) estimated that the financial burden of the small group of high-rate chronic offenders identified in their study (3% of the sample) was nearly half the total cost of offending for the entire sample. There is also mounting evidence to suggest that based on analyses of criminal trajectories, some offender groups impose greater economic costs than others. This may mean that the allocation of resources to certain subsets of offenders may lead to marked reductions not only in recidivism, but also in costs (Cohen et al., 2010a). Implementing sound targeted prevention and early intervention programs makes good economic sense and holds the greatest promise for crime reduction (Tolan & Gorman-Smith, 2002).

Indeed, studies have found that even a modest decrease in crime through effective crime reduction efforts can yield considerable savings (Aos et al., 2001; McCollister, French, & Fang, 2010). Miller, Levy, Cohen, and Cox (2006) reported that a 10% reduction in alcohol- and drug- involved crime could save USD\$4.25 billion. McCollister, French, and Fang (2010) found that compared to a similarly-matched sample of parolees who did not attend a program, a residential aftercare program for substance-abusing parolees netted a cost savings of \$185,250, based on just twelve fewer incidents of vandalisms and three fewer robberies for an average parolee. As another example, for prevention programs aimed at high-risk children, for every dollar spent by the High/Scope Perry Preschool Program, an early childhood education program in Ypsilanti, Michigan, the program repaid USD\$16.14, which included the cost savings for criminal activity (Nores, Belfield, Barnett, & Schweinhart, 2005; Schweinhart 2007). In other words, participation in this program yielded participants higher lifetime earnings, a lower burden on welfare support, and lower rate of criminal activity, compared to participants in a control group. In a recent analysis of the Stop Now and Plan (SNAP®) program, a Canadian-based early intervention program, Farrington and Koegl (2014) found that for every \$1.00 invested in the program, between \$3.07 and \$5.64 was saved in costs of crime expenditures over a nine-year follow-up period.

Emerging evidence also suggests that the greatest gains from crime prevention efforts come from targeting those individuals with the highest risk factors (Augimeri, Jiang, Koegl, & Carey, 2006; Dodge & McCourt, 2010; Welsh & Farrington, 2007). This was the conclusion reached by Foster, Jones, and the Conduct Problems Prevention Research Group (2006) when they evaluated the cost-effectiveness of the Fast Track intervention, a high intensity, multi-component prevention program for at-risk children in first through tenth grade. Using an index of the incremental costs of program alternatives relative to the incremental difference in outcomes (i.e., in average effect sizes), referred to as the incremental cost-effectiveness ratio (ICER), they determined that, for the group at lowest risk at program intake, based on measures of conduct problems at home and school, the program was neither cost-effective nor likely to be effective. By contrast, for the group at highest risk at intake, the program was both cost-effective and had a high likelihood of being effective.

In addition to the focus on crime prevention, the burgeoning interest in the economics of crime over the past 15 years can also be attributed to significant methodological advances that have enabled researchers to generate more precise cost figures for the various domains and components affected by crime. These include victim costs, offender costs, and criminal justice costs, as well as both tangible (e.g., those associated with law enforcement, the youth and adult criminal justice systems, and loss of productivity and wages) and intangible costs (e.g., those associated with loss of life, trauma, pain, and the suffering of victims). These advances include developments in the “bottom-up” and “top-down” methodologies, the two main approaches for determining cost estimates (Cohen, 2005; Cohen & Bowles, 2011).

The bottom-up approach derives total costs of crime by tallying up the component costs, including those incurred by the criminal justice system (e.g., for police, public defenders, courts, corrections), the victim (e.g., property loss and damage, medical and victim support services costs, financial loss), as well as criminal career costs, such as the loss of productivity of offenders resulting from incarceration (Cohen 1998; McCollister, French, & Fang, 2010; McIntosh & Li, 2012). The top-down approach uses the “willingness-to-pay” (WTP) method, which estimates the cost of crime based on the “contingent valuation” (CV) methodology employed in other fields such as environmental economics. CV is used “to place dollar values on nonmarket goods such as improvements in air quality, saving endangered species, and reducing the risk of early death” (Cohen, Rust, Steen, & Tidd, 2004, p. 91). Note that the bottom-up approach is an estimate of costs incurred *after* a crime has occurred (*ex post*), whereas the top-down approach is an estimate of costs in anticipation of crime, before a crime has occurred (*ex ante*), such as a person’s actions in response to a fear of crime.

What is most exciting about the recent developments in the cost of crime research literature is the steady accumulation of detailed cost estimates that have become available to researchers, making it easier to derive high quality estimates (within the limits of the methods and the data sources underlying them) across jurisdictions and with different populations. As a result, there is now a growing body of published and unpublished material from around the world, making the endeavour to assess the economic burden of crime on society seem like a global venture. In keeping with these developments, the present study aims to contribute a Canadian presence to this literature by estimating the cumulative costs of crime incurred by a sample of high-risk male criminal offenders in Ontario, based on offence trajectories. The next section reviews findings from the literature in three areas: 1) aggregate costs of crime; 2) costs of high-risk offenders; and, most relevant to the present study, 3) costs based on criminal trajectories.

1.2 Results of Previous Studies

1.2.1 Aggregate Costs of Crime

Estimates of the costs of crime in North America, including both tangible and intangible costs, have been as high as USD\$1.7 trillion per year when considering the aggregate or collective costs on society (Anderson, 2012; see also Leung, 2004). Zhang (2011) reported that the annual social and economic cost of crime in Canada in 2008 was estimated to be CAD\$31.4 billion. Remarkably, this figure is an underrepresentation of the total costs associated with crime once intangible costs are factored into the equation; Inclusion of intangible costs (CAD\$68.2 billion) brought the total cost of crime closer to CAD\$100 billion (Zhang, 2011). Given the substantial economic burden crime imposes on society, in addition to the personal and social costs, the rigorous measurement of costs associated with crime is a valuable and worthwhile endeavour for a number of reasons, including the development of evidence-based crime prevention policies.

Miller et al. (2006) estimated the costs associated with alcohol and drug-involved crimes and determined that, when factoring in victimization costs of pain, suffering, and diminished quality of life, alongside the costs of justice services, public services (e.g., police services), and medical and mental health care expenses, the total financial burden on society was USD\$205 billion. Using the WTP approach, Cohen, Rust, Steen, and Tidd (2004) conducted a large-scale survey of 1,300 residents in the United States to determine the public’s willingness to pay for crime reduction programs for specific types of offences, for example, to reduce the commission of a particular crime by 10%. Using these estimates and aggregating

across five offence types (burglary, armed robbery, serious assaults, rape and sexual assaults, and murder), Cohen et al. estimated the cost of crime to be USD\$625 billion. This figure is considerably higher than previous estimates (e.g., Miller, Cohen, & Wiersema, 1996), but is thought to be more representative of the social costs of crime because it takes into consideration such factors as the public's fear of crime.

Lastly, Welsh, Loeber, Stevens, Stouthamer-Loeber, Cohen, and Farrington (2008) used self-report offence data from 500 youth in the Pittsburgh Youth Study (PYS) to estimate the victim-related costs (e.g., financial loss to replace stolen items, and pain and suffering) associated with juvenile crime. They determined that the aggregate costs for the crimes committed by their sample between the ages of 7 and 17 years ranged from USD\$89 million to USD\$110 million. The costs for violent crime were estimated to be between USD\$82 million and USD\$103 million and the costs for property crime were estimated to be USD\$6.5 million. Welsh et al. also estimated the costs associated with the chronic offenders in the PYS sample. This small group of offenders (10% of the sample), who accounted for 50% of the self-reported crimes, imposed an average victim cost per offender of between USD\$793,000 and USD\$861,000, approximately five to eight times the average victim cost imposed by all the other offenders (USD\$101,000 to USD\$147,000).

1.22 Costs of High-Risk Offenders

Taking a different approach, Cohen (1998) calculated the total costs incurred by a typical criminal career across adolescence to adulthood. Based on the work of Blumstein, Roth, Cohen, and Visher (1986), Cohen estimated the offence characteristics (e.g., offence frequency, offence types, criminal career length) of a typical "chronic juvenile offender," and determined that the marginal costs imposed by a typical high-risk youth was between USD\$1.3 and USD\$1.5 million (in 1997 dollars). This included costs for prosecution, incarceration, attempts at treatment and rehabilitation, loss of productivity for victims and offenders, as well as victims' costs of pain, suffering, and diminished quality of life.

Nearly a decade later, Cohen and Piquero (2009) extended this work in several important ways: First, to capture real rather than "typical" criminal careers, they used offence data from the Second Philadelphia Birth Cohort Study (Tracy & Kempf-Leonard, 1996; Tracy et al, 1990), a longitudinal investigation of 27,160 male and female participants born in Philadelphia in 1958. Second, they included a larger number of different offence types in their calculation, up to 14 from 8. Third, they provided results using both bottom-up and top-down estimates. Armed with these data, Cohen and Piquero (2009) determined that the lifetime cost (to age 32) of a single criminal career was between USD\$2.6 and USD\$4.4 million (in 2007 dollars).

Likewise, Koegl (2011) found that some offender groups imposed more costs on society than others. In particular, persistent and prolific offenders (i.e., who were in the top 10% of all offenders in terms of offending frequency *and* who had at least one conviction during each of three age intervals of 12 to 14 years, 15 to 17 years, and 18 to 20 years) accumulated CAD\$6,325,085 per person in costs to society. This was in comparison to the low- and moderate-risk offenders who cost much less over the same timeframe, averaging CAD\$609,042 and CAD\$1,294,888 per person, respectively, between the ages of 12 and 21. Taken together, the findings from these studies suggest that preventative interventions targeting juvenile offenders may be valuable and can lead to high payoffs if effective.

1.23 Costs Based on Criminal Trajectories

Some researchers have suggested that the distribution of resources should be based on an individual's offending trajectory, given that some trajectory groups impose greater costs on society than others (Cohen et al., 2010a). As a result, decisions about targeted preventative initiatives may not be as straightforward as allocating the bulk of resources to “high-risk” young offenders, more generally. Rather, resources may be allocated, for example, to certain groups identified from a trajectory analysis as “persistent” and/or “high-rate” offenders.

To our knowledge, only three major studies have been conducted on the monetary costs of crimes associated with offending trajectories. These studies were conducted with data from the United States (Cohen, Piquero, & Jennings, 2012a, 2012b), England (Piquero, Jennings, & Farrington, 2013), and Australia (Allard, Stewart, Smith, Dennison, Chrzanowski, & Thompson, 2014). Trajectory analysis uses longitudinal data to cluster individuals with similar developmental growth curves into distinct classes or groups based on their longitudinal rate of offending. Because the trajectories are not directly observed or measured by the researcher, they are referred to as “latent” classes. A criminal trajectory represents the course or progression in the rate of criminal behaviour over age or time at the level of the individual. The objective of studying criminal trajectories is to understand the longitudinal course of offending at the level of the individual, and the factors that influence each trajectory's progression.

In addition, trajectory analysis is based on the premise that offenders comprise a heterogeneous population and studies typically identify between two and eight trajectory groups. These groups include some combination of high-rate persisters, moderate-rate offenders, low-rate desisters, low-rate persisters, adolescent-peaked offenders, and adult-peaked offenders. Trajectory groups may be differentiated by the shape of the growth curve, the age at which the trajectory peaks, its maximum value, and the ages at which the trajectory starts and stops (based on the available data). As well, researchers may be interested in identifying characteristics that differentiate the groups, such as crime mix (Blokland, Nagin, & Nieuwebeerta, 2005), personality traits or characteristics like psychopathy (McCuish, Corrado, Lussier, & Hart, 2014), and developmental risk factors (Day et al., 2012). To this list we could add the costs imposed on society as a result of their criminal activity.

In the first study to estimate costs associated with trajectory groups, Cohen et al. (2010) extended the findings of the Cohen and Piquero (2009) study by using a 25% randomly selected subsample of 6,750 members of the Second Cohort of the Philadelphia Study (Tracy & Kempf-Leonard, 1996; Tracy et al., 1990). The cohort had been followed from ages 10 to 18 years, tracking offence data in the form of official police contacts during adolescence and police arrests from ages 18 to 26 years. The researchers used both bottom-up and top-down (i.e., WTP) methods to estimate the costs of the police contacts/arrests during the follow-up period. Based on the figures from Cohen and Piquero (2009), cost estimates (in U.S. dollars) were generated for 14 different crimes (for the bottom-up and top down methods, respectively), including murder (\$5 million and \$11.8 million), rape (\$150,000 and \$290,000), simple assault (\$11,000 and \$19,000), burglary (\$5,000 and \$35,000), arson (\$60,000 and \$115,000), fraud (\$3,500 and \$5,5,00), and vandalism (\$1,000 and \$2,000).

The results of their trajectory analyses yielded four trajectory groups, identified as *nonoffenders* comprising 76.3% of the sample; *low-rate chronics* comprising 18.6% of the sample; *adolescence-peaked* comprising 2.0% of the sample; and *high-rate chronics* comprising 3.1% of the sample. The aggregate costs of the offending trajectories of the subsample were USD\$265 million and USD\$529 million, based on the bottom-up and top-down methods, respectively. For the high-rate chronic offence trajectory group, the average total costs were USD\$108 million and USD\$226 million, based on the bottom-up and top-down methods, respectively, and this group accounted for about 42% of the total costs incurred by the sample. Unlike the other three groups, the costs for the high-rate chronic group were higher in adulthood than adolescence. Lastly, the cost for the most frequent offender (53 crimes across the offence trajectory, mostly committed as an adolescent) was USD\$1,696,000 and the cost for the most expensive individual (9 crimes across the offence trajectory, mostly committed as an adult) was an astonishing USD\$35,406,000. Both these individuals were in the high-rate chronic trajectory group. What is noteworthy about these results is that the most expensive offender was *not* the most frequent offender. What this suggests is that the cost of crime is a function of both the frequency and severity or seriousness of the offending, as well as the timing of the offending in the life course (i.e., adolescence or adulthood). Indeed, Cohen et al. (2010) found that the frequency of offending was driving the costs in adolescence, but the seriousness of offending was driving the costs in adulthood.

Cohen, Piquero, and Jennings (2010b) took these analyses one step further and examined the costs of crime for offence trajectories, from ages 8 to 26, disaggregated across gender and ethnicity. Briefly, using the WTP method, their results indicated that male high-rate chronic offenders imposed the greatest costs (USD\$1,528,759 on average) and that chronic female offenders, although rare, also imposed considerable costs (USD\$754,440 on average). African-Americans in the chronic trajectory group imposed the greatest costs of all racial/ethnic groups (USD\$1,641,700 on average), compared to Hispanics (USD\$209,212 on average) and Whites (USD\$111,881 on average).

In the second trajectory study, Piquero, Jennings, and Farrington (2013) calculated the costs associated with the 411 individuals in the Cambridge Study in Delinquent Development (CSDD) sample. The CSDD is a long-standing, prospective longitudinal study of youth born in 1953 in London, England. They have been followed through interviews and archival data from ages 10 to 50 years, with their life events and criminal activity being documented. The measure of criminal activity for this study was official convictions. Cost estimates for a range of offences (e.g., theft, sex offence, assault, robbery, vandalism) were generated from analyses by Brand and Price (2000), and updated to 2003 dollars by Dubourg and Hamed (2005). Costs included those associated with the anticipation of crime, as a consequence of crime, and in response to crime.

Piquero et al.'s (2013) trajectory analyses yielded five groups, identified as *nonoffenders* comprising 62.3% of the sample; *low adolescence-peaked* comprising 18.6% of the sample; *very low-rate chronics* comprising 11.3% of the sample; *high adolescence-peaked* comprising 5.4% of the sample; and *high-rate chronics* comprising 2.5% of the sample. The aggregate cost (expressed in 2003 U.S. dollars) of the offending trajectories of the subsample was \$3,254,935. With respect to the costs for each of the trajectory groups, the high-rate chronics amassed an average of USD\$95,241 per offender in costs, compared to USD\$40,933, USD\$21,576, and USD\$10,210 for the high-adolescence-peaked, very low-rate,

and low-adolescence-peaked groups, respectively. Lastly, the cost for the most expensive individual in the sample was \$153,318. These figures are considerably lower than the Cohen et al. (2010) study, which was attributed by Piquero et al. (2013) to the fact that the Dubourg and Hamed (2005) crime cost estimates were conservative and did not incorporate WTP costs, which tend to yield higher estimates than bottom-up approaches.

In the third trajectory study, Allard et al (2014) examined the longitudinal costs for a sample of 41,377 individuals from Queensland, Australia, whose offence trajectories were followed from ages 10 to 25 years. The offence data was based on six types of “finalised criminal justice events” (p. 5), such as formal cautions, police-referred youth justice conferences, and court appearances. Cost estimates were generated for 15 types of offences (e.g., homicide, assault, robbery, theft, fraud, arson) from Rollings (2008), and updated to 2012 dollars. The cost estimates were based on the bottom-up calculation method, and included criminal justice costs as well as broader social and economic costs (e.g., medical costs and costs of property loss).

Their trajectory analyses yielded five groups, identified as *adolescent peaking-low* rate comprising 30.6% of the sample; *adult onset-low* rate comprising 53.3% of the sample; *adolescent onset-chronic* comprising 1.8% of the sample; *adolescent onset – moderate* rate comprising 11.3% of the sample; and *early onset-chronic* comprising 3.0% of the sample. The results indicated that the aggregate costs of the offending trajectories (expressed in 2012 Australian dollars) were \$1.14 billion. With respect to the average costs of offenders in each trajectory group, the early onset-chronic group cost an average of AUD\$262,799 per offender, which accounted for 28.7% of the total cost incurred by the sample. This is compared with the average costs of AUD\$8,559, AUD\$10,740, and AUD\$69,611, for the adolescent peaking-low rate, adult onset-low rate, and adolescent onset-moderate rate groups, respectively. The adolescent onset-chronic group was the second most expensive at AUD\$186,366 per individual, on average.

A fourth study, by Craig, Schumann, Petrunka, Khan, and Peters (2011), is discussed here because it stands out as the only other available Canadian study. However, their investigation only estimated the costs associated with the delinquent behaviour of children and youth over a very limited six-year period, from ages 8 to 14 years. As a result of the short time period during which to track criminal behaviour (i.e., between ages 12 and 14 years), this study was only able to estimate the costs of crime over a limited amount of time. Nonetheless, it is included here because it reported costs for some criminal activity based on a trajectory analysis.

The sample of 842 included young people involved in the Better Beginnings Better Futures (BBBF) program, a universally available prevention program in high-risk communities in Ontario, and a control group from the same communities not involved in the program. A single delinquency scale was created by principal components analysis (PCA) from items completed by parents, teachers, and the youth at three time periods, Grades 3 (age 8), 6 (age 11), and 9 (age 14). The items covered a range of behaviours, including: vandalism, stealing, destruction of property, lying and cheating, and gang membership. The cost data included those associated with utilizing government resources pertaining to: social services

(e.g., family involvement with child welfare); social assistance (e.g., Ontario Disability Support Program payments); health care (e.g., hospital stays, visits to a physician and nurse); remedial education (grade repetition, use of specialized services); and the criminal justice system (arrests, court appearances).

The trajectory analyses yielded six delinquent trajectories as follows: *lowest (rate) delinquency* comprising 6.7% and 10.6% of the boys and girls in the sample, respectively; *second lowest (rate) delinquency* comprising 70.4% and 76.5% of the boys and girls in the sample, respectively; *moderate (rate) desisters* comprising 13.5% and 8.1% of the boys and girls in the sample, respectively; *highest (rate) desisters* comprising 3.4% and 1.0% of the boys and girls in the sample, respectively; *escalators* comprising 4.0% and 2.8% of the boys and girls in the sample, respectively; and *high (rate) delinquency* comprising 2.0% and 1.0% of the boys and girls in the sample, respectively. Interestingly, the aggregate costs of the offending trajectories (in 2001 Canadian dollars) were slightly higher for girls than boys at \$244,056 and \$229,236, respectively. The highest costs were associated with remedial education (64% of the costs) and lowest for those associated with the criminal justice system (1% of the costs). The latter finding is not surprising given the age of the sample. Lastly, 80% of the costs were accounted for by 18% of the sample (on the moderate desister, highest desister, escalators, and high delinquency trajectories) and 80% of the criminal justice costs were accounted for by the individuals on two trajectories: high delinquency and escalators.

A number of conclusions may be drawn from these studies. First, there is considerable variability in the cost estimates across the studies. Some of the variability may be attributed to the different calculation approaches used (e.g., top-down versus bottom-up), various methodological issues such as the measure of criminal activity (e.g., police contacts, convictions), the length of the follow-up (particularly for persistent offenders), the number and type of crimes included in the analyses, the number of different components that were entered into the bottom-up calculations (e.g., criminal justice costs, victim costs), and jurisdictional differences in terms of how costs for each of the components are tabulated.

Second, all three studies involving criminal offenders identified a small group of high-rate offenders who, although comprising a small proportion of the sample, were responsible for a disproportionate amount of both the crimes committed and costs incurred. For example, the two chronic groups identified in the Allard et al. (2014) study made up only 4.8% of the sample, but accounted for 41.1% of the total costs. Similarly, Piquero et al. (2013) found that the average cost of the high-rate chronic group, which had only 8 members, was more than double the average cost of the high adolescence-peaked group, which had 21 members. In light of the finding reported earlier about the impact of the Fast Track early intervention program on the highest risk children, such programs have the potential to save a considerable amount of money. The accumulating evidence is clear in pointing to the high costs incurred by the small group of persistent offenders, and these types of studies are useful for policy makers to consider the most effective and cost-beneficial responses to crime. However, there is a need for such a study of offenders in Canada to inform domestic policies and practices.

1.3 The Present Study

The objective of the present study was to estimate the monetary cost of the crimes committed by a sample of 386 high-risk male offenders in Ontario, based on trajectory groups. The cost estimates generated in this report provide a valuable comparison with the monetary costs associated with crimes by the offence trajectories generated for samples in other countries, including the second Philadelphia Birth Cohort in the U.S. (Cohen et al., 2010a, 2010b), the CSDD in the U.K. (Piquero et al., 2011), and for an Australian sample of offenders (Allard et al., 2014). Calculating the costs of crime in Canada is important from a policy perspective, both for understanding the monetary impact of crime on society and, more importantly, for estimating the cost-savings of crime prevention strategies. Decisions about the allocation of resources to support criminal justice programs and policies should be informed by the best available data. For example, drawing on the example by Raffan-Gower and Farrington (in press), if two programs were being considered, one designed to reduce car thefts by 25% and one designed to reduce break and enters by 15%, but only one can be funded, which should the government choose to fund? Decisions about the potential savings to be gained, relative to a program's costs, are informed by research on the monetary cost for specific types of crimes. Moreover, knowledge of the differential costs imposed by different subgroups of offenders, such as based on trajectory analysis, also may be factored into policy decisions. As McIntosh and Li (2012) stated, "In order to arrive at a balanced, impartial, and equitable decision, [decision-makers] must identify policies and practices that are not only outcome effective but also economically efficient" (p. 4).

Lastly, because our offence data are longitudinal, we were able to track the pattern of monetary costs by age, as the offenders developed across adolescence and into adulthood. This is significant in that it allowed us to assess whether the costs of crime mirror the well-known age-crime curve, whereby involvement in criminal activity rises sharply to around age 15 to 17 years, followed by a steady decline into adulthood. Examining the costs of crime from a longitudinal perspective is useful to potentially highlight the age periods that could be targeted for early intervention efforts in order to reduce the costs of offending in Canada.

The main research questions addressed by this report were:

1. What are the monetary costs of crime imposed on society by a sample of offenders in Ontario for a 15-year follow-up period?
2. What are the costs imposed by offenders across seven trajectory groups derived for this sample, as reported in Day et al. (2012)?
3. How do the costs differ for offences committed in adolescence versus adulthood?
4. What are the costs associated with provincial sentences versus federal sentences?

2.0 Method

2.1 Overview

2.11 Sample Characteristics

The sample used in this study comprised 386 male offenders in Ontario whose offence trajectories were followed for an average of 16.4 years (range: 9.8 to 28.7 years). These 386 offenders represent a 50% randomly selected sample of the population of juvenile offenders who had been sentenced between January 1986 and December 1997 to one of two open custody facilities in Toronto. These facilities, operated by a children's mental health centre, were intended for youth aged 16 to 17 years. Therefore, our results are specific to a particular sample. Moreover, the study sample may be higher risk than one generated by randomly selecting a sample from the general offender population. For example, the offenders had all been sentenced to a custodial facility (i.e., open custody) in their late teens, and so had already penetrated the juvenile justice system more deeply than, for example, a youth who had committed a low severity offence (e.g., shoplifting) at the age of 15 and never offended again. Second, the open custody facility from which the sample came was operated by a children's mental health centre, with a greater availability of services and access to mental health specialists. As a result, youth sentenced to this facility may have been considered to be more "at-risk," with more mental health problems and criminogenic needs than the general population of juvenile offenders. This conclusion may be tempered, however, by the fact that there was variability in the frequency of offending within the sample. For example, our sample included offenders who committed only one or a few offences in their criminal careers (9.3% had three or less convictions to age 26). Therefore, although they may have been higher risk, they were not all high-rate offenders.

The study sample was, on average, 17.7 years of age at the time of admission into the facility (range: 16 to 25 years) and the average sentence length was 122.6 days (median: 93 days). Youth could have been older than 17 years at the time of admission if they were under 18 at the time of committing their index offence, but 18 years or older at the time of sentencing. They were, on average, 15.6 years at the time of their first court contact (range: 9.6 to 19.4 years).¹ Their average age at the end of the follow-up was 32.0 years (range: 26.3 to 40.2 years). For the entire sample, records were accumulated across a 29-year period, from as early as June 29, 1978 to September 26, 2007, the end of the follow-up period. Further details about the sample, including the trajectory analysis, may be found in Day, Nielsen, Ward, Sun, Rosenthal, Duchesne, Bevc, and Rossman (2012), and Day, Nielsen, Ward, Rosenthal, Sun, Bevc, Duchesne, Rossman, and Samuels (2010).

¹ Offences committed under the age of 12 years occurred under the *Juvenile Delinquents Act* (JDA). The JDA was replaced in 1984 by the *Young Offenders Act* (YOA), which saw an increase in the minimum age of criminal responsibility from 7 to 12 years, where it remains, under the *Youth Criminal Justice Act* (YCJA).

2.12 Offence Data

Official criminal records for juvenile and adult offences were obtained from four sources:

- The (Ontario) Ministry of Community and Social Services (MCSS);
- The (Ontario) Ministry of Community Safety and Correctional Services (MCSCS);
- The Canadian Police Information Centre (CPIC); and
- Predisposition Reports (PDR) from the client files maintained by the children’s mental health centre that operated the open custody facilities.

These four data sources were used to ensure a high degree of completeness and accuracy for the sequenced, longitudinal conviction data which is essential for research that requires an accurate temporal sequencing of criminal convictions (Smith, Smith, & Norma, 1984). Official records were appropriate for our purposes because they provided the requisite precision with regard to the timing and sequence of offending, as well as offenders’ movement data into and out of custodial settings.

From these sources, counts by age of all their *unique court contacts arising from a new set of charges* were recorded to September 26, 2007, the end of the follow-up period. During the follow-up period, the sample accumulated a total of 4,657 unique court contacts arising from a new set of charges, for an average of 12.1 new court contacts for each offender. Unique court contacts included those that resulted in a conviction and disposition (e.g., secure or open custody, fine, etc.), including a suspended sentence; those that resulted in a finding of guilt but not a conviction (e.g., absolute or conditional discharge); and those that resulted in either a withdrawal of charges, stay of proceedings, or determination that the person was unfit to stand trial (e.g., due to cognitive competence). These latter types of court contacts, which involved neither a finding of guilt nor a conviction, only accounted for 6.5% of the total number of court contacts. Lastly, for 8.0% of the court contacts, the final status in the official records was “remand,” and as such, no specific outcomes were available. For the present study, only offences that resulted in a conviction or finding of guilt was included in generating victim cost estimates.

For each court contact, the offender may have been convicted of a number of offences, including property, violent, drug, sex, and breach, and, perhaps even multiple counts of these different offences. All these offences and counts were considered in calculating the costs associated with their criminal activity. Given that the offender could have been charged with multiple offences at each court contact, the number of offences incurred by the sample exceeded the number of court contacts, for a total of 7,257 offences.

2.13 Age

Because all of the study participants were followed up to age 26, this age was used as the upper cut-off for counting criminal convictions for the entire sample. Therefore, for all results, we present costs incurred between the ages of 12 and 26 years (inclusive). In the main text of this report, we break down this 15-year period into two age intervals: 12 to 17 years (youth), and 18 to 26 years (adult). The follow-up period was

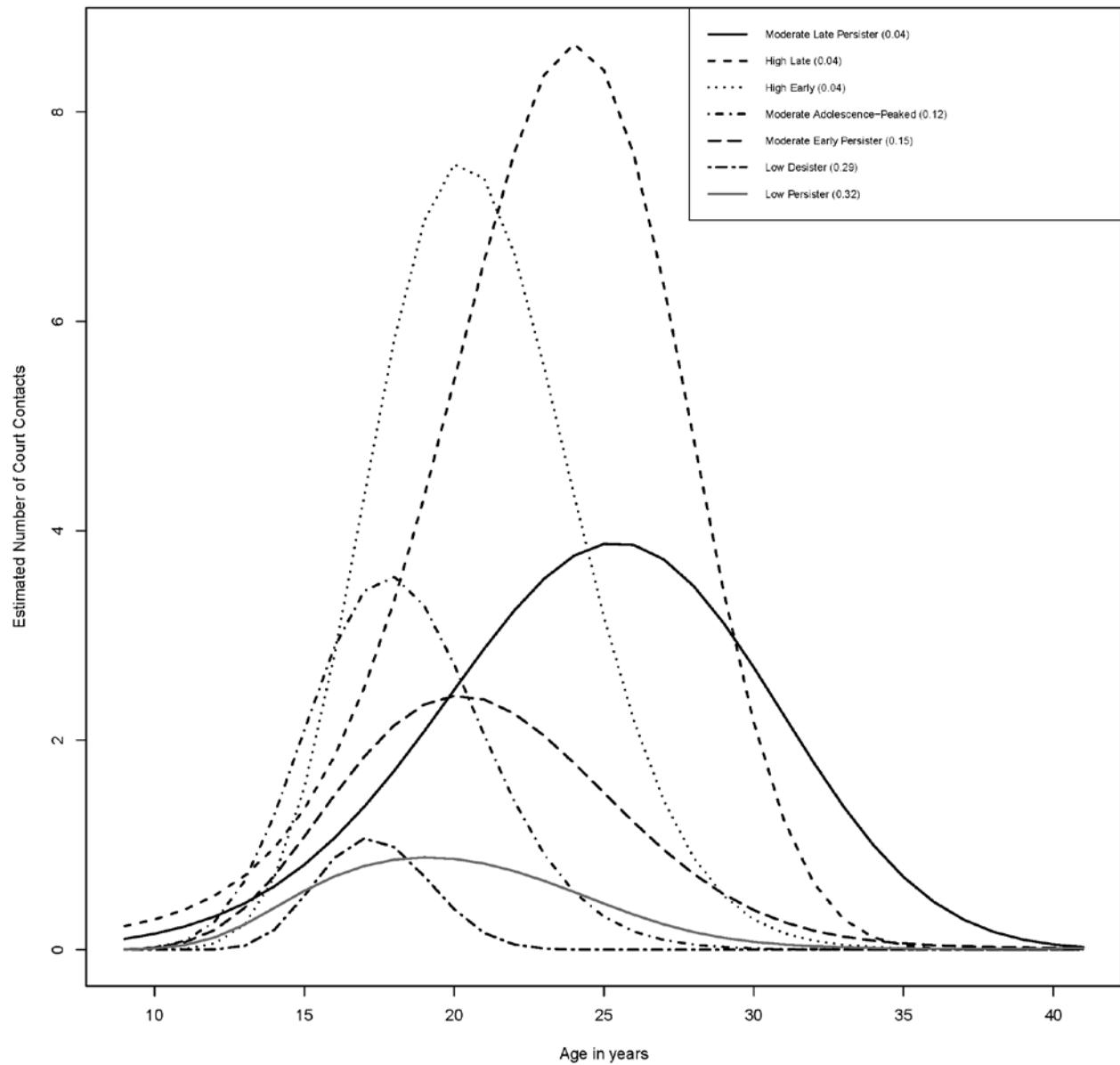
further broken into five three-year intervals, 12 to 14 years, 15 to 17 years, 18 to 20 years, 21 to 23 years, 24 to 26 years, which permitted a more nuanced look at the timing of expenditures. These results are presented as Appendices to this report.

2.14 Trajectory Analysis

Consistent with previous studies, offence costs were also examined in relation to the seven trajectories identified by Day et al. (2012) (see **Figure 1**). As reported in the Day et al., article, prior to conducting the trajectory analysis, the criminal count data were adjusted for two factors: 1) time-at-risk, which takes into account the time spent not incarcerated, and so at risk to offend (Eggleston, Laub, & Sampson, 2004); and 2) an estimated age of the offender at the time of offence rather than at court contact, as only the latter was available from the official criminal record (see e.g., Farrington, Coid, Harnett, Jolliffe, Soteriou, Turner, & West, 2006). Additional details on these adjustments may be found in Day, Bevc, Duchesne, Rosenthal, Rossman, and Theodor (2007), while technical information about the trajectory analysis may be found in Nielsen, Rosenthal, Sun, Day, Bevc, and Duchesne (in press).

The following heuristic labels were applied to the seven trajectory groups, based on the rate and shape of their offence trajectories. The *moderate late persister* group was the least prevalent trajectory (3.6%) and had the longest average trajectory length ($M = 16.6$ years) and the latest peak age of offending of all the trajectory groups. The *high late* group had the highest average rate of court contacts and a peak age of offending in their mid-20s. Moreover, this group comprised only 3.9% of the sample but accounted for 15.8% of the total number of court contacts incurred by the sample. The *high early* group (4.4%) had the second highest rate of offending and a peak age of offending in their early 20s. The fourth trajectory, labeled the *moderate adolescence-peaked* group (11.7%), showed a peak age of offending in early adolescence and an average trajectory length of 10.2 years. The *moderate early persister* group (14.2%) had the second longest average trajectory length, up to age 30.1 years ($M = 14.8$ years), and a peak age of offending in their early 20s, earlier than the moderate late persister group. The *low desister* group, comprising 29.8% of the sample, had the shortest average trajectory length ($M = 3.1$ years) and the fewest average number of court contacts, accounting for only 7.4% of the total court contacts incurred by the sample. Lastly, the *low persister* group comprised 32.4% of the sample and had an average trajectory length of 11.1 years, to age 27 years, on average.

Figure 1: Estimated Criminal Trajectories for Seven-Group Model



2.2 Calculating Costs

In general terms, we used conviction and disposition-based correctional data to generate cost of crime estimates for study participants. For the current report, the estimated costs associated with these offences included both tangible costs (i.e., those associated with law enforcement, the youth and adult criminal justice systems, and loss of victims' productivity and wages) and intangible costs (i.e., those associated with loss of life and trauma, pain, and suffering of victims). We calculated the total cost of crime for each participant by adding together the following components: victim costs (based on offence/conviction data), correctional costs (based on disposition data), other criminal justice system costs (based on Canadian estimates of criminal justice system expenditures, relative to correctional costs), and the costs of undetected crime (based on previous empirical research).

2.21 Offence-Based Victim Costs

First, we determined the number of convictions for each person. As noted earlier, the sample of participants had a total of 7,257 offences across 4,657 unique court contacts. These offences spanned 313 discrete offence codes, which were subsequently collapsed into 29 categories for this report. Categories were developed in reference to per-crime estimates available in the published literature. Where such estimates were available, we grouped offence codes into conceptually equivalent categories for analysis. For other categories, we further subdivided offence categories in order to better fit monetary estimates with actual conviction data, based on the 313 offence codes available to us. For example, the costs associated with the offence of "theft" was further subdivided into "minor theft" and "serious theft." There was variation across published studies in how offence categories were tabulated, and therefore, part of the early work of this study involved a content analysis of what types of criminal activities were included (and not included) in each estimate. **Appendix A** shows the mapping of these codes into the 29 offence categories used in this study, and the frequency (count) at which each offence occurred in the sample.

Next, to determine crime-specific victim cost estimates, we drew from four published studies to generate average cost-per-crime estimates for these offence categories: Cohen and Piquero (2009); Dubourg, Hamed, and Thorns (2005), McCollister, French, and Fang (2010); and Roman (2011). The cost of an offence was calculated by taking the average of all available estimates within each category. For example, the estimate for homicide was based on figures from all four studies, whereas the estimate for armed robbery was based only on one study (Cohen and Piquero, 2009). To arrive at final estimates for each category, criminal justice system costs were first subtracted from each study estimate. These figures were then converted into Canadian currency for the base year(s) cited in each of the studies. We used the midpoint of the year, July 1st, as the date to compare exchange rates using the calculator provided at <http://www.oanda.com/currency/converter/>. Lastly, these dollar figures were converted to 2013 dollars using the inflation adjustment calculator provided by the Bank of Canada at <http://www.bankofcanada.ca/rates/related/inflation-calculator>. **Appendix B** provides additional information about the methodology and costing components used to generate these estimates, and the calculations for the currency conversions and inflation adjustments are shown in **Appendix C**.

Table 1 lists these estimates by offence type. The estimates include direct and indirect victim losses: death or risk of death; property loss and damage; medical treatment; psychological harm; quality of life; pain and suffering; and victim and offender productivity (i.e., work, school, household). They do *not* include pre- and post-adjudication criminal justice system costs. When applicable, and to ensure comparability of the data, we used mean and not median monetary estimates of victim costs (e.g., Roman, 2011). In the final analysis, offence-specific costs were generated for 24 of the 29 offence categories (the remaining five categories were assumed to be victimless crimes, or in practical terms, have victim costs close to, or equal to zero). Offence categories were further grouped into broad categories (property, violence, other) for analysis (**Table 1**).

Lastly, to calculate the victim costs that each offender in the sample incurred, we multiplied the frequency of convictions for each offender for each of the criminal offence categories by the monetary cost of crime estimates in Table 1. For example, an average petty theft might be estimated to cost society around \$2,000 per incident. Therefore, a person with five theft convictions would accrue \$10,000 in costs for this offence category.

Table 1: Per Crime Victim Cost Estimates Used in this Study

Offence Category	Type	Per Crime Cost 2013 CAD	Source(s)				
			A	B	C	D	E
Homicide	V	\$5,962,641	X	X	X	X	
Armed robbery	V	\$182,180			X		
Rape/sexual assault	V	\$180,649	X	X	X	X	
Aggravated assault	V	\$149,904	X	X	X	X	
Serious assault	V	\$102,320					X
Robbery	V	\$94,698	X	X	X	X	
Abduction/Kidnapping	V	\$91,137					X
Intimidation	V	\$81,921				X	
Common assault	V	\$54,737	X		X	X	
Weapons (use)	V	\$54,737					X
Arson	P	\$47,468		X	X	X	
Motor vehicle theft	P	\$14,183	X	X	X	X	
Counterfeiting/forgery	P	\$11,623				X	
Burglary/B+E	P	\$8,934	X	X	X	X	
Serious theft	P	\$8,008					X
Serious mischief	P	\$5,000					X
Extortion	P	\$4,954				X	
Fraud	P	\$3,718		X	X	X	
Stolen property	P	\$3,441		X		X	
Minor theft	P	\$1,834	X	X	X	X	
Vandalism/Mischief	P	\$1,209	X	X	X	X	
Weapons (possession)	O	\$1,000					X
Drug dealing	O	\$1,000					X
Other offences	O	\$1,000					X
Impaired driving	O	low victim costs					
Motor vehicle	O	low victim costs					
Prostitution/Morals	O	low victim costs					
Drug possession	O	low victim costs					
Administration of Justice	O	low victim costs					

Sources: A=Dubourg et al. (2005); B=McCollister et al. (2010); C=Cohen & Piquero (2009); D=Roman (2011); E=Estimated. Crime type: V=violence, P=property, O=other.

2.22 Disposition-Based Correctional Costs

A strength of this study is that we were able to generate highly accurate estimates of correctional costs for study participants. We capitalized on detailed provincial and federal datasets from MCSCS and CPIC to document the number of non-overlapping days served for each of eight categories of dispositions. These figures were multiplied by per-diem incarceration cost estimates based on Canadian published reports, and figures obtained directly from MCSCS and MCYS. To the extent that they were not publicly available or published in the grey literature, the project researchers worked collaboratively with the Interdepartmental Working Group on Costing and Justice (IWGCJ) and other governmental officials to obtain per-diem correctional cost estimates. As it was not known what level of prison security (i.e., minimum, medium, maximum) and/or programming had been offered or received by incarcerated, only gross estimates were applied (i.e., there was one per-diem factor applied to each of the youth open, youth closed, adult provincial and adult federal custodial categories). These per-diem cost estimates and the sources are shown in **Table 2**.

To enumerate the number of days served for each of the eight disposition types, we capitalized on a “timeline” dataset developed for this project that tracked each participant’s movement within the criminal justice system. These data were focused at the provincial and federal disposition level, and as such, did *not* include police or court-level information. As these data were event-based, there were multiple records for each individual representing transitions between disposition types (e.g., from incarceration to probation). We started with 17,247 records, of which 3,214 represented days spent in the community without supervision by a probation or parole officer. The remaining 14,033 records were coded into the following eight mutually exclusive categories: 1) youth open custody; 2) youth secure custody; 3) youth probation; 4) adult provincial incarceration; 5) adult provincial probation and parole; 6) adult federal incarceration (based on sentences > 2 years); 7) adult federal supervision in the community (i.e., following federal incarceration); and 8) conditional sentences. Days were allocated to these categories if they resulted from a finding of guilt. However we also included provincial remand/pretrial adult and youth custodial days because they represent tangible costs to the criminal justice system.

For each person, we calculated the number of days served at each age (i.e., from 12 to 26 years) for each of the eight disposition types. These figures were then multiplied by per-diem incarceration cost estimates shown in **Table 2**. We relied on both published and non-published figures when calculating per-diem estimates for the present study. In cases where there were multiple estimates for a disposition category, we calculated an average based on available numbers and standardized these to 2013 Canadian dollars (CAD), taking into account inflation (see Calculation Notes in **Table 2**). For youth open and secure custody estimates, we combined per-diems based on bed capacity and those based on actual utilization² to arrive at an averaged figure. It would have been preferable to multiply historical per-diem values to days served (in the original timeframes they were served), and then adjust these values for inflation. However, these data were not available. Accordingly, we used more recent per-diem estimates to calculate costs as they would be accrued today, given existing criminal justice system resources and infrastructure.

² For example, if the annual cost of running a 10-bed program is \$100,000, the bed capacity estimate would be \$10,000 (\$100,000/10) annually. However, if only five offenders ended up using the program per year, the “actual utilization” estimate would be \$20,000 (\$100,000/5).

Table 2: Per-Diem Correctional Cost Estimates Used in this Study

Category	Estimate 2013 CAD	Source	Calculation Notes
Youth open custody	\$526.03	C, E	Calculated as the average of \$279.55 (average per diem for five fiscal years between 2006/07 to 2010/11 in 2013 dollars, bed capacity estimate, Source E) and \$772.50 (2011 estimate in 2013 dollars, actual utilization estimate, source C).
Youth closed custody	\$751.50	C, E	Calculated as the average of \$488.55 (average per diem for five fiscal years between 2006/07 to 2010/11 in 2013 dollars, bed capacity estimate, Source E) and \$1014.55 (2011 estimate in 2013 dollars, actual utilization estimate, source C).
Youth probation	\$15.43	E	Calculated as the average for the preceding three fiscal years, adjusted for inflation: \$13.49 (2010/11), \$14.93 (2011/12), \$17.43 (2012/13)
Adult provincial incarceration	\$179.16	A, D	Average of MCSCS (\$184.44) and Zhang (\$173.88) figures in 2013 dollars.
Adult provincial probation/parole	\$5.56	A	As reported for 2012/13.
Adult federal incarceration	\$328.10	B, D	Average of PSC (\$304.22) and Zhang (\$309.00) adjusted for inflation.
Adult federal community supervision	\$87.66	B, D	Average of PSC (\$85.28) and Zhang (\$81.00) adjusted for inflation.
Conditional sentences	\$25.92	D	Originally reported as \$24 per day in 2009 dollars.

Sources: A: Correctional Services Division, Ministry of Community Safety and Correctional Services (2014; email correspondence). B: Public Safety Canada (December 2012). 2012 *Annual Report: Corrections and Conditional Release Statistical Overview*; C: MCYS via the Auditor. D: Zhang (2013). *The Justice System Costs of Administration of Justice Offences in Canada, 2009*. Department of Justice Canada; E: Ministry of Child and Youth Services (2014; email correspondence).

2.23 Other Criminal Justice System Costs

Disposition-based correctional costs represent only one component of the costs accrued in the investigation and prosecution of criminal offences. Other costs include police costs (e.g., pre- and post- investigation, charging and conviction), court costs (e.g., judges, clerks, court services), prosecution costs (e.g., court prosecutor and investigations), and legal aid costs. Unfortunately, there are no published, averaged estimates for these costs in Canada or elsewhere, broken down by offence category. Therefore, we developed estimates of these costs based on published reports of governmental criminal justice spending. This approach is consistent with Koegl (2011, pp. 159-168), who used provincial global expenditures to calculate other criminal justice system costs.

Based on annualized spending between 1994 and 1998, as reported by Taylor-Butts (2002), Koegl (2011) calculated that corrections-related costs constituted 24.8% of criminal justice spending, and on average, police, courts, and legal aid and prosecutions accounted for the remaining 75.2% of annualized budgets. This means that other criminal justice system costs were approximately three times larger ($75.2 / 24.8 = 3.03$) than correctional costs. As well, Zhang (2011, p. 7) reported that in Canada, corrections constituted 32.2% of total criminal justice spending in 2008, which means that other criminal justice system expenditures are more than double that ($67.8 / 32.2 = 2.11$). More recent figures reported by the Parliamentary Budget Office (Story & Yalkin, 2013, p. 18) revealed that 23% of criminal justice system expenditures in 2012 were allocated to corrections, which means that other criminal justice system costs constituted more than three quarters of the total costs ($77 / 23 = 3.35$). For this study, we chose the “middle ground” scaling up factor of 3.03 to calculate other criminal justice system costs. For ease of computation and interpretation, this figure was rounded down to an even value of 3.00.

2.24 Undetected Crime Costs

Because only a fraction of criminal offences ever comes to the attention of legal authorities, it is important to apply multipliers to criminal convictions to include undetected crime. Putting aside the fact that some offenders are never caught for their crimes, Frank and Carrington (2007) suggest that upwards of 90% of criminal incidents by offenders are not captured in official reports of offending. Farrington, Auty, Coid, and Turner (2013) estimated that there are 25 offences for every conviction for persons convicted of at least one offence (as compared to their calculated ratio of 38:1 which includes both convicted and non-convicted individuals). For this reason, it is important to factor in some sort of estimate of the “dark figure of crime” (Frank & Carrington, 2007).

There is limited empirical research that calculates multipliers for crimes by comparing self-reported and official offending in samples of adolescents (i.e., Farrington et al., 2007; 2003). Farrington and Koegl (2014) reviewed these findings using multipliers reported by Cohen and Piquero (2009) for adults, and recalculated multipliers for 16 different offence categories. Other sources also provide multipliers (e.g., Dubourg & Hamed, 2005; Farrington, Auty, Coid, & Turner, 2013; Mayhew, 2003). However, these sources cover only a limited range of broadly-defined offence categories, and, for this reason, we relied on the more specific estimates provided by Farrington and Koegl (2014), as shown in **Table 3**.

Table 3: Multipliers Used to Calculate Undetected Crimes

Offence Type	Scaling Up	
	Factor	Source
Homicide	1.0	E
Armed robbery	11.6	C
Rape/sexual assault	7.9	C
Aggravated assault	7.9	C
Robbery	12.2	F1
Common assault	22.9	F1
Weapons (use)	7.9	C
Arson	7.9	C
Motor vehicle theft	4.6	F1
Burglary/break and enter	9.5	F1
Larceny/theft (serious theft)	15.0	F1
Fraud	15.0	F1
Stolen property	15.0	F1
Vandalism	24.6	F1
Drug offences (drug dealing)	100.2	F1
Minor theft	29.6	F2
Abduction/kidnapping	1.0	E
Serious assault	7.9	E
Intimidation	12.2	E
Weapons (possession)	7.9	E
Serious mischief	7.9	E
Extortion	12.2	E
Counterfeiting/forgery	15.0	E
Other	4.6	F1

Notes: Table based on Farrington, D.P. & Koegl (2014). *Monetary benefits and costs of the Stop Now And Plan Program for boys aged 6-11, based on the prevention of later offending*. Manuscript under review; C=Cohen & Piquero (2009); E=Estimated; F1= Farrington et al. (2003); F2=Farrington et al. (2013).

We estimated multipliers for some offence categories that did not have empirical estimates by substituting values for comparable offence categories: abduction/kidnapping was given the same value as homicide (1.0) because it was assumed that reporting for this crime would be near-perfect; serious assaults were given the same value as aggravated assault (7.9); intimidation and extortion were given the same value as robbery (12.2); serious mischief was given the same value as arson (7.9). We applied the empirical estimate for weapons offences (7.9) from Cohen and Piquero (2009) to both categories of weapons use and weapons possession. The estimate for larceny/theft (15.0) was applied to the serious theft category for this study. To be conservative, we used the smallest (29.6) of three multipliers from Farrington et al. (2013) to estimate undetected crimes for minor thefts: theft from vending machine (29.6), theft from vehicle (32.9), shoplifting (70.1). By definition, undetected crimes do not come to the attention of the criminal justice system. As such, these multipliers were only applied to the victim costs calculated for each individual based on conviction data.

2.3 Analytic Strategy and Data Presentation

Based on the monetary estimates derived for each individual in the sample, we calculated the aggregate cost of crime by summing these figures for all 386 study participants. As noted earlier, costs were calculated up to the end of age 26, because this was the upper age for which 100% of the study participants were followed up. For all analyses reported in the body of the text, we reported costs for two broad age ranges: adolescence (i.e., between the ages of 12 and 17 years) and adulthood (i.e., ages 18 to 26 years). We further broke the follow-up period into five age intervals, each spanning three years: 12 to 14 years, 15 to 17 years, 18 to 20 years, 21 to 23 years, and 24 to 26 years. This permitted a more nuanced analysis of how costs added up over time (reported as Appendices).

In addition to calculating aggregate costs, we also calculated average per-person costs by dividing cost estimates by the number of study participants. Annual, averaged per-person costs were also calculated by dividing per-person estimates by the number of relevant follow-up years. This latter calculation assumes that the costs are equally distributed over the number of years in the follow-up period. As will be seen, however, crime expenditures and costs do vary by age, and, accordingly, the reader should keep this in mind when interpreting these results.

In this report, we focus on showing the costs of crime by age and trajectory group (broken down by cost type: victim; correctional; other criminal justice system; undetected crime). Using correctional data, it was further possible to distinguish between costs to the federal justice system versus the provincial adult and provincial youth justice systems. Aggregate and average costs were also calculated for property, person and other offences. Lastly, we calculated the aggregate and average cost for specific groups of offenders (e.g., adolescent-only offenders versus adult-only offenders) to assist policy makers in developing strategies to respond to these discrete populations of offenders.

3.0 Results

3.1 Victim Costs by Age and Offence Type

Table 4 shows the total number of convictions for the sample by offence category, and their associated victim costs between the ages of 12 to 17 years and 18 to 26 years. These costs are broken down into five age intervals in **Appendix D**, whereas **Appendix E** shows these costs rank-ordered by the frequency of offence categories. Due to their high per-crime victim costs, crimes involving violence account for the largest proportion of costs for the sample of 386 participants (see **Figure 2**). Together, homicide, rape, serious assault, robbery and common assault account for nearly three quarters (72%) of the total costs of crime (\$182,602,699) between the ages of 12 and 26 years. Because the follow-up age intervals are different (6 years for the group aged 12 to 17 years, and 9 years for the group aged 18 to 26 years), we calculated the annualized average cost of crime per person, comparing the youth versus adult intervals. The average cost per person, per year, between the ages of 12 to 17 years was \$29,981, compared to \$33,242 between the ages of 18 and 26; (subtracting the six homicides in the 18 to 26 years interval had the effect of dropping the second average down to \$22,944). For the entire time period, from 12 to 26 years of age, the average victim costs per offender were \$473,063, approximately \$31,538 per offender, per year. Interestingly, the highest annualized per person costs of \$50,145, were accumulated between the ages of 15 and 17 (see **Appendix D**). So the peak at which victim costs are incurred (see **Figure 2**) corresponds to the peak of the well-established age-crime in offending, at around 17 years of age (Piquero, Farrington, & Blumstein, 2007).

Additionally, we created three categories of offences (violent, property, and other) to examine patterns in the cost of crime in relation to age, by the nature of the offence type. The sample of 386 offenders accumulated \$165,441,175 in victim costs (\$428,604 per person) for violent crimes, \$16,784,524 costs (\$43,483 per person) in property crimes, and \$377,000 (\$977 per person) for other crimes. Although convictions for violent offences only accounted for 19% of all convictions, the victim costs related to these account for 91% of the total. Conversely, property crimes are the most frequent type of crime being committed (44%), but incur only 9% of victim costs.

In further analyses by age and nature of offence, **Figure 2** shows that victim costs keep increasing up to age 17, at which point they decrease between the ages of 17 and 19 years, increase slightly (by about \$5 million) up to age 20, then continue to decrease to the end of the follow-up period. Further details and per person, per year breakdowns of these figures are available in **Appendix F**, where it is shown that, across the five age intervals, victim costs associated with property crime are proportionally highest in the mid-to-late adolescent period (ages 15 to 17 years). This is due to the high rate of property crimes committed in this age period relative to other types of offences (Dauvergne, 2013).

Table 4: Offence Frequency and Victim Costs by Offence Type and Age Category

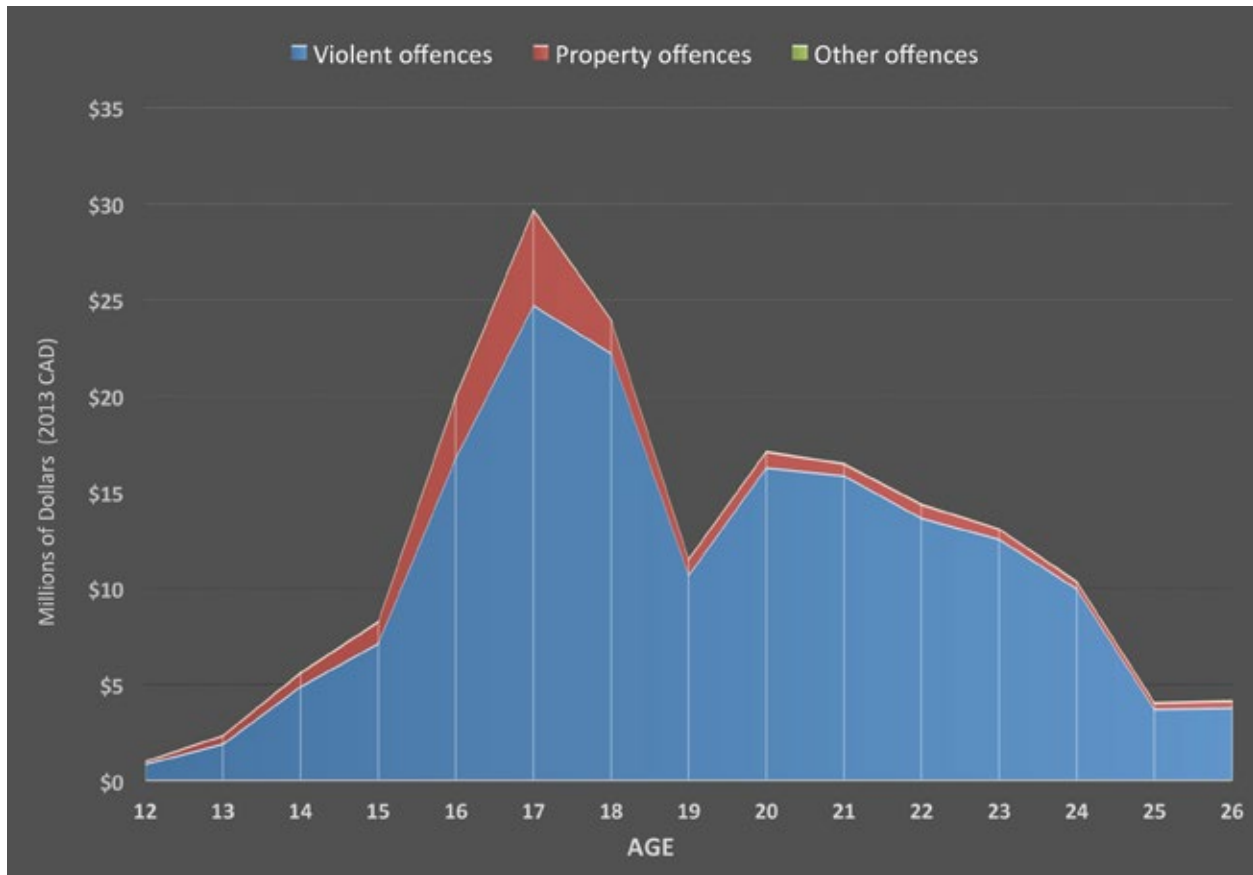
Offence Category / Age Grouping	Type	Ages 12-17		Ages 18-26		Total		
		Frequency	Cost	Frequency	Cost	Frequency	Cost	% Total
Homicide	V	0	\$0	6	\$35,775,847	6	\$35,775,846	19.6
Armed robbery	V	0	\$0	13	\$2,368,344	13	\$2,368,340	1.3
Rape/sexual assault	V	77	\$13,909,946	64	\$11,561,514	141	\$25,471,509	13.9
Aggravated assault	V	39	\$5,846,237	58	\$8,694,404	97	\$14,540,688	8.0
Serious assault	V	88	\$9,004,197	144	\$14,734,141	232	\$23,738,240	13.0
Robbery	V	136	\$12,878,893	133	\$12,594,800	269	\$25,473,762	14.0
Abduction/Kidnapping	V	6	\$546,824	13	\$1,184,786	19	\$1,731,603	0.9
Intimidation	V	54	\$4,423,755	117	\$9,584,802	171	\$14,008,491	7.7
Common assault	V	168	\$9,195,870	217	\$11,877,999	385	\$21,073,745	11.5
Weapons (use)	V	12	\$656,848	11	\$602,111	23	\$1,258,951	0.7
Arson	P	8	\$379,747	4	\$189,873	12	\$569,616	0.3
Motor vehicle theft	P	25	\$354,564	11	\$156,008	36	\$510,588	0.3
Counterfeiting/forgery	P	3	\$34,870	10	\$116,233	13	\$151,099	0.1
Burglary/break and enter	P	640	\$5,717,480	361	\$3,225,016	1,001	\$8,942,934	4.9
Serious theft	P	169	\$1,353,386	50	\$400,410	219	\$1,753,752	1.0
Serious mischief	P	29	\$145,000	56	\$280,000	85	\$425,000	0.2
Extortion	P	5	\$24,768	1	\$4,954	6	\$29,724	0.0
Fraud	P	47	\$174,732	77	\$286,264	124	\$461,032	0.3
Stolen property	P	371	\$1,276,440	262	\$901,421	633	\$2,178,153	1.2
Minor theft	P	454	\$832,560	308	\$564,821	762	\$1,397,508	0.8
Vandalism/Mischief	P	183	\$221,219	119	\$143,853	302	\$365,118	0.2
Weapons (possession)	O	79	\$79,000	103	\$103,000	182	\$182,000	0.1
Drug dealing	O	22	\$22,000	106	\$106,000	128	\$128,000	0.1

Table 4: Offence Frequency and Victim Costs by Offence Type and Age Category (continued)

Offence Category / Age Grouping	Type	Ages 12-17		Ages 18-26		Total		
		Frequency	Cost	Frequency	Cost	Frequency	Cost	% Total
Other offences	O	41	\$41,000	26	\$26,000	67	\$67,000	0.0
Impaired driving	O	1	\$0	36	\$0	37	\$0	0.0
Motor vehicle	O	58	\$0	93	\$0	151	\$0	0.0
Prostitution/Morals	O	9	\$0	13	\$0	22	\$0	0.0
Drug possession	O	42	\$0	151	\$0	193	\$0	0.0
Administration Justice	O	784	\$0	992	\$0	1,928	\$0	0.0
Total		3,550	\$67,119,338	3,555	\$115,482,601	7,257	\$182,602,699	100.0

Note: "Type" refers to crime type, where: V=Violent; P=Property; and O=Other.

Figure 2: Victim Costs Associated with Convictions by Age and Broad Offence Category



Note: The costs of “other offences” is quite small in relation to “violent” and “property” offences, and therefore, is not visible in this figure.

3.2 Disposition-Based Correctional Costs by Age

Table 5 shows the number of days served for each of the eight disposition types as youth, between the ages of 12 and 17, and as adults, aged 18 to 26 years. The total cost of dispositions for the sample of 386 offenders for the 15-year follow-up period was \$122,179,765, at \$10,441,501 per year during the adolescent years, and \$6,614,528 per year during the adult years. Further details and annualized per person estimates of correctional costs by disposition type are provided in **Appendix G**.

From **Table 5**, one can see that approximately \$85 million (70.1% of the total) was spent on youth open and secure custody alone. Most of the expenditures were made in the adolescent years, despite the fact that the follow-up interval was shorter (6 years versus 9 years). Youth secure custody costs, calculated over a 6-year period, were the highest of all correctional cost categories, and they constituted the largest proportion of spending over the entire follow-up period, due to the high per-diems and the large number of secure custody days served by study participants. In examining all disposition types, youth dispositions were more expensive than adult dispositions (see **Appendices G and H**).

Not surprisingly, incarceration was much more expensive than community supervision, and this was the case for both the adolescent years and the adult years (see **Appendix I**). Youth open and secure custody, as well as adult provincial and federal incarceration cost more than 18 times as much as community-based options such as probation, parole and conditional sentences (\$115,910,650 and \$6,269,115 respectively).

Table 5: Correctional Costs Accrued by Study Participants by Age and Disposition Type

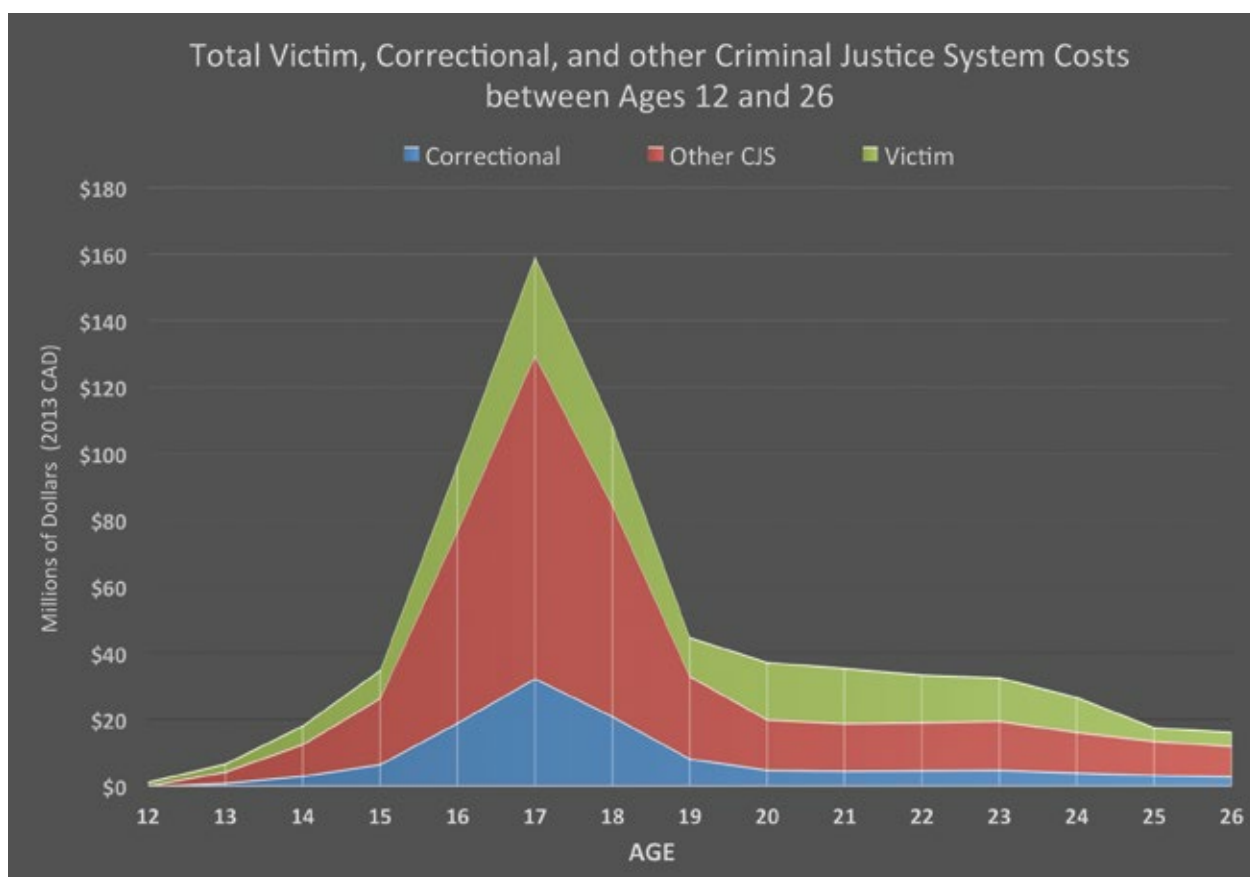
Category	Ages 12-17		Ages 18-26		Total Cost		% Tot
	Days	Cost	Days	Cost	Days	Cost	
Youth open custody (P)	40,859	\$21,493,060	23,875	\$12,558,966	64,734	\$34,052,026	27.9%
Youth secure custody (P)	51,549	\$38,739,074	17,061	\$12,821,342	68,610	\$51,560,416	42.2%
Youth probation (P)	156,077	\$2,408,268	102,645	\$1,583,812	258,722	\$3,992,080	3.3%
Adult custody (P)	46	\$8,241	112,931	\$20,232,718	112,977	\$20,240,959	16.6%
Adult custody (F)	0	\$0	30,653	\$10,057,249	30,653	\$10,057,249	8.2%
Adult probation (P)	66	\$367	229,646	\$1,276,832	229,712	\$1,277,199	1.0%
Conditional sentences (P)	0	\$0	7,876	\$204,146	7,876	\$204,146	0.2%
Community supervision (F)	0	\$0	9077	\$795,690	9,077	\$795,690	0.7%
Total	–	\$62,649,010	–	\$59,530,755	–	\$122,179,765	100.0%

Note: P=provincial, F=federal.

3.3 Other Criminal Justice System Costs

As noted earlier, we multiplied correctional cost estimates by a factor of 3.00 to estimate other criminal justice system expenditures such as police, courts, prosecution and legal aid spending. **Figure 3** shows these costs, with the addition of victim costs, in relation to age. For the entire sample, other criminal justice system costs were \$366,539,294 over the 15-year follow-up period, or an average of approximately \$949,584 per person (\$63,306 per person per year). Because these costs were calculated as a factor of correctional costs, they have a similar relationship to age (see **Figure 3**). As such, they were also highest between the ages of 15 and 17 years, totalling \$174,928,152 or \$453,182 per person (for three years), or \$151,061 per person per year (see **Appendix J** for details).

Figure 3: Total Victim, Correctional, and other Criminal Justice System Costs (N=386)



3.4 The Victim-Related Costs of Undetected Crime

Using the multipliers provided in **Table 3**, we estimated the frequency and victim costs of undetected crimes committed by sample participants between the ages of 12 and 26 years. **Table 6** shows the results of these calculations. Of the 24 offence categories that have victim costs assigned to them (see **Table 1**), common assault, robbery, serious assault, sexual assault, and intimidation constituted the largest proportion of undetected crime costs (78.3% combined). Between the ages of 12 and 26 years, the estimated victim costs of all undetected crime incurred by the 386 study males was nearly \$1.6 billion (\$1,588,830,864) in 2013 Canadian dollars, or approximately \$4,116,142 per person. Comparable analyses subdividing these costs by the five age intervals are shown in **Appendix K**.

Table 6: Victim Costs Associated with Undetected Crime by Offence Type and Age

Offence Category / Age Grouping	Age 12-17	Age 18-26	Total	% Total
Homicide	\$0	\$0	\$0	0.0%
Armed robbery	\$0	\$25,104,404	\$25,104,404	1.6%
Rape/sexual assault	\$95,978,814	\$79,774,598	\$175,753,412	11.1%
Aggravated assault	\$40,339,166	\$59,991,581	\$100,330,747	6.3%
Serious assault	\$62,128,704	\$101,665,152	\$163,793,856	10.3%
Robbery	\$144,243,994	\$141,062,141	\$285,306,135	18.0%
Abduction/ Kidnapping	\$0	\$0	\$0	0.0%
Intimidation	\$49,545,821	\$107,349,278	\$156,895,099	9.9%
Common assault	\$201,388,370	\$260,126,645	\$461,515,015	29.0%
Weapons (use)	\$4,532,224	\$4,154,538	\$8,686,762	0.5%
Arson	\$2,620,234	\$1,310,117	\$3,930,351	0.2%
Motor vehicle theft	\$1,276,470	\$561,647	\$1,838,117	0.1%
Counterfeiting/ forgery	\$488,166	\$1,627,220	\$2,115,386	0.1%
Burglary/B+E	\$48,600,960	\$27,413,979	\$76,014,939	4.8%
Serious theft	\$18,946,928	\$5,605,600	\$24,552,528	1.5%
Serious mischief	\$1,000,500	\$1,932,000	\$2,932,500	0.2%
Extortion	\$277,424	\$55,485	\$332,909	0.0%
Fraud	\$2,446,444	\$4,008,004	\$6,454,448	0.4%
Stolen property	\$17,872,554	\$12,621,588	\$30,494,142	1.9%
Minor theft	\$23,813,390	\$16,155,339	\$39,968,729	2.5%
Vandalism/ Mischief	\$5,221,429	\$3,395,356	\$8,616,785	0.5%
Weapons (possession)	\$545,100	\$710,700	\$1,255,800	0.1%
Drug dealing	\$2,182,400	\$10,515,200	\$12,697,600	0.8%
Other offences	\$147,600	\$93,600	\$241,200	0.0%
Total	\$723,596,692	\$865,234,172	\$1,588,830,864	100.0%

3.5 The Costs of Offending by Trajectory Group

Using trajectory analysis, offenders in the sample were assigned to seven discrete groups based on their longitudinal rate of offending (see **Figure 1**). For additional comparison purposes, we examined their cost of crime estimates by age. **Tables 7 and 8** summarize the findings for the seven trajectory groups, adding together all costs accrued between the ages of 12 and 26 years. Detailed analyses for each trajectory group can be found in **Appendix L**. **Table 7** shows the aggregate numbers and number of individuals in each trajectory (T) group. As one example, the *low desister (T6)* group amassed approximately \$408 million in total costs. The *moderate early persister (T5)* group produced a comparable number: \$445 million. However, there were twice as many individuals in the T6 group contributing to the total cost figure, as compared to the T5 group. **Table 8** takes the number of individuals in each group into account and shows calculated per-person averages for the seven trajectory groups which, for ease of discussion, could be classified into two low-rate groups (T6 and T7), three moderate-rate groups (T4, T1 and T5), and two high-rate groups (T3 and T2).

Looking at the average cost per person, individuals in the low-rate groups cost between \$3.5 and \$3.8 million each; moderate-rate individuals cost between \$7.9 and \$8.1 million each; and individuals in the high-rate groups cost between \$12.4 and \$17.0 million each. The average frequency of convictions follows the same pattern for low-, moderate-, and high-rate groups: 6.5 to 8.5, 18.1 to 19.7, and 27.1 to 28.5, respectively. It is worth noting that although high-rate offenders only constituted 8.3% of the sample, they contributed 20.6% of the costs. Moderate-rate offenders also had disproportionate costs, but this did not hold true for the low-rate offenders.

Figure 4 presents these results in graphical form for the collapsed trajectory groups. These results show the differential monetary impact of subgroups of offenders based on their longitudinal rate of offending. Across the three groups, the costs incurred rose sharply to age 17 then generally fell off into adulthood. The degree of separation of the lines suggests that low rate offenders can be most clearly differentiated from the moderate- and high-rate groups. These results reinforce the notion that early intervention programs for children and youth with multiple risk factors have the potential to yield considerable savings over the long-term. As well, although for high rate offenders the average cost per person follows the same pattern over time as moderate- and low-rate offenders, between the ages of 20 and 24 years, the costs rise to levels between \$400,000 and \$500,000 per person (solid line). This increase was attributable to five homicides committed by high rate offenders between the ages of 20 and 24 (one homicide was registered each year by five separate individuals). Removing these expensive crimes from the calculations had the effect of lowering the average costs per person to amounts between \$200,000 and \$300,000 over the same time interval (dotted line). Nonetheless, the costs remained higher than for the moderate- and low-rate offence trajectory groups.

Lastly, with regard to the trajectory group analysis, there was one important consideration that may have impacted estimates of the costs of offending, particularly with regard to how undetected crime costs were calculated. At first glance, it may be argued that the multipliers for undetected crime are too high because offences that do not result in investigations and charges being laid are arguably less serious than those that result in a formal conviction in criminal court. Although we applied the multipliers (in **Table 3**) universally across all sample participants, it could be argued that, taking into account the results

of the trajectory group analysis, some groups by definition engage in less criminal activity (e.g., low-rate offenders) relative to other groups (i.e., moderate- and high-rate offenders), and accordingly, some “discounting” of multipliers might be warranted.

To explore this possibility, we conducted an additional analysis, whereby we discounted victim cost values for undetected offences listed in **Table 1** by 25%. Therefore, whereas a common assault resulting in a conviction would cost \$54,737, the victim cost associated with an equivalent, undetected assault would be valued at \$41,053. Second, we discounted the multipliers based on trajectory group membership. Undetected offences for high-rate offenders (T2 and T3) remained the same, as they were calculated using the original multipliers in **Table 3**. However, undetected offences were calculated at 75% of these values for moderate-rate offenders (T1, T4, and T5), and 50% of the original values for low-rate offenders (T6, T7).

Applying these discounts had the overall effect of halving the estimate for victim costs related to undetected crime from \$1.6 billion to approximately \$800 million (\$801,326,964) or \$2,075,977 per person (\$138,398 per person annually). Despite this decrease, the estimated total cost of crime (victim, correctional, other criminal justice system and undetected crime) was still considerable, at nearly \$1.5 billion for all offenders or \$3,815,152 per person (\$254,343 per person annually). **Appendix M** shows the result of applying these discounting factors to the calculation of undetected crimes.

Table 7: Aggregate Cost of Crime by Trajectory Group and Cost Category

Category	Victim	Correctional	Other CJS	Undetected Crime	Total
T6: Low Desister (N=115)	34,958,914	21,496,691	64,490,072	286,861,990	407,807,667
T7: Low Persister (N=125)	31,071,800	26,292,467	78,877,402	337,898,729	474,140,398
T4: Moderate Adolescence Peaked (N=45)	21,944,939	23,157,096	69,471,287	241,726,298	356,299,619
T1: Moderate Late Persister (N=14)	7,226,804	5,812,295	17,436,884	81,695,829	112,171,812
T5: Moderate Early Persister (N=55)	30,643,902	20,889,597	62,668,792	330,507,028	444,709,320
T3: High Early (N=17)	24,256,633	10,102,013	30,306,038	146,040,059	210,704,742
T2: High Late (N=15)	32,499,707	14,429,606	43,288,819	164,100,930	254,319,062
Total All Offenders (N=386)	182,602,699	122,179,765	366,539,294	1,588,830,863	2,260,152,620

Table 8: Average Convictions and Costs by Trajectory Group

Category	People		Convictions			Costs		
	Sum	% Total	Sum	Average Per Person	% Total	Sum	Average Per Person	% Total
T6: Low Desister	115	29.8%	787	6.84	16.0%	407,807,667	3,546,154	18.0%
T7: Low Persister	125	32.4%	1061	8.49	21.5%	474,140,398	3,793,123	21.0%
T4: Moderate Adolescence Peaked	45	11.7%	857	19.04	17.4%	356,299,619	7,917,769	15.8%
T1: Moderate Late Persister	14	3.6%	253	18.07	5.1%	112,171,812	8,012,272	5.0%
T5: Moderate Early Persister	55	14.2%	1081	19.65	21.9%	444,709,320	8,085,624	19.7%
T3: High Early	17	4.4%	460	27.06	9.3%	210,704,742	12,394,397	9.3%
T2: High Late	15	3.9%	427	28.47	8.7%	254,319,062	16,954,604	11.3%
Total All Offenders	386	100.0%	4,296	12.76	100.0%	2,260,152,620	5,855,318	100.0%

Figure 4: Average Total Victim, Correctional, and other Criminal Justice System Costs by Trajectory Group (N=386)



3.6 The Cumulative Costs of Crime

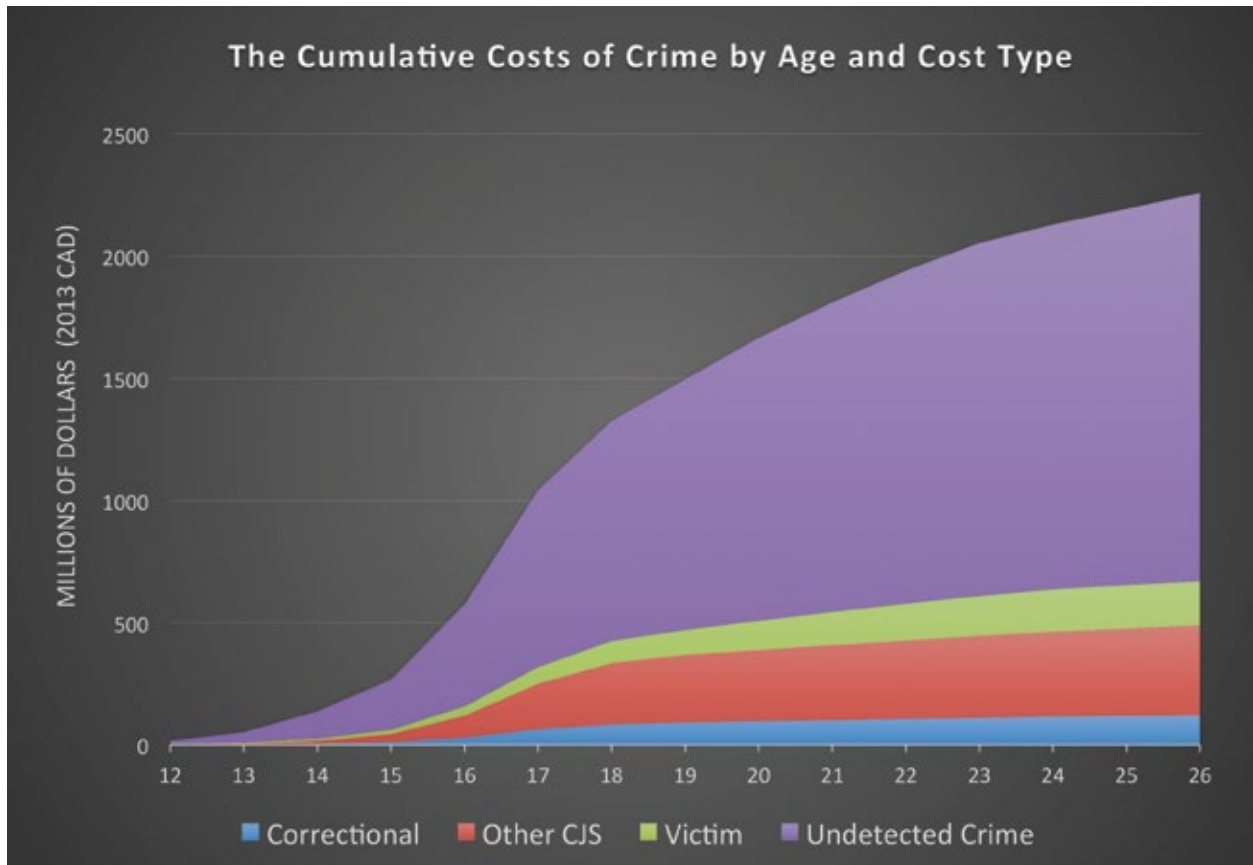
Adding up the individual cost components yields a staggeringly large number representing the monetary costs of criminal behaviour for the 386 individuals in this study. In this section, we combine victim, correctional, other criminal justice system and (undiscounted) undetected crime costs to arrive at a total estimate of the cost of offending for the 15-year follow-up period. These numbers are shown in **Table 9** for offending that occurred in the adolescent and adult years (see **Appendix N** for a breakdown of these costs using the five age interval categories). **Figure 5** shows how these costs accumulate in one-year intervals between the ages of 12 and 26 years.

Table 9: The Total Costs of Crime by Type and Age Interval

Category	Age Interval		Total
	12-17	18-26	
Victim Costs	\$67,119,843	\$115,482,856	\$182,602,699
Correctional	\$62,649,010	\$59,530,755	\$122,179,765
Other CJS	\$187,947,029	\$178,592,265	\$366,539,294
Undetected crime (victim)	\$723,596,691	\$865,234,172	\$1,588,830,863
Total	\$1,041,312,573	\$1,218,840,048	\$2,260,152,621

Adding all the estimates together, we found that this sample of offenders amassed more than \$2.26 billion in costs associated with crime over the 15-year period. This translates into \$5,855,317 per offender or \$390,355 per offender, per year. Even if only considering costs (victim harm, correctional, and other CJS costs) associated with actual convictions and not undetected crime, the average was still quite high at \$1,739,176 per person, or \$115,945 per person annually. The most costly three-year interval was between the ages of 15 and 17, during which time the sample of 386 offenders cost society roughly \$900 million, or 40.0% of the total costs for the entire follow-up period.

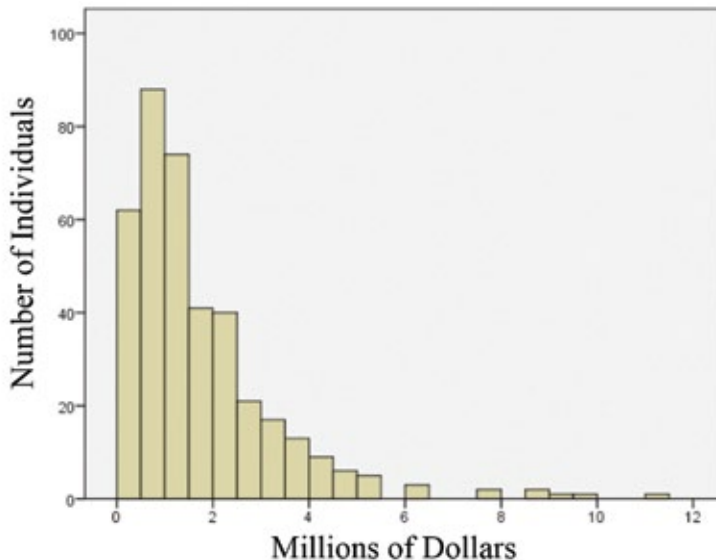
Figure 5: Total Cumulative Costs of Crime by Cost Type and Age (N=386)



3.7 Serious and Frequent Offender Costs

Figure 6 shows the distribution of costs for the 386 individuals in the sample. Based on the entire sample, the mean and median total costs were \$1,739,176 and \$1,249,512, respectively. The values for the lower and upper 25% of the sample were \$648,638 and \$2,318,271, respectively. We did not include costs associated with undetected crime for these analyses because it would be misleading to apply multipliers to individual cases (since they are based on group averages).

Figure 6: Distribution of Total Costs for the Entire Sample (N=386)



By definition, offenders in the high-rate groups (T2 and T3) commit more frequent and more serious crimes than individuals in other trajectories (see **Table 7**). In the current sample of 386 males, we identified the offender who, based on actual convictions (i.e., excluding undetected crime cost estimates), had the highest victim, correctional, and other criminal justice system costs. This person (in the *high late* trajectory group, T2) had 18 convictions between the ages of 12 and 26 years, which resulted in a total cost of \$11,305,897, broken down as follows:

- Victim costs: \$6,307,605 (one homicide, serious assaults, various property offences);
- Correctional costs: \$1,249,498 (mostly federal incarceration costs); and
- Other CJS costs: \$3,748,494 (scaled up costs).

The next most costly individual (also in group T2) accrued a total of 28 convictions and incurred \$9,929,836 in victim, correctional, and other criminal justice system costs as follows:

- Victim costs: \$6,862,236 (one homicide, many serious assaults, robbery, intimidation charges);
- Correctional costs: \$766,900 (mostly federal but substantial provincial incarceration costs); and
- Other CJS costs: \$2,300,700 (scaled up costs).

It is perhaps not surprising that the top five individuals in terms of total combined victim, correctional, and other criminal justice system costs all had one conviction for homicide. Each of these individuals began their offending in their adolescent years, and four out of five had at least one conviction at or before the age of 15. Combined, these five individuals (three of whom were from T2, and two were from *high early* trajectory group, T3) had 103 convictions that cost society \$48,256,907 between the ages of 12 and 26, or approximately \$9.6 million per person.

The most frequent offender (from the *moderate adolescence-peaked* trajectory group, T4) had a total of 104 convictions, 84 of which were for break and enter offences. This person accrued \$784,509 in victim costs, \$761,395 in correctional costs and \$2,284,185 in other criminal justice system costs for a total of \$3,830,090. Looking at the most frequent offenders, the top five had a total of 443 convictions, which translated into a total of \$17,126,346 in costs, \$5,067,104 of which were victim costs, \$3,014,811 were correctional, and \$9,044,432 were other criminal justice system costs.

As a point of contrast, the least expensive offender (from the *low deisister* trajectory group, T6) accumulated \$66,509 in victim, correctional and other CJS costs over the 15-year follow-up. The 10 least costly offenders (equally represented in the low rate, T6 and T7 groups) accumulated \$1,131,137 in equivalent costs over the same timeframe.

3.8 Specific Offender Profiles

We used correctional data to compare the total monetary costs of crime between the ages of 12 and 26 for four groups, defined as individuals who:

- G1: Served time in federal custody ($N=35$, 9.1%);
- G2: Served time in provincial (but not federal) adult custody ($N=257$, 66.6%);
- G3: Had an adult conviction but served no adult custody ($N=49$, 12.7%); and
- G4: Had a youth conviction, but no adult convictions ($N=45$, 11.7%).

Costs for G1 included costs associated with both federal and provincial adult and youth convictions.

Table 10 shows the average costs by cost type for the four groups. Not surprisingly, individuals who had served federal time had the highest average costs across all cost categories.

Table 10: Average Costs by Offender Disposition Profile

Category	Victim Costs	Correctional Costs	Other CJS Costs	Total Costs
G1: Federal Custody ($N=35$)	\$1,530,830	\$782,647	\$2,347,940	\$4,661,417
G2: Provincial Custody ($N=257$)	\$417,729	\$305,619	\$916,857	\$1,640,205
G3: Adult record, no custody ($N=49$)	\$315,200	\$146,360	\$439,081	\$900,642
G4: Youth record only ($N=45$)	\$138,280	\$201,586	\$604,758	\$944,624
Total ($N=386$)	\$473,064	\$316,528	\$949,584	\$1,739,176

4.0 Discussion, Limitations and Conclusions

4.1 Discussion

The aim of this study was to estimate the longitudinal costs of offending for a sample of 386 high-risk male offenders in Ontario, whose offence histories were tabulated over 15 years, from ages 12 to 26 years. Costs included both tangible and intangible costs, victim-related costs and disposition-related correctional costs. Estimates were scaled up to include other criminal justice costs, as well as costs associated with undetected crimes. All dollar values were converted to 2013 CAD.

The aggregate cost of crime for the sample was \$2.26 billion, an average of \$5.86 million per person in our sample, over the 15-year follow-up. Although this figure may seem high, it makes sense in the following context: 1) in terms of victim costs, crimes involving violence incur the most costs, particularly in terms of victim-related harms; 2) costs related to the psychological harm, pain and suffering of victims constituted a substantial proportion of monetary estimates; and 3) including costs for undetected crime contributed considerably to increasing the overall cost estimates.

Considering only offences that resulted in official convictions in court (versus undetected crimes), we found that the sample of 386 males created an aggregate burden of crime in the amount in excess of \$671 million or \$1,739,176 per person over the 15-year follow-up period (\$115,945 per person annually). Adding in estimates for undetected offences contributed an additional \$1.6 billion in aggregate costs or \$4,116,142 per person (\$274,409 per person annually) to our estimates, for a total of \$5.86 million per person. These estimates were derived using the best available scaling up estimates from published empirical studies. However, even when discounting the costs of undetected crimes, we still found the costs to be extremely large, at approximately \$3.8 million per person (\$254,343 per person annually).

In addition to calculating the aggregate cost of crime for the sample, we also examined how costs accumulated over time. Consistent with other research (Piquero et al., 2013), the most costly developmental period was mid- to late-adolescence, between the ages of 15 and 17 years, which accounted for 40% of the total costs. This was a time when the average correctional, other criminal justice system, and victim costs were at their highest relative to other age intervals. This was also the time when the costs associated with both property and violent crimes were at their highest.

Using the trajectory analysis results from Day et al. (2012), we examined the costs of the different trajectory groups and found substantial differences in terms of the average cost of crime per individual: high-rate offenders cost between \$12 to \$17 million each; medium-rate individuals cost approximately \$8 million each; and low-rate offenders cost about \$3.5 million each, although the *timing* of these costs varied among trajectory groups. These findings reinforce the idea that even within a high-risk offender sample, there is heterogeneity in the frequency, severity, and timing of offending, and among the dispositions received in response to it. Looking *within* trajectory groups, low-rate offenders had the highest per-person total costs in the 15 to 17 year age interval; this was mostly true for moderate-rate offenders (trajectory group T1 had the highest average, per person costs between the ages of 18 and 20); and high-rate offenders had the highest costs between the ages of 18 and 20.

4.2 Strengths and Limitations of the Present Study

This study has a number of strengths that increase the validity of the results and advance our knowledge and methods of calculating the costs associated with crime. First, we capitalized on a very detailed criminal history dataset in calculating the number of days served for each of eight separate disposition types. Thus, it was possible to calculate with great certainty the number of days actually spent serving these dispositions (i.e., using “days served” as opposed to “days sentenced” when calculating estimates). With these numbers, we used the best available per-diem correctional estimates in Ontario, the province in which the sentences were overwhelmingly served. This combination of an accurate count of “days served” and reliable per-diem costs allowed us to arrive at very good estimates of correctional costs for the 386 individuals in the study. In addition, the relatively long follow-up period of 15 years provides a longitudinal look of the costs of crime during the peak adolescent years and into early adulthood, intervals when crime prevention approaches should be applied with vigour if cost savings are to be realized.

Second, the list of per-crime victim costs drawn from the literature also extends the work of Farrington and Koegl (2014) to include a longer list of crime types. We were also able to develop new estimates based on a careful matching of offence-specific codes with per-crime estimates. Although this is a strength of the study, research is desperately needed to fine tune the per-crime estimates, for example, by expanding the list of included offences further, and to more carefully cost out components within each estimate. As no per-crime cost estimates currently exist within the Canadian literature, this is clearly an area for future research. As well, because we used a hybrid approach to calculating costs for each individual using disposition and offence information, we are confident that we have calculated cost estimates that reasonably estimate victim harm, yet take into account the unique characteristics of the separate youth and adult criminal justice systems in Canada.

Lastly, the detailed coding of the data also allowed us to track costs as they occurred for each offender on an annual basis. In fact, the findings reproduce the well-recognized age-crime curve (albeit, with a peak two years later compared to curves based on offending and not adjudication/costs *per se*).

Despite the many strengths of this study, some limitations require explanation. First, could our results be biased due to cohort effects? For example, might we expect different results if the sample was drawn from different years (e.g., O’Brien, 2010)? The present study mitigates this problem somewhat since participants were admitted to the referring institution over a ten-year period, between 1986 and 1997; therefore, they represent offenders of different ages and exposures to the criminal justice system at different times. Notwithstanding this issue, it should be noted that the offenders in this sample were drawn from an era when youth incarceration was used more frequently than is currently the case (Bala, 1997; Bala, Carrington, & Roberts, 2009; Dauvergne, 2013). As such, we might expect youth custody costs to be lower with a contemporary sample of offenders followed-up prospectively, given the system’s current preference to use extra-judicial, non-custodial measures allowable under the *Youth Criminal Justice Act* (YCJA).

Second, our results are specific to a particular sample, which may be a higher risk group than one generated by randomly selecting a sample from the general offender population. Two factors contribute to this possibility. First, the current sample had all been sentenced to a custodial facility (i.e., open custody) in their late teens. As such, they had already penetrated the juvenile justice system more deeply than, for example, a youth who had committed a low severity offence (e.g., shoplifting) at the age of 15 and

never offended again. Second, as the open custody facility from which the sample came was operated by a children's mental health centre, with a greater availability of services and access to mental health specialists, the youth sentenced to this facility may have been considered to be more "at-risk," with more mental health problems and criminogenic needs than the general population of juvenile offenders. This, of course, would limit the generalizability of the study findings to all offenders. This conclusion may be offset, however, by the fact that there was variability in the frequency of offending within the sample. For example, our sample included offenders who committed only one or a few offences in their criminal careers (9.3% had three or less convictions to age 26). Therefore, although they may have been higher risk, they were not all high-rate offenders. We hope the estimates for the four cost components (victim, corrections, other criminal justice system, and undetected crimes) provided in this report may be used by other researchers to generate cost estimates with other samples of offenders to examine this possibility.

Third, as with any cost of crime study, it was not possible to disaggregate the cost of a criminal offence versus a criminal episode. For example, a person might break into ten cars on one day to steal property and this might be considered one criminal episode, but for this analysis, it would be treated as ten thefts. This is a particular problem with respect to property crime, where many minor crimes can appear larger "on paper" because of charging practices.

Fourth, as noted earlier, our estimates of victim costs were based on non-Canadian figures, and therefore, their applicability to the Canadian context can be called into question. This is an area where we would encourage future Canadian researchers to focus on, specifically, to develop estimate categories based on *Criminal Code of Canada* terminology, for example, distinguishing between summary and indictable offences within relevant offence categories.

Fifth, we relied on elementary calculations to estimate other criminal justice system costs, such as policing, courts, prosecution and legal aid. Unfortunately there are no good data in Canada to be able to apply these estimates by type of offence. Therefore, we universally scaled-up correctional costs by a factor of three to create an averaged index. It would seem obvious that some offences (e.g., homicide, sexual assault) require more personnel time and resources within the criminal justice system compared to others (e.g., petty theft). A related limitation is that it was not possible to code the number of disposition days served by offence type within the time constraints of the project. Doing so would have allowed us to calculate criminal justice system costs for each offence. Unfortunately this was not possible because: 1) the timeline and conviction data were in different datasets and could not be meaningfully merged together; and more importantly, 2) it would have been extremely difficult to disaggregate sentence length and time served in those cases where individuals were convicted of multiple offences (e.g., applying severity weightings).

A final limitation is that we did not explicitly disaggregate costs to the offender from those accrued by victims of crime, such as the loss of productivity of offenders as a result of incarceration (Cohen, 2005). To our knowledge, and to this point, there are currently no published studies that calculate the indirect costs of incarceration. Given increasing support in the research literature that incarceration without treatment *contributes* to increased rates of recidivism among offenders (e.g., Cullen, Jonson, & Nagin, 2011), it would be valuable for future research to calculate the monetary costs of exposing offenders to other highly antisocial individuals during incarceration. Such a focus would highlight the need to provide evidence-based programmatic approaches with positive benefit-to-cost ratios to persons in conflict with the law.

Indeed, our review of the literature revealed a wide range of approaches in calculating crime costs. For example, Cohen et al. (2010) incorporated additional, more intangible costs such as fear of crime to generate their cost estimates (using the top-down method). Indeed, it could be rightfully argued that our costs underestimate the total economic burden on Canadian society. At present, there is no gold standard method for estimating the costs of crime, and every study is subject to their own limitations. Indeed, in another sense, some social costs, such as the loss of social cohesion in a low-income neighbourhood, personal costs of a child growing up with a parent incarcerated, and family costs of grieving the loss of a child to a life of crime are impossible to quantify, making the true cost of crime incalculable.

4.3 Conclusion

The above limitations notwithstanding, we found that the costs of criminal offending, incurred by this sample of 386 high-risk male offenders in Ontario, was substantial. As expected, we found considerable differences in all the component costs as the sample moved from adolescence to adulthood, and as we parsed the sample into different trajectory groups based on their rate of offending over time. Although the issues are complex and potentially politically charged (see Raffan-Gowar & Farrington, in press), based on the results of this study, we would argue that the best option to reduce the costs of crime is to invest in strategic crime prevention and early intervention programming. We know from studies that have calculated the cost-benefit ratios (see <http://www.wsipp.wa.gov/BenefitCost>) that early intervention and prevention programs have demonstrated potential to yield substantial cost savings with a high degree of confidence on the return on investment. Accordingly, we believe this is where the largest investment needs to be made. Given that even the ten *least* costly offenders still accumulated over \$1.1 million dollars each, on average, bolsters the argument that even the most modest investments in developmental crime prevention programs can pay enormous dividends to society.

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Appendices

Appendix A: Offence Codes and Categories

Each table (from left to right) lists the offence label, the observed count in the raw dataset, the percentage of cases observed for the total number of offences, and the label description that references *Criminal Code* sections.

Homicide

Label	Count	%	Description
M1	5	.0	Murder One, Indictable – 235
M2	3	.0	Murder Two, Indictable – 235
MAN	2	.0	Manslaughter, Indictable – 234
DOCD	1	.0	Dang. Operate Cause Death – 249(4)
MANG	1	.0	Manslaughter-General, Indictable – 236(B)

Sexual

Label	Count	%	Description
SA	62	.6	Sexual Assault, D – 271
SAI	52	.5	Sex. Assault, Indict. – 271(1)(A)
SEXI	31	.3	Sexual Interference – 151
SAS	12	.1	Sex. Assault, Summary – 271(1)(B)
ITST	9	.1	Invitation to Sexual Touc – 152
SAW	8	.1	Sexual Assault W/Weapon – 272.A
IA	6	.1	Indecent Act Summary 173(1)(A)(B)
SEIT	5	.0	Sex Exploit, Invite Touch – 153(1)(B)
BB	2	.0	Bestiality, I – 160
INC	2	.0	Incest, I – 155
SEXT	2	.0	Sex Exploit, Touching – 153(1)(A)
AINT	1	.0	Anal Intercourse(Buggary) – 159(1-3)
PISA	1	.0	Partake in Sex. Assault – 272(D)
SABH	1	.0	Sex. Assault Body Harm – 272(C)
SAP	1	.0	Sexual Asslt.party to, D – 272.D

Armed Robbery

Label	Count	%	Description
RSW	7	.1	Rob/Steal w/Weapon – 343(D)

Aggravated Assault

Label	Count	%	Description
ABH	95	.9	Assault – Bodily Harm, S – 267(1)(B)
AA	38	.4	Assault, Aggravated, I – 268
ABHI	28	.3	Assault – Bodily Harm, I – 267(B)
AM	11	.1	Attempt Murder, I – 239
CRIR	5	.0	Choke Render Incap. Resis – S246(A)
CM	3	.0	Conspire to Murder – 465 (1)(A)
DOBH	2	.0	Dang. Operate, Body Harm – 249(3)
IDB	2	.0	Impaired Driving Cause Bo – 255
ACBH	1	.0	Arson, Cause Bodily Harm – 433 (B)
CM12	1	.0	Conspire Murder 1/2 – 469

Abduction/Kidnapping

Label	Count	%	Description
FC	39	.4	Forcible Confinement – S279(2)
KIFC	3	.0	Kidnap Intent Forc. Confi – 279(1)(A)
KID	2	.0	Kidnapping, I – 279.1
APUF	1	.0	Abduct Person Under 14 – 281
KIEC	1	.0	Kidnap Intend Exp. Can – 279(1)(B)

Serious Assault

Label	Count	%	Description
ASI	277	2.6	Assault, Indictable – 266(A)
AWW	169	1.6	Assault, with a Weapon, I – 267(1)(A)
AWWS	54	.5	Assault with a Weapon, S – 267(A)
CNBH	9	.1	Crim. Neg Bodily Harm – 221
ASOS	1	.0	Admin Subst. Obtain Sex – 212(1)(I)

Robbery

Label	Count	%	Description
ROB	286	2.7	Robbery, I – 344
AR	6	.1	Attempt Robbery, I – 660
RTV	1	.0	Robbery Threat/Violence – 343 (A)

Intimidation

Label	Count	%	Description
UDT	203	1.9	Utt/Threat Death/Ser.harm – 264.1(1)(A)
TIP	44	.4	Threat Injure Person, I – 264.1 (1)(A)
THR	39	.4	Threaten, I – 264
UTH	23	.2	Uttering Threats S.264.1(1)
CHAR	20	.2	Criminal Harrassment – 264(1)
TD	13	.1	Threaten Death – 264.1(1)
CHC	9	.1	Crim. Harrass. Conduct – 264(2)(A-D)
UTT	7	.1	Uttering – 368(1)(A)(B)
UT	5	.0	Uttering Threats – 264.1(2)
HTC	3	.0	Harass Telephone Calls Summary 372(3)
INT	3	.0	Intimidation, D – 423
UTDP	3	.0	Utter Threat, Destroy Pro – 264.1(1)(B)
CH	1	.0	Criminal Harrassment – S264.(2)
IBV	1	.0	Intimidate/Violence – 423 (1)(A)
IBW	1	.0	Intimidate, Beset or Watch – 423(1)(F)
ITC	1	.0	Indecent Telephone Calls Summary 372(2)
UTAA	1	.0	Utter Threat, Animal – 264.1(1)(C)

Arson

Label	Count	%	Description
ADP	7	.1	Arson, Damage Property – 434
ARS	6	.1	Arson, I – 434
ARRP	1	.0	Arson, Reckless W/Property – 433(A)

Common Assault

Label	Count	%	Description
ASIM	212	2.0	Assault Simple, D – 267
ASS	155	1.4	Assault, Summary – 266(B)
ARA	68	.6	Assault – Resist Arrest S270(1)(B)
APOD	45	.4	Ass. Peace Off. on Duty – 270(1)(A)
AS	35	.3	Assault-Summary Off, S – 265
APO	22	.2	Assault Peace Officer S270(1)(A)
APR	2	.0	Asslt Person During Robb – 343(C)
RADA	2	.0	Asslt Person Before/After Robb – 343(B)
UCBH	1	.0	Unlawful Cause BH – 269
APL	1	.0	Assault to Prevent Lawful – 271

Weapons (use)

Label	Count	%	Description
PF	17	.2	Pointing Firearm – 87
UFCO	12	.1	Use Firearm Comm. Offence – 85(1)0(C)
UFCI	10	.1	Use Firearm Commit Indict – 85(1)(A)
UFD	8	.1	Use Firearm During Commis – O
FD	2	.0	Firearm, Discharge With in – 244
IFAC	2	.0	Int. Firearm Attempt Indi – 85(2)(B)

Motor Vehicle Theft

Label	Count	%	Description
TVWC	48	.4	Take Vehicle w/o Consent Summary 335

Break and Enter

Label	Count	%	Description
BEC	340	3.2	Break and Enter and Commi – 348(1)(B)
BET	161	1.5	Break, Enter & Theft – 348
PBII	127	1.2	Possess Break in Instrume – 351(1)
BEWI	121	1.1	Break, Enter w/Intent – 348(1)(A)
ABE	58	.5	Attempt Break and Enter, I – 348(2)(A)
DICO	30	.3	Disguise w/i Commit Off – 351(2)
BEI	24	.2	Break and Enter with Inte – 348.1.A
UID	23	.2	Unlawful in Dwelling Hous – 349(1)
BT	21	.2	Burglary Tools – 351
PHBT	15	.1	Possession House Breaking – 351
PBN	14	.1	Prowl by Night/Trespass Summary 177
FORE	4	.0	Forcible Entry – 72(1)
MWI	3	.0	Masked w/Intent to Commit – 351.2
PROW	3	.0	Prowl at Night, S – O
TAN	2	.0	Trespass at Night – 177
BO	1	.0	Breaking Out, I – 348.1.C
BECA	1	.0	Bec in Dwelling House – 348(1)(D)

Counterfeit/Forgery

Label	Count	%	Description
FORG	7	.1	Forgery, I – 366
POCM	6	.1	Poss. Counterfeit Money – 450 (B)
UCMO	5	.0	Utter Counterfeit Money – 452 (A)
COU	1	.0	Counterfeit, I – 454
IF	1	.0	Instruments, Forgery, I – 369
MCM	1	.0	Make Counterfeit Money – 449
PFM	1	.0	Possess Forg Instrument – 369(B)
SLUG	1	.0	Poss. Slug/Token – 454 (B)

Serious Theft

Label	Count	%	Description
TO	149	1.4	Theft Over \$1000, I – 334
TOI	105	1.0	Theft Over \$5000, I – 334(A)
TOS	6	.1	Theft Over, Summary – 334(B)(Ii)

Serious Mischief

Label	Count	%	Description
MPI	110	1.0	Misch. Prop. Indictable – 430(4A)
MPOI	22	.2	Misch. Prop. Over Indict – 430 (3)(A)
MPOS	13	.1	Misc. Prop. Over Summary – 430 (3)(B)
PMI	10	.1	Public Mischief, Indict – 140(1)(A-D)
MCDL	3	.0	Misch. Cause Danger Life – 430 (2)
PPHI	1	.0	Publicly Promote Hate, I – 319(2)(A)
FFI	1	.0	False Firealarm, Indictabl – 437 (A)
FFS	1	.0	False Firealarm, Summary – 437 (B)

Extortion

Label	Count	%	Description
EXT	20	.2	Extortion, I – 346

Fraud

Label	Count	%	Description
FU	17	.2	Fraud Under \$1000, S – 380
FOI	11	.1	Fraud Over, Indict. – 380(1)(A)
FT	10	.1	Fraud Transportation, S – 393
FUI	10	.1	Fraud Under, Indict. – 380(1)(B)(I)
IUCC	8	.1	Illegal Use of Credit Car – 342
FO	7	.1	Fraud Over \$1000, I – 380
FUS	7	.1	Fraud Under \$5000, Sum – 380(1)(B)(Ii)
UCCC	5	.0	Use Cancelled Credit Crd – 342(1)(D)
AF	4	.0	Attempt Fraud, D – 463.C
CCDI	3	.0	Use Credit Card Data, I – 342.(3)(A)
FCCS	3	.0	Fraud Use Credit Card, S – 342(1)(B)
FPR	3	.0	False Pretences, D – 362
FTC	2	.0	Fraud, Take Cattle – 338(1)(A)
PIOP	2	.0	Personat. w/Intent Propert – 403 (B)
FOFL	2	.0	Fraud Obtain Food/Lodging, S. – 364(1)
FA	1	.0	Fraud Accommodation, S – 364
FCC	1	.0	Forge Credit Card, I – 342(1)(B)
FR	1	.0	Falsify Records, I – 377
OCFP	1	.0	Obtain Credit, False Pret – 362(1)(B)

Stolen Property

Label	Count	%	Description
PU	280	2.6	Possession Under \$1000, D – 354
POI	258	2.4	Possession Over Indict in Can – 354(1)(A)
PO	195	1.8	Possession Over \$1000, I – 354
PUI	151	1.4	Possession Under Indict in Can – 354(1)(A)
PUS	88	.8	Possession Under Summ in Can – 354(1)(A)
PSP	58	.5	Possession Stolen Propert – 354
PPOC	44	.4	Poss. Prop. Obt. Off 8(1)
PPU	4	.0	Poss. Proceeds Under (O)
PUIO	2	.0	Possession Under Indict Out Can – 354(1)(B)
PUSO	1	.0	Possession Under Summ Out Can – 354(1)(B)

Minor Theft

Label	Count	%	Description
TU	446	4.1	Theft Under \$1000, D – 334(B)
TUI	188	1.7	Theft Under \$5000, Indict – 334(B)(I)
TUS	155	1.4	Theft Under \$5000, Summar – 334(B)(Ii)
AT	80	.7	Attempt Theft, D-463.C
TUFS	10	.1	Theft Under \$5000, Summ – 334(B)(Ii)
TCC	7	.1	Theft Credit Card, I – 342(1)(A)
TUFI	6	.1	Theft Under \$5000., Indict – 334(B)(I)
PIBC	3	.0	Poss.instr.break Coin Dev – 352
TCCS	2	.0	Theft Credit Card, S – 342.(1)(A)
IBCD	1	.0	Instruments Break Coin De – 352
LPC	1	.0	Laundering Proceeds/Crime – 462.31(1)
TEG	1	.0	Theft Elect. or Gas – 326(1)(A)
TOM	1	.0	Theft of Mail – 356(1)(A)(I)
TRCC	1	.0	Traff Cred Crd Data 342.4 – 342.4
TTS	1	.0	Theft Telec. Service – 326(1)(B)

Vandalism/mischief

Label	Count	%	Description
MP	180	1.7	Mischief Property, D – 430.4
MPS	100	.9	Misch.prop. Summary – 430 (4)(B)
CD	23	.2	Cause Disturb – Not in Dwellin S175.(1)(A)
PM	10	.1	Public Mischief, D – 140
PMS	10	.1	Public Mischief, Summary – 140(1)(A-D)
PT	10	.1	Petty Trespass, S – 177
COMN	3	.0	Common Nuisance, I – 180
CNEP	2	.0	Common Nuisance-Endangr Pub – 180(1)(A)
WILD	2	.0	Wilful Damage, S – 430 (5)
ES	1	.0	Explosive Substance, I – 78
CDFS	1	.0	Cause Disturb-Fight, Scream S175(1)(A)(I)
MRPD	1	.0	Misch., Rend. Prop. Dang. – 430(1B)
PES	1	.0	Possess Expl. Substance – 82
WCMS	1	.0	w/Commit Mischief, Sum. – 430 (5.1)(B)

Weapons Possession

Label	Count	%	Description
POW	154	1.4	Possession Offensive Weap – 88(1)&(2)
CCW	76	.7	Carry Concealed Weapon – 90(1)&(2)
PPW	55	.5	Possess Prohibited Weapon Sec.92
PRW	29	.3	Possess Rest. Weapon S95(1)
WD	24	.2	Weapons Dangerous, D – 1
CW	20	.2	Concealed Weapon, D – 89
CHSF	18	.2	Careless Store Firearm/Ammo – 86(1)&(2)
PFAU	15	.1	Poss.firearm Unathor Knowing – 92 (1)
PWCO	12	.1	Poss.weap.cont.to Order – 117.01 (1)
CUSF	11	.1	Careless Use/Stor Firearm – 86(1)
PPWA	11	.1	Poss Proh Loaded Weapon Or Ammo. S.95(1)
PRWE	11	.1	Poss. Rest. Weap. Else – 91(2)
PDW	9	.1	Possession Dangerous Weap – 87
IFCI	7	.1	Imt.firearm Commit Indict – 85(2)(A)
TWSN	5	.0	Tampering with Serial # – 108 (1)
OVPW	4	.0	Occupy Vehicle W/Firearm – 94(1)(A)Ccc
PAEI	4	.0	Poss Ammo,Expl,Firearm I – 100 (12) (A)
PFWP	4	.0	Poss. Firearm w/Proh. – 113(4)(A)(B)
IEPW	3	.0	Imp/Exp Proh. Weapon – S.103
MAF	3	.0	Make Automatic Firearm – 95.1
OVRW	3	.0	Occupy Veh. w/Rest/Proh Weap. – 94(1)(B)
PFW	3	.0	Possession Firearm While – 100
UPF	3	.0	Unlawful Possession of Firearm 91(1)
WDF	3	.0	Wrong Delivery of Firearm – 94
DFWA	2	.0	Del. Firearm w/o Acquisit- 97(1)
FCH	2	.0	Firearms, Careless Handlin – 86.2
POSW	2	.0	Possession Weapon – 87
PW	2	.0	Possession Weapon at Pub. – 90
PWOC	2	.0	Poss. Weap. Obt'd by Crime – 96(1)
PWPI	2	.0	Poss Weapons Prohibited I – 103 19(A)
PWPM	2	.0	Possess Weapon Pub Meeting Summary 89
PAMK	1	.0	Poss Ammo,Expl,Firearm I – 100 (12) (A)
POFI	1	.0	Possession Firearm, D – 86
SFAI	1	.0	Stor/Disp/Trans/Firearm, I – 86(3)(A)
TWVO	1	.0	Transf.weap.w/o Authority – 101 (1)

Drug Dealing

Label	Count	%	Description
PFTS	89	.8	Poss. Ftp Traffic. 5(2)
TN	61	.6	Traffic Narc NCA (O)
TIS	55	.5	Traffic. of a Subst. 5(1)
PFPT	39	.4	Poss. for the Purpose (O)
PFT	9	.1	Poss. for Traff. NCA (O)
POS	3	.0	Produce Substance 7(1)
IEN	3	.0	Imp/Exp Narcotic (O)
IES	2	.0	Import/Export Subst. 6(1)
CTN	2	.0	Consp. to Traff in NA (O)
TCD	1	.0	Traffic Cont. Drug FDA Sc
TIME	1	.0	Traffic in Methamphetamin

Other

Label	Count	%	Description
CCI	19	.2	Conspire to Commit Indict- 465 (1)(C)
UNK	18	.2	Unknown
PPO	17	.2	Personating Peace Officer Summ 130(A)(B)
AI	15	.1	Attempt Indictable Off., I – 463.B
LCA	13	.1	Liquor Control Act, S
OPS	11	.1	Other Prov Statutes, D
CONS	7	.1	Conspiracy, I – 465.1.C
OCC	6	.1	Other Criminal Code Offen – 1
OFS	5	.0	Other Federal Statutes, I
AOAF	3	.0	Attempt Off/Acc.after Fact – 463
PPOL	3	.0	Personating Peace Officer – 130(A)(B)
AAFI	2	.0	Acc. After Fact/Attempt, I – 463 (A)(B)
ATCO	2	.0	Attempt to Commit Offence – 661(1)
CCS	2	.0	Conspire to Commit Summary – 465(1)(D)
FRA	1	.0	Family Reform Act
AAA	1	.0	Aids & Abets Party to Off – 21
AD	1	.0	Assist Deserter – 54
ASW	1	.0	Attempt Seditious Words – 469 (D)
CTC	1	.0	Counsel to Commit S.22(2) – 22(2)
CUSA	1	.0	Cause Unnec. Suff/Animal – 446 (A)
ECAU	1	.0	Emp Conspire Agst Union – 425 (C)
WEIA	1	.0	Wilf/Endang/Injure Animal – 445 (A)
TPA	1	.0	Trespass to Property Act
EA	1	.0	Excise Act
MB	1	.0	Municipal Bylaws – Other

Impaired Driving

Label	Count	%	Description
ID	47	.4	Impaired Driving – 253(A)
IDO	21	.2	Impaired Drive Over 80 – 253(B)
RBS	6	.1	Refuse Breath Sample – 254
OA	4	.0	Over 80 Mgs Alcohol – 253

Motor Vehicle

Label	Count	%	Description
DOMV	81	.8	Dang. Operate Motor Veh. – 249(1)(A)
BHT	48	.4	Breach Highway Traffic, S
DWP	36	.3	Drive While Prohibited Or – 259.4
FTSA	25	.2	Fail to Stop, Accident – 252(1)(A-C)
DD	21	.2	Dangerous Driving, D – 249
DWUS	11	.1	Driving Under Suspension
FTSP	8	.1	Fail to Stop for Police
CAI	4	.0	Comp.auto.insur., S
CDR	4	.0	Careless Driving S. 130
DWL	4	.0	Driving Without Licence
FSA	3	.0	Failure to Stop at Scene – O
DWSP	2	.0	Driving While Suspended – Hta Sec.53(1)
DOV	1	.0	Dangerous Oper Vessel, D – 255
SPD	1	.0	Speeding

Morals

Label	Count	%	Description
CFPP	10	.1	Comm For Purpose Prostitu Summ 213(1)(C)
PP	7	.1	Procure-Prostitution, I – 212
EC	4	.0	Exercise Control – 212(1)(H)
LAP	3	.0	Live Avails Prost. – 212(1)(J)
LOAP	1	.0	Live Off Avails Of Prost. – 212
PEEP	1	.0	Procure Enter/Exit Prost – 212(1)(G)
SOL	1	.0	Solicit, S – 212

Drug Possession

Label	Count	%	Description
POSS	180	1.7	Unlwful Poss Sched.i,Ii Or Iii Sub.s4(1)
PNAR	126	1.2	Poss. Narcotic Nca 3 (O)
PMAR	23	.2	Possession Marjuana (O)
PCOC	13	.1	Possession Cocaine (O)
PCD	5	.0	Possession Cont. Drug Fda
FDAD	2	.0	Fda Drugs, I
PRD	2	.0	Possession Rest. Drug Fda

Administration of Justice

Label	Count	%	Description
FTAP	329	3.1	Fail to Appear on Prom. to/Recog – 145(5)
FTAC	132	1.2	Fail to Attend Crt/Ident – 145(4)
FTA	63	.6	Fail Further App. Recog/Under – 145(2)(B)
FTAS	5	.0	Fail to Appear on Summons – 510
WNA	3	.0	Witness Not Attend – 705
BR	15	.1	Breach Recognizance – 811
BPRO	5	.0	Breach Probation, S
BCS	4	.0	Br. Cond. Sent. – 742.6
BP	3	.0	Breach of Parole – 761
SOR	2	.0	Breach Sex Offender Registry Sec. 11(1)
UAL	181	1.7	Unlawfully at Large, I – 145(1)(B)
ELC	136	1.3	Escape Lawful Custody – 145(1)(A)
EFC	64	.6	Escape from Custody, I – 145
FTCP	537	5.0	Fail to Comply (Prob.od/S) – 740 (1)
FTCR	396	3.7	Fail to Comply Recog/Under – 145(2)(A)
FTCU	155	1.4	Ftc Under/Recog Condition – 145(3)
FCPI	84	.8	Fail Comply Prob. Indict. – 733.1 (1) A
FCPS	69	.6	Fail Comply Prob. Summary – 733.1 (1) B
FTCO	61	.6	Fail to Comply – Sec 26
FTCY	54	.5	Fail to Comply Yoa – 0
FTR	21	.2	Ftc Under/Recog Condition – 145(3)
FCU	12	.1	Fail Comply Undertaking Condt. 145(5.1)
FTCC	4	.0	Fail to Comply Crt. order
DLO	2	.0	Disobey Lawful Order – 127(1)
FTRA	2	.0	Fail to Comply Yoa – 0
OPO	172	1.6	Obstruct Peace Officer – 129(A)
AOJ	63	.6	Attempt Obstruct Justice – 139(2)(3)(A-)
OP	20	.2	Obstruct Police, D – 129
OJ	19	.2	Obstruct Justice, D – 139(1)(A)(B)
FFPO	5	.0	Flight From Police Officer – Sec 249.1(1)
ABFN	3	.0	Acknowledge Bail in False – 405
COC	2	.0	Contempt of Court, S – 708
GCE	1	.0	Give Contradict Evidence – 136(1)
SB	1	.0	Skip Bail, D – 145

Appendix B: Victim Cost Methodological Notes

Social science databases were searched to locate studies on the costs associated with crime. We identified research that provided estimates by type of crime, and further subdivided these into tangible and intangible costs, to the extent that it was possible to do so. We conducted a search of the international literature with an emphasis on published Canadian research, limiting the search scope to the last ten years, but prioritizing the last five years of publication.

Participants in the Toronto sample were convicted of a total of 7,257 convictions across 4,657 court contacts, spanning 313 discrete offence codes. These codes were subsequently collapsed into 29 categories. Categories were developed in reference to per-crime estimates available in the published literature. Where such estimates were available, we grouped offence codes into conceptually equivalent categories for analysis. If no monetary estimate was available, offence codes were classified into the best alternative category. It is worth noting that these estimates represent the tangible and intangible costs of crime, and are focused primarily on enumerating victim costs. The following decision tree was used to evaluate empirical studies to derive costing categories and monetary estimates. In deciding which studies to include, of all the available studies, the ones that met the most criteria relative to the others were used in our calculation of victim costs by offence type.

1. Is the source a primary research study?
2. Is the methodology used to generate estimates well-defined and scientifically sound?
3. Was the study published in the past 10 years?
4. Can criminal justice system costs be removed from the estimate?
5. Does the estimate capture all or most of the following harms for relevant offences?
 - a) Death or risk of death;
 - b) Property loss and damage;
 - c) Medical treatment;
 - d) Psychological harm;
 - e) Quality of life, pain and suffering; and
 - f) Victim productivity (e.g., work, wages, school, household)
6. Are the monetary estimates reasonable, given estimates for other types of crime?
7. For international studies, are the estimates generalizable to Canada?

The literature review began with a search for primary research articles using combinations of the following keywords and their variants: cost, crime, offences, monetary, cost-benefit, cost-effectiveness, per-diem, criminal justice system. A previous review by Farrington and Koegl (2014) identified two studies (Cohen & Piquero, 2009; McCollister, French, & Fang, 2010) as the most comprehensive, recently published articles on this topic. For the present study, we therefore performed an additional literature search by searching for articles that cited these two studies. The purpose of this review was to locate additional studies providing estimates of the cost of crime by specific offence types. This search yielded a total of 65 articles. From our review of these studies, a surprisingly small number ($N=15$) were primary studies with published monetary estimates of the costs of specific crimes. Moreover, many of these studies in this group relied on one another to fill a gap in terms of calculating certain types of cost expenditures. **Table B1** lists these studies and shows the methodologies used to generate per-crime cost estimates. Studies could be grouped into three main categories: 1) jury compensation/court awards; 2) willingness to pay; and 3) studies using an empirical approach to calculate costs. **Table B1** also lists the currency and base years in which estimates were reported. This information was subsequently used to standardize costs and currencies so that estimates could be combined and averaged for this study.

Because the current study drew upon several different methodologies to estimate the costs of crime, it was important to know what types of costs were included and not included in each of the estimates. To date, the most comprehensive cost of crime typology in the published literature is Cohen (2005; see Table 1.1, pp. 10-11). He organizes costs into three broad categories: 1) costs of crime; 2) cost of society's response to crime; and 3) offender costs, and these are further subdivided into more detailed groupings. Another well-cited example is Brand and Price (2000), which distinguishes between costs incurred: 1) in anticipation of crime; 2) as a consequence of crime; and 3) in response to crime. These typologies were analyzed for their content and reorganized to highlight the groups that suffer the losses associated with criminal behaviour. The typologies have a temporal element to them; they classify costs according to whether they are accrued before, during or after criminal events. Brand and Prince (2000) and Cohen (2005) also identify stakeholders who incur the costs of crime, for example, society, third parties, the criminal justice system, and offenders. For this study, a modified typology was developed, one that builds upon, but fully disaggregates, the temporal and stakeholder elements of the Cohen (2005) and Brand and Price (2000) models (see **Table B2**).

With respect to the decision tree specified above, it is clear that some of the studies reviewed did not meet all the selection criteria. For example, several studies were published outside the 10-year window (e.g., Miller et al, 1993). However, they were included because they continue to be the most comprehensive and most widely-cited analyses to date. From a review of the literature, tangible and intangible victim costs were broken down into seven categories, shown in **Table B2**. The first of these, death or risk of death, pertains mainly to homicide offences where the monetary cost of a life/death has been calculated; property loss and damage is applicable to property offences including mischief; medical costs include physician, hospital and other health related costs resulting from person offences where a victim suffers injury; psychological costs refer to fee for service activities to treat mental health and psychological trauma following victimization; the quality of life, pain and suffering category includes psychological or material person-based damages resulting from victimization. Such costs are typically calculated from analysis of jury awards for specific types of crimes. Productivity costs refer to lost time at work, school, and in the household due to victimization. Lastly, fear of crime and avoidance behaviour costs refer to a more generalized pattern of avoidance and/or fear of victimization resulting from being victimized.

Arguably, this is the most subjective of all the categories of costs, and is therefore the most difficult to estimate. As such, it does not factor into the analyses of this study. Lastly, it is worth noting that most of the monetary estimates cited in the literature include immediate and short-term costs, but typically exclude long-term costs. One exception to this is the monetary cost of a life lost (i.e., the “death or risk of death” category), where researchers attempt to calculate the effect of lost productivity over the course of a person’s lifetime.

Table B1: Shortlisted Studies Reviewed to Generate Per-Crime Victim Cost Estimates

Category	Currency	Base Year	Methodology		
			Jury Compensation Court Awards	Willingness to Pay	Empirical/ Cost of Illness
a) Aos, Phipps, Barnoski, Lieb (2001)	USD	2000	X		X
b) Cohen (1988)	USD	1985	X		
c) Cohen et al. (2004)	USD	2000		X	
d) Miller et al. (1993)	USD	1989	X	X	X
e) Miller et al. (1996)	USD	1993	X		X
f) Rajkumar & French (1997)	USD	1992	X		X
g) McCollister, French & Fang (2010)	USD	2008	X	X	
h) Dubourg, Hamed & Thorns (2005)	BPS	2003		X	X
i) Cohen & Piquero (2009)	USD	2007		X	X
j) Mayhew (2003)	AUS	2001			X
k) Rollings (2008)	AUS	2005			X
l) Byrnes, Doran & Shakeshaft (2012)	AUS	2006			X
m) Moolenaar (2009)	EUR	2006			X
n) Detotto & Vannini (2010)	EUR	2006			X
o) Roman (2011)	USD	2000-2008	X		

Notes: Roman (2011) presents data in 2000, 2003 and 2008 USD dollars; Aos, Phipps, Barnoski, Lieb (2001) and McCollister, French, & Fang (2010) rely on Miller et al (1996) for estimating some victim costs.

Studies were additionally enumerated in terms of who bears each of the seven types of victim costs. For this analysis, six categories were used: the victim him/herself (V); family/friends of the victim or offender (F); any level of government (G); third parties or the members of the private sector (P); the offender (O); and society in general (S). Of course, some of these categories could theoretically overlap with one another for any specific criminal episode or event. Looking at **Table B2**, it is clear that no single study calculates all seven categories of victim costs. Moreover, where most of the studies expectedly enumerate costs from the perspective of the victim, there is substantial variation in terms of whether costs borne by other parties are included.

Table B3 shows the major offence types for which costs were calculated for each study. It should be noted that some studies further broke down some of these categories to differentiate, for example, victim types and the severity of harm inflicted. These data are not shown here because the present study could not capitalize on such distinctions; conviction records used for this study did not have information about victims or the circumstances surrounding each offence. As should be quite obvious from **Table B3**, there is substantial variation across studies in terms of the specificity and range of criminal categories included. For example, some studies only distinguished between violent and property offences, whereas others made fine distinctions between different types of theft (e.g., theft of vehicle, theft from vehicle, shoplifting). This list was used to narrow down the number of offence categories into a smaller, more manageable set so that they could be applied to our conviction data. The number and type of categories used for this study was determined by considering two factors: 1) the quality of the data underlying the monetary estimates cited in the primary research studies; and 2) the frequency and range of convictions by offence type registered for the Toronto sample.

Table B2: Studies Measuring Victim Costs by Cost Type and Stakeholder who Pays the Cost

Category	Death or Risk of Death	Property Loss and Damage	Medical	Psychological	Quality of Life, Pain, Suffering	Productivity	Fear of Crime, Avoidance Behaviour
a) Aos, Phipps, Barnoski, Lieb (2001)	V	V	V	V			
b) Cohen (1988)	V	V	V	V	V	V	
c) Cohen et al. (2004)		V,S	V,S	V,S	V,S	V,S	V,S
d) Miller et al. (1993)	V	V,P	G,P	G,P	V	V	
e) Miller et al. (1996)	V	V	V,G,P	V	V	V,P,S	
f) Rajkumar & French (1997)	S,V,F	V	V	V	V	V,S,O	

Table B2: Studies Measuring Victim Costs by Cost Type and Stakeholder who Pays the Cost
(continued)

Category	Death or Risk of Death	Property Loss and Damage	Medical	Psychological	Quality of Life, Pain, Suffering	Productivity	Fear of Crime, Avoidance Behaviour
g) McCollister, French & Fang (2010)	V	V	V		V	O	
h) Dubourg, Hamed & Thorns (2005)		V	V,G,P	V	V	V	
i) Cohen & Piquero (2009)	V	V	V	V	V	V,O	
j) Mayhew (2003)		V	V		V	V	
k) Rollings (2008)		V	V		V	V	
l) Byrnes, Doran & Shakeshaft (2012)	V		V		V	V	
m) Moolenaar (2009)		V					
n) Detotto & Vannini (2010)	V	V					
o) Roman (2011)	V		V	V	V	V	

Notes: V=victim; F=family/friends; G=government; P=private sector, O=the offender, and S=society in general.

Table B3: Offence Type Groups used to Calculate Per-Crime Estimates for Reviewed Studies

Category/ Study	Aos, Phipps, Barnoski, Lieb (2001)	Cohen (1988)	Cohen Et Al. (2004)	Miller Et Al. (1993)	Miller Et Al. (1996)	Rajkumar & French (1997)	Mccollister, French & Fang (2010)	Dubourg, Hamed & Thorns (2005)	Cohen & Piquero (2009)	Mayhew (2003)	Rollings (2008)	Byrnes, Doran & Shakeshaft (2012)	Moolenaar (2009)	Detotto & Vannini (2010)	Roman (2011)
Murder/Homicide	X		X	X	X		X	X	X	X	X		X	X	X
Rape/sexual assault	X	X	X	X	X		X	X	X	X	X	X	X		X
Armed Robbery			X						X						
Aggravated assault	X				X	X	X	X	X						
Robbery	X	X		X	X	X	X	X	X	X	X		X	X	X
Assault		X		X						X	X	X	X		X
Simple Assault					X			X	X						
Serious Assaults			X												
Other violent crime													X		
Property	X														
Arson				X	X		X		X	X	X				
Household burglary		X	X		X	X	X	X	X	X	X				X
Motor vehicle theft		X			X	X	X	X	X	X	X			X	X
Theft from vehicle										X	X			X	
Stolen property							X								
Fraud							X		X	X			X	X	
Embezzlement							X								
Forgery/ counterfeiting						X	X								
Larceny/theft		X			X	X	X	X	X	X	X		X	X	X
Vandalism/ Mischief							X	X	X	X	X	X	X		
Drug	X					X							X	X	
Prostitution						X								X	
Fencing						X									

Table B3: Offence Type Groups used to Calculate Per-Crime Estimates for Reviewed Studies
(continued)

Category/ Study	Aos, Phipps, Barnoski, Lieb (2001)	Cohen (1988)	Cohen Et Al. (2004)	Miller Et Al. (1993)	Miller Et Al. (1996)	Rajkumar & French (1997)	Mccollister, French & Fang (2010)	Dubourg, Hamed & Thorns (2005)	Cohen & Piquero (2009)	Mayhew (2003)	Rollings (2008)	Byrnes, Doran & Shakeshaft (2012)	Moolenaar (2009)	Detotto & Vannini (2010)	Roman (2011)
Gambling						X									
Child abuse					X										
Drunk driving					X				X				X		
Disorderly conduct												X			
Counterfeiting														X	
Kidnapping															X
Other									X				X		

Appendix C: Currency Conversion and Inflation Adjustments

Offence Type	Average Per Crime (2013 CAD)			Dubourg, Hamed & Thornes (2005) Table 2.3			Mccollister, French & Fang (2010) Tables 3-5			Cohen & Piquero (2009) Table 5			Roman (2011) Tables 3.3 and 3.7		
	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD
Homicide	1,212,255	2,703,329	3,216,961	8,590,555	8,676,461	9,370,577	8,270,000	8,848,900	9,556,812	1,564,186	1,579,828	1,706,214			
Rape/sexual assault	25,970	57,913	68,917	214,297	216,440	233,755	215,850	230,960	249,436	156,295	157,858	170,487			
Armed robbery							157,650	168,686	182,180						
Aggravated assault	6,531	14,564	17,331	98,379	99,363	107,312	63,250	67,678	73,092	283,793	337,714	401,879			
Serious assault															
Robbery	4,427	9,872	11,748	28,483	28,768	31,069	27,300	29,211	31,548	279,085	281,876	304,426			
Kidnapping										64,358	76,586	91,137			
Intimidation										57,850	68,842	81,921			
Arson				16,711	16,878	18,228	86,650	92,716	100,133	16,979	20,205	24,044			
Common assault	1,040	2,319	2,760				12,500	13,375	14,445	134,770	136,118	147,007			
Weapons (use)															
Motor vehicle theft	5,412	12,069	14,362	6,905	6,974	7,532	11,550	12,359	13,347	15,175	18,058	21,489			
Counterfeiting/forgery										8,208	9,768	11,623			
Burglary/B+E	1,926	4,295	5,111	2,335	2,358	2,547	18,850	20,170	21,783	4,444	5,288	6,293			
Serious theft															
Serious mischief															
Extortion										3,498	4,163	4,954			
Fraud				660	667	720	3,650	3,906	4,218	4,389	5,223	6,215			

Appendix C: Currency Conversion and Inflation Adjustments (continued)

Offence Type	Average Per Crime (2013 CAD)	Dubourg, Hamed & Thornis (2005) Table 2.3			Mccollister, French & Fang (2010) Tables 3-5			Cohen & Piquero (2009) Table 5			Roman (2011) Tables 3.3 and 3.7		
		Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD	Raw	CAD Base	2013 CAD
Stolen property	3,441				1,132	1,143	1,235				3,341	4,343	5,646
Minor theft	1,834	294	656	780	653	660	712	2,550	2,729	2,947	2,655	2,682	2,896
Vandalism/Mischief	1,209	535	1,193	1,420	700	707	764	1,185	1,268	1,369	759	987	1,283
Weapons (possession)	1,000												
Drug dealing	1,000												
Other offences	1,000												
Impaired driving	-												
Motor vehicle	-												
Prostitution/Morals	-												
Drug possession	-												
Administration Justice	-												

Notes: Serious assault was calculated as the average of Aggravated Assault and Common Assault; Use of Weapons was given the same value as Common Assault; Serious Theft was calculated as the average of Minor Theft and Motor Vehicle Theft; Serious Mischief was given a value of \$5000 as a midway value between Vandalism/Mischief (\$1,209) and Serious Theft (\$8,008); Possession of Weapons, Drug Dealing and Other offences were given arbitrary, maximum values of \$1,000 each. The last five categories were assumed to have no, or extremely small, victim costs. "RAW" refers to the raw monetary estimate, as provided in the original study; "CAD base" refers to the value of the RAW estimate in Canadian dollars for the base year; and 2013 CAD refers to the monetary estimate adjusted for inflation, in 2013 Canadian dollars.

Appendix D: Victim Costs and Conviction Counts by Five Age Intervals

Category / Age	Type	Age Interval												Total	
		12-14		15-17		18-20		21-23		24-26		Count	Cost		
		Count	Cost	Count	Cost	Count	Cost	Count	Cost	Count	Cost				
Homicide	V	0	\$0	0	\$0	2	\$11,925,282	3	\$17,887,923	1	\$5,962,641	6	\$35,775,846		
Rape/sexual assault	V	11	\$1,987,139	66	\$11,922,834	47	\$8,490,503	13	\$2,348,437	4	\$722,596	141	\$25,471,509		
Armed robbery	V	0	\$0	0	\$0	7	\$1,275,260	6	\$1,093,080	0	\$0	13	\$2,368,340		
Aggravated assault	V	3	\$449,712	36	\$5,396,544	30	\$4,497,120	20	\$2,998,080	8	\$1,199,232	97	\$14,540,688		
Abduction/ Kidnapping	V	0	\$0	6	\$546,822	9	\$820,233	3	\$273,411	1	\$91,137	19	\$1,731,603		
Serious assault	V	15	\$1,534,800	73	\$7,469,360	48	\$4,911,360	59	\$6,036,880	37	\$3,785,840	232	\$23,738,240		
Robbery	V	8	\$757,584	128	\$12,121,344	85	\$8,049,330	33	\$3,125,034	15	\$1,420,470	269	\$25,473,762		
Intimidation	V	10	\$819,210	44	\$3,604,524	42	\$3,440,682	53	\$4,341,813	22	\$1,802,262	171	\$14,008,491		
Arson	P	1	\$47,468	7	\$332,276	2	\$94,936	2	\$94,936	0	\$0	12	\$569,616		
Common assault	V	40	\$2,189,480	128	\$7,006,336	101	\$5,528,437	72	\$3,941,064	44	\$2,408,428	385	\$21,073,745		
Weapons (use)	V	0	\$0	12	\$656,844	6	\$328,422	2	\$109,474	3	\$164,211	23	\$1,258,951		
Motor vehicle theft	P	3	\$42,549	22	\$312,026	9	\$127,647	1	\$14,183	1	\$14,183	36	\$510,588		
Burglary/B+E	P	66	\$589,644	574	\$5,128,116	206	\$1,840,404	101	\$902,334	54	\$482,436	1,001	\$8,942,934		
Counterfeiting/ forgery	P	1	\$11,623	2	\$23,246	3	\$34,869	6	\$69,738	1	\$11,623	13	\$151,099		
Serious theft	P	17	\$136,136	152	\$1,217,216	29	\$232,232	17	\$136,136	4	\$32,032	219	\$1,753,752		
Serious mischief	P	7	\$35,000	22	\$110,000	14	\$70,000	20	\$100,000	22	\$110,000	85	\$425,000		
Extortion	P	0	\$0	5	\$24,770	1	\$4,954	0	\$0	0	\$0	6	\$29,724		

Appendix D: Victim Costs and Conviction Counts by Five Age Intervals (continued)

Category / Age	Type	6	12-14	Age Interval										Total
				15-17		18-20		21-23		24-26		124	Cost	
				Count	Cost	Count	Cost	Count	Cost	Count	Cost			
Fraud	P	6	\$22,308	41	\$152,438	24	\$89,232	21	\$78,078	32	\$118,976	124	\$461,032	
Stolen property	P	42	\$144,522	329	\$1,132,089	149	\$512,709	64	\$220,224	49	\$168,609	633	\$2,178,153	
Minor theft	P	120	\$220,080	334	\$612,556	163	\$298,942	94	\$172,396	51	\$93,534	762	\$1,397,508	
Vandalism/ Mischief	P	44	\$53,196	139	\$168,051	58	\$70,122	28	\$33,852	33	\$39,897	302	\$365,118	
Weapons (possession)	O	10	\$10,000	69	\$69,000	44	\$44,000	31	\$31,000	28	\$28,000	182	\$182,000	
Drug dealing	O	0	\$0	22	\$22,000	38	\$38,000	35	\$35,000	33	\$33,000	128	\$128,000	
Other offences	O	1	\$1,000	40	\$40,000	11	\$11,000	12	\$12,000	3	\$3,000	67	\$67,000	
Total Aggregate		405	\$9,051,451	2,251	\$58,068,392	1,128	\$52,735,676	696	\$44,055,073	446	\$18,692,107	4,926	\$182,602,699	
Avg per person		1.05	\$23,449	5.83	\$150,436	2.92	\$136,621	1.80	\$114,132	1.16	\$48,425	12.76	\$473,064	
Avg per person per year		0.35	\$7,816	1.94	\$50,145	0.97	\$45,540	0.60	\$38,044	0.39	\$16,142	4.25	\$157,688	

Appendix E: Victim Costs by Age and Offence Frequency

Category / Age	Frequency	Age 12-17	Age 18-26	Total
Burglary/B+E	1001	5,717,760	3,225,174	8,942,934
Minor theft	762	832,636	564,872	1,397,508
Stolen property	633	1,276,611	901,542	2,178,153
Common assault	385	9,195,816	11,877,929	21,073,745
Vandalism/ Mischief	302	221,247	143,871	365,118
Robbery	269	12,878,928	12,594,834	25,473,762
Serious assault	232	9,004,160	14,734,080	23,738,240
Serious theft	219	1,353,352	400,400	1,753,752
Weapons (possession)	182	79,000	103,000	182,000
Intimidation	171	4,423,734	9,584,757	14,008,491
Rape/sexual assault	141	13,909,973	11,561,536	25,471,509
Drug dealing	128	22,000	106,000	128,000
Fraud	124	174,746	286,286	461,032
Aggravated assault	97	5,846,256	8,694,432	14,540,688
Serious mischief	85	145,000	280,000	425,000
Other offences	67	41,000	26,000	67,000
Motor vehicle theft	36	354,575	156,013	510,588
Weapons (use)	23	656,844	602,107	1,258,951
Abduction/ Kidnapping	19	546,822	1,184,781	1,731,603
Armed robbery	13	0	2,368,340	2,368,340
Counterfeiting/ forgery	13	34,869	116,230	151,099
Arson	12	379,744	189,872	569,616
Homicide	6	0	35,775,846	35,775,846
Extortion	6	24,770	4,954	29,724
Total	4,926	\$67,119,843	\$115,482,856	\$182,602,699

Appendix F: Victim Costs by Broad Offence Type

Category / Age Interval	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Violent	\$7,737,925	\$48,724,608	\$49,266,629	\$42,155,196	\$17,556,817	\$165,441,175
(Per Person)	\$20,046	\$126,230	\$127,634	\$109,210	\$45,484	\$428,604
(Per Person/ Year)	\$6,682	\$42,077	\$42,545	\$36,403	\$15,161	\$28,574
Property	\$1,302,526	\$9,212,784	\$3,376,047	\$1,821,877	\$1,071,290	\$16,784,524
(Per Person)	\$3,374	\$23,867	\$8,746	\$4,720	\$2,775	\$43,483
(Per Person/ Year)	\$1,125	\$7,956	\$2,915	\$1,573	\$925	\$2,899
Other	\$11,000	\$131,000	\$93,000	\$78,000	\$64,000	\$377,000
(Per Person)	\$28	\$339	\$241	\$202	\$166	\$977
(Per Person/ Year)	\$9	\$113	\$80	\$67	\$55	\$65
Total	\$9,051,451	\$58,068,392	\$52,735,676	\$44,055,073	\$18,692,107	\$182,602,699
(Per Person)	\$23,449	\$150,436	\$136,621	\$114,132	\$48,425	\$473,064
(Per Person/ Year)	\$7,816	\$50,145	\$45,540	\$38,044	\$16,142	\$31,538

Appendix G: Average Annualized Correctional Costs by Type and Age

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Youth open custody (P)	\$1,314,549	\$20,178,511	\$12,171,808	\$290,895	\$96,263	\$34,052,026
number of days	2,499	38,360	23,139	553	183	64,734
(per person)	\$3,406	\$52,276	\$31,533	\$754	\$249	\$88,218
(per person/year)	\$1,135	\$17,425	\$10,511	\$251	\$83	\$29,406
Conditional sentences	\$0	\$0	\$24,028	\$86,288	\$93,830	\$204,146
number of days	0	0	927	3,329	3,620	7,876
(per person)	\$0	\$0	\$62	\$224	\$243	\$529
(per person/year)	\$0	\$0	\$21	\$75	\$81	\$176
Youth probation (P)	\$423,384	\$1,984,884	\$1,539,744	\$38,868	\$5,200	\$3,992,080
number of days	27,439	128,638	99,789	2,519	337	258,722
(per person)	\$1,097	\$5,142	\$3,989	\$101	\$13	\$10,342
(per person/year)	\$366	\$1,714	\$1,330	\$34	\$4	\$3,447
Adult custody (P)	\$0	\$8,241	\$7,608,925	\$7,370,822	\$5,252,971	\$20,240,959
number of days	0	46	42,470	41,141	29,320	112,977
(per person)	\$0	\$21	\$19,712	\$19,095	\$13,609	\$52,438
(per person/year)	\$0	\$7	\$6,571	\$6,365	\$4,536	\$17,479
Adult custody (F)	\$0	\$0	\$977,082	\$5,152,482	\$3,927,685	\$10,057,249
number of days	0	0	2,978	15,704	11,971	30,653
(per person)	\$0	\$0	\$2,531	\$13,348	\$10,175	\$26,055
(per person/year)	\$0	\$0	\$844	\$4,449	\$3,392	\$8,685

Appendix G: Average Annualized Correctional Costs by Type and Age
(continued)

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Youth secure custody (P)	\$2,601,693	\$36,137,381	\$11,770,745	\$733,464	\$317,133	\$51,560,415
number of days	3,462	48,087	15,663	976	422	68,610
(per person)	\$6,740	\$93,620	\$30,494	\$1,900	\$822	\$133,576
(per person/year)	\$2,247	\$31,207	\$10,165	\$633	\$274	\$44,525
Adult probation (P)	\$0	\$367	\$383,251	\$522,040	\$371,541	\$1,277,199
number of days	0	66	68,930	93,892	66,824	229,712
(per person)	\$0	\$1	\$993	\$1,352	\$963	\$3,309
(per person/year)	\$0	\$0	\$331	\$451	\$321	\$1,103
Adult probation (F)	\$0	\$0	\$12,798	\$290,155	\$492,737	\$795,690
number of days	0	0	146	3,310	5,621	9,077
(per person)	\$0	\$0	\$33	\$752	\$1,277	\$2,061
(per person/year)	\$0	\$0	\$11	\$251	\$426	\$687
Total	\$4,339,626	\$58,309,384	\$34,488,381	\$14,485,013	\$10,557,361	\$122,179,765
(per person)	\$11,243	\$151,061	\$89,348	\$37,526	\$27,351	\$316,528
(per person/year)	\$3,748	\$50,354	\$29,783	\$12,509	\$9,117	\$105,509

Notes: P=provincial, F=federal.

Appendix H: Correctional Costs for Youth, Provincial and Federal Systems by Age

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Youth provincial	\$4,339,626	\$58,300,776	\$25,482,297	\$1,063,227	\$418,596	\$89,604,521
(per person)	\$11,243	\$151,038	\$66,016	\$2,754	\$1,084	\$232,136
(per person/year)	\$3,748	\$50,346	\$22,005	\$918	\$361	\$77,379
Adult provincial	\$0	\$8,608	\$8,016,204	\$7,979,149	\$5,718,343	\$21,722,304
(per person)	\$0	\$22	\$20,767	\$20,671	\$14,814	\$56,275
(per person/year)	\$0	\$7	\$6,922	\$6,890	\$4,938	\$18,758
Adult federal	\$0	\$0	\$989,880	\$5,442,637	\$4,420,422	\$10,852,939
(per person)	\$0	\$0	\$2,564	\$14,100	\$11,452	\$28,116
(per person/year)	\$0	\$0	\$855	\$4,700	\$3,817	\$9,372

Appendix I: Correctional Costs Comparing Custody to Community Supervision by Age

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Incarceration	\$3,916,242	\$56,324,133	\$32,528,560	\$13,547,663	\$9,594,053	\$115,910,650
(per person)	\$10,146	\$145,917	\$84,271	\$35,098	\$24,855	\$300,287
(per person/year)	\$3,382	\$48,639	\$28,090	\$11,699	\$8,285	\$100,096
Community supervision	\$423,384	\$1,985,251	\$1,959,821	\$937,350	\$963,309	\$6,269,115
(per person)	\$1,097	\$5,143	\$5,077	\$2,428	\$2,496	\$16,241
(per person/year)	\$366	\$1,714	\$1,692	\$809	\$832	\$5,414

Appendix J: Total Costs of Crime by Cost Category and Five Age Intervals

Cost Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Victim Costs	\$9,051,451	\$58,068,392	\$52,735,676	\$44,055,073	\$18,692,107	\$182,602,699
% Total victim costs	5.0%	31.8%	28.9%	24.1%	10.2%	100.0%
% Age group (per person)	34.3%	19.9%	27.7%	43.2%	30.7%	27.2%
(per person/year)	\$23,449	\$150,436	\$136,621	\$114,132	\$48,425	\$473,064
(per person/year)	\$7,816	\$50,145	\$45,540	\$38,044	\$16,142	\$31,538
Correctional Costs	\$4,339,626	\$58,309,384	\$34,488,381	\$14,485,013	\$10,557,361	\$122,179,765
% Total correctional costs	3.6%	47.7%	28.2%	11.9%	8.6%	100.0%
% Age group (per person)	16.4%	20.0%	18.1%	14.2%	17.3%	18.2%
(per person)	\$11,243	\$151,061	\$89,348	\$37,526	\$27,351	\$316,528
(per person/year)	\$3,748	\$50,354	\$29,783	\$12,509	\$9,117	\$21,102
Other CJS Costs	\$13,018,877	\$174,928,152	\$103,465,143	\$43,455,038	\$31,672,084	\$366,539,294
% Total other CJS costs	3.6%	47.7%	28.2%	11.9%	8.6%	100.0%
% Age group (per person)	49.3%	60.0%	54.3%	42.6%	52.0%	54.6%
(per person)	\$33,728	\$453,182	\$268,044	\$112,578	\$82,052	\$949,584
(per person/year)	\$11,243	\$151,061	\$89,348	\$37,526	\$27,351	\$63,306
Total Costs	\$26,409,954	\$291,305,928	\$190,689,200	\$101,995,123	\$60,921,553	\$671,321,757
% Total costs	3.9%	43.4%	28.4%	15.2%	9.1%	100.0%
% Age group (per person)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person)	\$68,420	\$754,679	\$494,013	\$264,236	\$157,828	\$1,739,176
(per person/year)	\$22,807	\$251,560	\$164,671	\$88,079	\$52,609	\$115,945

Note: % Age Group percentages represent the proportion of costs within each age (column) interval. For example, \$9,051,451 in victim costs between the ages of 12-14 represents 34.3% of the total of \$26,409,954. Cost category percentages are calculated in the same way using row totals.

Appendix K: Victim Costs Associated with Undetected Crime by Offence Type and Age

Offence category/Age interval	Age Interval				Total
	12-14	15-17	18-20	21-23	
Homicide	\$0	\$0	\$0	\$0	\$0
Rape/sexual assault	\$13,711,259	\$82,267,555	\$58,584,471	\$16,204,215	\$4,985,912
Armed robbery	\$0	\$0	\$13,517,756	\$11,586,648	\$0
Aggravated assault	\$3,103,013	\$37,236,154	\$31,030,128	\$20,686,752	\$8,274,701
Abduction/Kidnapping	\$0	\$0	\$0	\$0	\$0
Serious assault	\$10,590,120	\$51,538,584	\$33,888,384	\$41,654,472	\$26,122,296
Robbery	\$8,484,941	\$135,759,053	\$90,152,496	\$35,000,381	\$15,909,264
Intimidation	\$9,175,152	\$40,370,669	\$38,535,638	\$48,628,306	\$20,185,334
Arson	\$327,529	\$2,292,704	\$655,058	\$655,058	\$0
Common assault	\$47,949,612	\$153,438,758	\$121,072,770	\$86,309,302	\$52,744,573
Weapons (use)	\$0	\$4,532,224	\$2,266,112	\$755,371	\$1,133,056
Motor vehicle theft	\$153,176	\$1,123,294	\$459,529	\$51,059	\$51,059
Burglary/B+E	\$5,011,974	\$43,588,986	\$15,643,434	\$7,669,839	\$4,100,706
Counterfeiting/forgery	\$162,722	\$325,444	\$488,166	\$976,332	\$162,722
Serious theft	\$1,905,904	\$17,041,024	\$3,251,248	\$1,905,904	\$448,448
Serious mischief	\$241,500	\$759,000	\$483,000	\$690,000	\$759,000
Extortion	\$0	\$277,424	\$55,485	\$0	\$0
Fraud	\$312,312	\$2,134,132	\$1,249,248	\$1,093,092	\$1,665,664
Stolen property	\$2,023,308	\$15,849,246	\$7,177,926	\$3,083,136	\$2,360,526
Minor theft	\$6,294,288	\$17,519,102	\$8,549,741	\$4,930,526	\$2,675,072
Vandalism/Mischief	\$1,255,426	\$3,966,004	\$1,654,879	\$798,907	\$941,569
Weapons (possession)	\$69,000	\$476,100	\$303,600	\$213,900	\$193,200
Drug dealing	\$0	\$2,182,400	\$3,769,600	\$3,472,000	\$3,273,600
Other offences	\$3,600	\$144,000	\$39,600	\$43,200	\$10,800
Total	\$110,774,836	\$612,821,855	\$432,828,270	\$286,408,399	\$145,997,503
					\$1,588,830,863

Appendix L: Cost of Crime by Age and Trajectory Group – Table L1 – All offenders (N=386)

Cost Category	Age Interval				Total	
	12-14	15-17	18-20	21-23		24-26
Victim Costs	\$9,051,451	\$58,068,392	\$52,735,676	\$44,055,073	\$18,692,107	\$182,602,699
% Total victim costs	5.0%	31.8%	28.9%	24.1%	10.2%	100.0%
% Age group (per person)	6.6%	6.4%	8.5%	11.3%	9.0%	8.1%
(per person / year)	\$23,449	\$150,436	\$136,621	\$114,132	\$48,425	\$473,064
(per person / year)	\$7,816	\$50,145	\$45,540	\$38,044	\$16,142	\$31,538
Correctional Costs	\$4,339,626	\$58,309,384	\$34,488,381	\$14,485,013	\$10,557,361	\$122,179,765
% Correctional total	3.6%	47.7%	28.2%	11.9%	8.6%	100.0%
% Age group (per person)	\$0	\$0	\$0	\$0	\$0	\$0
(per person / year)	\$11,243	\$151,061	\$89,348	\$37,526	\$27,351	\$316,528
(per person / year)	\$3,748	\$50,354	\$29,783	\$12,509	\$9,117	\$21,102
Other CJS	\$13,018,877	\$174,928,152	\$103,465,143	\$43,455,038	\$31,672,084	\$366,539,294
% Other CJS total	3.6%	47.7%	28.2%	11.9%	8.6%	100.0%
% Age group (per person)	9.5%	19.3%	16.6%	11.2%	15.3%	16.2%
(per person / year)	\$33,728	\$453,182	\$268,044	\$112,578	\$82,052	\$949,584
(per person / year)	\$11,243	\$151,061	\$89,348	\$37,526	\$27,351	\$63,305
Undetected crime	\$110,774,836	\$612,821,855	\$432,828,270	\$286,408,399	\$145,997,503	\$1,588,830,863
% Undetected Total	7.0%	38.6%	27.2%	18.0%	9.2%	100.0%
% Age group (per person)	80.7%	67.8%	69.4%	73.7%	70.6%	70.3%
(per person / year)	\$286,981	\$1,587,621	\$1,121,317	\$741,991	\$378,232	\$4,116,142
(per person / year)	\$95,660	\$529,207	\$373,772	\$247,330	\$126,077	\$274,409
Total	\$137,184,790	\$904,127,783	\$623,517,470	\$388,403,522	\$206,919,056	\$2,260,152,620
% Total	6.1%	40.0%	27.6%	17.2%	9.2%	100.0%
% Age group (per person)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person / year)	\$355,401	\$2,342,300	\$1,615,330	\$1,006,227	\$536,060	\$5,855,318
(per person / year)	\$118,467	\$780,767	\$538,443	\$335,409	\$178,687	\$390,354

Note: % Age Group percentages represent the proportion of costs within each age (column) interval. For example, \$9,051,451 in victim costs between the ages of 12-14 represents 6.6% of the total of \$137,184,790. Cost category percentages are calculated in the same way using row totals. This applies to all tables (L2-L8) in Appendix L.

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L2 – Low Desister Trajectory (T6; N=115)

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Victim Costs	\$1,186,282	\$16,997,720	\$14,859,212	\$1,915,700	\$0	\$34,958,914
% Total victim costs	3.4%	48.6%	42.5%	5.5%	0.0%	100.0%
% Age group (per person)	7.8%	7.2%	11.5%	7.4%	0.0%	8.6%
(per person / year)	\$10,315	\$147,806	\$129,211	\$16,658	\$0	\$303,991
(per person / year)	\$3,438	\$49,269	\$43,070	\$5,553	\$0	\$20,266
Correctional Costs	\$292,609	\$11,691,694	\$7,703,295	\$1,481,156	\$327,937	\$21,496,691
% Correctional total	1.4%	54.4%	35.8%	6.9%	1.5%	100.0%
% Age group (per person)	1.9%	5.0%	5.9%	5.7%	25.0%	5.3%
(per person / year)	\$2,544	\$101,667	\$66,985	\$12,880	\$2,852	\$186,928
(per person / year)	\$848	\$33,889	\$22,328	\$4,293	\$951	\$12,462
Other CJS	\$877,826	\$35,075,081	\$23,109,884	\$4,443,469	\$983,812	\$64,490,072
% Other CJS total	1.4%	54.4%	35.8%	6.9%	1.5%	100.0%
% Age group (per person)	5.8%	14.9%	17.8%	17.1%	75.0%	15.8%
(per person / year)	\$7,633	\$305,001	\$200,956	\$38,639	\$8,555	\$560,783
(per person / year)	\$2,544	\$101,667	\$66,985	\$12,880	\$2,852	\$37,386
Undetected crime	\$12,756,918	\$172,049,084	\$83,860,185	\$18,195,803	\$0	\$286,861,990
% Undetected Total	4.4%	60.0%	29.2%	6.3%	0.0%	100.0%
% Age group (per person)	84.4%	73.0%	64.7%	69.9%	0.0%	70.3%
(per person / year)	\$110,930	\$1,496,079	\$729,219	\$158,224	\$0	\$2,494,452
(per person / year)	\$36,977	\$498,693	\$243,073	\$52,741	\$0	\$166,297
Total	\$15,113,634	\$235,813,579	\$129,532,576	\$26,036,128	\$1,311,750	\$407,807,667
% Total	3.7%	57.8%	31.8%	6.4%	0.3%	100.0%
% Age group (per person)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person / year)	\$131,423	\$2,050,553	\$1,126,370	\$226,401	\$11,407	\$3,546,154
(per person / year)	\$43,808	\$683,518	\$375,457	\$75,467	\$3,802	\$236,410

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L3 – Low Persister Trajectory (T7; N=125)

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Victim Costs						
% Total victim costs	\$1,516,299	\$13,222,491	\$8,402,056	\$5,150,260	\$2,780,694	\$31,071,800
	4.9%	42.6%	27.0%	16.6%	8.9%	100.0%
% Age group						
(per person)	\$12,130	\$105,780	\$67,216	\$41,202	\$22,246	\$80,497
(per person / year)	\$4,043	\$35,260	\$22,405	\$13,734	\$7,415	\$5,367
Correctional Costs						
% Correctional total	\$1,076,316	\$13,589,526	\$7,879,409	\$1,850,934	\$1,896,283	\$26,292,467
	4.1%	51.7%	30.0%	7.0%	7.2%	100.0%
% Age group						
(per person)	\$8,611	\$108,716	\$63,035	\$14,807	\$15,170	\$210,340
(per person / year)	\$2,870	\$36,239	\$21,012	\$4,936	\$5,057	\$14,022
Other CJS						
% Other CJS total	\$3,228,946.65	\$40,768,579	\$23,638,226	\$5,552,802	\$5,688,848	\$78,877,402
	4.1%	51.7%	30.0%	7.0%	7.2%	100.0%
% Age group						
(per person)	\$25,832	\$326,149	\$189,106	\$44,422	\$45,511	\$631,019
(per person / year)	\$8,611	\$108,716	\$63,035	\$14,807	\$15,170	\$42,068
Undetected crime						
% Undetected Total	\$21,322,002	\$134,213,846	\$91,757,643	\$57,087,143	\$33,518,095	\$337,898,729
	6.3%	39.7%	27.2%	16.9%	9.9%	100.0%
% Age group						
(per person)	\$170,576	\$1,073,711	\$734,061	\$456,697	\$268,145	\$2,703,190
(per person / year)	\$56,859	\$357,904	\$244,687	\$152,232	\$89,382	\$180,213
Total						
% Total	\$27,143,563	\$201,794,443	\$131,677,333	\$69,641,139	\$43,883,920	\$474,140,398
	5.7%	42.6%	27.8%	14.7%	9.3%	100.0%
% Age group						
(per person)	\$217,149	\$1,614,356	\$1,053,419	\$557,129	\$351,071	\$3,793,123
(per person / year)	\$72,383	\$538,119	\$351,140	\$185,710	\$117,024	\$252,875

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L4 – Moderate Adolescence Peaked Trajectory (T4; N=45)

Category	Age Interval				Total	
	12-14	15-17	18-20	21-23		24-26
Victim Costs	\$2,346,041	\$10,056,171	\$4,776,412	\$4,054,496	\$711,819	\$21,944,939
% Total victim costs	10.7%	45.8%	21.8%	18.5%	3.2%	100.0%
% Age group (per person)	6.5%	5.9%	6.0%	7.0%	6.0%	6.2%
(per person / year)	\$52,134	\$223,470	\$106,142	\$90,100	\$15,818	\$487,665
	\$17,378	\$74,490	\$35,381	\$30,033	\$5,273	\$32,511
Correctional Costs	\$1,428,804	\$12,684,095	\$6,567,562	\$1,911,949	\$564,685	\$23,157,096
% Correctional total	6.2%	54.8%	28.4%	8.3%	2.4%	100.0%
% Age group (per person)	4.0%	7.4%	8.2%	3.3%	4.7%	6.5%
(per person / year)	\$31,751	\$281,869	\$145,946	\$42,488	\$12,549	\$514,602
	\$10,584	\$93,956	\$48,649	\$14,163	\$4,183	\$34,307
Other CJS Costs	\$4,286,412	\$38,052,286	\$19,702,687	\$5,735,848	\$1,694,054	\$69,471,287
% Other CJS total	6.2%	54.8%	28.4%	8.3%	2.4%	100.0%
% Age group (per person)	11.9%	22.3%	24.6%	9.9%	14.2%	19.5%
(per person / year)	\$95,254	\$845,606	\$437,837	\$127,463	\$37,646	\$1,543,806
	\$31,751	\$281,869	\$145,946	\$42,488	\$12,549	\$102,920
Undetected Crime	\$27,879,941	\$109,514,408	\$48,931,153	\$46,431,283	\$8,969,514	\$241,726,298
% Undetected Total	11.5%	45.3%	20.2%	19.2%	3.7%	100.0%
% Age group (per person)	77.6%	64.3%	61.2%	79.9%	75.1%	67.8%
(per person / year)	\$619,554	\$2,433,654	\$1,087,359	\$1,031,806	\$199,323	\$5,371,696
	\$206,518	\$811,218	\$362,453	\$343,935	\$66,441	\$358,113
Total	\$35,941,198	\$170,306,960	\$79,977,814	\$58,133,576	\$11,940,071	\$356,299,619
% Total	10.1%	47.8%	22.4%	16.3%	3.4%	100.0%
% Age group (per person)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person / year)	\$798,693	\$3,784,599	\$1,777,285	\$1,291,857	\$265,335	\$7,917,769
	\$266,231	\$1,261,533	\$592,428	\$430,619	\$88,445	\$527,851

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L5 – Moderate Late Persister Trajectory (T1; N=14)

Category	Age Interval				Total
	12-14	15-17	18-20	21-23	
Victim Costs					
% Total victim costs	\$249,710	\$1,177,781	\$3,482,546	\$641,261	\$1,675,506
% Age group	3.5%	16.3%	48.2%	8.9%	23.2%
(per person)	\$17,836	\$84,127	\$248,753	\$45,804	\$119,679
(per person / year)	\$5,945	\$28,042	\$82,918	\$15,268	\$39,893
Correctional Costs					
% Correctional total	\$205,833	\$1,987,252	\$1,547,608	\$1,042,905	\$1,028,696
% Age group	3.5%	34.2%	26.6%	17.9%	17.7%
(per person)	\$14,702	\$141,947	\$110,543	\$74,493	\$73,478
(per person / year)	\$4,901	\$47,316	\$36,848	\$24,831	\$24,493
Other CJS					
% Other CJS total	\$617,498	\$5,961,757	\$4,642,825	\$3,128,716	\$3,086,087
% Age group	3.5%	34.2%	26.6%	17.9%	17.7%
(per person)	\$44,107	\$425,840	\$331,630	\$223,480	\$220,435
(per person / year)	\$14,702	\$141,947	\$110,543	\$74,493	\$73,478
Undetected crime					
% Undetected Total	\$1,919,270	\$15,585,205	\$38,525,025	\$9,285,892	\$16,380,437
% Age group	2.3%	19.1%	47.2%	11.4%	20.1%
(per person)	\$137,091	\$1,113,229	\$2,751,788	\$663,278	\$1,170,031
(per person / year)	\$45,697	\$371,076	\$917,263	\$221,093	\$390,010
Total					
% Total	\$2,992,311	\$24,711,996	\$48,198,004	\$14,098,775	\$22,170,726
% Age group	2.7%	22.0%	43.0%	12.6%	19.8%
(per person)	\$213,737	\$1,765,143	\$3,442,715	\$1,007,055	\$1,583,623
(per person / year)	\$71,246	\$588,381	\$1,147,572	\$335,685	\$527,874
Total					
% Total	\$7,226,804	\$72,226,804	\$722,268,004	\$172,268,004	\$172,268,004
% Age group	100.0%	100.0%	100.0%	100.0%	100.0%
(per person)	\$8,012,272	\$80,122,722	\$801,227,222	\$180,122,722	\$180,122,722
(per person / year)	\$534,151	\$5,341,511	\$53,415,151	\$11,415,151	\$11,415,151

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L6 – Moderate Early Persister Trajectory (T5; N=55)

Category	Age Interval				Total	
	12-14	15-17	18-20	21-23		24-26
Victim Costs	\$1,473,918	\$9,154,294	\$7,248,506	\$8,361,443	\$4,405,741	\$30,643,902
% Total victim costs	4.8%	29.9%	23.7%	27.3%	14.4%	100.0%
% Age group	7.0%	6.1%	7.4%	7.7%	6.7%	6.9%
(per person)	\$26,799	\$166,442	\$131,791	\$152,026	\$80,104	\$557,162
(per person / year)	\$8,933	\$55,481	\$43,930	\$50,675	\$26,701	\$37,144
Correctional Costs	\$513,831	\$10,268,564	\$4,936,617	\$2,633,804	\$2,536,781	\$20,889,597
% Correctional total	2.5%	49.2%	23.6%	12.6%	12.1%	100.0%
% Age group	2.4%	6.8%	5.0%	2.4%	3.9%	4.7%
(per person)	\$9,342	\$186,701	\$89,757	\$47,887	\$46,123	\$379,811
(per person / year)	\$3,114	\$62,234	\$29,919	\$15,962	\$15,374	\$25,321
Other CJS	\$1,541,493	\$30,805,693	\$14,809,852	\$7,901,411	\$7,610,343	\$62,668,792
% Other CJS total	2.5%	49.2%	23.6%	12.6%	12.1%	100.0%
% Age group	7.3%	20.4%	15.1%	7.2%	11.6%	14.1%
(per person)	\$28,027	\$560,104	\$269,270	\$143,662	\$138,370	\$1,139,433
(per person / year)	\$9,342	\$186,701	\$89,757	\$47,887	\$46,123	\$75,962
Undetected crime	\$17,585,886	\$100,777,446	\$70,950,008	\$90,260,775	\$50,932,913	\$330,507,028
% Undetected Total	5.3%	30.5%	21.5%	27.3%	15.4%	100.0%
% Age group	83.3%	66.7%	72.4%	82.7%	77.8%	74.3%
(per person)	\$319,743	\$1,832,317	\$1,290,000	\$1,641,105	\$926,053	\$6,009,219
(per person / year)	\$106,581	\$610,772	\$430,000	\$547,035	\$308,684	\$400,615
Total	\$21,115,128	\$151,005,998	\$97,944,983	\$109,157,433	\$65,485,778	\$444,709,320
% Total	4.7%	34.0%	22.0%	24.5%	14.7%	100.0%
% Age group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person)	\$383,911	\$2,745,564	\$1,780,818	\$1,984,681	\$1,190,651	\$8,085,624
(per person / year)	\$127,970	\$915,188	\$593,606	\$661,560	\$396,884	\$539,042

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L7 – High Early Trajectory (T3; N=17)

Category	Age Interval					Total
	12-14	15-17	18-20	21-23	24-26	
Victim Costs	\$865,233	\$3,152,421	\$3,808,206	\$14,988,906	\$1,441,867	\$24,256,633
% Total victim costs	3.6%	13.0%	15.7%	61.8%	5.9%	100.0%
% Age group	8.7%	6.0%	5.9%	25.2%	6.0%	11.5%
(per person)	\$50,896	\$185,437	\$224,012	\$881,700	\$84,816	\$1,426,861
(per person / year)	\$16,965	\$61,812	\$74,671	\$293,900	\$28,272	\$95,124
Correctional Costs	\$436,830	\$3,560,973	\$2,715,846	\$2,213,174	\$1,175,189	\$10,102,013
% Correctional total	4.3%	35.3%	26.9%	21.9%	11.6%	100.0%
% Age group	4.4%	6.8%	4.2%	3.7%	4.9%	4.8%
(per person)	\$25,696	\$209,469	\$159,756	\$130,187	\$69,129	\$594,236
(per person / year)	\$8,565	\$69,823	\$53,252	\$43,396	\$23,043	\$39,616
Other CJS	\$1,310,489	\$10,682,920	\$8,147,539	\$6,639,523	\$3,525,567	\$30,306,038
% Other CJS total	4.3%	35.3%	26.9%	21.9%	11.6%	100.0%
% Age group	13.2%	20.5%	12.5%	11.1%	14.7%	14.4%
(per person)	\$77,088	\$628,407	\$479,267	\$390,560	\$207,386	\$1,782,708
(per person / year)	\$25,696	\$209,469	\$159,756	\$130,187	\$69,129	\$118,847
Undetected crime	\$7,334,172	\$34,738,466	\$50,308,889	\$35,749,934	\$17,908,597	\$146,040,059
% Undetected Total	5.0%	23.8%	34.4%	24.5%	12.3%	100.0%
% Age group	73.7%	66.6%	77.4%	60.0%	74.5%	69.3%
(per person)	\$431,422	\$2,043,439	\$2,959,346	\$2,102,937	\$1,053,447	\$8,590,592
(per person / year)	\$143,807	\$681,146	\$986,449	\$700,979	\$351,149	\$572,706
Total	\$9,946,724	\$52,134,780	\$64,980,481	\$59,591,537	\$24,051,220	\$210,704,742
% Total	4.7%	24.7%	30.8%	28.3%	11.4%	100.0%
% Age group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person)	\$585,101	\$3,066,752	\$3,822,381	\$3,505,385	\$1,414,778	\$12,394,397
(per person / year)	\$195,034	\$1,022,251	\$1,274,127	\$1,168,462	\$471,593	\$826,293

Appendix L: Cost of Crime by Age and Trajectory Group (continued) – Table L8 – High Late Trajectory (T2; N=15)

Category	Age Interval				Total	
	12-14	15-17	18-20	21-23		24-26
Victim Costs	\$1,413,968	\$4,307,514	\$10,158,738	\$8,943,007	\$7,676,480	\$32,499,707
% Total victim costs	4.4%	13.3%	31.3%	27.5%	23.6%	100.0%
% Age group (per person)	5.7%	6.3%	14.3%	17.3%	20.2%	12.8%
(per person / year)	\$94,265	\$287,168	\$677,249	\$596,200	\$511,765	\$2,166,647
(per person / year)	\$31,422	\$95,723	\$225,750	\$198,733	\$170,588	\$144,143
Correctional Costs	\$385,404	\$4,527,278	\$3,138,043	\$3,351,090	\$3,027,791	\$14,429,606
% Correctional total	2.7%	31.4%	21.7%	23.2%	21.0%	100.0%
% Age group (per person)	1.5%	6.6%	4.4%	6.5%	8.0%	5.7%
(per person / year)	\$25,694	\$301,819	\$209,203	\$223,406	\$201,853	\$961,974
(per person / year)	\$8,565	\$100,606	\$69,734	\$74,469	\$67,284	\$64,132
Other CJS	\$1,156,212	\$13,581,835	\$9,414,129	\$10,053,269	\$9,083,373	\$43,288,819
% Other CJS total	2.7%	31.4%	21.7%	23.2%	21.0%	100.0%
% Age group (per person)	4.6%	19.9%	13.2%	19.4%	23.9%	17.0%
(per person / year)	\$77,081	\$905,456	\$627,609	\$670,218	\$605,558	\$2,885,921
(per person / year)	\$25,694	\$301,819	\$209,203	\$223,406	\$201,853	\$192,395
Undetected crime	\$21,976,648	\$45,943,399	\$48,495,367	\$29,397,568	\$18,287,947	\$164,100,930
% Undetected Total	13.4%	28.0%	29.6%	17.9%	11.1%	100.0%
% Age group (per person)	88.1%	67.2%	68.1%	56.8%	48.0%	64.5%
(per person / year)	\$1,465,110	\$3,062,893	\$3,233,024	\$1,959,838	\$1,219,196	\$10,940,062
(per person / year)	\$488,370	\$1,020,964	\$1,077,675	\$653,279	\$406,399	\$729,337
Total	\$24,932,232	\$68,360,027	\$71,206,277	\$51,744,934	\$38,075,591	\$254,319,062
% Total	9.8%	26.9%	28.0%	20.3%	15.0%	100.0%
% Age group (per person)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(per person / year)	\$1,662,149	\$4,557,335	\$4,747,085	\$3,449,662	\$2,538,373	\$16,954,604
(per person / year)	\$554,050	\$1,519,112	\$1,582,362	\$1,149,887	\$846,124	\$1,130,307

Appendix M: Cost of Crime Estimates Assuming Discounting of Undetected Crimes

Category	Victim	Correctional	Other CJS	Undetected Crime	Total	Average Per Person
T6: Low Desister (N=115)	34,958,914	21,496,691	64,490,072	96,802,173	217,747,850	1,893,460
T7: Low Persister (N=125)	31,071,800	26,292,467	78,877,402	115,128,451	251,370,120	2,010,961
T4: Moderate Adolescence Peaked (N=45)	21,944,939	23,157,096	69,471,287	131,907,631	246,480,952	5,477,354
T1: Moderate Late Persister (N=14)	7,226,804	5,812,295	17,436,884	\$44,598,878	75,074,861	5,362,490
T5: Moderate Early Persister (N=55)	30,643,902	20,889,597	62,668,792	180,284,089	294,486,381	5,354,298
T3: High Early (N=17)	24,256,633	10,102,013	30,306,038	109,530,044	174,194,727	10,246,749
T2: High Late (N=15)	32,499,707	14,429,606	43,288,819	123,075,697	213,293,829	14,219,589
Total All Offenders (N=386)	182,602,699	122,179,765	366,539,294	801,326,964	1,472,648,721	3,815,152

Note: Victim costs were assumed at 75% of the values listed in Table 1; multipliers were valued at 100% for the high (T2, T3) groups, 75% for the moderate (T1, T4, T5) groups, and 50% for the low (T6, T7) groups.

Appendix N: The Total Costs of Crime by Type and Age Interval

Category	Age Interval				Total	
	12-14	15-17	18-20	21-23		24-26
Victim	\$9,051,451	\$58,068,392	\$52,735,676	\$44,055,073	\$18,692,107	\$182,602,699
Correctional	\$4,339,626	\$58,309,384	\$34,488,381	\$14,485,013	\$10,557,361	\$122,179,765
Other CJS	\$13,018,877	\$174,928,152	\$103,465,143	\$43,455,038	\$31,672,084	\$366,539,294
Undetected crime	\$110,774,836	\$612,821,855	\$432,828,270	\$286,408,399	\$145,997,503	\$1,588,830,863
Total	\$137,184,790	\$904,127,783	\$623,517,470	\$388,403,523	\$206,919,055	\$2,260,152,621