CHAPTER 7

Summery and general discussion
SUMMARY

Introduction
Girls’ antisocial behavior has long been considered mild, infrequent and temporary (Pajer et al., 2007). However, recent findings suggest the opposite is true and that adolescent females with severe antisocial behaviors all too often experience severe problems later on, including incarceration. Moreover, detained female adolescents bear more severe problems than do detained male adolescents (Abram et al., 2003; Cauffman, 2004; Leenarts et al., 2013; McCabe et al., 2002; Teplin et al., 2002; van Damme et al., 2014). This is not surprising, as the absolute majority of detained adolescent females have been raised in adverse rearing circumstances and have suffered childhood abuse and neglect. These adverse childhood experiences are strongly associated with the occurrence of a variety of mental health problems (Keiley et al., 2001; Keng et al., 2009). It is, therefore, no surprise that detained adolescent females exhibit a wide range of severe mental health problems (Abram et al., 2004; Cauffman et al., 1998; Hamerlynck et al., 2008; Leenarts et al., 2013; Teplin et al., 2002). The combination of adverse childhood experiences, antisocial behaviors, and mental health problems is likely to result in a negative vicious cycle that substantially increases the risk for continued negative development into adulthood.

The development of girls’ antisocial behavior is associated with both prolonged antisocial behavior (homotypic continuity) and a wide variety of other negative outcomes (heterotypic continuity) (Pajer, 1998). Research has most often focused on homotypic continuity, and has specifically focused on antisocial behavior resulting in recidivism. Research on heterotypic continuity indicates that detained adolescent females exhibit a wide range of mental health problems, both internalizing and externalizing (Abram et al., 2015; Bardone et al., 1998) and that overall, they are likely to display extreme adversity in young adulthood with multiple impairments in their social and general functioning. For instance, they generally have not completed school, are of a low socioeconomic status, experience intimate partner violence and become pregnant at a young age (Bardone et al., 1998; Pajer, 1998).

However, as only some studies have addressed the issue of female antisocial behavior, several aspects require further consideration. Thus, the current thesis is designed to fill in some of these gaps. The overall aim of this thesis is to explore the psychosocial functioning in young adulthood of detained adolescent females. More specifically, the aims are to better understand: (1) the development of aggressive behavior (both outward and inward aggression) (2) the development of personality disorders (3) the consistency of reported trauma over time and (4) the impact of young motherhood on general and psychiatric functioning.

Study design
To address the aims of this thesis, we revisited an existing research sample of 229 detained adolescent females (Hamerlynck et al. 2007). The mean age of the sample at initial assessment was 15.6 years (SD=1.4). Three to six years later (mean=4.5; SD=0.6), 184 (80.4 %) of these girls participated in our follow-up study. The mean age at follow-up was 20.0 years (SD=1.4; range=16.2-24.1). The follow-up study included standardized self-report questionnaires to assess traumatic events and mental health problems. Semi-structured interviews were conducted to examine externalizing mental health problems, personality disorders and various domains of social functioning. Police and detention records (Herkenningssysteem, HKS; tenuitvoerleggingsprogramma, TULP) were accessed to research official crime records of the participants.

Findings of the study
In Chapter 2, we investigated the prevalence and predictive validity of different types of aggression in detained adolescent females. Earlier research found that females can display aggressive acts towards themselves, resulting in suicidal and self-injurious behavior (inward aggression) rather than directing their anger toward others through verbal and physical acts (outward aggression) (Conner et al., 2009; Gvion & Apter, 2011; Pfiffner et al., 1999; Sadeh et al., 2011; Swogger et al., 2011). Therefore, both inward and outward aggression were included in this study. Moreover, outward aggression was further subdivided into overt aggression and covert aggression. Overt aggression includes verbal and physical aggression, (e.g., ‘when I really lose my temper, I am capable of slapping someone’), and is most likely to be seen in males. Covert aggression, expected to occur more often in females, consists of hostile attributions and restrained aggression, (e.g., ‘other people always seem to get the breaks’ or ‘I am irritated a great deal more than people are aware of’). We performed a structural equation model (SEM) to examine the mutual relations of all forms of aggression and their predictive value for similar behaviors in adulthood. First, high levels of all types of aggression were repeatedly found, suggesting substantial persistence over time. Second, while inward aggression predicted both inward and outward aggression at follow-up, outward aggression was related to outward aggression only. Finally, the covert form of outward aggression, and not the overt form, predicted outward aggression five years later.
In Chapter 3, we conducted a cross sectional study to determine whether antisocial personality disorder (ASPD) and borderline personality disorder (BPD) are truly different disorders based on the DSM-IV criteria. It has been suggested that these disorders are merely different outcomes of the same underlying pathology (Beauchaine et al., 2009; Paris, 1997). We used Chi-square, ANOVAs and an exploratory factor analyses (EFA) to examine this research question. Two of the seven ASPD and five of the nine BPD criteria discriminated well between females with ASPD and BPD. A CD diagnosis before the age of 15 was not significantly higher in ASPD females than in BPD females. Moreover, the individual criteria for CD did not differ between the females with ASPD and those with BPD. The EFA showed two underlying factors, with the majority of the criteria clustering on the disorder of their origin, thus indicating that ASPD and BPD are separable underlying factors. Females with ASPD and BPD were also different in other conditions, such as internalizing mental health problems and general functioning. These results indicate that, although there is some overlap in symptomatology, ASPD and BPD are qualitatively different disorders in females.

In Chapter 4, we build on the cross-sectional findings of Chapter 3, and examined longitudinal the predictive validity of trauma and mental health problems during detention for BPD and ASPD in young adulthood. BPD and ASPD were found in 40% of the young adults, with many (15%) having both disorders. Post-traumatic stress, depressive symptoms and dissociation during detention increased the risk of BPD in adulthood. Surprisingly, mental health problems, including conduct problems and substance dependence, did not predict ASPD.

In Chapter 5, we examined the consistency of reported traumatic events over time. The findings indicate that the reports given by detained adolescent females about their severe childhood traumatic events were highly inconsistent over time. Only half of the traumatic events reported at baseline were also reported at follow-up (49% for domestic violence, 51% physical abuse and 55% sexual abuse). At each assessment, high levels of mental health problems were related to the report of trauma before detention, with the exception of sexual abuse reported retrospectively at follow-up. High levels of mental health problems were correlated with higher reports of past traumatic events.

In Chapter 6, we focused on the characteristics of females who became young mothers and on the impact of early motherhood on their general functioning. The results underscore that previously detained females who became young mothers were a vulnerable population with a variety of adverse characteristics. Moreover, young motherhood appeared to have an additional negative impact on the functioning of previously detained females, as several conditions were more unfavorable compared to previously detained females without children. For example, previously detained mothers less often finished high school, were more often in receipt of public assistance and experienced higher rates of depression. Findings confirm the premise that early childbearing puts a strain on a young female’s transition into adulthood (Jaffee, 2002).

**GENERAL DISCUSSION**

Overall, this thesis shows that previously detained adolescent females bear high levels of mental health problems, exhibit tremendous adjustment problems and are at high risk of becoming mother during young adulthood. The last point is especially alarming, as these young women are not fully capable of caring for themselves, let alone coping with the demanding tasks of motherhood. Therefore, the transmission of problem behavior to the next generation can be expected, thus resulting in a negative vicious cycle.

**Generalization of our findings**

Our sample consisted of 184 young females previously detained during adolescence. In the Netherlands, the number of detained adolescents is small and is diminishing in number. In 2009, for instance, 117 girls were placed in a juvenile justice institution (JJI), whereas in 2014, the number of girls placed in such institution was only 58 (Valstar, 2014). Therefore, one might argue that detained adolescent females are a small and specific group. Although it is true that the number of adolescent females being detained has decreased, this does not necessarily imply that the problems of these girls have been prevented. While we performed our study, a major police change took place. At the moment of the baseline study in 2002 to 2004, youth could be sent to a JJI under a penal or civil law order. In 2010, however the law was changed, such that only youth sentenced by penal law could be placed in a JJI. From the same moment, youth sentenced by civil law were sent to closed residential institutions (JeugdzorgPlus instellingen). Often, closed residential institutions were the same building as previously used for combined penal and civil placement. Approximately 600 girls are currently being placed in these institutions every year. The majority of the girls in our study are likely to be sent to such closed residential institutions nowadays. Further, research has demonstrated that behavioral problems and psychopathology are quite similar for adolescent females sentenced by either civil or penal law (Hamerlync et al., 2009). Whether our sample is representative of the current population in the JJIs and the closed residential care remains unclear. Furthermore, some of the girls might have become lost in the system.
For example, there are 3600 young homeless females in between the ages of 13 and 23 in the Netherlands (Fransen & van den Handel, 2011). These young homeless females are remarkable similar to the follow-up population studied in our sample (Fransen & van den Handel, 2011). Another problematic group that possesses many of the characteristics of our sample is the teenage mothers. Although the number of teenage mothers in the Netherlands is one of the lowest in the world and is decreasing, approximately 2000 to 2500 girls aged 19 years or younger become mothers every year (CBS, 2012).

Therefore, although the number of detained adolescent females is relatively small, these girls might well represent the ‘tip of the iceberg’, with a larger group of highly behaviorally disturbed and dysfunctional girls either being treated elsewhere or not being treated at all. Given the severity of the problems of the girls and young females in our sample, and the risk of intergenerational transmission of problems, this group should be given more attention.

The ongoing problems of detained adolescent females

This thesis finds high continuity of problems among detained adolescent females as they progress into young adulthood. In contrast to an earlier perspective, levels of aggression in our sample of females were found not to be benign. Although adolescent females show lower levels of overt aggression compared to males (Crick & Grotpeter, 1995), girls exhibit different forms of aggressive behavior that not only harm others, but also themselves. In addition, these females are likely to exhibit other types of unfavorable outcomes, such as internalizing psychopathology, personality disorders and social maladjustment. The diversity of problems at the start of detention, such as behavior problems, child maltreatment, psychopathology and social adversities, are the precursors of continued and new onset difficulties in many domains of adulthood. Furthermore, our research demonstrates that young motherhood occurs frequently and that being a young mother additionally complicates the already problematic life. The accumulation of risk factors makes the intergenerational transmission of behavioral problems highly likely. Behavior problems of the child increase the demands of parenting skills, and if these demands are not met, behavior problems tend to intensify, thus creating a vicious cycle of intergenerational transmission of behavior problems. The cycle of violence, described by Widom and colleagues, posits that childhood abuse and neglect increases the risk of delinquency, criminality and violence (Widom, 1989). To break this cycle intensive interventions must be implemented, or, even better, to prevent this cycle supportive treatment must begin early, preferably even before the birth of the child.

Gender-specific problems in young adulthood

Compared to the existing knowledge on males, our study finds that some of the problems faced by previously detained adolescent females might be gender-specific. First, the results of Chapter 2 show that both the covert form of outward aggression, and the inward form (aggression directed towards themselves) prevail in adolescent females. Studies have repeatedly shown that aggression in (adolescent) females is expressed differently than it is in their male counterparts (Archer, 2004; Moran et al., 2012). Our findings add to these results by showing that the inward and covert forms of aggression are not only frequently present in females, but they are also the most important predictors of future aggressive behavior.

Second, an obvious gender-specific outcome is the high levels of sexual risk behaviors, which result in prostitution, pregnancies, abortions and young motherhood. Unplanned and underestimated young motherhood is possibly the most compelling outcome. Although young mothers in general can be caring and sensitive parents, the current study shows that in previously detained women, young motherhood places a burden on their life. Fathers are frequently completely absent, and when present, the young parents rarely live in the same house and often have a conflictual relationship. In most cases, parenting becomes, therefore, the sole task of the young mother. Taking into account the high levels of mental health and adjustment problems in these females, it raises questions whether these young women are equipped for parenthood.

Although gender-specificity cannot be ignored, our results show that these females are comparable to their male counterparts in some aspects. Although ASPD has been based on male forms of antisocial behavior, this diagnosis is also highly prevalent among previously detained females. Furthermore, gender-specific expressions of antisocial behavior, such as engaging in prostitution or the previous mentioned female forms of aggression, might even improve the fitness of the diagnosis in females. The high co-morbidity with BPD can additionally be considered a female specific issue.

In conclusion, gender-specificity is an important issue in detained adolescent females. Our results add to this findings, as they indicate that some aspects are gender-specific, whereas others are comparable or similar to those of detained adolescent males. Many domains regarding assessment and treatment remain unstudied and require further identification to determine whether the male-based instruments are applicable or if gender-specific interventions must be developed. Further on, in the paragraph on clinical implications and directions for future research, more detailed suggestions will be made.
Troubled girls, troubled futures

**Limitations**
There are several limitations to this study. The first limitation is the reliance on a relatively small sample size. Despite this limitation, we were able to extract multiple clinically (and statistically) relevant findings. However, as the sample is heterogeneous, the possibility of looking into more detailed subgroups was limited because of the small sample size.

Second, some variables that may have influenced adult outcomes of detained adolescent females were not included. For instance, intelligence quotients (IQs) or other measures of cognitive capacity as well as psychopathy and relational aggression were not assessed. Neither were we able to measure the impact of the detention or (impact of) the treatment given during detention. Although we tried to investigate the contents and length of the treatments received during detention, the data provided by the participants were extremely incomplete and unreliable. Moreover, if reliable, the treatments differed extensively among participants and were often fragmented or interrupted due to moving from one unit to another, or from one detention center to another. Thus, we decided not to use these data.

Third, our study relied predominantly on self-report questionnaires. Chapter 5 explains how inconsistent the self-reporting of traumatic events is over time, suggesting that other self-report questionnaires might be unreliable, to some extent, as well. For example, externalizing problems measured by means of self-report were significantly lower compared to the parental reports (Chapter 3), which is in line with other research (Edelbrock et al, 1986). However, self-reporting is frequently used in clinical practice, and it is often the sole available source of information in adulthood. Therefore, the current results still bear clinical relevance.

Finally, male detainees were not included. This limits the possibility of directly comparing our data to those of detained adolescent males. Thus, suggestions regarding gender-specificity are not as powerful as they could have been if males had been included in our study. However, as boys and men have been examined more extensively than their female counterparts, comparing our results with the results found in the literature gives us directions regarding gender differences.

**Implications for clinical practice and directions for further research**

**Overall**
The current findings of continued adverse outcome underscore the need for intensive treatment. Detained adolescent females are in need of treatment and guidance that continues after they leave the detention facility. Substantially complicating adequate treatment is the diversity of their problems. This heterogeneity makes it impossible to apply a ‘one size fits all’ approach, a reality that becomes clear when examining the vignettes in the documentary produced by Sarah Harkink and described in the introduction of this thesis. Marina, for instance, needed therapy to deal with her traumatic past, treatment for her addiction(s), help to get her out of a life of prostitution and find appropriate work and, not in the least, support in raising her child. Marcella, on the other hand, needed housing, help finding a job, financial assistance and treatment to reattach to people. Karen fled into the highly connected society of an extreme right community. Appropriate treatment could have provided, perhaps, an opportunity to join a less aggressive and more sociable community. Sarah shows that, despite supportive parents, involvement with drugs and associating with the ‘wrong’ people during adolescence, can lead to severe antisocial behaviors. Early intensive family-focused therapy might have prevented her derailment into detainment. These vignettes emphasize that treatment should focus not on just one but on multiple domains. Moreover, the extensiveness and intensity of the treatment should match the diversity and the level of problems experienced by the individual.

The results of our study identify the unmet needs of adolescent females before, during and after detention. Fortunately, the Dutch juvenile detention centers are aware of these problems and have changed their policy since the start of our research. For example, a climate conducive to group interactions has been enhanced, the screening for indicators of psychopathology is ensured, the interventions have been extended and there is now a focus on providing more individualized aftercare. However, there is still much to be done to achieve an appropriate level of care for the diversity of needs exhibited by this complex population. Especially since recent budget cuts are likely to put investments under pressure.

**During detention: diagnostic assessment**
In detention, female adolescents exhibit high levels of both externalizing and internalizing psychopathology. This pathology endures and is associated with dysfunction later in life. In particular, internalizing disorders are precursors of borderline personality disorder in young adulthood. Therefore, a stepped diagnostic path that begins with a person-oriented assessment is needed. As almost all detained females exhibit a form of psychopathology, triage in the form of a self-report questionnaire containing many domains can not be used as an indicator, but should be used instead as a guide to direct further diagnostic procedures. The assessment should evaluate different aspects such as traumatic events, precursors of personality disorders, subtypes of aggression (including suicidal and self-injurious behaviors) and sexual risk behavior.
Because internalizing disorders are less visible, they require special attention, as otherwise they may remain unnoticed. As personality disorders in young adulthood are associated with high levels of dysfunction, the (precursors) of these disorders also require specific diagnostic awareness. Furthermore, such a diagnostic assessment of female aggression must be extended by questioning both inward and covert forms of aggression. Suicidal and self harm behaviors as well as feelings of anger and hostility should be explicitly explored. As inward and covert forms of aggression are less apparent than physical violence, specific awareness is again necessary. Thus, future research should investigate whether the risk assessment of future aggression in adolescent females can be improved by adding or emphasizing these forms of aggression.

Clinicians often rely on the retrospective reports of traumatic events by conducting clinical interviewing or administering self-report questionnaires. Our results indicate that the reliability of the responses on self-report questionnaires completed by detained adolescent females should not be regarded as entirely credible. It remains unclear why the responses regarding self-reported traumatic events differ to such an extreme degree between the initial responses and the responses given four or five years later. When an adolescent female denies such experiences even though the clinical features are suggestive of a traumatic past, a reassessment should be conducted. Future research should investigate whether other forms of information gathering (e.g., interviews) are less prone to inconsistencies. As other factors, such as mental health problems, are likely to influence the reporting of past traumatic events, focusing on the psychological consequences of traumatic events might be a practical way to bypass the problem of inconsistent trauma self-reporting. Although this thesis focuses specifically on detained adolescent females, the literature describes the problem of inconsistent trauma self-reporting in a diversity of populations (Aalsma et al., 2002; Engelhard et al., 2008; Hepp et al., 2006). As researchers often rely on self-reported traumatic events in the past, the findings of these studies may well be influenced by unreliable reporting. Therefore, research on improving the consistency of self-report trauma questionnaires and unraveling the reasons for inconsistent responses is necessary.

**During detention: treatment**
Detained girls are considered a disturbed group with high levels of severe childhood abuse and neglect, mental health problems and social difficulties. These factors alone indicate the necessity for treatment. Our study, which finds that these problems are not temporary, supports the need for intensive treatment. Although mental health care in detained populations has improved, it is still not a primary focus in juvenile justice (Pajer et al., 2007). Further, it has been demonstrated that detention, in and of itself, does not have a positive influence on the outcome of detained adolescents (Lambie & Randell, 2013). Moreover, if the climate during detention is repressive, it reduces treatment motivation and active coping (van der Helm et al., 2014). However, when the climate is constructive and evidence-based treatment is offered, positive influences have been observed (Ros et al., 2013; van der Helm et al., 2014). Therefore, if an adolescent girl is detained, this period should be used to motivate her involvement in intervention programs and to encourage her to engage in treatment and arrange outpatient care. As our study demonstrates that internalizing pathology is a precursor of many problematic consequences in young adulthood, there should be focus on the assessment and treatment of these behaviors, especially when considered that evidence based treatment modules for conditions such as PTSD and depression are available (e.g., Rodenburg et al., 2009; Pathak et al., 2005). Further research should investigate whether treating internalizing pathology decreases problematic outcomes in adulthood.

Problems with emotion regulation are associated with mood swings, physical and verbal aggression and self injurious behavior, all of which are highly prevalent among detained adolescent females. Moreover, these problems far too often follow these young individuals into young adulthood. Treatment that focuses on the ability to cope with emotion and that teaches young females not to become overwhelmed by emotions but rather express themselves in ways that are socially acceptable, should be offered during detention. One of the treatments proven to have positive effects on emotion regulation is dialectical behavior therapy (DBT). Although DBT was initially designed for adult females with borderline personality disorders, adaptations have been made to this therapeutic approach for adolescents (DBT-A; Miller et al., 2007; in Dutch: de Bruin et al, 2013), for aggressive and delinquent behaviors (Shelton et al., 2009) and for forensic settings (Benzins & Trestman, 2004; Shelton et al., 2011). At the moment, a European multi-center study is examining the impact of START NOW, an intervention based on DBT, in closed settings for adolescent females with conduct disorder (Stadler, 2015).

One of the most important findings in our study is the high level of sexual risk behavior, which results in many young women unintentionally becoming mothers. Even if motherhood was planned, the consequences and burden of raising a child are often severe and not foreseen by these mothers. Therefore, an important goal for detention centers should be to provide intervention regarding the prevention of unplanned pregnancies and the underestimated realities of motherhood. Girls’ Talk is an intervention proven to reduce sexual risk
behavior and increase healthy sexual choices (NJI, 2015). Interventions targeting unplanned pregnancies and the underestimated consequences of motherhood should be part of the curriculum offered to this high-risk group of females.

After care
The current study identifies the unmet needs of the young women after adolescent detention. The study further finds that almost none of the young women were receiving psychiatric treatment, nor were they willing to engage in care. As these young women are seldom motivated to seek treatment and their confidence in the care system is usually low, the normal care system is considered unsuitable for their needs. Rather, outreaching care by caregivers who are able to offer continuity should be the goal and the need for a multi-domain approach further implies that a multi-disciplinary team should be involved. The current transition of the youth care system in the Netherlands (Transitie van de Jeugdzorg) is an opportunity to provide ‘tailor made’ individualized after care. Thus, ‘social district teams’ (sociale wijk teams) also known as ‘youth and family teams’ (jeugd en gezinsteams) have been created, in order to provide local and approachable care. Although this is a unique opportunity to initiate outreach interventions near the living place of the patients, the level of care should not be underestimated. The complexity of these adolescent females requires highly trained personnel working as part of a multi-disciplinary team familiar with this unique population. Both the diversity and complexity of their problems, as well as their interaction patterns with caregivers require special experience. A lack of motivation, a distrust of caregivers, unreliability, demanding attitudes, interpersonal conflicts with caregivers and overt aggression, are among the many problems with which the caregivers must deal. As the social district teams are under-equipped to provide this type of intensive care, they must either evolve into high care teams, or refer this highly complicated population to programs that are capable of addressing the needs of these young females. (F)ACT teams (functional assertive community treatment), for example, could provide such care. The ACT program was developed initially for severely mentally ill adult populations. Whether this program would be effective for the unique group of females in this study, requires further investigation. A note worthy intervention is Housing First (Tsemberis et al., 2004), a program designed for homeless adults, and one that has been modified for youth. Although it begins with the support to obtain and maintain housing, it also focuses on health and well-being, including access to income, a re-entry into education, the development of life skills and the development of meaningful relations. This program has been implemented successfully in the United States and has recently been introduced in the Netherlands (Verlinden, 2015).

Prevention
If possible, the amplification of behavioral problems leading to detention should be prevented. Although it might be inevitable to use closed and secured facilities in some cases, all effort to avoid this should be made. An effective alternative program for detention is the MTFC (multi-dimensional treatment foster care program). This program has demonstrated success by reducing offending rates, violent behaviors, risky sexual behaviors, self injurious actions and by increasing school activity involvement in adolescent girls (Rhoades et al., 2013). The implementation of the transition of the youth care system (Transitie van de Jeugdzorg) is an attempt to focus on preventative strategies and thereby to reduce the need for (expensive) inpatient care. Although this is a unique opportunity to initiate preventive interventions in an early stage, the level of care should not be underestimated. Not only should the interventions involve the adolescent females (see ‘after care’), but they should also involve the family members and the family as a whole. The reality is that these adolescents often belong to multi-problem families that are not highly motivated to accept the necessary support and care.

The prevention of the intergenerational transmission of problems to the next generation is a unique opportunity in this group. These young mothers can receive support with respect to their child-rearing potential, which will help them to be more sensitive and emotionally available to their children. This will often require intensive, 24-hours-a-day training, and modeling. For example, the Moeder en Kind Huis (“mother and child home”), an intensive and long-term program for young mothers with behavioral problems (Intermetzo, 2015). This program focuses on increasing parenting skills and so preventing a next generation with behavioral problems or severe mental health problems, and is thus breaking the vicious cycle of abuse, detainment and mental health problems. An other program is ‘Moeders van Rotterdam’, an intensive out patient care focusing on all pregnant women in disadvantaged neighborhoods in the city of Rotterdam.