

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/21865> holds various files of this Leiden University dissertation.

**Author:** Molen, Elsa van der

**Title:** The development of girls' disruptive behavior and the transmission to the next generation

**Issue Date:** 2013-10-02

# CHAPTER 6

## CHARACTERISTICS OF PREVIOUSLY DETAINED FEMALES WHO BECOME MOTHER IN YOUNG ADULthood

Van der Molen, E., Krabbendam, A., Doreleijers, T.A.H., & Vermeiren, R. Characteristics of previously detained females who became mother in young adulthood. *Submitted*

**ABSTRACT**

Detained females are marked by significant adverse young adult outcomes. However, little is known about detained females who become mother at an early age, and how this affects their transition into adulthood. Characteristics of young motherhood were explored in a sample of previously detained females, as well as the impact of young motherhood on their personal lives. The sample consisted of 229 detained Dutch adolescent females who were re-assessed 4.5 (SD = 0.6) years later in young adulthood (mean age = 20.0, SD = 1.4) on demographics, mental health problems, delinquent behavior and young mothers' prenatal substance use. The impact of motherhood was examined by comparing characteristics of young mothers and females without children using logistic regression. Fifty-two (28.3% of total) previously detained females were mother at follow-up. The use of nicotine and substances during pregnancy was common (ranging between 31.3% and 84.3%). Adverse outcomes in young adulthood were more present among previously detained mothers compared to previously detained females without a child. Previously detained young mothers had a higher likelihood to: fail to achieve high school certification (OR = 2.3, 95<sup>th</sup> CI = 1.0-4.9), had no job/ attend school (OR = 4.1, 95<sup>th</sup> CI = 1.9-8.8), receive public assistance (OR = 2.8, 95<sup>th</sup> CI = 1.3-5.8), and to be depressed (OR = 2.6, 95<sup>th</sup> CI = 1.1-6.2). However, they had a lower likelihood to be substance dependent (OR = 0.4, 95<sup>th</sup> CI = 0.2-0.9). Given the magnitude of risk for intergenerational transmission of problems to offspring, the population of previously detained females should be targeted for prevention programs to promote healthy decision-making. Also, when becoming pregnant, previously detained young mothers and their families should be actively supported.

## INTRODUCTION

Detained adolescent females are characterized by extreme adversity in young adulthood. In this group, multiple impairments have been reported, including a disadvantaged socioeconomic context, substance dependence, and intimate partner violence (Abram, Choe, Washburn, Romero, & Teplin, 2009; Cernkovich, Lanctot, & Giordano, 2008; van der Molen et al., 2013). In addition, high pregnancy rates were found among detained females (Kerr, Leve, & Chamberlain, 2009) indicating that a substantial proportion becomes a mother at an early age. Considering the problems found among previously detained females, they are likely to witness many difficulties in providing an optimal care-giving environment to their offspring. Many of these circumstances are known risk factors for the development of conduct problems in offspring (Tremblay, 2010). However, few studies have examined young motherhood in vulnerable populations such as previously detained females, while this is important in the light of reducing transmission of conduct problems to the next generation.

It is widely recognized that conduct disordered females are at increased risk to become a young mother (Jaffee, Belsky, Harrington, Caspi, & Moffitt, 2006). Some researchers suggest that early pregnancy is an extension of problem behavior in females (Scaramella, Conger, Simons, & Whitbeck, 1998). A disadvantaged family background and risk taking behavior (such as a lack of birth control), both common in detained females (McCabe, Lansing, Garland, & Hough, 2002), are associated with the risk for early pregnancy (Dishion, 2000; Woodward & Fergusson, 1999). Therefore, detained females may be particularly at risk to become a young mother. Given the magnitude of detained females' problems, together with the limited psychological, economic and family support recourses after release of youth detainment (Steinberg, Chung, & Little, 2004), we expect this specific group to encounter many difficulties in the transition to young adulthood. Moreover, due to the fact that their offspring will be exposed to these adverse conditions, their children are put at increased risk to develop conduct problems.

Many circumstances found in research on previously detained females' are known risk factors associated with the intergenerational transfer of conduct problems. For example, research has pointed to the important role of mothers' (family) demographics, such as poor maternal education, single motherhood, and financial problems (Kalil & Kunz, 2002; van der Molen, Hipwell, Vermeiren, & Loeber, 2011). Further, mother's mental health has also been linked with conduct problems in offspring, through less emotional availability and lowered consistent parenting. Research has, for instance, lent support to the notion that depressed mothers (Goodman & Gotlib, 1999) and mothers with a borderline personality disorder (Stepp, Whalen, Pilkonis, Hipwell, & Levine, 2011) are more likely to have conduct-disordered offspring. More recently, greater emphasis has been placed on the influence of mother's lifestyle during pregnancy. For example, prenatal nicotine use and prenatal substance use are known to increase the rate of conduct problems in offspring (Brennan, Grekin, & Mednick,

2003). Because unhealthy lifestyles are highly prevalent among previously detained females (Abram et al., 2009; van der Molen et al., 2013), this is expected to pose a problem when they become mothers. From an early intervention perspective, it seems warranted to examine relevant characteristics of previously detained young mothers that have the potential to operate as risk factors for offspring's conduct problems.

Becoming a young mother may affect detained females' transition into adulthood. In accordance with the life course view on antisocial behavior, having a child may contribute to desistance of delinquent behavior. Responsibilities of parenthood may provoke significant alterations by limiting opportunities, energy and time for crime (Laub & Sampson, 2003). Alternatively, motherhood may be considered to impact young females' life course less positively. For example, young motherhood is demonstrated to constrain social, academic and work opportunities (Furstenberg, Brooks-Gunn, & Chase-Lansdale, 1989). Also, young mothers experience mental health problems such as depression more often (Troutman & Cutrona, 1990). Given the multiple impairments faced by detained females in young adulthood (Abram et al., 2009; van der Molen et al., 2013), we expect that early childbearing impede detained females' transition into young adulthood even more. Because preexisting aspects of previously detained young mothers, such as impulsivity and the degree of conduct problems, may contribute to adverse conditions in young adulthood (Jaffee, 2002), it seems important to account for these conditions when examining the impact of motherhood on their lives.

The present study aims to shed light on the circumstances of detained females that become mothers at a young age. We will explore the prevalence and characteristics (i.e., demographics, mental health problems, delinquent behavior, prenatal substance use) of motherhood in a sample of previously detained Dutch females in young adulthood<sup>1</sup>. Next, we will examine whether childbearing affects detained females' functioning by comparing their characteristics with previously detained young women without a child, while taking account for preexisting conditions.

## **METHOD**

### **Participants**

Subjects were participants from a previous cross-sectional study on Dutch detained adolescent girls between 2002 and 2004 (Hamerlynck et al., 2007). In that study, 256 females were approached for participation in their first week of admission, of whom 229 (89.5%) agreed to participate (mean age = 15.6, SD = 1.4).

---

<sup>1</sup> It is important to keep in mind that birth rates of young motherhood vary across western countries, with the Netherlands being among the countries with the lowest rates (Statistics Netherlands, 2012)

Subjects were recruited from three of the seven youth detention centers that provided placement for females in the Netherlands. The total number of Dutch detained females was subsequently 531, 616, and 700 in the years 2002 to 2004. Because detention in a specific center was based on cell availability and no specific entry criteria were applied, youth detention centers housed females from all over the country. Therefore the sample was considered representative of the population of Dutch detained females.

At the time of the initial study, Dutch youths could be placed in detention centers under two judicial conditions: (i) for a criminal act under criminal law, (ii) as a judicial civil measure of child protection, primarily when having committed a status offence<sup>2</sup> (e.g., substance use, running away).

For the current study, 184 of the 229 subjects (80.3%) were re-assessed between 3.5 and 6.7 years (mean 4.5 years, SD = 0.5) following the initial study. Of this sample, 10.9% refused participation, 7.9% was untraceable and 0.9% subjects died before follow-up. The mean age of subjects at follow-up was 20.0 years (SD = 1.4) and ranged from 16 to 24 years; 16 (8.7%) subjects were younger than 18 years old. The majority was of Dutch (57.6%) or other western origin (6.5%), while 35.9% had a non-Western background.

Follow-up participants did not differ from the rest of the sample on ethnic origin ( $\chi^2(1) = 0.04, p = .84$ ) and total difficulties ( $t = -0.30, df = 227, p = .76$ ) during detention. However, retained subjects were younger (mean age = 15.5, SD = 1.3) compared to those lost to follow-up (mean age = 16.1, SD = 1.5;  $t = 2.41, df = 227, p = .02$ ).

## Procedure

The study was approved by the review boards of the Ministry of Justice and by the VU University Medical Ethics Committee. After a complete description of the study, written informed consent was obtained before data-collection. Interviews were conducted mainly at the homes of the subjects (82.6%), or at residential placement facilities (14.1%) and correctional facilities (3.3%). Subjects were paid a stipend (€30) for their time.

## Measures

*Demographics.* A structured interview was used to determine *motherhood status* (yes/no) and to verify subjects' *age*, *age at birth of the first child* and *ethnic background* (0 = western, 1 = non-western). Subjects with *no high school certification* at follow-up were considered as having poor educational attainment. Subjects were considered as having an *unfavorable school/work situation* when they neither had a job nor attended school at follow-up. *Financial debts* were considered problematic if subjects had a debt over 1000 euro's. *Public assistance* included subjects receiving financial benefits of the state (i.e., unemployment pay and mental/physical disability benefits).

<sup>2</sup> Unlike other western countries such as the United States, status offenses are not defined as crime in the Netherlands.

*Prenatal substance.* Subjects reported on their nicotine, alcohol and drug use (such as marijuana, cocaine, and ecstasy) during the pregnancy of their (first) child. Binary variables were created for *prenatal nicotine use*, *prenatal alcohol use*, and *prenatal drug use* (0 = absent, 1 = present).

*Mental health problems.* The personality disorder *Borderline Personality Disorder* (BPD) was examined with the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First et al., 1995). *Depressive symptoms* were measured using the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The scale includes 21 items on depressive symptoms over the past week on a 4-point scale (ranging from 0 = absent, to 3 = severe) that were summed to create a total score. In the present study, the internal consistency coefficient of the depression scale was  $\alpha = 0.86$ . *Substance dependence* was examined with the semi-structured diagnostic interview Kiddie-SADS-Present and Lifetime Version (Kaufman et al., 1997), designed to assess psychiatric disorder in youth according to criteria listed in the DSM-IV (American Psychiatric Association, 1994). Substance dependence in the past year was measured (alcohol, cannabis, stimulants, sedatives, cocaine, opioids, PCP, hallucinogens, inhalants, and other such as ecstasy) and data were reduced to a binary variable indicating any substance dependence.

*Delinquent behavior* indicates whether subjects committed any *delinquent act in the past year* and was measured using national crime figures from the Dutch Police Record System (Herkenningssysteem) that pertain to all criminal offenses the subjects were suspects of.

*Control variables.* Subject completed the Strengths and Difficulties Questionnaire (Goodman, 1997) during their first month of detention on behalf of the initial study. Detained subjects' ratings on the subscales Conduct problems, Hyperactivity / inattention, Peer problems, and Emotional Problems were summed to generate the *Total difficulties score*. Each subscale consists of 5 items on a 3-point scale (ranging from 0 = not true to 2 = certainly true). We used the *Total difficulties score* as a proxy for subject's level of preexisting problems. Cronbach's  $\alpha$  of this score was 0.75. *Exposure time* is the time that females were not in correctional facilities, defined as the time to follow-up starting after detainment.

## Data analyses

We conducted analyses in two steps. First, we characterized previously detained mothers using descriptive statistics. We examined the prevalence, and their characteristics in young adulthood (i.e., demographics, prenatal substance use, mental health problems, and delinquent behavior). Chi-squares were used to examine differences between motherhood status (yes vs. no) and relevant characteristics in young adulthood. Pregnant females were not considered as mothers in these analyses. Second, logistic regression was used to investigate the impact of motherhood by examining the association between motherhood status and subsequent characteristics (i.e., no high school certification, no school/work, financial debt,

public assistance, delinquent act in the past year, depression, substance dependence), while controlling for age, preexisting conditions, and exposure time.

Missing data within instruments were prorated if more than 67% were present. We selected  $p < .05$  to indicate statistical significance. SPSS software (Version 16.0, 2007) was used for statistical analyses.

## RESULTS

### Descriptive characteristics of previously detained mothers

First, mothers' characteristics and their early environment were examined (see Table 1). We found that 52 of the 184 (28.3%) detained subjects were mother at follow-up. In addition, 7 subjects were pregnant. Most of the mothers gave birth to one child, and 7 subjects had birthed two children. Age at birth of their first child ranged between 16.4 and 21.1 years old ( $M = 18.8$  years,  $SD = 1.0$ ). Furthermore, 15 subjects were single mother (28.8%), and 23 (44.2%) lived together with the father of their child. The remaining had found a new partner. Most of the mothers smoked during pregnancy (84.3%) and one out of three drank alcohol. Also, one out of three mothers reported drug use while pregnant. In 13 cases (25%), subjects lost the custody of their child for a certain time. Furthermore, one out of four (24.7%) subjects had a history of a troubled intimate relationship. The majority ( $N = 34$ , 65.4%) reported that the pregnancy of their child was unintended. No differences were found with regard to characteristics presented in Table 1 between mothers with an intended pregnancy of their child and mothers with an unintended pregnancy of their child.

When young adult outcomes of detained females who became mothers were compared with females without a child, young mothers were older in age ( $t = -2.34$ ,  $p < 0.5$ ). Further, they had less often achieved high school certification ( $\chi^2 = 6.89$ ,  $p < .01$ ) and they had more frequently an unfavorable school/work situation ( $\chi^2 = 17.72$ ,  $p < .001$ ) and financial debts ( $\chi^2 = 5.75$ ,  $p < .05$ ). They were however less often substance dependent ( $\chi^2 = 5.94$ ,  $p < .05$ ). No differences were found with regard to ethnic background, the presence of BPD, depression, and delinquent behavior in the past year.

### Impact of motherhood on young adult outcomes

To examine the impact of motherhood on the lives of previously detained females we examined the association between motherhood status (females who were mothers at follow-up vs. females without a child) and subsequent characteristics while controlling for age, the level of difficulties at detention, and exposure time. As can be seen in Table 2, we found that motherhood status increased the risk of failing to achieve high school certification ( $OR = 2.3$ , 95<sup>th</sup> CI = 1.0-4.9), having neither a job nor attend school ( $OR = 4.1$ , 95<sup>th</sup> CI = 1.9-8.8) and receiving public assistance ( $OR = 2.8$ , 95<sup>th</sup> CI = 1.3-5.8), even when accounted for age, the level of preexisting difficulties, and exposure time. In addition, they were at higher risk for



depression (OR = 2.6, 95<sup>th</sup> CI = 1.1-6.2), compared to detained females without a child at follow-up. However, results indicated that mothers were less often substance dependent than detained females without a child (OR = 0.4, 95<sup>th</sup> CI = 0.2-0.9). No differences were found with regard to delinquent behavior and financial debt.

**Table 1.** Previously Detained Females' Young Adult Outcomes by Motherhood Status.

	Motherhood status				t (df)
	Yes (N = 52)		No (N = 132)		
	M (SD)		M (SD)		
<b>Demographics</b>					
Age	20.4 (1.4)		19.8 (1.4)		-2.34* (182)
Mothers' age at first child	18.8 (1.0)		-		
	%	N	%	N	$\chi^2$ (df)
Non western background	40.4	21	34.8	46	0.49
No high school certification	76.9	40	56.1	74	6.89**
No school/work	73.1	38	38.6	51	17.72***
Financial debt	67.3	35	47.7	63	5.75*
Public assistance	51.9	27	27.3	36	10.07**
Single mother	28.8	15	-	-	-
<b>Prenatal substance use<sup>a</sup></b>					
Prenatal nicotine use	83.3	40	-	-	-
Prenatal alcohol use	31.1	15	-	-	-
Prenatal drug use	31.1	17	-	-	-
<b>Mental health problems</b>					
BPD	25.0	13	24.2	32	0.01
Depression	26.9	14	16.9	22	2.34
Substance dependence	21.2	11	40.2	53	5.94*
<b>Delinquent behavior</b>					
Delinquent act past year	50.0	19	40.4	40	1.03

<sup>a</sup>N = 48 due to missing data on four participants

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

## DISCUSSION

The aim of the study was to investigate characteristics of detained adolescent females who become mothers at a young age and the impact of this event on their young adulthood outcomes. In line with other research (Kerr et al., 2009), this study demonstrates that a substantial amount (28.3%) of previously detained females becomes a mother at a young

age. The prevalence rate is much higher compared to the average rate of early childbearing in the Netherlands (i.e., 4.8 per 1000 in 2011; Statistics Netherlands, 2012). Overall, previously detained young mothers' circumstances were poor, and this is very likely to have a negative impact on their offspring's early life.

**Table 2.** Previously Detained Females' Motherhood Status as a Predictor for Outcomes in Young Adulthood Accounted for Age, Difficulties at Detainment, and Exposure Time.

	Motherhood status		Age		Detained girls' total difficulties score		Exposure time	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
No high school certification	2.3*	(1.0, 4.9)	1.1	(0.8, 1.4)	1.1*	(1.0, 1.1)	1.1	(0.8, 1.5)
No school/work	4.1***	(1.9, 8.8)	1.4*	(1.0, 1.8)	1.1**	(1.0, 1.2)	0.9	(0.6, 1.2)
Financial debt	1.9	(0.9, 4.0)	1.3*	(1.0, 1.7)	1.0	(1.0, 1.1)	1.0	(0.7, 1.4)
Public assistance	2.8**	(1.3, 5.8)	1.7***	(1.3, 2.3)	1.1	(1.0, 1.1)	0.8	(0.6, 1.2)
Delinquency past year	1.4	(0.6, 3.0)	1.1	(1.0, 1.1)	1.2	(0.8, 1.7)	0.9	(0.7, 1.2)
Depression	2.6*	(1.1, 6.2)	1.3	(0.9, 1.7)	1.0	(1.0, 1.1)	0.6**	(0.4, 0.9)
Substance dependence	0.4*	(0.2, 0.9)	1.1	(0.8, 1.4)	1.0	(1.0, 1.1)	0.9	(0.7, 1.3)

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Findings showed that an alarmingly high proportion of previously detained young mothers used substances during pregnancy. Given that several studies demonstrated that mothers' substance use during pregnancy damages the fetal brain (Brennan et al., 2006), previously detained females compromise their child's development already before birth. Previously detained young mothers were further characterized by socio-demographic adversities and substantial mental health problems in young adulthood (e.g., no job or school attainment, financial problems, receipt of public assistance, depression). Findings on young mothers in community samples point in the same direction (Furstenberg et al., 1989; Troutman & Cutrona, 1990). Further, about half of the young mothers committed a crime in the past year. In sum, our findings show that children of previously detained young mothers are exposed to several detrimental circumstances, which put them at risk to develop conduct problems themselves.

Our study further underpins that becoming a young mother impedes the opportunities of previously detained females in young adulthood. Compared to females without a child, young mothers were more likely to function worse in several circumstances. For example, they more often failed to achieve a high school diploma, were more often without a job or not attending school and received public assistance more frequently. Moreover, young

mothers were more often depressed. These results were found even while controlling for preexisting problems. Findings support the suggestion that early childbearing puts a strain on young females transition into adulthood (Jaffee, 2002). Notably, our results indicate that young mothers were substance dependent less often. This contrasts prior research, which suggested that stress associated with financial disadvantages increases the likelihood of antisocial behavior such as substance use (Conger et al., 1992). Possibly, having to deal with parenthood may appeal to more responsible behavior and in turn reduce the relative risk for externalizing behaviors such as extensive substance use compared with previously detained females without a child. This is in line with assumptions of the life course view on antisocial behavior (Laub & Sampson, 2003). However, findings demonstrate that this does not seem to apply to substance use during pregnancy. In addition, the finding that previously detained young mothers do not exhibit any more or less delinquent behavior compared to previously detained females without a child further contrasts the suggestion of increased responsible behavior. In sum, young motherhood appears to widen the gap in demographic and mental health inequalities. Research should follow previously detained females further in life to examine whether these differences continue to exist. For social policy reasons it would be interesting to compare previously detained young mothers with previously detained females who begin childbearing at an older age.

Despite the contributions of this study, it has various limitations. First, it is important to acknowledge that the prevalence rate of previously detained females' young motherhood may be influenced by the variance in subjects' age and the time between release of detainment and follow-up. Nonetheless, our results prove that within a few years after release a considerable part of the detained adolescent females became mother at an early age. Moreover, it is plausible to assume that if the sample's average time after detention had been longer, the prevalence of motherhood would have been higher. Further follow-up is needed to provide a more balanced view on the prevalence of young motherhood in previously detained females. Second, other important maternal characteristics were not assessed in this study, such as parenting skills and perceived parenting stress. Third, although we attempted to strongly reduce the possibility that individual differences account for our results by using several control variables, other preexisting conditions may exist that also explain variance in the risk of early childbearing and elevated rates of detrimental conditions in young adulthood. Finally, diverse measurement methods were used for previously detained females' mental health problems (i.e., self reports and clinical interviews) and therefore comparisons with other research that may have used other methods must be interpreted with caution.

## CONCLUSION

No other study focused on characteristics of detained females that become mother in young adulthood before. Our findings underscore that these young mothers are a vulnerable population with a variety of adverse characteristics. Young motherhood appears to create subsequent disruptions for previously detained females. Moreover, these characteristics are likely to have a negative impact on their offspring's early life context (Tremblay, 2010; van der Molen, 2011). These detrimental conditions may set the stage for enduring adjustment problems in their offspring's lifetime. As a consequence, the costs to society in the form of heavy use of social services are likely to be high for both the mothers and their children. It is therefore particularly important to explore preventive interventions within the population of previously detained young mothers. The findings of this study may serve as targets for prevention and treatment resources.

The fact that most children were unplanned and the excessive use of substances during pregnancy highlights the need for intervention even before conception. Research has indicated that postponing pregnancy may have positive effects on the functioning of females as well as on their children (Pogarsky, Thornberry, & Lizotte, 2006). Therefore, detained adolescent females may benefit from pregnancy prevention programs that facilitate education in order to delay motherhood and promote healthy decision-making (Bennett & Assefi, 2005; Harden, Brunton, Fletcher, & Oakley, 2009). The time in detention may be a unique opportunity to provide educational programs tailored to the needs of detained females.

Results indicate that public policy initiatives should be targeted not only at delaying childbearing, but also at supporting previously detained females that become young mothers. Adverse family demographics and mental health problems underline that if detained females become a mother at young age, these families should be supported. The high rates of adverse conditions and the fact that these appear to cluster is a reason for concern, given that multiple risks are known to enhance problem behavior in children even more (Loeber, Slot, & Stouthamer-Loeber, 2006). Programs for individual at-risk mothers and their children have shown promising results with respect to mothers at risk and developmental outcomes of their offspring (Eckenrode et al., 2010). This may have positive effects for families with previously detained mothers as well.

