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Journal of Criminal Justice

journal homepage: www.elsevier.com/locate/jcrimjus

Neuroscientific insights and the Dutch adolescent criminal law: A brief report

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ARTICLE INFO

Keywords:

Neuroscience
Brain maturation
Juvenile criminal law
Young adults
Immaturity

1. Introduction

Recent insights from neuroscientific studies on brain maturation emphasize the view that young adults are a distinct group with different needs compared to children and adults. Evidence from these studies shows that the frontal lobes of the brain continue to develop into the mid-twenties (Prior et al., 2011). It is assumed that this part of the brain deals with the regulation of impulses that may lead to criminal behaviour (see e.g., Monahan, Steinberg, Cauffman, & Mulvey, 2009; Steinberg, 2013; Strang, Chein, & Steinberg, 2013). A second compelling neuroscientific insight is that great variation between individuals exists in the rate in which this maturation occurs (Braams, van Duijvenvoorde, Peper, & Crone, 2015). These neuroscientific insights are helpful to better understand criminal behavior and how to deal with delinquent young adults in the criminal justice system. First, young (adult) offenders account for a disproportionate amount of crimes, a phenomenon that is widely known as the age-crime curve (Farrington, 1986). Second, individual variation exists in continuing criminal careers or desistance from it during young adulthood. For those who continue their criminal career and get into contact with the criminal justice system, it is seen as a challenge to motivate and engage them in any intervention as part of their sentence. Third, amongst psychosocial findings, neuroscientific insights raise the question whether immaturity can be listed as a mitigating factor in judicial decision-making.

In the Netherlands, in recent decades it has been debated whether it is desirable to increase the maximum age for processing young adult offenders in a juvenile court, thereby acknowledging that they are different from adults older than 25 (Van der Laan, Beerthuizen,

Barendregt, & Beijersbergen, 2016). During the political coalition in 2010¹ this issue was again raised and this debate eventually resulted in the introduction of the so-called ‘Adolescentenstrafrecht’ (in English referred to as ‘adolescent criminal law’) on April 1, 2014. The aforementioned neuroscientific insights regarding the immature development of the brains of young adults as well as the overrepresentation of young adults in crime rates, had resulted in the recommendation to expand *and* promote the application of juvenile criminal law on immature young adults. The legislative changes made in the frame of the introduction of the adolescent criminal law allowed under specific conditions for the application of juvenile criminal law for young adult offenders up to the age of 23. The main aim was creating more flexibility in the sanctioning of immature young adult offenders, thereby allowing for judicial decision-making that is tailored to the specific needs and risks of this group. Hence, immature young adults may benefit from juvenile sanctions and interventions that are available in the juvenile justice system. However, the concept of immaturity is rather elusive (Prior et al., 2011), which makes it challenging to assess which young adult is eligible for a sanction or measure from juvenile law. The aim of this paper is twofold. First, we will give a concise overview of the background of the adolescent criminal law (based on Van der Laan et al., 2016). Second, we will describe several deliberations that should be taken into account now that the concept of maturation, at least in the Netherlands, has the potential to become a primary consideration in legal decision-making.

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¹ Parliament Rutte I, 2010.

2. Adolescent criminal law

In 1965, the possibility to treat young adults aged 18 to 21 according to juvenile criminal law under certain conditions was introduced. This possibility, however, was hardly ever used in practice. In the following decades, several parliamentary committees argued for a separate treatment of *all* young (adult) offenders in Dutch criminal law. However, until the first of April 2014 no further legislative changes were made. Nevertheless, it was continuously being questioned whether young (adult) offenders can be held fully responsible for their delinquent behavior and, if not, whether they could be sentenced as juveniles.

In the Netherlands, juveniles between the ages of 12 and 18 who have committed a criminal offence can be sentenced according to *juvenile* criminal law. For instance, juvenile delinquents can receive a community service sentence or being sentenced to a juvenile detention center. As a main rule, an individual aged 18 years or older who commits an offence will be sentenced under *adult* criminal law. A custodial sentence under adult criminal law should be served in a prison for adult offenders. The introduction of the adolescent criminal law makes it possible to make an exception on this standard rule of sanctioning young adult offenders. As said, on April 1st 2014 the age limit for the application of article 77c of the Dutch Criminal Code (DCC) was raised from the age of 21 to the age of 23 years. Depending on the judicial conditions 'personality of the offender' (e.g., immaturity) and 'the circumstances in which the offence is committed' (e.g., whether it was a solo or group offence), it is possible to sentence 18- to 23-year-old offenders under *juvenile* criminal law. Which young adults are eligible for sentencing under juvenile criminal law should be determined by these judicial conditions. Besides focusing on chronological age as a marker in legal decision-making, maturity has the potential to be considered in making decisions pertaining to sentencing and accommodating young adult offenders. According to the Explanatory Memorandum to the proposal for an adolescent criminal law, less matured young adults, who are more alike with juveniles than adults, are hypothesized to benefit more from the pedagogical approach of the juvenile justice system than from a prison environment for adults, that is primarily focused on retribution and punishment. The juvenile justice system however, has a strong focus on education, rehabilitation and parenting, and treatment and interventions are tailored to the individual needs, skills and risks of offenders.

3. Neuroscientific evidence justifying the adolescent criminal law

There are several neuroscientific research findings that justify increasing the maximum age for sentencing under juvenile criminal law. We focus on three neuroscientific findings that were mentioned in the Explanatory Memorandum of the proposal for an adolescent criminal law and are related to young adult offending. Therefore, we will not give a complete overview of the scientific literature pertaining to this topic. Central to the findings mentioned below is the concept of immaturity and the idea that less matured young adults are more comparable with juveniles than with adults. Although neuroscientific insights have enriched our understanding of young adult offending behavior, psychosocial factors, such as peer influence, should also be taken into account since they are often directly related. First, immaturity of the brain of young adults seems to, at least partially, accounts for the increased prevalence of risk-taking and antisocial behavior in young individuals compared to adults (Blakemore & Choudhury, 2006; Bonnie & Scott, 2013; Crone & Dahl, 2012; Monahan, Steinberg, & Piquero, 2015; Steinberg, 2013). Specifically, the frontal areas of the brain are not fully matured before the mid-twenties (Monahan et al., 2009; Prior et al., 2011; Steinberg, 2013; Strang et al., 2013). It is this area of the brain that is assumed to be involved in an individuals' self-regulation and self-reflective thoughts, the ability to oversee the consequences of one's own behavior, the degree of an individuals' ability to

plan and organize their behavior, as well as their understanding of norms and morals (Bonnie & Scott, 2013; Iselin, DeCoster, & Salekin, 2009; Johnson, Blum, & Giedd, 2009). In general, it can be assumed that the human brain continues to develop until the mid-twenties and young adults do not have full control over their behavior due to the fact that their brains are still maturing (Johnson et al., 2009; Steinberg, 2013).

Second, the period of adolescence and young adulthood is characterized as one in which individuals experience a heightened susceptibility to peer pressure (Albert, Chein & Steinberg, 2013), and rewards (Galvan, 2013; Galvan et al., 2006). It has been shown that the brains of adolescents are more responsive to reward processing compared to children and adults (Galvan, 2013). Because of this heightened sensitivity to rewards, young adults experience a higher chance of getting involved in risky behaviors and they are more prone to experimenting with drugs, alcohol, and unprotected sex (Galvan et al., 2006; Peake, Dishion, Stormshak, Moore, & Pfeifer, 2013). Both of these neuroscientific findings (i.e., frontal area of the brain not fully matured and the heightened sensitivity to rewards) undermine the idea that young adults can be seen as responsible adults and can be held fully accountable for their behavior. Also, because of their immature development juvenile sanctions and interventions would be more appropriate and therefore would lower reoffending rates.

Third, there is evidence that variation exists in the rate at which the brains of young adults mature (Braams et al., 2015). Also, specific structures of the brain might show differing rates of development, some may develop in a linear way while other show a different developmental maturation process (Donker, Bulten, Thornberry, & Matsuda, 2012). This might explain why some young adults continue their criminal career, while others desist from further offending behaviour. Therefore, it can be argued that a tailored approach in sentencing young adults, which is a key issue in the adolescent criminal law, will be more effective in reducing criminal behaviour.

4. Practical deliberations

The Dutch adolescent criminal law is an example of the usefulness that neuroscientific insights can have on the judicial practice. However, after almost four years of applying the adolescent criminal law, several deliberations need mentioning. First, the judicial generic rule remains that young adults are seen as fully responsible adults from the moment they turn 18. Only under specific conditions a juvenile sentence or measure can be applied to young adults. Neuroscience tell us however, although individual variation exists, that human brains are not fully developed until the mid-twenties (Prior et al., 2011). Therefore, it can be argued that an inclusive rather than selective approach with regard to sanctioning according to juvenile criminal law would be more appropriate. Since in all young adults their brains are still developing, they might all benefit from the interventions that are available in juvenile justice.

Second, there is little scrutiny, especially from the point of view of the Public Prosecutor, for applying juvenile criminal law in cases involving a very serious crime. The idea might arise that a sentence or measure from juvenile law does not do enough justice to the seriousness of the offence and the damage that has been done to the victim(s). According to the Dutch Criminal Code, the seriousness of an offence is not an exclusion criterion nor is it an inclusion criterion for sentencing under juvenile criminal law. From a neuroscientific point of view there is no evidence that ors the idea to exclude young adult offenders with a serious crime from the juvenile justice approach. Besides the fact that a developmental maturation process takes place in this age group, research even shows that the brains of young adult offenders differ from the brains of children and fully matured individuals with regard to brain activity and brain volume (Yang & Raine, 2009). These results call for a distinct approach in the sentencing and treatment process of young adults in the justice system. Therefore, the pedagogical approach

of the juvenile justice system would be more appropriate than a regular prison environment for adults that mainly focuses on retribution and punishment and has little regard for individual needs of offenders.

Third, the concept of maturity – which takes a central role in assessing whether a young adult is eligible for applying juvenile law – is rather elusive. There is little agreement about what maturity or immaturity really is and how it should be measured and used in judicial decision-making. Even psychiatrists and psychologists experience difficulty defining maturity, let alone to make a robust assessment of a young adults' level of maturation before trial. Differences in both definition and the manner in which maturation is measured may lead to arbitrariness in choosing which young adult is eligible for a juvenile sentence and thus might lead to inequality of law. Judges often lack the necessary information about a young adults' level of maturation which makes it difficult to include it in their consideration for type of criminal law. This might lead to a situation in which maturity is only listed as a mitigating factor in those cases where there is extreme immaturity as a result of a severe intellectual disability. Neuropsychological assessment instruments might help to make an effective and efficient screening of those young adults that – based on their level of immaturity – could benefit from a sentence from juvenile law (see e.g., Cornet, 2018 in this special issue for more information on neuroscientific methods within criminal justice practice).

5. Conclusion

Besides chronological age as a legal marker, the concept of maturity has the potential to become an important consideration in legal decision-making related to young adult offenders in the Netherlands. Although this paper focused on Dutch legislation concerning the sentencing of delinquent young adults, other European countries, such as Germany, have similar judicial modalities for sentencing young adults. This is based on several neuroscientific findings, such as that the maturation of the brain continues until the mid-twenties (see e.g., Prior et al., 2011). These neuroscientific findings, together with the fact that young adults are overrepresented in crime statistics, resulted in the implementation of the adolescent criminal law which make it possible to sentence young adult offenders up to the age of 23 with a sentence or measure from juvenile law. This 'developmentally appropriate' sentencing can be seen as a tailored approach in dealing with crime. Although this judicial possibility has been used now for several years in the Netherlands, several considerations should be taken into account, for instance the fact that maturity is an elusive 'umbrella' term that needs further elaboration in order to prevent arbitrariness in imposing punishments. In addition to unraveling the concept of immaturity, neuropsychological assessment instruments might be useful in assessing abilities that are viewed as indicators of immaturity. Finally, with the introduction of the adolescent criminal law, the concept of maturity has gained legal recognition in the criminal proceedings against young adults. However, further research needs to be done with regard to the neuropsychological assessment of maturity in order to prevent legal inequality within sentencing young adults. To end

with, the implementation of the adolescent criminal law is currently being evaluated by the Research and Documentation Center of the Dutch ministry of Justice and Security (see WODC evaluation program of sentencing adolescents between the age of 16 and 23 in the Netherlands, 2015–2019: www.wodc.nl/onderzoek/onderzoeksprogramma/adolescentenstrafrecht/index.aspx).

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