Chapter 8

Summary and General Discussion
Overall, the aim of this dissertation is three-fold. First, to describe police recorded delinquency and self-reported antisocial behavior as well as recidivism among childhood first-time offenders (defined as onset below age 12). Second, to study correlates of offending severity among child delinquents. Third, to study predictors of recidivism and desistance in early onset offending.

INTRODUCTION
Childhood onset offending is recognized as one of the main risk factors for developing a persistent delinquent career (Loeber & Farrington, 2001; Moffitt, 1993; Snyder, 2001; Krohn, Thornberry, Rivera, & Le Blanc, 2001). In addition, a child displaying delinquent behavior at a young age is at heightened risk to develop mental health, social and relational, as well as occupational problems during his or her entire life (Moffitt et al., 2002; Hofstra, van der Ende, & Verhulst, 2002; Maughan & Rutter, 2001). However, not all children who display delinquent behavior will persist in offending or develop other problems in life (e.g., Krohn et al., 2001; Raine et al., 2005; Moffitt et al., 2002; Chung et al., 2002). Therefore it is important to investigate early onset offenders and their (re)-offense patterns, in order to obtain better insight into the scope of the problem. Also, it is essential to identify risk and promotive factors that can help to differentiate between subgroups of offenders, i.e. persistent offenders, desisters and sporadic offenders. Insight into early onset offenders’ characteristics may enable accurate identification of those who are truly at risk, and may also provide us with directions for intervention. Early intervention should be considered important as it may result in preventing further escalation and thereby potential harm to society and the offender him/her self. When successful, secondary gains may well be expected, for example because early onset offenders are no longer a negative role model for other juveniles (Moffitt, 1997). Because behavioral patterns have become less ingrained in the child than at a later age (Junger-Tas, 1996; Tremblay & Craig, 1997), early intervention may be both more effective and cost-efficient. Accurate identification of children at risk is not only essential for those at risk but also for children not at risk. For this later group, over-intervention and potential stigmatization should be avoided.

Until now, however, we know little about the characteristics of childhood
first-time offenders, or of their subsequent offending careers and the predictors of these careers. Most studies have identified early onset offending as a risk factor for persistence, while research is lacking on differences within the early onset offender group (Loeber & Farrington, 2001). One reason may well be the rarity of the phenomenon of childhood offending, necessitating large population samples to study within-group differences. In order to fill this gap, the main focus of this thesis is on high risk samples of childhood onset offenders, i.e. children registered for the first time by the police because of delinquent behavior below age 12. The study of offense patterns and their correlates among children who have been registered by the police is also relevant for changes in police practice.

SUMMARY
For this thesis considering childhood onset offending patterns and their correlates from a clinical and public health perspective, we used three different samples in two different countries:

- Sample 1 consists of 347 children under age 12 registered for the first-time by the police in 2001. Variables included were derived from police recordings until 2005 and from files used by other agencies.
- Sample 2 consists of 260 children under age 12 registered by the police for the first-time in 2003-2005. Information for this study was derived in 2003-2005 and the one-year follow-up in 2004-2006 from police recordings, and from instruments administered to parent and children.
- Sample 3 consists of 310 children aged 7 years at first assessment belonging to the youngest cohort of the Pittsburgh Youth Study (PYS), a prospective general population study with an oversampling of children with behavioral problems. Children who displayed delinquent behavior prior to age twelve were selected for this dissertation, and variables collected at ages 12 through 19 years were used as outcome. Variables of interest were collected through parent, child, teacher and court reports.

The three samples have some unique strengths. To date, childhood onset offending as registered by the police has rarely been studied, because their age is below the
age of criminal responsibility in Western countries (e.g., 12 years in the Netherlands), which makes that these children are not prosecuted and hence do not appear in national crime statistics. In the Netherlands, children who are stopped by the police at this age are registered in a local police registration system, facilitating the investigation of this group of children. Offenses do not include status offenses as these are generally not dealt with by the police in the Netherlands. Sample 1 is one of the first large samples of children with a first police contact that provide follow-up data. Sample 2 is one of the first large samples of children with a first police contact which includes child and parent reports. Finally, sample 3 provides longitudinal data on a large sample of childhood onset offenders and thereby allows one to study different levels of persistence and desistance in adolescence. Desistance and less serious forms of persistence have seldom been studied and may provide us with important insight into childhood onset offending patterns.

Table 1 describes the main methodological characteristics of the studies conducted with these three samples. In the sections below, the results will be summarized, followed by a general discussion including strengths and limitations, implications for daily practice, and directions for future research.

Chapter two reviews screening and assessment practices used to identify children below age 12 at risk for persistent offending in the Netherlands. First, general principles, relevant methods and limitations on existing instruments are discussed. Second, Dutch practice are described. It was found that Dutch agencies are becoming increasingly aware of the need to screen and assess children longitudinally in a more standardized way. However, there is an obvious lack of screening and assessment instruments that are properly validated in the Netherlands. For instance, little attention has so far been paid to the predictive value of instruments and methods in specific populations, such as children with a police encounter.

Chapter three describes, first, the offense, socio-demographic and neighborhood characteristics of the child delinquents from sample 1, who have thus been registered by the police for the first-time. Second, the chapter investigates differences in police registration rates between children residing in neighborhoods
of different urbanization levels and social economic status (SES), and between children of Dutch versus non-Western ethnic origin. Finally, offenders who were registered for offenses of minor severity are compared to offenders who we registered for offenses of moderate to serious severity on offense, socio-demographic, and neighborhood characteristics. Boys and girls are studied separately. The results show that most children were registered for offenses of minor (56%) to moderate (37%) severity, while serious offending was rare (7%). Solo-offending was relatively uncommon (21%) and just 15% of offenders were female. Children residing in low SES neighborhoods and in highly urbanized neighborhoods were over-represented, even after controlling for the higher number of children residing in these neighborhoods. Among the children from disadvantaged neighborhoods, individuals of non-Western ethnic origins were at higher risk of getting registered by the police than children of Dutch origin. Differences between moderate to serious offenders versus minor offenders with respect to socio-demographic and offense characteristics were limited. In girls, residing in a low SES neighborhood was the only characteristic that distinguished moderate to serious from minor offenders. In boys, moderate to serious offenders were more often of non-Western ethnic origin and residing in high SES neighborhoods compared to minor offenders.

Chapter four investigates, first, re-offense trajectories as registered by the police over a period of 4.5 years of the male child delinquents from sample 1. Second, the predictive value of socio-demographic and first-time offense characteristics as registered by the police for distinguishing between re-offense trajectories was studied. Finally, the paper studies the association between re-offense trajectories and factors such as child welfare involvement and police registrations as witness of violence and/or victim of crimes. Three delinquent trajectories were identified after a first registration: 1) no or only sporadic non-serious offenses (68%), 2) escalating levels of offending (25%), and 3) serious offending at high frequency (7%). Both groups 2), escalating offenders, and 3), chronic offenders, experienced more adverse outcomes, such as criminal victimization and contacts with Child Welfare agencies, throughout the follow-up period than group 1), low level offenders. The predictive value of socio-demographic and first-time offense characteristics for differentiating between re-offense trajectories was found to be poor. Chronic offenders were older
Table 1. summary of studies described in this dissertation

<table>
<thead>
<tr>
<th>Chapter/subject</th>
<th>Population (N)</th>
<th>Design</th>
<th>Data source</th>
</tr>
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<tbody>
<tr>
<td>3: first-time offense characteristics</td>
<td>347 Dutch children with a first police contact: n = 287 boys n = 60 girls</td>
<td>Crossectional</td>
<td>police records Child Welfare records</td>
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<tr>
<td>4: recidivism trajectories</td>
<td>287 Dutch male children with a first police contact (being the boys from chapter 3)</td>
<td>follow-up 4.5 y</td>
<td>police records Child Welfare records</td>
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<tr>
<td>5: correlates of offending by neighbourhood and ethnic origin</td>
<td>260 Dutch children with a first police contact: n = 59 low SES native Dutch n = 72 high SES native Dutch n = 106 low SES non-Western n = 23 other (= Western non-Dutch and high SES non-Western)</td>
<td>Crossectional</td>
<td>police records self-report parent-report</td>
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<tr>
<td>6: externalizing psychopathology and stability of offending</td>
<td>206 Dutch children with a first-police contact (being the children from chapter 5 who were diagnosed and retrieved after one-year)</td>
<td>follow-up 1 y</td>
<td>police records self-report parent-report</td>
</tr>
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</table>
## Summary and General discussion

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Correlates and predictors of level of offending</th>
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| severity of first offense | Potential risk factors in different domains  
- socio-demographics  
- neighbourhood characteristics  
- first-offense characteristics |
| frequency and severity of re-offending | Potential risk factors and correlates in different domains  
- socio-demographics  
- neighbourhood characteristics  
- first-offense characteristics  
- child welfare involvement |
| variety in reported offending | Potential risk factors in different domains:  
- individual  
- peer  
- environment  
- family |
| variety in reported offending | Potential risk and one promotive factor(s) from several domains:  
Externalizing psychopathology  
Socio-demographics  
First-arrest characteristics  
Parenting |
| severity and persistence of offending in three age periods:  
1) 12-13y  
2) 14-16y  
3) 17-19y | Potential risk and promotive factors from several domains:  
individual  
peer  
environment  
family |
at onset and more often of non-Western origin than low level offenders. Escalating offenders were also older at onset and, in addition, more often resided in low SES neighborhoods than low level offenders. Despite the fact that potential risk factors used for this study were of limited predictive value, the police reacted more restrictively towards those who later became high level re-offenders, e.g., by taking them more often to the police station. It is likely that factors not included in the study, e.g., attitude of the child, were used by the police for assessing risk and for determining their reaction towards the child delinquents.

**Chapter five** uses sample 2, first, to study differences in the prevalence rates of several potential risk factors in children with a first-time police registration from low versus high SES neighborhoods and of non-Western versus Dutch ethnic origin. Second, to study the association between these factors and level of offending. Level of offending was based on self-report information on the number of different offenses committed over the previous half year obtained from both the child and the parent. Based on SES and ethnicity, offenders from sample 2 were classified into three groups: 1) Dutch offenders from moderate to high SES neighborhoods, 2) Dutch offenders from low SES neighborhoods, and 3) non-Western offenders from low SES neighborhoods. Results showed that about one third of the entire group had high levels of risk factors, particularly externalizing disorders and familial difficulties. In both Dutch offender groups, only individual characteristics correlated with the level of offending. In the high SES group, a diagnosis of attention deficit hyperactivity disorder (ADHD) and behavioral problems were positively associated with level of offending. In the low SES group, behavioral problems and proactive aggression were positively associated with level offending. In the non-Western offender group, not only higher levels of individual factors (i.e., substance use, hyperactivity and sensation seeking), but also parental mental health problems and problematic peer relationships were associated with higher levels of offending. In summary, risk factors for offending do not seem to differ substantially among children from different neighborhoods when Dutch children are concerned. For the non-Dutch group, however, parent and peer related risk factors may have a stronger impact on offending.

**Chapter six** studies, among the children from sample 2, the value of
externalizing psychiatric disorders (oppositional defiant disorder - ODD, conduct disorder – CD or attention-deficit hyperactivity disorder - ADHD) in the prediction of self and parent reported offending at one year follow-up, over and above socio-demographic and first offense characteristics. Both at first assessment and at follow-up, a high level of offending was defined as scoring in the top 25% of the number of offenses as reported by the parent and/or the child. Three groups were created: 1) persistently high offenders (16%), 2) persistently low offenders (56%) and 3) a variable group that offended at a high level at only one of the two measurements (28%). In the persistent high group, 65% met diagnostic criteria of at least one externalizing disorder, compared to 39% in the intermittent and 23% in the persistent low offender group. Meeting the criteria of ODD and/or CD and comorbidity of ODD/CD with ADHD, were predictive of persistence of offending, while ADHD alone was not. Socio-demographic, offense and parent characteristics were of no additional predictive value to psychopathology in predicting stability of offending.

The aim of the study presented in chapter seven is to identify risk and protective factors for offending in adolescence in childhood onset offenders, using sample 3. Three groups of adolescent outcomes were differentiated: 1) serious persisters, who persisted in serious offending in adolescence, 2) moderately serious persisters, who persisted in offending of moderate severity in adolescence, and 3) desisters. Considerable variety was found: about one third (31%) persisted in serious offending, over one third persisted in moderately serious offending (38%), and one fifth (20%) desisted. The remainder (11%) offended at intermediate levels. Both serious persisters and moderately serious persisters could be distinguished well from early onset offenders who desisted in early adolescence, while it proved more difficult to distinguish between moderately serious and serious persisters in offending. Serious persisters compared to the moderate persisters were more likely to display disruptive behavior early in life. A high level of individual deviancy was found predictive of serious persistence in offending when compared to desistance, while desisters were higher in involvement in family activities and more often had a small family size. Finally, moderately serious persisters as compared to the desisters were marked by a combination of individual deviancy and social disadvantage,
while desisters were more likely to have pro-social bonds as apparent from high family involvement and good relationships with peers.

GENERAL DISCUSSION
The results presented in this thesis add to our knowledge about childhood onset offending in several ways. With regards to first-time registrations by the police, higher rates of first-time police registrations were found for children from disadvantaged as compared to better neighborhoods, and for ethnic minorities as compared to Dutch children. Several mechanisms could have led to this overrepresentation of minorities. Although overrepresentation of minorities was not a focus of this dissertation, some explanations for this overrepresentation will be discussed here. First, overrepresentation in the police system may be a true reflection of higher offense rates in minorities. However, although self-report studies also report higher offense rates among children residing in neighborhoods with a lower SES and minority youth, differences are generally not as large as the differences in registration rates reported in this dissertation (Herrenkohl, Hawkins, Chung, Hill & Battin-Pearson, 2001; Van der Laan, Blom, Verwers & Essers, 2005). Self-report studies are hampered by their own flaws, such as underreporting of offenses by minority groups due to socially desirable answering tendencies (e.g., Junger-Tas, Terlouw & Klein, 1994). Second, specific characteristics of a child, unrelated to the offense, such as attitude or gender, may put an individual at risk of being stopped by the police. In addition, in some subgroups the general attitude towards the police may be negative and as a result may lead to more provocative conduct towards the police. Third, ‘over-policing’, referring to the police being more present in at-risk, disadvantaged neighborhoods may result in relatively higher chances of getting caught (Philips & Bowling, 2002). Fourth, as some families, i.e. from minority groups, are less likely to reach mental health agencies, their children are less likely to get adequate help (Márquez, 2002; Alegria et al., 2002), which may put them at risk to get into contact with the police. Gaining insight into these likely processes is particularly important as not getting treatment may lead to (further) stigmatization of specific subgroups.
Most childhood offenders do not seem to differ substantially in the severity of their offending, while they do differ in the frequency and the variety of offending. Most children in our studies displayed minor to moderate levels of offending, with only few showing serious levels of offending (defined by the first offense registered by the police or defined by self-reported offending). For this reason, it is not surprising that the severity of initial childhood offending was not predictive of the level of re-offending. Moreover, severity of the first offense as registered by the police did not correlate with offending as derived from self-reports. Overall, these findings indicate that, while some childhood onset offenders are at the beginning of a pathway to serious offending, offense severity does not differentiate them from childhood offenders who are not on a path towards persistent offending. There was, however, substantial variation in the frequency and variety of self-reported delinquency and disruptive behavior among childhood onset offenders, both in the US and in the Dutch studies. Interestingly, frequency and variety were found to be predictive of future levels of offending. In the PYS, frequency of offending was predictive of persistence as compared to desistance, while in the Dutch study, a DBD diagnosis was found to be predictive of self-reported offending. Our group-based finding that severity of childhood offending is not a good predictor of future offending does not imply that rare cases of very serious offending may not be a marker of risk in an individual. As serious offending in childhood was rare in our studies, no conclusions can be drawn. Our findings imply that the absence of risk cannot be assumed when an individual displays an offense of minor to moderate severity. Therefore, at first-time police contact, in-depth information on antisocial behavior rather than registered offending information is necessary for distinguishing between those who are at high risk to persist and those who are not.

Our samples of childhood onset offenders displayed considerable heterogeneity in their re-offense patterns. Of the children registered in the Dutch police records, about one third persisted in offending. This re-offending group consisted of a subgroup who escalated in offending over time and a smaller group who re-offended at high frequency and severity from the first police contact onwards. In the PYS, one third of the early onset offenders persisted in serious offending during adolescence, while another third persisted at moderate severity. Although
the prevalence of persistence differed between the Dutch and the US studies, which is likely to be explained by sample and instrument differences, roughly one third of the childhood onset offenders persisted in adolescence at a substantial level. In addition, those who persisted in offending were at higher risk of additional negative outcomes such as victimization and witnessing of violence in adolescence. As such, a substantial subgroup of child delinquents is at high risk of developing difficulties in several life domains. The childhood onset offenders who persisted seem to resemble Moffitt’s persistent offender group (Moffitt, 1993), although long term outcome data are needed to confirm this. On the other hand, the findings also stress that not all childhood onset offenders persist in offending in adolescence. There is considerable heterogeneity among early onset offenders with some desisters having offended only once or twice, while still others offending frequently in childhood before desisting. This last group in particular is likely to correspond to the group of Childhood Limited offenders as identified in other studies (Moffitt, Caspi, Harrington & Milne, 2002). However, although we are unable to conclude firmly on this matter since we only gathered information from police records in the Dutch study and did not focus on childhood limited versus one-time offending in the PYS. Low level or sporadic offending boys in the Dutch study may have actually offended more frequently during childhood without being stopped by the police. Therefore, offending as registered by the police may be a poor proxy of an individuals’ offending career. Nonetheless, findings emphasize that although some childhood offenders are at high risk of becoming serious and persistent offenders, desistance and sporadic offending is substantial as well. Therefore, screening methods that aim at detecting those at risk for persistence are needed.

Unfortunately, it proved difficult to identify characteristics that distinguish between levels of re-offending among childhood offenders, which is similar to findings on the prediction of re-offending in adolescent offender samples (e.g., Stouthamer-Loeber, Loeber, Stalling & Lacourse, 2008). The results indicate that markers identified in general population studies should be used with caution in high risk samples of childhood delinquents. This is particularly important as most screening is done in at-risk populations, while studies are mostly conducted in the general population. For
several reasons, differences between at risk populations and the general population may be expected. First, within a high risk population, characteristics are likely to be distributed differently. Risk factors will be found more frequently, while continuously measured variables will more often be in the higher range. Second, risk factors such as attitudes and beliefs that were found to be important in adolescence, may be difficult to measure in younger at risk persons (Frick, Bodin & Barry, 2000). While such measurement difficulty may be recognized for all young children, this may particularly be true in at risk children who are likely to be more immature and hence unable to respond adequately to measurement instruments. Third, information gathered by the police on at risk populations may be less reliable, because parents and children may underreport problems to present a positive image. However, over-reporting of problems may occur as well as the police encounter may increase the focus on problematic behavior of the child. Further, because these children are not prosecuted, he police may be less precise in their investigation and the registration of the event. Finally, other potential predictors, not included in general population studies may be important when differentiating among child delinquents. For example, it is known that promotive factors are of particular value when predicting desistance in a high risk sample (Stouthamer-Loeber et al., 2008). In the studies in this thesis, prediction improved when factors reported by the parent and child in stead of police information was taken into account. However, both in the Dutch and USA studies, the prediction models, although statistically significant, had a considerable margin of error, leaving much of the variance unexplained. This means that the current findings constitute a weak basis for the design of screening tools to identify high risk cases. Furthermore, the low predictive value of police derived static characteristics and the better predictive value of information from other informants, stress the need to combine information from different sources over time. However, it should be further investigated whether the predictive value of specific characteristics improves when a child has had more contacts with police. Interestingly, although static variables available from police had low predictive value, police officers assessment of intervention needs had predictive value. This seems to indicate that police officers use information not available in the police reports to assess severity of offending by children.
Although prediction models were moderately efficient, the result identified several risk and promotive factors which correlated with the level of re-offending. Childhood deviancy as apparent from externalizing psychopathology, behavioral problems, aggression, sensation seeking, substance use, and truancy correlated with offending at the time of the first police contact and predicted persistence in offending. In addition, pro-social bonds as apparent from relationships with peers, family involvement, and positive parenting predicted desistance, while problematic interactions with peers, and problematic family functioning predicted persistence. The finding that individual deviance, family characteristics, and peer interactions are crucial determinants for persistence and desistance of early onset offending is in line with most theories (o.a. Moffitt, 1993; Patterson, 1996; Thornberry & Krohn, 2001) and previous research findings (e.g., Stouthamer-Loeber et al., 2008; Fergusson & Horwood, 2002).

Limitations
Several limitations of the studies in this thesis need to be considered when interpreting the results. First, in the Dutch studies, follow-up periods were limited. Only the study in chapter four had a follow-up of 4.5 years, while the one in chapter six had a one-year follow-up period. In order to gain insight into offense trajectories and desistance, follow-up periods that encompass adolescence and preferably even early adulthood are needed. Second, in the Dutch studies, potential correlates and predictors were only measured once. As children are known to fluctuate in their problem behaviors, one-time measurement of known dynamic characteristics may have limited predictive value. Instead it is more likely that the development of problem behavior over time is most predictive of future re-offending. Third, given the designs of our studies, no inferences can be made on causality between the identified correlates and subsequent offending, not even in the longitudinal studies of this thesis. Fourth, non-Western minorities were studied as one group while this group in fact consists of children from a wide variety of ethnic backgrounds. Finally, participants in the Dutch studies were interviewed after having been registered by the police, which may have influenced their answers. For instance, parents and children may have been inclined to show nothing was wrong and thereby have
given socially desirable answers. On the other hand, a police contact may have caused them to focus on problems that justify such an encounter which may have resulted in over-reporting. However, in daily practice, police and other agencies dealing with childhood offenders have to rely for a great deal on parent and child information. Therefore studying the validity of information as reported by the child and parent after a police contact is crucial for daily practice.

Implications for daily practice
Several of the findings presented in this thesis have implications for police and clinical practice. First, since a substantial proportion of the children who are first stopped by the police are at risk to become persistent offenders, timely recognition of those at risk is crucial, and may help to reduce victimization in the long run. In addition, it may reduce other detrimental consequences for the child him/herself, such as victimization, imprisonment, and school drop out (Moffitt et al., 2002). Further, a substantial number of these children displayed mental health and family problems. Over one third of the participants in the Dutch study (Chapter 3 and Chapter 4) were diagnosed with at least one externalizing psychiatric disorder, which is high compared to the eight percent found in the general population (Verhulst, Van der Ende, Ferdinand & Kasius, 1997). As the presence of an externalizing disorder puts children at a high risk for re-offending, adequate identification should be followed by providing targeted intervention. Screening should not only focus on high risk individuals but also on the children who are not at risk, as it is futile and possibly even harmful to intervene in those who will not develop later problems.

A first childhood police encounter seems to be a good moment to screen for children at risk for persistence in offending and for those in need of mental health care. First, because one out of three of these children is at risk for re-offending. Second, because it may be a first opportunity to receive mental health service for children whose parents avoid or are not able to seek help elsewhere (Márquez, 2002; Alegria et al., 2002). However, if the police is considered to be an agency that helps to identify at-risk children, a uniform registration system should be developed. For instance, in the Dutch police practice measures and interventions are only offered to those that have been registered as a ‘suspect’. Of participants in our studies,
about half of the Dutch childhood offenders had been registered by the police as being ‘involved’, while the other half was registered as ‘suspect’. Although this last group was involved in a number of offenses without having fewer problems than the involved group, these children are currently not detected as child delinquents and consequently are not being considered for intervention. Further, the forms, currently used by the police, that are supposed to measure risk factors have not been validated and officers are not being trained to use them. Professionalizing assessment competencies of police officers may be of great value to quality of information and reliability of data-collection.

Although a first registration because of delinquent behavior may offer an opportunity for screening, this does not imply that the police itself should perform this screening. Police officers are usually not trained for such work, and information collected by the police did not predict of future offending by children. Our study found that mental health characteristics, such as externalizing psychopathology, help to detect children at risk for persistent offending. Gathering such information accurately requires in-depth screening by trained professionals. Screening instruments designed for children with police contacts have been developed and validated in Canada and have been recently translated into Dutch (EArL-20B for boys: Augimeri, Koegl, Webster & Levene, 2001; EArL-21G for girls: Levene et al., 2001). Therefore children in contact with the police should be referred to an agency that has the qualified staff to perform such assessments. Currently, promising initiatives are being implemented in the Netherlands that focus on screening childhood offenders by social or mental health care agencies (e.g., Jeugd Preventie Team, Jeugd Preventie Plan, Pak je Kans). These initiatives mostly follow the same principle by which the police refer children and their parents to a mental health worker who collaborates with the police. One of the oldest and best-studied interventions is a family-oriented prevention program called called the Youth Prevention Program (Jeugd preventie programma: Lieverse, Heineke & Hoffman, 2002) At step one, registered children are being referred by the police to a mental health professional. Next, within a given period (e.g., 48 hours) after referral, a social worker visits the family for a short screening on potential problems in the child and the family. If problems are limited, a short intervention is offered. If
problems are more severe, the social worker can refer the child and the family to mental health agencies for further diagnostic assessment and treatment. Because at present, standardized instruments are not being used for decision making in these stepped care initiatives, attention should be given to this aspect. However, such methods ensure that children who are detected by screening also receive timely intervention.

Several individual, family, and peer factors that are related to (future) levels of offending, are potentially malleable and may thus be changed when offering adequate intervention. Fortunately, over the past few years, several interventions that target the individual and his/her parents have been proven effective in reducing behavioral problems of children (e.g., PMTO: Parent Management Training-Oregon; Patterson, 2005; SNAP: Stop Now And Plan; Augimeri, Koegel, Webster & Levene, 2007). The SNAP program is an intervention that is promising as it focuses specifically on children in contact with the police and their parents. This program focuses on problematic behavior as displayed by the child, peer interaction and parenting practices. And when needed, it includes the possibility that additional (psychiatric) treatment is being given. However, the effectiveness of these programs in reducing risk of re-offending in childhood onset offenders has not yet been studied in the Netherlands.

**Recommendations for future research**

A main objective of this thesis was to identify characteristics that are indicative of future re-offending and that may be relevant for intervention purposes. Several recommendations for research can be made to optimize screening:

First, future research should identify factors that are known to the police but not measured in our studies. Such factors are likely to exist, given the finding that the police reacted more restrictively at first encounter to those who were at highest risk to persist in offending. One such factor is information regarding the child’s attitude during the police encounter. In addition, information on the family of the child available to the police should be investigated as a predictor of risk.

Second, if screening methods are designed, studies should examine the reliability of these methods when used by the police or agencies they refer to.
Methods designed based on scientific research may yield different results when used in daily practice. For instance, parents and children may provide other information to a police officer who will use it to take legal measures than to researchers who solely gather the information for scientific purposes when anonymity is guaranteed.

Third, future research can be enhanced by using longer follow-up periods, multiple assessments of other potential predictors, and multiple informants. Studying potential predictors over time makes it possible to examine whether certain developmental patterns (e.g., stable or escalating behaviors over time) are more predictive of future offending than a one time observation. In addition, the impact of predictors may be dependent on the stage of offending careers (e.g., onset, escalation, desistance). The inclusion of other informants and observational measures may additionally be informative. Especially when children and parents are reluctant to give information, information from teachers may be of additional value. However, including different information sources needs to be accompanied by studies on how to weigh these different sources of information. Such research is definitely needed because in daily practice police officers, social workers, and other professionals often have to deal with contradictory information.

Fourth, future studies should focus on how to best combine predictors and take into account interaction effects that are likely to enhance screening accuracy and hence prediction. Risk and promotive characteristics are likely to interact with each other, while combinations of risk factors may lead to an accumulation of risk. In addition, some risk and promotive factors may have a different impact in different groups of child delinquents. For instance, this dissertation provides some indications that different factors are important in girls versus boys and in ethnic minorities versus Dutch children.

Finally, several domains of functioning have not been studied in this thesis but do need attention in early onset offenders, such as the impact of school achievement and motivation, as well as cognitive functioning on offending. Further, as promotive factors were predictive of desistence among the early onset offenders in the PYS, the value of promotive factors when screening among children with a first police contact should be considered.
Summary and General discussion

When these points are taken into account, future research will add to our knowledge on early onset offending which is desperately needed to enable future evidence-based decision making by practitioners and policymakers concerning delinquent children.