Very Young Offenders: Who are at Risk?

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CHAPTER 4

Two-year course of mental health problems and psychosocial functioning in childhood arrestees

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Abstract

Objective: This study describes the prevalence and two-year course of mental health problems and indicators of psychosocial functioning in childhood arrestees.

Methods: Participants were 308 children with a police contact because of a first-time offence prior to age 12 who were followed up for two years. At baseline assessment, mean age was 10.7 years, 86.4% was male and 49.5% of non-Western origin. Mental health problems and psychosocial functioning were measured at three consecutive assessments using standardized instruments. The course of these problems was analyzed both at group and individual level, using generalized estimating equations (GEE).

Results: The prevalence of mental health problems and impaired psychosocial functioning was high initially, while decreasing slightly over the next years. Substance use was the only risk indicator increasing over time. Individual stability of mental health problems, except for substance use, was high (tracking coefficients ranging from OR 8.3; 95% CI 3.8-18.4 for ADHD to OR 18.2; 95% CI 7.3-45.0 for DBD), while varying more for functional impairment (ranging from OR 3.1; 95% CI 1.6-6.1 for affiliation with antisocial peers to OR 18.3; 95% CI 9.8-34.3 for reading problems).

Conclusions: These findings show that children with a police contact constitute a high-risk population, as a substantial part continues to experience mental health problems and functional impairment over time. A first police contact may well provide an opportunity for timely recognition of children's mental health needs and risk of psychosocial dysfunctioning. Adequate recognition and intervention of long-term problems may improve children's outcome.

Introduction

Worrisome rates of mental health problems and functional impairment have consistently been found in adolescent offender populations (Vermeiren, 2003; Fazel et al., 2008; Abram et al., 2009). These problems are often present to such an extent that these populations can be considered clinical populations in urgent need of adequate care. Recent research has demonstrated that such problems can already be found in childhood arrestees (Cohn et al., 2012). This is consistent with the view that an early onset of antisocial behavior is associated with multiple problems in the child and its environment that are likely to persist over time (Moffitt, 1993). Limited research has thus far focused on childhood arrestees and the problems they experience. To what extent early problem behavior and related problems persist in these children at risk of a problematic development is, therefore, so far unknown. This lack of insight in their needs hampers adequate intervention for these children. This study, therefore, describes the presence and course of mental health problems and impaired psychosocial functioning over a two-year follow-up period in children with a police contact because of a first-time offence. Insight into the problems present in these children will contribute to the knowledge on this group at risk of problematic development. Moreover, timely recognition, as well as insight into the course of mental health and related problems may guide effective intervention, thereby increasing the likelihood of healthy development.

In contrast to adolescent offenders, research on mental health problems of childhood offenders is scarce. In juvenile offenders, high rates of common mental disorders have been found. In addition to frequently occurring externalizing conditions such as conduct disorder, affective disorders were also highly prevalent (Teplin et al., 2002; Fazel et al., 2008; Colins et al., 2010). Similarly, in a young adolescent school-based sample, those arrested were shown to bear high levels of both internalizing and externalizing mental health problems (Vermeiren et al., 2004). These findings have so far originated from cross-sectional studies. It is, therefore, unknown to what extent offenders continue to experience these mental health problems over time.

Persistence of mental health problems is expected based on findings of stability of these problems in both clinical samples and the general population. Among children in the general population, mental health problems were found to be moderately stable (Costello et al., 2003). Similar findings of stability were de-

scribed for a sample of juvenile offenders (Dembo et al., 2008). Both heterotypic continuity of specific disorders preceding other disorders later in life as well as homotypic continuity, or stability of the same disorder over time, were observed (Kim-Cohen et al., 2003; Costello et al., 2003). In adults with psychiatric disorders, a majority was shown to have had mental health problems already during childhood (Hofstra et al., 2002; Kim-Cohen et al., 2003). In particular, early behavioral problems were found to predispose to various mental health and related problems in later life (Kim-Cohen et al., 2003; Odgers et al., 2007). This stresses the relevance of investigating the course of mental health problems and impaired psychosocial functioning in childhood arrestees, as early behavioral problems are a key feature of this group. Based on these findings, mental health problems and psychosocial functional impairment are expected to persist in childhood arrestees. This is, furthermore, reinforced by the high risk of persistence of individual problems associated with an early onset of offending (Moffitt, 1993).

In conclusion, childhood offenders are likely to show serious mental health problems and related functional impairment that may persist over time. This study, therefore, aims to describe the prevalence and course of mental health problems and indicators of psychosocial functioning over two-year follow-up, in a sample of children with a first police contact because of offending under age 12. To improve insight into the problematic development and specific needs of these children, the course of problems is studied both at group and individual level. Change of prevalence rates of the various characteristics of these children across time reflects the course at group level. This is relevant from an epidemiological perspective, since little is so far known on the extent and course of problems present in these children. For clinical practice, insight in the persistence of problems within individuals rather than at group level is relevant. Therefore, as prevalence rates at various time points do not necessarily include the same individuals, the course of problems at the individual level was also determined. Timely recognition of potentially long-term problems may enable improvement of children's outcome. To our knowledge, this is the first study focusing on the long-term development of mental health and related problems in childhood arrestees. Based on problems associated with early onset offending (Moffitt, 1993) together with high prevalence rates of mental health problems found in offender populations, we hypothesize such problems to also frequently be present in our group of childhood arrestees. Moreover, in view of the high risk of persistence of individual

problems associated with an early onset of offending (Moffitt, 1993), mental health and related problems are expected to persist over time in these children.

Method

Participants and procedures

Participants were 308 children registered by the police because of a first-time offence prior to age twelve (i.e. the age of criminal responsibility for Dutch law) in the period from 2003 to 2005. To assure sufficient variability in socio-economic status (SES) and levels of urbanization of the neighborhoods the children resided in, participants were selected from local police registration systems in three police districts in The Netherlands. Offending was defined as behavior that could be prosecuted if displayed by someone aged twelve years or older, excluding status offences. Excluded were children not legally admitted to the Netherlands; children who offended by order of their parents; or children for whom participation could impede ongoing police procedures. Out of 422 eligible children and their parents who gave consent to the police to forward their contact details to the research team, 27.0% (n=114) refused to participate in the study. Non-participants did not differ from participants on age or seriousness of first arrest (according to the Seriousness of Early Police Registration classification (SEPR), range 1 - minor delinquency at home, rule breaking to 5 - very serious delinquency, van Domburgh et al., 2009b), but were more often female (21.1% versus 12.7%; χ^2=4.554, df=1, p=.033), of non-Dutch origin (65.8% versus 51.0%; χ^2=7.174, df=1, p=.007) and more often lived in neighborhoods with low socio-economic status (68.4% versus 52.6%; χ^2=8.494, df=1, p=.004).

Participants were assessed on three occasions: at baseline (T0), one-year (T1) and two-year (T2) follow-up. At each assessment interviews and questionnaires were administered by trained interviewers. In case participants or parents were unable to fill in the questionnaires themselves, questions were read out to them. Mean age was 10.7 $\pm$ 1.5 years at baseline and mean time between baseline and follow-up assessments was 1.1 $\pm$ 0.3 and 2.2 $\pm$ 0.4 years, respectively. Of the baseline sample 86.4% (n=266) was male and 49.5% (n=152) was of non-Western origin (Heeten & Verweij, 1993). Mean seriousness of the first registered offence was 2.3 $\pm$ .9. Of all subjects, 23.9% (n=73) was registered for mischief/rule breaking, 24.8% (n=76) for theft, 10.1% (n=31) for violence and 41.2% (n=126) for property damage. Participants who completed all assessments did not differ from participants

who dropped out during follow-up on age, sex, seriousness of first arrest, ethnicity and socio-economic status (SES) of their neighborhoods. Data from self-report questionnaires from children younger than 8 years or having a verbal IQ below 4 (n=35, n=17, n=14 at the consecutive assessments, respectively) were excluded from the dataset, because of potential problems with comprehensibility of the questionnaires.

All participating children and parents gave written informed consent. Children received a small present at every assessment while parents received a 20 euro gift voucher once during follow-up. This study was approved by the Medical Ethics Committee of the VU University Medical Center, and the Dutch Justice Department.

Variables

Mental health problems

Externalizing disorders were diagnosed using the sections on attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) and conduct disorder (CD) of the parent version of the NIMH Diagnostic Interview Schedule for Children (DISC-IV, Shaffer et al., 2000). When children met criteria for either ODD or CD, disruptive behavior disorder (DBD) was diagnosed. Validity of the DISC is moderate to good (Shaffer et al., 2000). DISC data were not available for all participants (82.7% at baseline and 71.9% at follow-up assessment), mainly due to language difficulties.

Emotional and behavioral problems were measured using the parent version of the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997; van Widenfelt et al., 2003). This behavioral screening questionnaire has satisfactory to good psychometric properties (Muris et al., 2003). Because Dutch norms for the SDQ had not yet been developed, scores were dichotomized using UK clinical cut-off points, i.e. a score in the top decile was considered to be in the clinical range (Youth in Mind, 2001). More stringent than the guidelines of the authors of the questionnaire, missing data (maximum 1 item per subscale) were substituted by the mean of the remaining items of the relevant subscale.

Substance use by children was measured using the Observed Antisocial Behavior Questionnaire (OAB, Slot et al., 1998), a Dutch revision of the Self-Report Antisocial Behavior Scale which is a reliable instrument to assess children's antisocial behavior (Loeber et al., 1989). This questionnaire has both a self-report and parent version and includes five items on substance use (alcohol, drugs, tobacco

smoking). Substance use was reported over the past six months at baseline and over the past 12 months at follow-up. Scores were dichotomized into none versus at least one of the items being present. Both child self-report and parent report versions were combined, with an item being present if reported by either one of the informants.

Psychosocial functioning

Peer relationship problems were measured with the corresponding subscale of the parent version of the SDQ. Participant's **affiliation with antisocial peers** and **school achievement** were obtained from teachers on a Dutch inventory of risk factors for the development of problem behavior in children (Orobio de Castro, 1999). A child was considered to be spending time with peers known to behave antisocially or to be performing below expected school levels when relevant items (*'involved with antisocial peer groups'* and *'poor school achievement')* were present or presumably present according to the teacher. Due to the limited response rates of teachers, these data were available for only part of the participants (67.3%, 62.0% and 64.3% respectively for the consecutive assessments).

Reading problems were measured using a standardized reading test (One-minute test, Brus, 1979) with good reliability and validity (Evers et al., 2000). This test consists of a list of 116 words of increasing difficulty. Children's didactic age equivalent (DAE) was based on the number of correctly read words within one minute and compared to children's didactic age (DA) based on number of months school education. Reading problems were considered present when the children's reading levels were at least one year behind the levels appropriate for their DA.

Information on **parenting stress** was obtained with the short version of the *Nijmeegse Ouderlijke Stress Index* (NOSIK, de Brock et al., 1992), a Dutch revision of the Parenting Stress Index (PSI, Abidin, 1983). Reliability and validity are described as sufficient to good (Evers et al., 2000). The questionnaire measures parenting stress and pedagogical pressure parents may experience which was used as a proxy for functioning of the child within the family. Scores were dichotomized with parenting stress being present in case either one or both of the parents scored high or very high according to Dutch norms (de Brock et al., 1992). Missing data (maximum 2 items) were substituted by the mean of the remaining items.

Except for the DISC, all instruments were administered at each of the three assessments. The DISC was administered at baseline and at two-year follow-up.

Statistical analyses

Prevalence rates with 95% confidence intervals of the various determinants were described for the group of children with a police contact. Additionally, the course of these determinants over time was evaluated in separate analyses using generalized estimating equations (GEE, Zeger & Liang, 1986). Generalized estimating equations for dichotomous outcome were performed in Stata 11.0. This method is suitable for analyzing longitudinal data with irregularly spaced time intervals and makes use of all available data. Data of all participants were thus used in the analyses, also in case of an incomplete follow-up. GEE accounts for dependence of repeated measures within one person by using a working correlation structure. An exchangeable correlation structure was used for all analyses.

First, the change in probability of a characteristic being present in relation to time in years following baseline assessment was determined, representing the course of the characteristics at group level. To this end, both the linear (time) and quadratic ($time^2$) relationships with time were analyzed for the presence of all determinants but the externalizing disorders. Because the presence of externalizing disorders was measured at two assessments, only a linear relationship could be analyzed for these variables. Age at baseline, sex and ethnicity were adjusted for by adding them to each model as time-independent variables. In addition, sex x time and ethnicity x time interactions for all variables were analyzed to investigate whether the relationship with time was different for particular subgroups.

Second, course at the individual level was determined by analyzing stability within the individual, or tracking, i.e. the likelihood of a characteristic being present during follow-up in relation to its baseline value. The baseline value of each characteristic was thus entered as the independent variable and the repeated measures during follow-up of the same characteristic as dependent variable in the model (Twisk, 2003). Again, each model was adjusted for age at baseline, sex and ethnicity as well as for time. Additionally, sex x baseline value and ethnicity x baseline value interactions were added to the models in order to investigate whether stability differed for those subgroups. For the externalizing disorders the same procedure was done using regular logistic regression, since presence of these disorders was only determined in two out of three assessments. P values of .05 were used in all analyses.

Results

Initial prevalence rates

Prevalence rates of the various determinants at each assessment are presented in percentages with 95% confidence intervals in Table 4.1 (column 2 to 4). At baseline, substance use was least prevalent, while problems in school functioning were most prevalent, with poor school achievement and reading problems being present in almost half of the children. Nearly one third of the children met diagnostic criteria for one or more externalizing disorders at baseline. ADHD was present in one in four children, while DBD was present in about one in five children (19.2% ODD and 6.7% CD). Comorbid ADHD and DBD was found in 12.2% (n=31) of the children.

Prevalence across time

The course of the various characteristics during follow-up at group level was determined by analyzing the presence of each of the various characteristics in relation to time. The results of these analyses are shown in column 5 of Table 4.1. The interpretation of the presented ORs is the increase in likelihood of a determinant being present compared to one year earlier, thus representing change or stability of prevalence.

Corrected for sex, age at baseline and ethnicity, the likelihood of experiencing externalizing disorders and problems in school functioning did not change over time. The rate of behavioral, emotional and peer relationship problems as well as parenting stress decreased over time. Only substance use significantly increased over time, with the likelihood of substance use being present increasing by a factor of .34 each year. Although the effect was small, affiliation with antisocial peers was the only characteristic having a non-linear relationship with time, i.e. showing a minor decrease at first followed by a slight increase later.

Significant sex x time and ethnicity x time interactions showed the stability of prevalence of some determinants to be different for boys and girls or for children of Western and non-Western origin. While remaining relatively constant for boys

Table 4.1 Prevalence and course of mental health problems and impaired psychosocial functioning in children with a police contact

	Prevalence					
	T0 (n=308)			T1 (n=265)		
	n	%	(95% CI)	n	%	(95% CI)
Mental health problems						
Externalizing disorder[1]	85	33.5	(27.7-39.3)			
ADHD[2]	65	25.5	(20.2-30.8)			
DBD[2]	52	20.5	(15.5-25.5)			
Emotional problems[1]	50	17.3	(12.9-21.7)	34	13.2	(9.1-17.3)
Behavioral problems[1]	70	24.1	(19.2-29.0)	50	19.6	(14.7-24.5)
Substance use	48	15.7	(11.6-19.8)	43	16.9	(12.3-21.5)
Psychosocial functioning						
Peer relations						
Peer relationship problems	65	22.6	(17.8-27.4)	45	17.6	(12.9-22.3)
Antisocial peers[3]	62	33.0	(26.3-39.7)	48	31.0	(23.7-38.3)
School						
Poor school achievement	94	47.5	(40.5-54.5)	82	51.9	(44.1-59.7)
Reading problems	114	45.2	(39.1-51.3)	85	39.7	(33.1-46.3)
Family						
Parenting stress	69	25.2	(20.1-30.3)	58	23.6	(18.3-28.9)

[1] Externalizing disorders were diagnosed according to DSM-IV criteria (DISC), while emotional and behavioral problems were determined based on clinical cut-off scores (SDQ).

[2] Prevalence rates do not reflect pure ADHD or DBD. In case children experienced more than one disorder, they are included in the prevalence rates for both ADHD and DBD.

[3] For affiliation with antisocial peers a non-linear relationship with time was found: OR for time .60; 95% CI .33-1.06; p=.080 and OR for time[2] 1.29; 95% CI 1.00-1.66; p=.046

Table 4.1 continued

	Prevalence			Prevalence across time		
	T2 (n=246)			Time		
	n	%	(95% CI)	*OR*	(95% CI)	*p*
Mental health problems						
Externalizing disorder[1]	58	29.1	(22.8-35.4)	0.89	(0.60-1.34)	.581
ADHD[2]	44	22.1	(16.3-27.9)	0.91	(0.52-1.59)	.745
DBD[2]	38	19.1	(13.6-24.6)	0.55	(0.16-1.88)	.345
Emotional problems[1]	21	9.0	(5.3-12.7)	0.75	(0.62-0.89)	.001
Behavioral problems[1]	45	19.3	(14.2-24.4)	0.85	(0.73-0.99)	.041
Substance use	57	23.4	(18.1-28.7)	1.34	(1.10-1.62)	.003
Psychosocial functioning						
Peer relations						
Peer relationship problems	37	15.9	(11.2-20.6)	0.83	(0.70-0.98)	.032
Antisocial peers[3]	45	31.7	(24.0-39.4)	-	-	-
School						
Poor school achievement	75	50.0	(42.0-58.0)	1.06	(0.90-1.24)	.507
Reading problems	86	43.0	(36.1-49.9)	1.00	(0.89-1.12)	.970
Family						
Parenting stress	44	19.9	(14.6-25.2)	0.85	(0.74-0.99)	.036

(23.9%, 23.2% and 21.5% at each time point; OR 0.92; 95%CI 0.79-1.07), parenting stress significantly decreased over time for girls (33.3%, 25.7% and 10.0%; OR 0.51; 95%CI 0.31-0.84). Reading problems did not change in children of Western origin (50.4%, 39.6%, 40.4%; OR 0.85; 95%CI 0.71-1.01), but increased over time in children of non-Western origin (39.8%, 40.2%, 46.3%; OR 1.16; 95%CI 1.00-1.35). No reliable sex x time or ethnicity x time interactions could be analyzed for ADHD and DBD because of the low prevalence of these disorders in girls and children of non-Western origin.

Stability within the individual

The course of the characteristics at the individual level was investigated by analyzing the likelihood of a characteristic being present during follow-up in relation to its baseline value, representing stability within the individual. Table 4.2 shows the ORs for the baseline value of each characteristic (tracking coefficients) resulting from these analyses. These ORs represent the likelihood that a determinant present at baseline persists, compared to the likelihood of developing that determinant at some point during follow-up.

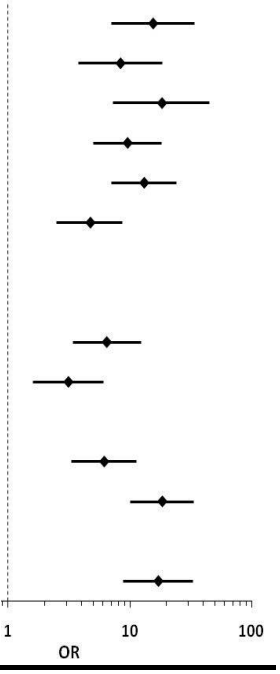
Stability within the individual varied for the various characteristics. Corrected for time, age at baseline, sex and ethnicity, relatively high tracking coefficients were found for all mental health problems, except substance use. Externalizing disorders, in particular DBD, showed high stability. Regarding school functioning, stability differed between poor school achievement and reading problems, with reading problems being about three times more stable. Low stability was seen for peer-related problems compared to other determinants. Significant ethnicity x baseline determinants interactions were found. ADHD was more stable in children of non-Western origin (OR 28.9, 95%CI 5.1-162.8) compared to children of Western origin (OR 5.3, 95%CI 2.1-13.3). Peer relationship problems on the other hand, were more stable in children of Western origin (OR 15.4, 95%CI 6.1-39.0) than in children of non-Western origin (OR 2.6, 95%CI 1.03-6.8).

Discussion

In this study we described the two-year course of mental health problems and indicators of psychosocial functioning in children with a first police contact because of offending under age 12, both at group and at the individual level. Mental health problems as well as impaired psychosocial functioning frequently occurred at each assessment.

Table 4.2 Tracking coefficients of mental health problems and impaired psychosocial functioning in children with a police contact

	Tracking		
	OR	**(95% CI)**	***p***
Mental health problems			
Externalizing disorder	15.4	(7.0-34.1)	<.001
ADHD	8.3	(3.8-18.4)	<.001
DBD	18.2	(7.3-45.0)	<.001
Emotional problems	9.5	(5.0-18.3)	<.001
Behavioral problems	13.0	(7.0-24.1)	<.001
Substance use	4.7	(2.5-9.1)	<.001
Psychosocial functioning			
Peer relations			
Peer relationship problems	6.4	(3.4-12.3)	<.001
Antisocial peers	3.1	(1.6-6.1)	.001
School			
Poor school achievement	6.1	(3.3-11.4)	<.001
Reading problems	18.3	(9.8-34.3)	<.001
Family			
Parenting stress	17.0	(8.8-32.9)	<.001



Overall, prevalence rates did not change or slightly decreased at follow-up, while two problem indicators, affiliation with antisocial peers and substance use, increased over time. Individual stability of mental health problems, except for substance use, was high and varied more for functional impairment.

Children with a police contact often experience psychiatric problems. Although no direct comparison can be made, the observed prevalence of psychiatric problems in childhood arrestees clearly exceed prevalence rates found in the general population (Verhulst et al., 1997; Youth in Mind, 2001; Costello et al., 2003). This is not surprising, since such problems have previously been shown to be related to antisocial behavior (Moffitt & Caspi, 2001; Farrington, 2005; van Domburgh et al., 2009a). Our findings are, furthermore, consistent with higher levels of psychopathology found in adolescents who had been arrested by the police compared to those not arrested (Vermeiren et al., 2004). High rates of DBD in our group of

children with a police contact could, moreover, be expected since offending is one of the features of this disorder. However, elevated levels of internalizing mental health problems were found as well. This may, at least partly, be explained by comorbidity rates described in childhood psychiatric disorders and in particular in DBD (Angold et al., 1999). Considering these high levels of mental health problems and functional impairment in various life domains, adequate intervention is warranted for a substantial part of children with a police contact. Currently, the potential presence of mental health and related problems may often go unnoticed in these children, as they mostly commit only minor offences (van Domburgh et al., 2009b). A first police contact should thus be regarded an opportunity for timely recognition of such problems.

Prevalence rates of most mental health problems and indicators of psychosocial functioning assessed in this study did not change or slightly decreased over time. There may be several explanations for the slight decrease observed for emotional problems. First, the police arrest itself may have raised awareness in parents about the behavior of their children leading to better supervision or seeking support of youth care agencies. Second, our baseline assessment following a negative event (i.e. a police arrest), may have induced a tendency toward over-reporting of problems, while at follow-up, participants may have been inclined to emphasize that they are currently doing well. The clear increase in substance use and, after the initial decrease, increase in affiliation with antisocial peers may be the result of spending more time unsupervised and outside the home as children grow older (Boyer, 2006). Increasing affiliation with antisocial peers would, furthermore, be in line with the age-crime curve, the phenomenon that offending tends to increase and peek in adolescence and decreases in adulthood (Loeber et al., 2008c). Despite this increase, both determinants showed low stability within the individual, indicating that these problems mainly exist in different children over time, while persisting during all assessments in only a small part of the children. Low stability within the individual thus indicates little predictive value of substance use and affiliation with antisocial peers at young age for these problems later on. Other factors predictive for those behaviors should therefore be identified to enable targeting early prevention efforts at those children with a police contact at risk of developing such problems. Moreover, early present substance use and affiliation with antisocial peers, although of limited predictive value for persistence of these problems, are well-known risk factors for adverse outcomes, such as antisocial

behavior (Farrington, 2005). The importance of these behaviors in relation to identifying children at risk of re-offending among children with a police contact should therefore be further investigated.

Although at group level the presence of mental health problems slightly decreased among children with a police contact, high stability at the individual level indicates that these problems, once present in an individual, are likely to persist. Initial mental health problems may thus bear strong predictive value for long-term presence of these problems. This provides an opportunity for early identification of children at risk for persistent mental health problems and targeting early intervention. Stability of mental health problems has been demonstrated before in the general population (Hofstra et al., 2000; Costello et al., 2003) and in a sample of youths in the juvenile justice system (Dembo et al., 2008). Stability of problems was, furthermore, expected to be high in our group as well, as an early onset of offending has previously been found to be associated with persistence of psychological and social problems (Moffitt, 1993; Moffitt et al., 2002). Whether these problems will impair long-term mental health and functional outcomes, and may be associated with future offending as previously suggested (Copeland et al., 2007), needs further research. At present, the observed prevalence at all assessments and two-year persistence in itself emphasize the need of early detection and intervention among children with a police contact.

Limitations

The findings of this study should be considered in the light of some limitations. First, we do not know to what extent our findings can be generalized to all children with a police contact and other groups of childhood offenders. Being arrested is likely to depend on many factors, including local police policies. Future studies in other childhood offender populations will enable determining the external validity of the findings. Second, multiple analyses were conducted in order to describe the stability of the prevalence rates across time, increasing the likelihood of false significant findings. The results from these analyses should, therefore, be interpreted with caution. Third, although our attrition rate was limited, specifically considering the high-risk nature of the population, up to one quarter of the participants were lost during follow-up. Comparison of participants and dropouts on baseline determinants did, however, not show evidence for substantial selective drop out. Likewise, despite the limited response rates of teachers, children for whom teacher information was available did not differ on the determinants investigated from

children for whom teacher information was not available. Fourth, it should be noted that externalizing disorders could not be diagnosed in part of the children of non-Western origin due to language difficulties. The available data suggest the prevalence of externalizing disorders to be somewhat lower in children of non-Western origin as compared to children of Western origin. The observed pattern of prevalence rates across time was similar for both groups. This was consistent with the findings regarding behavioral problems as measured by the SDQ. No large effect of missing DISC data among children of non-Western origin is, therefore, expected.

Implications

Despite these limitations, our findings have important implications. Considering the worrisome prevalence rates of mental health problems and impaired psychosocial functioning observed among children with a police contact, such a first contact may provide an opportunity to detect such problems. Particularly the persistence of psychiatric problems, as shown in the present data, emphasizes the necessity of timely and adequate diagnostic assessment and intervention. Interventions should, furthermore, be aimed at those children most in need. Careful identification of children's needs and risks is, therefore, warranted, thereby taking into account the possibility of the presence of multiple problems in various life domains. Of equal importance is that such screening procedures may also serve to avoid unnecessary intervention in those children with a police contact who do not experience any problems. Screening procedures to identify children's specific intervention needs should be repeated periodically, since our findings of stability at the individual level show that initial presence of problems does not necessarily indicate long-term persistence of these same problems. However, since early presence of such problems constitutes a risk for antisocial behavior, their presence can still be of importance to identify children at risk for a deviant development. Whether intervention at an early stage may prevent adverse outcomes, including reoffending, and improve overall mental health and functioning in children with a police contact should be further investigated.