



## “We are also normal humans, you know?” Views and attitudes of juvenile delinquents on antisocial behavior, neurobiology and prevention

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### ARTICLE INFO

Available online 4 May 2012

#### Keywords:

Antisocial behavior  
Genomics  
Neurobiology  
Juvenile delinquents  
Prevention  
Ethics

### ABSTRACT

This paper presents and discusses the views and attitudes of juvenile delinquents regarding the implications of genomics and neurobiology research findings for the prevention and treatment of antisocial behavior. Scientific developments in these disciplines are considered to be of increasing importance for understanding the causes and the course of antisocial behavior and related mental disorders. High expectations exist with regard to the development of more effective prevention and intervention. Whether this is a desirable development does not only depend on science, but also on the ethical and social implications of potential applications of current and future research findings. As this pilot study points out, juvenile delinquents themselves have rather mixed views on the goals and means of early identification, prevention and treatment. Some welcome the potential support and help that could arise from biologically informed preventive and therapeutic measures. Others, however, reject the very goals of prevention and treatment and express worries concerning the risk of labeling and stigmatization and the possibility of false positives. Furthermore, interventions could aim at equalizing people and taking away socially disapproved capacities they themselves value. Moreover, most juvenile delinquents are hardly convinced that their crime could have been caused by some features of their brain or that a mental disorder has played a role. Instead, they provide social explanations such as living in a deprived neighborhood or having antisocial friends. We suggest that the hopes and expectations as well as the concerns and worries of juvenile delinquents are relevant not only for genomics and neurobiology of antisocial behavior, but also for prevention and intervention measures informed by social scientific and psychological research. The range of patterns of thought of juvenile delinquents is of great heuristic value and may lead to subsequent research that could further enhance our understanding of these patterns.

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### 1. Introduction

Genomics, neurobiology, and neurophysiology contribute to the understanding of the causes and course of antisocial behavior, and of related mental disorders, such as conduct disorder (CD) and oppositional-defiant disorder (ODD) in children. Genetic polymorphisms, structural and functional deviations in the brain, and aberrations in psycho-physiological responding to stress have been demonstrated in individuals exhibiting antisocial behaviors (Baker, Bezdiĳan, & Raine, 2009; Bevilacqua et al., 2010; Dadds & Rhodes, 2009; Fishbein, 2000a; Hodgins, Viding, &

Plodowski, 2009; Popma & Raine, 2006; Shirtcliff et al., 2009). Although scientific research on biomarkers of mental disorders is still in its infancy, there are great hopes and expectations with regard to future applications of these findings for early prevention and treatment of antisocial behavior. Early identification of children at-risk, the sub-typing of children (e.g., children with/without callous-unemotional traits) (Beauchaine, 2009; Fishbein, 2000b; Viding, 2004; Viding, Larsson, & Jones, 2009), the differentiation between types of antisocial behavior (e.g., proactive/reactive aggression) (Dadds & Rhodes, 2009), as well as the development of targeted psychopharmacological interventions, possibly adjunctive to psychological interventions, could result from this type of scientific research (Beauchaine, Neuhaus, Brenner, & Gatzke-Kopp, 2008; Frick & Pettitclerc, 2009; van Goozen & Fairchild, 2008).

While scientific research progresses, its social and ethical implications are still largely unaddressed. Currently, one basic assumption of scientists dominates the field: This kind of research will lead to better and more effective prevention and intervention methods and thereby bring about a win–win situation in which all concerned are better off

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(Beauchaine et al., 2008; Fishbein, 2000b). Youth at-risk may await a better future and less incarceration and society will be more effectively protected against serious forms of antisocial behavior. However, it is unclear whether, and if so, under which circumstances, these assumptions are justified. This will not depend on scientific progress alone, but also on the views and opinions of the target-groups of these interventions. In order to identify and explore relevant social and ethical questions, it is important to investigate the 'social life' of biomarker information, that is, to explore how relevant stakeholders actually perceive and deal with it. This, in turn, requires qualitative stakeholder research. Preferably, this kind of research takes place pro-actively, that is even before scientific findings are actually translated into practical assessment and treatment methods, because applications could evolve that have no support from the stakeholders or that even cause serious harm (Singh & Rose, 2009). For example, ideas about the identity and capacities of individuals at risk may change in rigid, coercive or stigmatizing ways and thereby negatively affect these people's life-trajectories.

In medical genetics, qualitative research is frequently used to investigate the social and normative aspects of genetic testing or screening among affected patients and their family members (e.g., Bredenoord, Krumeich, de Vries, Dondorp, & De Wert, 2010; Dancyger, Smith, Jacobs, Wallace, & Michie, 2010). In behavioral genomics in general, and in the genomics of antisocial behavior in particular, such studies are hardly conducted. Although there are a few exceptions (Campbell & Ross, 2004; Levitt & Pieri, 2009; Pieri & Levitt, 2008), serious gaps exist in our knowledge concerning stakeholders' perceptions of the possible impact of these new scientific developments. Pieri and Levitt (2008) interviewed professionals working with individuals 'at-risk' of displaying violent and aggressive behaviors and Campbell and Ross (2004) interviewed health care professionals and parents about their views on new genetic technologies and genetic testing for traits predisposing to violence. Yet, neither study talked to antisocial individuals themselves and their voice remains unexplored to date. The views of antisocial juveniles, however, seem to be of particular importance. First, many of the applications currently envisaged target early identification and early prevention of the development of antisocial behaviors and therefore will mainly affect young children and juveniles. Therefore, they are important stakeholders and sound ethical decision making requires that their voice is heard (van Willigenburg & van der Burg, 1998). Second, their voice may enrich the debate, because as experiential experts they have a rather specific perspective that may throw another light on the issues discussed or that may introduce new elements hitherto overlooked or neglected. Furthermore, their perspective may be considered important because knowledge about it may facilitate the development of measures that increase "motivation, commitment, effort and compliance as well as [...] reduce] opposition and rejection" (Wiethoff et al., 2003, p. 90). This knowledge could take away possible barriers and facilitate future implementations.

The purpose of this pilot study is largely heuristic. It reveals the range of thoughts and considerations held by antisocial juveniles concerning the genomics and neurobiology of antisocial behavior and its possible consequences for future prevention and intervention measures. Three issues are the focus of this study: i) views on perceived explanations of the crime and attitude towards biological explanations, ii) views about forensic psychiatric and psychological treatment and possible coercive preventive treatment, including perceptions of psychopharmacological treatments, and iii) views about early detection and identification of children at risk of antisocial behavior.

In this article, two key terms will be used: *crime* and *antisocial behavior*. Their meaning overlaps, yet is not identical. The term *crime* or *criminal act* is used for serious deeds forbidden by the criminal law and that lead to a conviction and placement in a juvenile justice institution. Antisocial behavior, however, is a psychiatric term that refers to a variety of behavioral disorders that hamper an individual's functioning in a broader social setting and that cause significant harm to others.

## 2. Method

### 2.1. Participants

The study was conducted at 'Het Keerpunt', a Dutch juvenile justice institution, part of 'Stichting Jeugdzorg Sint Joseph' [Youth Care Foundation Saint Joseph]. We recruited participants from this institution only. However, juveniles are admitted from all over The Netherlands. Only males were admitted to this institution. Most participants are convicted for a serious crime, some were admitted on remand. Of those who were already convicted, some only received a prison sentence. Others, however, received a so-called 'PIJ-order' (Placement in an Institution for Juveniles) which means that they are obliged to undergo treatment for a behavioral disturbance or mental disorder. Juveniles sentenced to such mandated treatment stay significantly longer (up to six years) in the institution than juveniles with a custodial sentence (up to two years). All juveniles were aged 14 to 17 at the moment of their offense, yet at the time of the interview the age-range was between 16 and 24. We included both juveniles with and without a PIJ-order, but excluded those with an IQ below 70 and those who could not speak Dutch. All eligible juveniles who volunteered were given the opportunity to take part in the study, such that the group of participants resembles a cross-section. Ethical approval for this study has been obtained from the Medical Ethical Committee of the Academic Hospital Maastricht and Maastricht University, approval number 10-4-053.4/pl. Written informed consent was obtained from all participants and additionally from parents in case participants were below the age of 18.

### 2.2. Instrument

We conducted semi-structured individual interviews. The choice for this method was partly based on advice given by the professionals who work with these juveniles on a daily basis. They recommended interviewing juveniles individually rather than in a group format, because participants would probably speak out more frankly, if no others from their living-group were present. The interviews were semi-structured, allowing for individually adapted following through on the issues of this study. In this way, it is possible to examine more in detail the reasons behind answers and to understand why each of the juveniles holds a specific view.

When preparing this study, professionals expressed the concern that it might be rather difficult to interview these juveniles, who frequently have a low level of education, about abstract and complex issues. For this reason, we used concrete and brief formulations of questions, we adapted the language and we explicitly mentioned potentially relevant issues in case juveniles did not mention these themselves. The emphasis is on understanding participants' views and attitudes and to discover the range of patterns of thinking, rather than their prevalence. Every finding is important regardless of the frequency by which it gets mentioned.

### 2.3. Procedure

In order to recruit participants the first author visited all eligible living-groups. She explained the goals and the design of the study and asked juveniles whether they would be interested to participate and to give their views. Overall, recruitment was satisfying. Thirteen juveniles took part which was about 50% of the eligible group. Among those who did not take part in the study, some refused, others were released between the day of recruitment and the day of the interview, were absent from the juvenile justice institution during the day because of reintegration activities in the community, or did not receive permission from their parents.

The interviews were conducted by the first author. Prior to each interview the juvenile was provided with background information

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