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# Psychopathology of adolescent detained versus psychiatric inpatient females

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ABSTRACT

Several studies have shown high rates of psychopathology among female adolescents in detention. Although rates of mental health problems have been called alarming, it is unknown whether mental health needs in females in juvenile justice differ substantially from those of females in mental health care. Therefore, this study compared adolescent females in detention with inpatient adolescent females. For this purpose, a sample of 256 detained females (mean age 15.4 ± 1.3) was compared to 45 psychiatric inpatient females (mean age 15.8 ± 1.4). Socio-demographic characteristics, mental health history and psychiatric problems were investigated using file-information and self-report questionnaires. Compared to detained females, inpatients more often showed internalizing problems and dissociation, whereas externalizing problems prevailed in girls in detention centers. Females in detention more often came from an ethnic minority group, while females in mental healthcare more often received mental healthcare previously and had parents with higher employment. This study confirms that mental health needs of girls in mental healthcare and in detention are high. However, non-mental health related factors were different as well – i.e. socio-economic factors – and are likely to influence the involvement with either service sector.



## 1. Introduction

Over the past years, several studies have shown high rates of psychopathology among adolescents in detention. Even when excluding a diagnosis of conduct disorder (CD) – which includes criteria related to offending behavior – more than half of detained adolescents are diagnosed with a psychiatric disorder (Teplin et al., 2002; Vermeiren et al., 2006; Fazel et al., 2008). Particularly in detained girls, specific types of psychopathology – i.e. internalizing disorders – were shown to reach high levels (Fazel et al., 2008; Sevecke et al., 2009). In addition, Hamerlynck et al. (2009) found this to be equally true for Dutch adolescent girls with a civil judicial measure, those detained for status offences, and girls detained under penal law. As detention centers are not equipped to meet psychiatric needs, it is clinically relevant to investigate how mental health problems of detained girls differ from those of girls in psychiatric departments. Therefore, this study aimed at comparing adolescent females in detention with females in closed mental health departments.

Previous sparse research has shown high rates of psychopathology in both detained samples and adolescents in mental healthcare. Inconsistency of findings and diversity in study design, however, does not allow sound interpretation of clinical implications. In incarcerated females, rates of depression ranged from 9% to 36% and for PTSD from 7% to almost 50% (Cauffman et al., 1998; Ulzen and Hamilton, 1998; McCabe et al., 2002; Teplin et al., 2002; Dixon et al., 2004; Lederman et al., 2004; Ariga et al., 2008; Washburn et al., 2008; Karnik et al., 2009), while suicide attempts were described in up to 35% (Morris et al., 1995; Plattner et al., 2007). With regard to externalizing disorders, up to 21% of detained girls were shown to meet criteria for attention deficit hyperactivity dis order(ADHD) (McCabe et al., 2002; Teplin et al., 2002; Washburn et al., 2008), 40% for CD (Teplin et al., 2002; Washburn et al., 2008) and over 40% for substance use disorder (Morris et al., 1995; Ulzen and Hamilton, 1998; McCabe et al., 2002; Teplin et al., 2002; Washburn et al., 2008).

Surprisingly few studies have reported prevalence rates of psychiatric disorders of inpatient female adolescents studied by means of standardized assessment. This is particularly true when considering the most serious cases, those who undergo closed placement because of severe mental health problems. Existing sparse findings are further inconsistent, with depressive symptoms found in 13% to over 90% (Swart and Merskey, 1989; Frisk, 1999; Sourander and Turunen, 1999; Halloran et al., 2002), ADHD in 2.5% to 13% (Sourander and Turunen, 1999; Halloran et al., 2002), Oppositional defiant disorders (ODD) in 1.7% to nearly a third (Sourander and Turunen, 1999; Halloran et al., 2002) and CD in

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4.8% to as high as three quarters (Swart and Merskey, 1989; Sourander and Turunen, 1999).

Unfortunately, methodological constraints hamper comparing previous research on juvenile justice youths with inpatient psychiatric populations. In addition to sample differences such as age and ethnicity, different instruments were used for assessing psychopathology – including both self-report questionnaires and (semi-) structured interviews. Assessment at different moments of care, i.e. from admission to discharge , may also have resulted in widely diverse prevalence rates. In only a few studies were adolescents in detention centers directly compared with those in mental healthcare (Westendorp et al., 1986; Cohen et al., 1990; Boendermaker, 1999) or across different sectors of care (Garland et al., 2001). Overall, differences in mental health problems were described as small. However, though having contributed substantially, the findings of existing studies' are limited by a number of shortcomings. First, previous research has not focused on gender specific samples, as all samples included both boys and girls. Since psychiatric disorders are unequally distributed by gender, as are rates of delinquency, gender specific studies are needed. Second, mental health populations often consisted of a diversity of healthcare settings. For example, in the study by Garland et al. (2001), juvenile justice youths were grouped with youths in child welfare, while the mental healthcare sample of Westendorp et al. (1986) included both inpatient and outpatient psychiatric populations. Therefore, the current study aimed at comparing services of a similar nature, including samples from closed settings only.

Though mental health problems do play a role in admission to a specific sector of care, the impact of non-mental health related factors cannot be ignored. For example, both minority status and low SES were found to be related to placement in a detention center (Westendorp et al., 1986; Cohen et al., 1990; Hazen et al., 2004; Garland et al., 2005). Especially in the United Ststes, this has led to the suggestion that socio-economically deprived youth in need of mental health care may only be able to reach appropriate services after contact with juvenile justice (Abram et al., 2003). In the Netherlands, Vreugdenhil et al. (2004) have shown ethnic status to influence allocation to plain detention versus detention with compulsory treatment, with minority status being more likely to lead to plain detention. Because of the high rates of psychiatric problems, and the likely inability of many youths to reach appropriate services, recent research has emphasized the need for better mental healthcare for detained adolescents. Fazel et al. (2008) suggested that opportunities for intervention in juvenile justice facilities might have the potential to make a significant contribution to improving public health. Indeed, it is claimed that those interventions could improve mental health as well as delinquent behavior (Ariga et al., 2010). Detention centers are reduce or eliminate however, not specifically equipped to deliver mental healthcare, and detention is likely to exert a negative impact on a person's condition. An issue of interest in this respect is to understand determinants that relate to the allocation of adolescents to different sectors.

For those reasons, the aim of the present study was to compare female adolescents in detention centers with girls in psychiatric hospitals with respect to mental health problems and history, as well as Socio demographic characteristics.

## 2. Methods

### 2.1. Participants

#### 2.1.1. Detention sample

For the detention sample, 256 detained females between 12 and 18 years of age were included. Those with mental retardation as reported in their files were excluded from participation. All girls were detained in three of the seven Juvenile Justice Institutions (JJIs) which provide closed placement for adolescent females in the Netherlands (Hamerlynck et al., 2008). At the time of this study, youths could be placed in such institutions under two judicial conditions. First, as a result of a criminal act, an adolescent female can be detained under penal law. Second, a judicial civil measure can be imposed as an act of child protection, mostly when having committed a status offence. Of these girls, a total of 83% (mean age = 15.4, S.D. = 1.3) were placed with a civil measure, while 17% of girls (mean age = 16.4, S.D. = 1.6) were placed under penal law. Since previous research found both samples to show similar rates of psychopathology (Hamerlynck et al., 2009), both will be studied together.

#### 2.1.2. Mental healthcare sample

The mental health care sample consisted of 50 inpatient females between 12 and 18 years old (mean age = 15.6 years, S.D. = 1.4). All girls were recruited from the closed psychiatric wards of two psychiatric hospitals in the Netherlands that were concerned with both crisis intervention and short stay treatment. Those with mental retardation as reported in their files were excluded from participation. At admission, the vast majority of subjects suffered from affective disorders. Over half of all files mentioned symptoms of depression and/or depressive mood, and over 60% mentioned suicidal behavior. Signs of externalizing behavior such as ADHD, ODD or CD were reported in 14, in 17 and in 22% of files, respectively.

### 2.2. Procedure

Girls in both groups were approached shortly after admission, by researchers or staff members. The purpose of the study was explained and all girls received written information about the study. It was explained that participation was voluntary, that refusal would not affect their treatment or legal status, that participation could be stopped at any moment without explanation and confidentiality was guaranteed. For the detention group, participants signed a consent form. In mental healthcare, both girls and their parents signed a consent form before the study commenced.

If girls consented to take part in the study, file information was collected and an appointment was made for filling out questionnaires. All questionnaires were filled out with the researcher present and available for questions.

These studies were approved by the review boards of the Ministry of Justice and the ethics committee of the VU University medical center (Amsterdam), respectively, both imposing strict conditions in terms of anonymity, appropriate handling of information and the participants' assent for participation and for contacting the parents.

### 2.3. Instruments

#### 2.3.1. File information

In addition to rates of suicidality, information on socio-economic background (the parents' occupation and educational background), age, ethnicity, judicial measures and previous outpatient and inpatient service use was obtained from the institution file by means of a standardized checklist.

For girls in mental healthcare, information on psychiatric symptoms and diagnoses at admission was collected if present.

#### 2.3.2. Questionnaire on socio-demographic and socio-economic characteristics

A standard self-report questionaire for parents was used to ascertain parents' country of birth, their level of education, and their employment.

#### 2.3.3. Self-report questionnaires

Depressive symptoms were assessed using the Beck Depression Inventory (BDI) (Beck and Beck, 1972; Beck et al., 1988), a 21-item self-report inventory reporting on the past week. This instrument is widely acknowledged as valid and reliable (Beck et al., 1988; Ambrosini et al., 1991) and was validated for the Dutch language in a sample of depressive patients by Schotte et al. (1997). After totaling all the items, an indication of clinical depression can be given. For the purposes of this study, the scores were dichotomized into groups with scores below 19 (no indication of clinical depression) versus scores of 19 and above (indication for a clinical diagnosis of depression).

Post-traumatic stress symptoms (PTSS) were assessed using the Dutch version of the Child Post traumatic Stress Disorder-Reactivity Index (CPTSD-RI) (Frederick et al., 1993), a 20-item self-report questionnaire, focusing on the past 30 days. The questionnaire has been translated into Dutch following standard procedures of translation and back-translation. Response options for each item were (1) none, (2) a little, (3) sometimes, (4) often, or (5) most of the time. Based on the sum score of all items, five categories ranging from 'no PTSS' to 'very severe PTSS' can be distinguished. In traumatized children, a strong correlation has been demonstrated between these CPTSD-RI categories and a clinical interview-based diagnosis (Pynoos et al., 1987; Pynoos et al., 1993). For the purposes of this study, the scores were dichotomized into 'no indication of PTSS' (score 0–39) versus 'indication for a clinical diagnosis of PTSS' (score 40 or higher).

A Traumatic Events Questionnaire was translated and adapted from the "Traumatic Events Screening Inventory" (TESI-C) (Ribbe, 1996). This questionnaire consisted of 11 questions concerning traumatic events a child might have experienced either as a victim or as a witness. The participant noted whether she had experienced the event and at what age.

The 63-item DIS-Q, a questionnaire developed in the Netherlands, is a reliable and valid self-report instrument on dissociative symptoms (Vanderlinden et al., 1993). All items had a Likert-type scale with five response options (absent to severe). A total dissociation score was computed using all items, and a total score higher than 2.5 was considered indicative for a diagnosis of dissociation.