INCLUSION AND EXCLUSION THROUGH RISK-BASED JUSTICE: ANALYSING COMBINATIONS OF RISK ASSESSMENT FROM PRETRIAL DETENTION TO RELEASE

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As the use of risk-based practices has proliferated in many jurisdictions, justice-involved individuals are often subjected to multiple risk assessments at various moments and with different purposes as they move through the criminal justice system. This article examines the ways in which different risk-based practices are combined and evaluates these combinations in terms of inclusion and exclusion of marginalized offender categories. By understanding risk-based practices in terms of the distribution of resources, the article conceptualizes how the accumulation of bias could exacerbate exclusionary effects and how contradictory risk-informed decisions could undermine inclusionary interventions. Understanding the interplay of different risk-based practices is essential for the practical and ethical judgement of risk-based justice.

Key Words: actuarial justice, bias, rehabilitation, risk assessment, sentencing, social inequality

As risk-based practices in criminal justice have proliferated in many European and Anglo-Saxon jurisdictions, it has become increasingly difficult to characterize such practices. Many commentators within criminology and legal studies have concluded that risk has many dimensions and that its impact depends on how risk is deployed and embedded in penal practices (e.g. Robinson 1999; 2008; O'Malley 2004; Raynor 2016; Schwalbe and Vincent 2016; Phelps 2018). To acknowledge both the promises and the problems of risk-based justice, it is essential to unravel the 'diversity of configurations of risk and their implications' (O'Malley 2004: 337). Even as risk assessment tools have standardized decision-making, their consequences depend on the penal practice in which 'risk' is embedded. For example, risk assessment tools that inform liberty decisions (pretrial detention, sentencing and parole) could indeed be characterized as exclusionary towards marginalized individuals, but tools that inform treatment programmes could be understood rather as 'inclusive strategies which mobilize risk in an acutely different way than "actuarial" schemes for avoiding danger' (Hutchinson 2006: 456). While both risk-based strategies aim to target the 'high-risk offender', the consequences for these groups are potentially very different.

A complicating factor is that risk-based practices and risk assessment instruments now inform an increasing number and variety of decisions at different and multiple moments in the criminal justice system. In many jurisdictions, justice-involved individuals are subjected to a number of risk assessment tools and risk-based decisions as they move through the criminal justice system from arrest to release. Since Feeley and Simon

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(1992) wrote their article about the role of actuarial tools in parole decisions, in many jurisdictions, other actuarial tools have been developed that inform decision from 'front end' (sentencing) to 'back end' (parole) (Monahan and Skeem 2016) and all stages that run parallel or in between, such as supervision, treatment, re-entry, and probation. In the United States, e.g. 28 full states and at least 7 additional states have at least one county that uses risk assessment tools at sentencing (Stevenson and Doleac 2018), a growing number of states and counties are replacing the bail system by a risk-based system to inform decisions on pretrial release (Desmarais and Lowder 2019) and, on the federal level, the First Step Act, signed in December 2018, assigns a central role to algorithmic risk assessment in rehabilitative programming (Bussert 2019). Some jurisdictions use different risk assessment tools for different decisions (e.g. the Ohio Risk Assessment System; more below), while some tools are designed to inform multiple decisions at different points in the criminal justice system (e.g. the algorithmic tool COMPAS (the United States) and general risk assessment tools Offender Assessment System (OASys; England and Wales) and OxRec (Sweden and the Netherlands); more below).

As justice-involved individuals may be subjected to multiple risk-based practices at multiple stages, it makes less sense to examine the consequences of each individual risk-based practice in isolation. The question is not only whether a particular configuration of risk is problematic or promising but how we should assess *combinations of configurations of risk*, focusing on the interplay of goals and consequences of consecutive risk-based decisions and practices. Analysing the emergence of risk management in the United Kingdom, Robinson (1999) observed that risk thinking may be both complementary and contradictory to rehabilitative practices. However, while it is clear that risk thinking has shaped rehabilitation (Robinson 1999; Hannah-Moffat 2005), it is not immediately clear how we should understand the interplay of e.g. risk-based sentencing and subsequent risk-based rehabilitation or of risk-based treatment and later risk-based parole decisions. Even though they inform very different kinds of decisions, risk profiles are often constructed on the same or similar risk factors, among which is socio-economic marginality (e.g. housing and employment; van Eijk 2017). What are the consequences of being subjected to multiple risk assessments, in particular, for marginalized offender categories, particularly, as the goals of risk-based practices may conflict and undermine each other?

Moreover, as justice-involved individuals are assessed multiple times at different points in different contexts to different ends, new questions arise about the problem of class and racial/ethnic bias of risk assessment tools. While proponents of standardized or actuarial risk assessment tools claim that such tools improve accuracy and neutrality and, hence, have the potential to eliminate bias, critics point at their built-in bias and tendency to exclude and oppress marginalized groups (Feeley and Simon 1992; Hannah-Moffat 2016; Goddard and Myers 2017; van Eijk 2017). In the US context, Starr (2014) has argued that differentiating sentencing based on socio-economic status is unconstitutional. Almost all standardized risk assessment tools calculate risk scores based on items that measure socio economic marginality either directly as tools construct socio-economic marginality as risk factor (e.g. income and educational levels, housing, and neighbourhood) or indirectly as tools incorporate class and racial bias from historical crime data (e.g. arrests and convictions)—and, often, they do both, resulting in higher risk scores for socially marginalized individuals and, thus, informing liberty and/or rehabilitation decisions (Starr 2014; Hannah-Moffat 2016; van Eijk 2017; Skeem *et al.* 2019). However, following Andrew and Bonta's risk-needs-responsivity (RNR)

model, high risk level and criminogenic needs should also make marginalized individuals eligible to treatment programmes and resources to stimulate rehabilitation. Applying risk-based strategies at multiple points in the criminal justice system could translate into an accumulation of bias against marginalized individuals or it may result in contradictory practices that ultimately render rehabilitation ineffective.

In short, it no longer suffices to examine exclusive or inclusive configurations of risk in isolation if various risk-based practices with different aims and different consequences are combined. This article draws attention to the ways in which diverse configurations of risk are combined and examines how such combinations may impact individuals in different ways as risk-based practices may complement, contradict, reinforce or undermine each other. The focus of this conceptual analysis is on risk-based practices that rely on actuarial risk assessment instruments because such instruments aim to standardize and structure decision-making processes according to risk factors and risk levels. The design of tools varies, but most tools have in common that they conceptualize social marginality as criminogenic and that they include direct and/or indirect measures of socio-economic status through items such as educational achievement, income, employment status, housing and, sometimes, neighbourhood characteristics (poverty and crime) and leisure activities (van Eijk 2017). I analyse the impact of combinations of risk practices in terms of their inclusionary and exclusionary effects towards socially marginalized justice-involved individuals. The following section offers a brief overview of how the coexistence of inclusionary and exclusionary modes of control has previously been understood by scholars. I, then, introduce a way to conceptualize 'inclusion' versus 'exclusion' based on the way in which risk-based practices affect individuals' access to resources, which allows us to place various risk-based practices along an exclusion/inclusion continuum. In the next section I examine various combinations of risk-based practices and discuss how the interplay of different aims may result in cumulative bias or contradictory consequences. The final section discusses implications for practical and ethical judgements about risk-based justice.

Inclusionary and Exclusionary Modes of Risk-Based Control

The construction of individual social marginalization as criminogenic to predict the risk of reoffending goes back to the earliest risk assessment tools. The first predictive tool that was developed in the 1920s by Chicago-school sociologist Ernest Burgess in Chicago, IL, to inform parole decisions included socio-economic characteristics of individuals as risk factors indicative of reoffending (Harcourt 2008). Burgess examined the statistical relation between parole success and various 'social types', such as the 'hobo' and 'ne'er-do-well'. The Gluecks in the 1930s developed prediction tables based on seven factors to inform sentencing parole and supervision decisions (Harcourt 2008). Their model weighed each factor based on which subcategory the individual belonged to, such as whether the incarcerated person was 'poor' or 'industrious' (Harcourt 2008: 61). The Salient Factor Score was the first actuarial model that was more widely used in the United States; adopted in 1973 by the US Federal Parole Board, it assessed nine factors among which were education grade, employment and living arrangements on release (Harcourt 2008).

Over time, socio-economic factors have been debated and included or excluded for very different reasons. In the past, at least, one reason for excluding them was mostly practical, not ethical: efforts to improve the predictive validity and ease of use have sometimes led developers of such tools to narrow down the number of factors, which sometimes resulted in excluding socio-economic factors (Harcourt 2008). But even more recently, ethical concerns rarely focused directly on socio-economic factors or class bias. For example, in the context of the US Federal sentencing guidelines in the 1970s, 'gender and race were ruled out because they are ascribed traits for which offenders bore no responsibility, but socio-economic items were initially included and only later abandoned … because they are heavily correlated with race' (Tonry 2014: 168). Curiously, including class factors was criticized not so much for discriminatory reasons but based on the argument that it is 'unjust and undesirable […] to penalize citizens for making quintessentially personal choices about such things as marriage, education, work, and living arrangements' (Tonry 2014). During the following two decades, there was little fundamental debate about predictive tools until, in the 2010s, more advanced technology attracted interest from not only social scientist and legal scholars but also statisticians, AI experts and investigative journalists (Tonry 2019).

The widespread use of advanced tools has revived the academic debate about how risk assessment tools may be biased against marginalized individuals, specifically, people living in poverty, people of colour and people from minority communities (e.g. Harcourt 2008; Starr 2014; Hannah-Moffat 2016; Goddard and Myers 2017; van Eijk 2017; Tonry 2019). Including socio-economic factors produces ethnic/racial and gender bias as it raises the risk score for groups who are more often deprived of resources compared to the white and male justice-involved population (Hannah-Moffat 2016; Tonry 2019). Moreover, prediction based on socio-economic status is problematic *in itself* as few legal scholars or practitioners would agree with increasing people's sentences for being poor (Starr 2014; van Eijk 2017). While it is never the case that a single predictor determines the outcome, the combination with all other predictors can have a decisive impact on an individual's risk category (Starr 2014; Oswald *et al.* 2018). General risk assessment tools may include many items that measure socio-economic marginality directly *and* indirectly, thus, raising risk scores based on class and, consequently, race/ethnicity and gender. The very first decision about a defendant may be biased as pretrial risk assessment tools used in US states typically include 'employment stability, education and housing/residential stability' (Desmarais and Lowder 2019), while tools may also measure financial assets and phone access (Grommon *et al.* 2017). In predictive tools used for pre-sentencing reports, socio-economic items, such as employment status, work or school performance, educational level and residential situation, may account for 10–25 per cent of the total number of items, although, because items are weighed, their actual impact on the risk score may be different (van Eijk 2017). Commenting on a validation study of the tool OxRec (developed in Sweden and also used in the Netherlands), Braverman *et al.* (2016: 808) expressed concern about the inclusion of disposable income, education, employment and neighbourhood: 'experimenting with the OxRec calculator, the smallest allowable shift in any one of these variables—for example, from medium to low income—can alter a person's risk assessment from low to medium or medium to high'. In addition, actuarial tools may include items that correlate with socio-economic marginality, such as leisure activities (as they depend on money and location) and attitudes (as trust in police is affected by actual

experiences with police, and relations with police tend to be strained in poor neigh-bourhoods and communities of colour; Harcourt 2015; Goddard and Myers 2017). Particularly, for items about attitudes and lifestyle, standardized assessments may not necessarily eliminate implicit bias as items still need to be interpreted by humans. For example, prejudice may still influence whether an individual's leisure activities are deemed to be conducive to a law-abiding way of life.

The analytical focus in this article is on bias produced by including socio-economic factors in predictive tools and, thus, making risk-based decisions dependent on the socio-economic situation of individuals. Including socio-economic items in predictive tools presents a 'fundamental conceptual problem' of fairness – it is according to Eckhouse *et al.* (2019: 198) the 'base layer of bias'. Eckhouse *et al.* distinguish two other layers of bias. The middle layer concerns the problem of 'dirty data' produced by 'dirty policing' and other flawed and biased criminal justice practices (Richardson *et al.* 2019). All risk assessment tools include items that measure 'criminal history' (e.g. number of arrests or convictions, age at first arrest) which tend to be skewed for class, race and gender. Pretrial risk assessment tools typically include 'criminal history, including violence and failure to appear, active community supervision and pending/current charge(s)' (Desmarais and Lowder 2019). This produces bias because poor and mi-nority individuals and neighbourhoods are targeted disproportionally due to disparate practices in the criminal justice system, profiling, and policy priorities (e.g. the war on drugs) (Harcourt 2015; Tonry 2019). The top layer of bias concerns the fairness of the statistical model, for example, whether predictions are equally accurate for different groups (Eckhouse *et al.* 2019). It is important to understand that each of the three layers of bias depends on the layers below it, which implies that it is pointless to discuss bias in higher layers if the lower layers are unfair (Eckhouse *et al.* 2019). The focus in this art-icle is on the base layer. Treating individuals differently based on their socio-economic status violates the most fundamental principle of fairness, which should, thus, be re-solved before evaluating other layers of bias, although this does not mean that the other two layers of bias are irrelevant for understanding inclusion and exclusion through risk-based decisions. The decision to include socio-economic factors in risk-based deci-sions could also be seen as the most deliberate choice of criminal-legal actors to accept bias, whereas bias in the middle and top layer could be considered (technical) problems that can be resolved. Moreover, the use of risk tools at multiple moments means that the base layer of bias poses a fundamental problem multiple times, as will be discussed later.

To understand both exclusion and inclusion, it is important to acknowledge that, in many risk-based practices, the conceptualization and assessment of socio-economic marginality as criminogenic is motivated by demands for evidence-based rehabilita-tion. Canadian psychologists Andrews and Bonta (2010) criticized so-called second-generation tools, such as those described by Feeley and Simon (1992), for including only static (historic) factors—criminal history and certain demographic characteris-tics, such as age or age of first arrest. They developed the actuarial tool Level of Service Inventory-Revised (LSI-R), a 'third-generation' risk/needs assessment tool that includes 'dynamic risk factors'—also called criminogenic needs—which are individual factors that can be altered and addressed by interventions and which should then reduce risks of reoffending (Hannah-Moffat 2005; Andrews and Bonta 2010; Raynor 2016). Among the items that measure dynamic risk factors are social achievement (education and

employment), financial problems, accommodation, coping skills, alcohol and drugs, criminal peers, criminal personality, criminal thinking, leisure, residential instability and social isolation (Andrews and Bonta 2010). According to the RNR model—which has become the dominant model for interventions in Anglo-Saxon and European jurisdictions—risk assessment should inform treatment plans in line with risk levels, criminogenic needs and the responsivity of individuals. Since Feeley and Simon (1992) wrote about actuarial justice, new theory-informed risk assessment instruments have been developed to inform a new approach to transforming justice-involved individuals. Contrary to claims that bias would affect marginalized individuals negatively, prioritizing individuals with high risk/needs scores could mean that marginalized individuals benefit from risk-based rehabilitation, as treatment should address their specific needs in order to reduce their criminal behaviour. Indeed, such risk-informed practices could be characterized as inclusionary rather than exclusionary (Hutchinson 2006).

The current debate about the bifurcated nature of risk-based justice is illustrative of a wider debate about the coexistence of inclusionary and exclusionary modes of crime control (e.g. Cohen 1985; Lowman *et al.* 1987; Garland 2012; Zedner 2002 Matthews 2005; Young 2004; 2007). Commentators who have attempted to make sense of this coexistence have emphasized a general shift in penal practice from inclusion to exclusion over the last decades. Garland e.g. detailed how, in the penal welfare era, 'the state was to be an agent […] of care as well as control, of welfare as well as punishment' (Garland 2012: 39). In the more punitive era, 'new' and 'old' penologies, while indeed different, are in many respects mutually supportive rather than contradictory. What has changed is not so much that one mode replaced the other but rather that rehabilitation is no longer 'the overarching ideology of the system, nor even to be the leading purpose of any penal measure'—the rehabilitative ideal has become one control mode among others as the exclusionary modes have become more pronounced (Garland 2012: 8). Writing about community sentencing, Cohen similarly observed that 'most societies employ both inclusionary and exclusionary modes of control, constantly oscillating between one and the other' (Cohen 1985: 219) but that, ultimately, it would be hard to maintain these two distinct modes in practice: 'the two visions merge, with exclusion tending to dominate' (Cohen 1985: 230). According to Young (2004; 2007), inclusionary and exclusionary modes of control coexist *by necessity* because structural exclusion needs to be accompanied by a false promise of cultural inclusion in order to legitimate a system that is deeply unequal and unjust. It is characteristic of the 'bulimic society', Young claims, that a wide range of institutions in late-modern societies, among which is the criminal justice system, simultaneously 'absorb and reject' marginalized groups, but, ultimately, they are excluded.

Zooming in on the role of risk management in the United States, Feeley and Simon (1992) noted a similar shift from an inclusionary to exclusionary mode of control, of which the rise of actuarial justice in the 1970s was a manifestation. They locate the rise of actuarial justice in a wider shift in criminal justice from inclusion to exclusion, which resulted from a loss of faith in the ability for the (urban and black) 'underclass' to rehabilitate and integrate into mainstream middle-class society. This reveals the classed (and racialized) nature of both the old 'sociological criminology' and the 'new penology': the criminal justice system no longer aspired to 'rehabilitate, reintegrate, retrain, provide employment, or the like': the ideal of 'normalizing' marginalized offenders into mainstream society was no longer seen as realistic (Feeley and Simon 1992:

457). Feeley and Simon described how a new 'actuarial criminology' contrasted the old 'sociological criminology', which viewed crime and crime control 'as a relationship between the individual and the normative expectations of his or her community' (Feeley and Simon 1992: 466). In the new penology, rather, dealing with offenders largely came to mean categorizing and managing them, particularly, those belonging to a 'permanent underclass'. In O'Malley's (2004: 328) words:

There is simply nothing to integrate them into: the heavy industrial and related economic sector that once provided employment for these people has — as a consequence of globalisation — disappeared from the local economy' and 'To these Others — that are not like us and cannot become like us — the specific strategies of categorically-exclusionary risk are applied'.

Feeley and Simon further observed that, in the absence of a 'common normative universe', penal policies and practices moved away from the 'normalization' of offenders that aimed to incorporate them into middle-class society (Feeley and Simon 1992: 468). Risk management, as it was practiced then, thus, reverberated wider social changes as it responded to deepening inequality, which, in turn, transformed class relations as criminal justice practitioners appeared to cease efforts to transform and improve their clients' lives.

   In response, other commentators have warned against 'dystopian' analyses (Zedner 2002) and 'catastrophic criminologies' (Hutchinson 2006) that seem to focus too much on exclusionary tendencies while not recognizing the inconsistencies of penal reality or acknowledging how, in many instances, inclusion and exclusion are intertwined (Matthews 2005). Indeed, Feeley and Simon's (1992) analysis overemphasized risk management and underestimated the continuance of rehabilitative practices, even though the latter changed significantly under the influence of risk thinking (Robinson 1999; 2016; Garland 2012). Moreover, while Feeley and Simon claimed that risk-based offender management was incompatible with seeking to transform individuals, practices began to emerge that aimed to do just that: transform the 'risky subject' (Robinson 1999; Hannah-Moffat 2005). The emerging of third- and fourth-generation risk instruments that aimed not only to calculate risk scores but to identify dynamic risk factors demanded a new understanding of actuarial justice that is characterized by exclusionary as well as inclusionary modes. However, while many analyses have focused on how risk thinking has shaped rehabilitation, the ways in which exclusionary and inclusionary modes of risk-based practices coexist and impact justice-involved individuals as they move through the criminal justice system has been undertheorized.

Distinguishing Risk-Based Practices: Timing, Purpose and Access to Resources

What has complicated the analysis of risk-based justice is that, over time, we have seen the development of a multitude of risk-based practices and risk assessment instruments. While Feeley and Simon (1992) were concerned with actuarial justice in the context of parole, there are currently actuarial tools that inform decisions on pretrial detention, sentencing, parole, treatment plans, re-entry, probation and supervision, which may all be combined in different ways as well. According to The Marshall Project, in 2015, there were more than 60 risk assessment tools in use in the United States and, today, nearly every state and the federal level uses them (Barry-Jester *et al.* 2015; Henry

2019). Many European jurisdictions have developed their own risk assessment tools. The points and number of points at which jurisdictions use risk assessment instruments varies between jurisdictions. Therefore, before analysing the interplay of risk-based decisions with different aims and consequences, it is useful to distinguish several key aspects of risk-based practices. I first discuss differences in timing and purpose before looking into what distinguishes inclusionary from exclusionary risk-based practices.

In terms of timing, we can distinguish between decisions pre- and post-sentencing (or between front end and back end; Monahan and Skeem 2016). In some jurisdictions, among which are England and Wales, risk plays a role mainly in post-sentencing decisions (Robinson 2017), while, in several US jurisdictions, risk also informs pre-sentencing decisions (Chanenson and Hyatt 2016). In the United States, e.g. in addition to risk-based parole decisions, an increasing number of states and counties are using risk assessment for pretrial decisions, which in many states is introduced as an alternative to the bail system (Desmarais and Lowder 2019). In addition, the development of 'evidence-based sentencing' has introduced risk assessment in courts. Starr (2014) counted at least 20 states that use risk assessment tools in 'some or all sentencing decisions', while other states and the federal government were considering using them. For example, in Wisconsin, the tool COMPAS informs the sentencing decision (Kehl *et al.* 2017). Other US jurisdictions have consciously chosen not to use risk assessment in sentencing because of 'structural opposition or disinterest' (Chanenson and Hyatt 2016). In the Netherlands, risk scores are included in pre-sentencing reports that inform court decisions as well as rehabilitation plans after sentencing (van Wingerden *et al.* 2014).

Second, in terms of purpose, we can distinguish broadly between risk-based practices that inform the 'allocation of punishment' and those that inform the 'allocation of resources' (Robinson 2016). However, I propose a slightly different categorization because the allocation of punishment and resources may—and often does—overlap (cf. van Eijk 2017). A first category concerns liberty decisions: decisions about pretrial detention, sentencing (custodial or not and duration) and parole that impact on the liberty of individuals. A second category includes all risk-based decisions about supervision level and conditions, whether pre- or post-sentencing. A third category of risk-based practices informs treatment plans, whether during or after a custodial or non-custodial sentence. These distinctions may, in practice, be blurred but are sufficiently instructive for analytical purposes. In the United States, only several states use the risk score to determine liberty decisions and, if a custodial sentence is chosen, the duration of the sentence (Chanenson and Hyatt 2016; Kehl *et al.* 2017). Some states use risk assessment tools in the sentencing stage but only to inform non-custodial sanctions, sometimes combined with needs assessment and, in some cases, explicitly precluding the use of risk assessment for determining the length of a prison sentence (Chanenson and Hyatt 2016; Kehl *et al.* 2017). Similarly, in youth justice, risk assessment is not used for sentencing purposes but solely for identifying criminogenic needs to inform interventions, assign services and address criminogenic need areas in line with risk levels (Nelson and Vincent 2018). At the US Federal level, risk assessment is not used for sentencing, but the Post-Conviction Risk Assessment is used for allocating resources (Monahan 2017) and the First Step Act announced risk assessment for designing treatment plans for individuals in prison (Bussert 2019). The variety of uses can be found in European jurisdictions as well. In England and Wales, actuarial tools were first used to inform

pre-sentencing reports in the 1990s and, in 2001, the general risk/needs assessment tools OASys, inspired by the LSI-R, was introduced nationwide (Robinson 2017). OASys informs pre-sentencing reports and sentencing plans and is used by prisons for parole decisions and by probation services for case management. OASys is complemented by other risk assessment tools, such as the Offence Group Reconviction Score and, more recently, the Risk of Serious Recidivism (Robinson 2017). OASys has been adapted for similar uses in the Netherlands (*Risico Inschattings Schalen*, RISc) and Finland (*Riski- ja tarvearvio* (van Wingerden *et al.* 2014; Salo *et al.* 2016). In the Netherlands, RISc was recently complemented with OxRec, developed in Sweden, which informs pre-sentencing reports, as well as treatment plans (Fazel *et al.* 2019).

However, these key distinctions tell us little about whether risk-based practices are 'inclusionary' or 'exclusionary'. To this end, I propose to conceptualize risk-based practices as distributive processes: risk-based practices impact the resources of individuals and, in this way, distribute resources among groups of individuals. That is, decisions on liberty, income, time and participation in programmes either connect or disconnect individuals to or from resources—not only the resources that are available in the criminal justice system but also all resources that individuals command at that moment, such as employment, housing, skills, social capital and recognition. I, thus, define resources in its broadest sense: all resources that matter for people's quality of life and well-being, including material and immaterial resources, as well as recognition (Lamont *et al.* 2014). Punishment decisions may directly and negatively affect resources as they attempt to take away personal liberty, time and/or money and because of the 'collateral consequences' of punishment which affect human capital, opportunities, relations and recognition (Western 2006; Pager 2008; Apel and Sweeten 2010; Western and Pettit 2010; Loeffler 2013; Dirkzwager *et al.* 2014). Alternatively, punishment may directly and positively affect resources by offering supportive interventions in the area of education, work, housing and support networks. Through allocating different kinds of punishment, interventions and regimes, the criminal justice system operates as a system that redistributes resources among individuals. Elsewhere, I have argued that risk assessment instruments have a structuring and reinforcing role in the unequal allocation of resources along socio-economic lines (van Eijk 2017). Because socio-economic marginality is assessed as a risk factor, marginalized groups are more likely to be subjected to decisions that impact their resources negatively—pretrial detention, incarceration, longer sentences and higher levels of supervision. However, their high risk level may also translate into decisions to prioritize them for treatment, thus, increasing their access to valuable resources. Put differently, in addition to identifying and categorizing individuals according to their risk levels, risk assessment impacts the access to resources because decisions about pretrial detention, incarceration and other sentences, treatment, parole, probation and supervision are based on their risk level (which, in turn, is partly based on their socio-economic position). In this way, the conceptualization of risk-based practices as distributive processes makes insightful how risk-based justice works to include or exclude marginalized individuals—and how criminal justice policies and practices shape and produce social inequality more generally (Western 2006; Wakefield and Uggen 2010; Western and Pettit 2010).

If we understand risk-based practices in terms of how they connect (include) or disconnect (exclude) individuals to resources, we can furthermore distinguish various 'risk-resource configurations' that we can characterize as 'inclusionary' or

'exclusionary'. This is an analytical distinction that should best be considered as continuous rather than dichotomous. On the exclusionary end are risk-based practices that Feeley and Simon's (1992) described as illustrative of the 'new penology', while Andrew and Bonta's (2010) RNR-inspired approach to risk-based rehabilitation may serve as an example at the inclusionary end. At the exclusionary end, risk-based decisions take away resources from 'high-risk' individuals—among them disproportionally many socially marginalized offenders due to the way in which high risk is constructed and calculated—and disconnect those individuals from resources due to (long) custodial sentences and mere containment rather than treatment. Individuals categorized as 'low risk' are more likely to be sentenced to non-custodial options or subjected to low-level supervision. Risk-based pretrial decisions may also be placed towards the exclusionary end as high-risk categories are more likely to await trial in detention, which impacts resources because it affects housing, employment and income (Open Society Foundations (OSF) 2011). At the inclusionary end of the continuum, we find risk-based practices that combine high risk levels with access to resources, e.g. when risk scores prioritize individuals for treatment and inform treatment plans. This puts the critique of biased risk assessment on its head: if marginalized individuals are categorized as 'high risk' and 'high need', they may benefit most from risk-based practices. These risk-based practices may work primarily to include high-risk categories by endowing access to valuable resources. However, as I will argue, such an approach to risk-based strategies is not sufficient for understanding their inclusionary and exclusionary effects as the extent and ways in which individuals are connected to resources *also* depends on how cumulative risk practices are combined during an individual's involvement with the criminal justice system.

Cumulative and Contradictory Bias in Risk-Based Practices

Even if reality is more complex, the typology of risk-resource configurations helps to analyse the complexities of *combinations* of risk-based practices. As said, justice-involved individuals may be subjected to multiple risk-based decisions at different times during their involvement in the criminal justice system from arrest to sentencing to release. The different uses of risk-based practices can be combined in different ways.

First, the implementation of a number of risk-based practices at different stages of the criminal justice system may result in cumulative bias, especially, if multiple or all risk assessment tools suffer from several 'layers of bias' (Eckhouse *et al.* 2019) as illustrated in previous sections. An example of a jurisdiction where individuals are subjected to multiple biased tools is the state of Ohio in the United States. The Ohio Risk Assessment System (ORAS) is a state-wide tool that consists of a series of assessment tools that measure the likelihood of recidivism at ten different points in the criminal justice system and inform decisions, among others, on pretrial detention, community supervision, institutional intake and community re-entry (Ohio Department of Rehabilitation and Correction n.d.; Latessa *et al.* 2010). ORAS includes at least four risk instruments that are problematic in terms of the base and second layers of bias: the pretrial tool (PAT) measures, among other items, criminal history, employment and residential stability; the Community Supervision Tool (CST) measures, among other items, criminal history, education, employment, finances and neighbourhood problems; the

prison intake tool (PIT) measures, among other items, criminal history, education, employment and finances and the Reentry Tool measures criminal history (ibid.). In the state of Wisconsin (United States), the algorithmic tool COMPAS is used at various points throughout what is called the 'offender life cycle' as individuals move through the criminal justice system 'from time of arrest through eventual discharge' (Wisconsin Department of Corrections n.d.). A detailed flowchart shows that an adult could be subjected to COMPAS five times, starting with risk-based sentencing and ending with risk-based re-entry. COMPAS has been criticized for producing racially biased predictions, although this has been contested by its developer (Equivant, previously Northpointe; Dieterich *et al.* 2016; Eckhouse *et al.* 2019). In addition to this top layer of bias, both other layers of bias are likely present as COMPAS includes historic crime data, as well as numerous items that directly and indirectly measure socio-economic status (I say 'likely' because COMPAS is proprietary and the calculation of items is unknown; Northpointe 2012). Hence, for marginalized individuals that are subject to COMPAS risk assessment, their risk score may be elevated five consecutive times.

The problem of cumulative bias is reinforced when the consequences of one risk assessment and risk-based decision influence the next risk assessments. For example, in Ohio, individuals who are detained based on their high risk as assessed by the PAT may lose their job or housing as a result of pretrial detention, which, then, feeds into subsequent risk assessments by the CST or PIT in which unemployment and homelessness are seen as criminogenic factors. The combination of risk-based decisions is particularly problematic when risk assessment *early* in the procedure informs liberty decisions, e.g. in the pretrial phase (e.g. ORAS) due to their impact on employment, housing, relations and legal support. In some jurisdictions, risk assessment informs two or three crucial liberty decisions: pretrial detention, sentencing and parole. COMPAS, which is used, e.g. by the states of New York and Wisconsin, may be used for decisions about pretrial detention, sentencing and re-entry (New York State 2015; Wisconsin Department of Corrections n.d.; Northpointe 2012). In Virginia (United States), risk assessment is used for pretrial decisions, as well as sentencing (Virginia Department of Criminal Justice Services 2018; Monahan 2017).

Risk-based liberty decisions are crucial for future decisions because pretrial detention and incarceration have significant effects, particularly, in the United States, on the socio-economic status and well-being of individuals. In the United States, pretrial detention is associated with increased likelihood of receiving a prison sentence and greater sentence length, even when controlling for offense severity and criminal history scores (Heaton *et al.* 2017; Oleson *et al.* 2017). Pretrial detention may result in job loss and homelessness (OSF 2011). These cumulative outcomes are particularly problematic as pretrial risk assessment includes socio-economic marginality as risk factor, thus, resulting in a higher risk of detention for marginalized individuals. If individuals in pretrial detention run greater risk of losing their job or housing, this may impact their risk assessment and risk score that subsequently inform the sentencing decision. Unemployment and homelessness caused by pretrial detention could elevate the risk score, resulting in a higher or longer sentence, which, in turn, could impact risk-based re-entry decisions. Therefore, bias occurring in pretrial risk assessment may be significant in determining the outcomes in subsequent criminal justice phases. The bias against marginalized individuals who are being labelled high risk, thus, accumulates throughout the process. It is not only that each decision carries bias with it but that

biased decisions may produce circumstances that are, in subsequent assessment, evaluated negatively. Put differently, risk assessment produces its own risk factors at a later moment. It is yet unclear how risk assessors and decision makers account for criminogenic risks that are shaped by earlier risk-based decisions.

The picture may look very different when risk-based liberty decisions are combined with risk-based treatment decisions. As discussed, in terms of access to resources, risk-based liberty decisions tend to work exclusionary towards individuals assessed as 'high risk', who are seen as less eligible for non-custodial sentences, while treatment decisions aim to allocate resources to exactly those 'high-risk' individuals. In theory, the contradictory aims of these risk-based practices could conflict with each other, resulting in, on the one hand, higher sentences for high-risk categories and, on the other hand, their prioritization for treatment and allocation of resources. The actual consequence of combining risk-based sentencing with risk-treatment is an empirical question into which we have little insight so far. Research in the Netherlands suggests that risk assessment could inform sentencing as well as rehabilitation in a similar way by paying attention to addressing risk factors rather than to the risk score as such as high-risk categories are not being sentenced to more 'controlling' types of punishments (van Wingerden *et al.* 2014).

However, in the case that risk scores do inform sentencing decisions, e.g. in several US states, combining different risk-based practices may result in a situation in which risk-based sentencing could undermine or even negate risk-based treatment. This could happen when high risk translates into a custodial sentence or into a longer jail or prison sentence, which negatively impacts the socio-economic status and well-being of individuals, which is then followed by risk-informed treatment, which, conversely, endows high-risk categories access to resources to support their rehabilitation. As discussed previously, punishment redistributes resources as high-risk categorization increases an individual's chance of incarceration and, thus, the chances to suffer from the 'collateral damages' of incarceration, including loss of employment and housing, stigma and other barriers to re-entry, psychological damage and strain on relationships with family and friends—incarceration, thus, affects one's command of resources. Given these consequences of imprisonment, rehabilitative efforts would have to 'repair' or 'undo' the loss of resources of individuals who have served (longer) custodial sentences compared to individuals who have served a short custodial sentence or community-based sentence. Similar effects may occur after risk-based pretrial detention: the damage of detention (loss of job, housing and support) puts individuals in a worse situation before they can embark on any rehabilitation interventions that aim to address criminogenic needs (to which now are added: unemployment, homelessness, stress and stigma). Due to the negative impact of the deprivation of liberty on the resources of individuals, combining risk-based liberty decisions with risk-based treatment decisions could ultimately undermine or even negate any inclusionary attempts through risk-based treatment.

The undermining effect of combining exclusionary and inclusionary risk-based practices should have our special attention because several studies suggest that the extent to which rehabilitative interventions connect justice-involved individuals to actual resources is already limited. First, in the United States, commitment to rehabilitation may be more rhetoric than reality as interventions may not be available (Lynch 2000; Phelps 2011). Second, interventions may be available but are not necessarily connecting individuals to resources. In this context, it is relevant to consider how risk thinking

has shaped rehabilitation in such a way that the goal of rehabilitation has shifted from improving well-being to reducing risks of reoffending (Robinson 2008). The narrow goal of rehabilitation is manifest in the RNR model, which considers as needs only those 'criminogenic needs' that relate to offending (Hannah-Moffat 2005). The redefining of rehabilitation need not be problematic as long as individuals are still connected with resources through job placement and schooling but, in practice—in the United States, as well as in the United Kingdom and the Netherlands—rehabilitative interventions focus mostly on changing attitudes and behavioural choices, offering programs focusing on cognitive behaviour therapy, motivational interviewing and practical life-skills (e.g. how to navigate job interviews and budget management; Phelps 2011; Fischer *et al.* 2012; Schwalbe and Vincent 2016). While these interventions may help to navigate governmental bureaucracies and labour markets, they offer merely *indirect* access to resources and, thus, cannot compensate the loss of employment, housing, skills and support that, especially, those who have been incarcerated may have lost. Given the current reality of rehabilitation, it is questionable that risk-based treatment that provides limited access to resources for marginalized individuals can repair the damages to resources that result from pretrial detention or long custodial sentences. In this way, risk-based rehabilitative interventions are likely to be undermined and cancelled out if they are combined with prior risk-based liberty decisions.

Reassessing Risk-Based Justice

As justice-involved individuals are subjected to multiple risk assessments as they move through the criminal justice system, from arrest to release, we should pay attention to the *combination* of risk-based practices in relation to the socio-economic bias that is inherent to many actuarial tools. I have conceptualized risk-based practices in terms of their inclusionary and exclusionary effects by paying attention to how risk-based practices connect individuals to resource—there are, thus, various 'risk-resources configurations'. I have focused on the inclusionary and exclusionary consequences of risk-based practices because current debates have drawn attention to class and racial/ethnic bias against marginalized individuals, as well as the promise of risk-informed rehabilitation to target social marginality as it is understood as a 'criminogenic need'. Conceptualizing inclusion and exclusion in terms of access to resources—education, employment, housing, recognition, support and so on—makes it possible to understand risk-based practices as processes through which resources are distributed among the justice-involved population. To understand the combined effect of risk-based decisions on individuals, it is essential to gain more empirical insight into the details of risk-based practices. For example, how do risk assessors and decision makers account for criminogenic risks that are shaped by earlier risk-based decisions? How do they engage with previous risk assessments? How do practitioners negotiate the contradictory aims of risk-based practices?

Standardized risk assessment is crucial in the distribution of resources along the lines of class and race/ethnicity. First, risk tools conceptualize social marginalization as risk factor and criminogenic need. Second, risk tools categorize individuals based on risk level and subsequently structure the distribution of resources along the lines of risk. Analysing risk-based practices as inclusionary and exclusionary modes

of control, thus, has wider relevance as it enhances empirical and theoretical insight into the impact of criminal-legal decisions and interventions on the lives of those who are most targeted by the system. Furthermore, understanding criminal justice practices as mechanisms that distribute (access to) resources among justice-involved individuals is valuable if we are to gain more insight into the role of criminal justice in the production and reproduction of social inequality. It has proven difficult to establish empirically the relation between criminal justice policies and practices and broader inequalities for reasons of selectivity of the population and because numerous other processes are at play in shaping inequality. A direct analysis of mechanisms through which resources are distributed unequally clarifies how practices shape inequality even if net outcomes are unclear due to other, intervening social developments (e.g. economic development). Future empirical research could shed light on other combinations of risk-based practices, whether problematic or promising, and could focus on the ways in which combinations of risk-based practices impact the resources of justice-involved individuals, particularly those who are socially marginalized when they enter the criminal justice system and those who suffer resource loss due to risk-based decisions.

Understanding the interplay of consecutive risk-based practices, whether it produces accumulative bias or undermining effects or other negative outcomes, is essential for making practical and ethical judgements about risk-based practices and risk thinking more generally. The various ways in which risk-based practices have the potential to shape most or all decisions about justice-involved individuals requires that we understand its wider social consequences. One point for discussion is that the undermining of inclusionary modes of control may make them seem ineffective. This runs the risk of further limiting rehabilitation efforts in favour of exclusionary modes, which impacts the most marginalized groups the most, setting in motion a vicious circle of marginalization. There is a tendency among policymakers and practitioners to insist that risk-based justice is inevitable for safeguarding public safety and to emphasize that risk/needs assessment models are evidence based and, therefore, neutral. However, assessing 'risk' based on an individual's socio-economic situations is never neutral. Such claims are questionable as they accept that 'neutral' practices and policies target groups to the effect of deepening marginality or increasing inequality. Furthermore, if policymakers and practitioners are not concerned by the unequal distribution of 'collateral consequences' of risk-based justice, they should be concerned about the ways in which risk-based decisions may undermine needs-based rehabilitation programs. If it is difficult for rehabilitation programs to demonstrate effectiveness, this may undermine public support for such programs. Considering the multiple points and uses of risk assessment, it may, thus, be best to refrain from risk-based liberty decisions to support a true commitment to rehabilitation for those individuals who need it most.

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