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Can the use of algorithms enhance judicial independence? Reflections in the context of The Hague Declaration

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Summary:

The subject of this paper is an attempt to answer the question of whether the use of tools based on algorithms or artificial intelligence in the criminal process can strengthen the autonomy of the courts. The author focuses solely on tools based on algorithms and, more precisely, on tools used in the course of making a criminological prognosis in the course of proceedings for granting a convicted offender a conditional early release from serving the rest of their prison sentence. At the same time, he puts his considerations in a specific local and temporal context, the current legal system of the Republic of Estonia. The main conclusion of the article is that tools based on statistics should not be the sole basis for a decision-making body's assessment; they should be only one element of this assessment, an element that is taken into account only in the second instance. The most desirable system for making criminological prognoses should therefore be a mixed system containing, on the one hand, elements of the clinical method and, on the other hand, elements of the statistical method and, at the same time, a system which ensures that the results of algorithm-based tools are treated only as subsidiary arguments. Only then will judicial autonomy be properly safeguarded.

Keywords:
algorithms; artificial intelligence; judicial autonomy; criminological prognosis; conditional early release

1 This article is the result of research carried out as part of the research project "Prognoza kryminologiczna: porównanie rozwiązań estońskich i polskich" (2020/04/X/HS5/00055), financed by the National Science Center as part of the Miniatura 4 competition.

Czy stosowanie algorytmów może wzmocnić niezawisłość sądów? Refleksje w kontekście deklaracji haskiej

Streszczenie:

Opracowanie stanowi próbę odpowiedzi na pytanie, czy wykorzystanie w procesie karnym narzędzi opartych na algorytmach lub sztucznej inteligencji może wzmocnić autonomię sądów. Skupiono się wyłącznie na narzędziach opartych na algorytmach, a ściślej na tych wykorzystywanych w trakcie sporządzania prognozy kryminologicznej w toku postępowania o udzielenie skazanemu warunkowego przedterminowego zwolnienia z odbycia reszty kary pozbawienia wolności w Republice Estonii. Główną konkluzją artykułu jest stwierdzenie, że narzędzia oparte na danych statystycznych nie powinny być dla organu decyzyjnego jedyną podstawą oceny. Powinny być tylko jednym z elementów tej oceny, branym pod uwagę dopiero w drugiej kolejności. Najbardziej pożądanym systemem formułowania prognoz kryminologicznych jest system mieszany, zawierający z jednej strony elementy metody klinicznej, z drugiej zaś elementy metody statystycznej, a jednocześnie system zapewniający traktowanie wyników zastosowania narzędzi opartych na algorytmach jedynie jako argumentów pomocniczych. Tylko wówczas autonomia sądów zostanie należycie zabezpieczona.

Słowa kluczowe:
algorytmy; sztuczna inteligencja; autonomia sądów; prognoza kryminologiczna; warunkowe przedterminowe zwolnienie

The subject of this paper is an attempt to answer the question of whether the use of tools based on algorithms or artificial intelligence in the criminal process can strengthen the autonomy of the courts. In this paper, the autonomy of the courts is defined as 1) formal autonomy (objective autonomy) – resulting from legal regulations, and 2) material autonomy (subjective autonomy sensu largo) – resulting from the actual actions performed by the courts, in particular from decisions made by the courts. Formal autonomy is the freedom of the courts to make decisions, guaranteed by law; this freedom – let me add – must remain within the limits prescribed by law and can only be limited by law[2]. Material autonomy, in turn, reflects this freedom in judicial practice.

Naturally, formal and material autonomy influences the way courts are perceived by society, including judges from individual judicial panels (subjective autonomy sensu stricto), increasing or decreasing the degree of trust in the decisions made by the courts; hence, the analysis of the potential impact of individual factors (in this case – the impact of AI in a broad sense) on the quality of independence should be considered – in my opinion – exceptionally important[3].

Due to the limited space, I will focus solely on tools based on algorithms and, more precisely, on tools used in the course of making a criminological prognosis in the course of proceedings for granting a convicted offender conditional early release from serving the rest of their prison sentence. At the same time, I will put my considerations in a specific local and temporal context, more specifically – in the current legal system of the Republic of Estonia. The reason for choosing Estonia and its local legal order is the

2 P. Hofmański and S. Waltoś distinguish institutional and procedural guarantees of the autonomy of courts. The institutional guarantees include, inter alia, 1) having only Polish citizenship and enjoying full civil and public rights, as well as the lack of a final conviction for an intentional crime prosecuted by public indictment or a deliberate fiscal offense; 2) high professional and ethical qualifications; 3) irremovability of the judge; 4) stability of the position; 5) non-transferability; and 6) judicial immunity. For procedural guarantees: 1) the superiority of the court over the parties to the proceedings; 2) collegiality of adjudication; 3) objectivity; 4) secrecy of the deliberations and voting on the judgment; and 5) judicial independence (P. Hofmańki, S. Waltoś, *Proces karny, Zarys systemu*, *Wolters Kluwer,* Warsaw 2016, pp. 161-166).

3 Independence and Accountability of the Judiciary and of the Prosecution Performance Indicators 2015 ENCJ Report 2014–2015, European Network of Councils for the Judiciary, The Hague 2015, p. 15, https://www.encj.eu/images/stories/pdf/GA/Hague/encj_report_independence_accountability_2014_2015_adopted_ga.pdf [accessed: 3.01.2022].

fact that the above-mentioned tools (the tools based on algorithms) are used there and these tools are – apparently – an important factor when deciding on the legitimacy, or lack thereof, of granting a convicted person conditional early release.

Let me begin by stating that at the statutory level (i.e. at the highest level of generality), the procedure for granting a conditional early release to a convicted offender in Estonia is almost identical to the procedure in force in Poland, i.e. a penal institution sends its opinion to a court and the court makes an autonomous decision based on the grounds explicitly indicated by the legislator[4]. Estonian courts are fully autonomous in this respect, both formally and substantially. At least seemingly, their Formal independence directly results, inter alia, from § 146 of the Estonian Constitution[5], according to which justice is administered exclusively by the courts and the courts are independent in discharging their duties and administer justice in accordance with the Constitution and the laws. Simultaneously, the regulation of § 147 of the Estonian Constitution indicates some of the guarantees of this autonomy. According to this regulation: "Judges are appointed for life. The grounds and procedure for release of judges from office are provided by law. Judges may be removed from office only by a court judgment. Judges may not hold any other elected or appointed office, except for those prescribed in the law. The legal status of judges and guarantees for their independence are to be provided by law". Thus, Estonian courts are subject only to legislator's guidelines that, similarly to Polish courts, are (and this must be emphasized) so general in the scope of the interest of this work that they effectively do not limit their freedom at all. It should be pointed out that according to § 76 (4) of the Estonian Penal Code[6], in deciding release on parole, the court shall take into consideration the circumstances relating to the commission of the criminal offence, the personality of the offender, his or her previous personal history and conduct during the service of the sentence, his or her living conditions and the consequences which release on parole may bring about for the offender. In other words, when considering such a matter, Estonian courts are obliged to take into account all of the circumstances that may be useful from the perspective of the process of granting a conditional early release. Interpreting these circumstances and assessing their validity in abstracto and in concreto is also for the courts' consideration.

The freedoms of Estonian courts are not limited (at least prima facie) by materials provided by penal institutions. Penal institutions do not prepare applications for conditional early release, nor do they provide an opinion on whether it is justified or not (as in Poland). A penal institution prepares only materials (in the form of the convicted person's personal files, an opinion on the possibility of the convicted person committing a new crime, the degree of risk of the convicted person and the early release of the convicted person, the opinion of the probation officer on the probation period and selected obligations that should be imposed on the prisoner, the date of their imposition, and the consent of the prisoner to the use of electronic monitoring[7]) on which the court is to base its decision-making process.

At a higher level of detail, however, the Estonian and Polish procedures for granting conditional early release are fundamentally different. While in Poland, the criminological prognosis of a convicted offender, which is the main basis for the decision in the scope in question, is made on the basis of the so-called clinical method, i.e. on the basis of the knowledge, experience and intuition of professionals (officials of the State Prison Service, psychologists, the court), in Estonia, a mixed method is used, which includes within its scope both elements of the clinical method and the statistical method. In Estonia, the process of making a criminological prognosis uses the OASys (Offender Assessment System), a fourth-generation tool developed to increase the protection of society by reducing the risk of recidivism among adult offenders. The system was originally developed in the UK during a pilot studies in 1999–2001 and implemented there in 2001 (it has been researched and developed ever since; the results of the evaluation of the system

4 For more on the Estonian procedure, see in a condensed study: J. Sootak, P. Pikamäe, *Karistusseadustik. Kommenteeritud väljaanne*, *Juura,* Tallinn 2021, pp. 306-320.

5 The Constitution of the Republic of Estonia, https://www.riigiteataja.ee/en/eli/530102013003/consolide [accessed: 3.01.2022].

6 Penal Code, https://www.riigiteataja.ee/en/eli/522012015002/consolide [accessed: 3.01.2022].

7 See § 76 (1) of the Estonian Prison Act, https://www.riigiteataja.ee/en/eli/504112013005/consolide [accessed: 3.01.2022].

are published on an ongoing basis in the so-called OASys research compendiums).As a fourth-generation tool, OASys uses actuarial models to predict reoffending based on both static and dynamic risk factors, while integrating other offender-specific factors that are important for treatment and to enable planning and monitoring of intervention implementation. The system is designed to: (1) assess the probability of reoffending by the offender; (2) identify and classify needs related to committing an offence; (3) assess the risk of serious harm, risk to the person and other risks; (4) help manage the risk of serious harm; (5) link the assessment to the sentence plan; (6) indicate the need for further specialist assessments; and (7) assess and monitor changes during the offender's sentence[8].

In the context of the Estonian situation, it is important to emphasize that the British OASys system and the system used in Estonia are not identical. The Estonian system is based on the British system but has been adapted to Estonian needs[9].

Work on risk assessment methodology started in Estonia in 2003. However, the Estonians did not start their work from scratch and decided to build on the existing tool already developed and used in the UK. In 2004–2005, the first risk assessment training sessions took place and random risk assessment of prisoners by Estonian probation officers and officials of the Estonian State Prison Service began. In 2007, the risk assessment form became electronic and risk assessment became more common[10].Finally, in 2009, four new measures for calculating the probability of committing a new crime were implemented: (1) the first measure (RH-S) measures the overall probability of committing a crime, based on static risk factors; (2) the second measure (RH-K) measures the overall probability of committing a crime based on static and dynamic risk factors; (3) the third measure (RH-V) measures the probability of a committing a violent crime, based on static and dynamic risk factors; and (4) the fourth measure (RM-K) measures the probability of a sexual or violent crime being committed, based on static risk factors[11]. It should be added that these measures are very effective; the results of the latest evaluation of OASys show a predictive effectiveness of approximately 70%[12], which is similar to that of other tools used around the world[13] (see COMPAS in the United States[14]) and much better than decisions based solely on human intuition. This point is at the same time an expected result, as the purpose of introducing the system was to overcome the shortcomings of the clinical method related to its extreme subjectivity and the limitations of the human mind, which is unable to efficiently process the huge amount of information necessary to be taken into account when making a criminological prognosis[15] and which is prone to various cognitive errors. In the context of the latter statement, a well-known study by S. Danziger, J. Levav and L. Avnaim-Pesso can be mentioned, which showed the influence of non-substantive factors on the decisions of the courts concerning conditional early release. As it turned out, when judges issue repeated judgments, they show an increased tendency to

8 See R. Moore, *The Offender Assessment System (OASys) and the 2009–2013 research projects,* [in:] R. Moore (ed.), *A Compendium of Research and Analysis on the Offender Assessment System (OASys) 2009–2013*, Ministry of Justice Analytical Series, National Offender Management Service, London 2015, pp. 1-4, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/449357/research-analysis-offender-assessment-system.pdf [accessed: 3.01.2022].

9 See E. Rüütel, *Korrektsioonipsühholoogia: tähed kaevu sügavuses. Õpik tööks kinnipeetavatega*, Sisekaitseakadeemia, Tallinn 2018, p. 195.

10 See J. Riives, *Kriminogeensete riskide hindamise usaldusväärsus ning mõju kinnipeetava karistuse täideviimisele*, *Unpublished,* Tartu 2017, p. 9, http://dspace.ut.ee/bitstream/handle/10062/56856/riives_janek.pdf [accessed: 3.01.2022].

11 See ibid, p. 13; Riskihindamise õpik 2016, p. 6 <- Unpublished, unpublished, courtesy of the Estonian Ministry of Justice.

12 *Eestis kasutatavate retsidiivsusvalemite koondanalüüs. Uuringu telli ja: Justiitsministeerium. Analüüs: Turu-uuringute AS (Vaike Vainu),* 2020, <- Unpublished, pp. 36-38, unpublished, courtesy of the Estonian Ministry of Justice. For more on the situation in Estonia, see in: K. Burdziak, E. Rüütel, *Prognoza kryminologiczna: porównanie rozwiązań estońskich i polskich*, submitted at the Tygiel publishing house, during the review process.

13 On these tools, see more in a condensed study: D. Wójcik, *Stosowanie w postępowaniu karnym narzędzi diagnostyczno-prognostycznych służących oszacowaniu ryzyka powrotności do przestępstwa*, „Prawo w Działaniu" 2013, no. 16, pp. 59-102.

14 See equivant, *Practitioner's Guide to COMPAS Core*, 2019, http://www.equivant.com/wp-content/uploads/Practitioners-Guide-to-COMPAS-Core-040419.pdf [accessed: 20.05.2022].

15 See e.g. G. Markowsky, *Physiology*, https://www.britannica.com/science/information-theory/Physiology [accessed: 3.01.2022].

adjudicate in favor of the status quo, and they can overcome this tendency by, for example, taking a food break (the so-called irrational hungry judge effect)[16].

Therefore, one might say that the purpose of introducing the OASys system in Estonia was also to assist officials of the State Prison Service and judges in the decision-making process.

The efficiency, credibility and correctness of the results of the application of the above-mentioned tool and its convenience (especially for judges, who receive a ready-made percentage risk of recidivism and a description prepared by the officials of the State Prison Service) may explain its great influence on Estonian courts, or rather Estonian judges. While Estonian courts (as with Polish courts) are fully autonomous in the procedure of granting a conditional early release, and all that matters is that their decision is based on reasons provided directly by the Estonian legislator, strangely enough their decisions are correlated with the results of the OASys system. As Janek Riives (the Director of Tartu Prison in Estonia) points out: "the probability of committing a new crime and the level of risk calculated in the risk assessment has a direct impact on the decision regarding a conditional release. Absence from work or residence, alcohol or drug abuse, violence, increased seriousness and dangerousness of offences, violation of the conditional release conditions, etc. have a similar impact on the outcome of the criminogenic risk assessment and on the judges' conditional release decisions. [...] out of 106 persons conditionally released from Tartu Prison in 2012, 52 persons had a less than 25% probability of committing a new general crime within two years, 41 persons had a probability between 26–50%, and only 13 persons had a probability above 50%. For new violent crimes, the probability of 67 persons committing them was respectively: 31 persons with a probability of up to 25%, 34 persons with a probability of 26–50% and only 2 persons with a probability of committing a new violent crime in the next two years exceeding 50%."[17] Thus, as can be seen, decisions for conditional early releases made by Estonian courts are negatively correlated with "optimistic" results from the application of the OASys system (one may venture to say that the lower the score in the OASys system, the higher the chance of a conditional early release), while negative decisions are positively correlated with "pessimistic" results from the application of this system (once again, one may say that the higher the score in the OASys system, the greater the chance of not granting a conditional early release)[18].

The above, i.e. the high convergence of the results of the application of the OASys system with the decisions of the courts, may be the result of the effectiveness, credibility and correctness of the results of the application of the algorithm-based tool and its convenience, so of a conscious decision of the courts. It may also result of the use of the anchoring and adjustment heuristic (or other heuristics) by the courts, i.e. a simplified and, at the same time, unconscious way of concluding reality by a human. As D. Kahneman explains, anchoring occurs when we relate a numerical value to an unknown quantity and then estimate this unknown quantity. As the author claims, one of the surest and most predictable findings in experimental psychology is that the estimated value will then be close to the numerical value previously reflected in the mind[19].

An extremely vivid example of the application of such a heuristic is recalled by R.H. Thaler and C.R. Sunstein: "Suppose we are to guess the population of Milwaukee, a city about two hours from Chicago, where we live. Neither of us knows Milwaukee, but we speculate it's the largest city in Wisconsin. Where should we start guessing? Well, we can start with what we know, which is the population of Chicago, roughly three million. What we think about next: Milwaukee is a big city, but not as big as Chicago. Hmm, maybe it's about three times smaller, say, it has a million citizens. Now let's take someone from Green Bay, Wisconsin, and ask him the same question. The person doesn't know the right answer either, but he

16 See S. Danziger, J. Levav, L. Avnaim-Pesso, *Extraneous factors in judicial decisions*, „Proceedings of the National Academy of Sciences" 2011, no. 108(17), pp. 6889-6892, https://www.doi.org/10.1073/pnas.1018033108 [accessed: 3.01.2022].

17 J. Riives, *Kriminogeensete riskide...*, op.cit., pp. 25-26.

18 See K. Burdziak, E. Rüütel, *Prognoza kryminologiczna*...., op.cit.

19 D. Kahneman, *Pułapki myślenia. O myśleniu szybkim i wolnym*, Media Rodzina, Poznań 2019 [e-book version, chapter 11]. About the anchoring heuristic see e.g. in: H. Boz, *Anchoring effect: a myth or reality?,* „The International Journal of Economic and Social Research" 2019, no. 1(15), pp. 33-47.

knows Green Bay has close to a hundred thousand citizens and Milwaukee is bigger, so he guesses maybe three times the size – three hundred thousand citizens"[20]. As you can see, although the question is about one and the same issue, depending on the starting point, the final answer will be higher or lower, close to the higher or lower "anchor" with which it is associated.

In the context of the decision on conditional early release and the fact that the courts consider the results of the application of the algorithm-based tool, the anchoring heuristic could take the following form: a judge (as in Poland, cases for conditional early release in Estonia are considered by a single judge) uses the OASys system to obtain a percentage result – put simply, the degree of risk that the convict will relapse to crime in the future. Suppose this result is 70%. The judge then assesses the risk of the relapsing to crime based on the clinical method, i.e. assesses the perpetrator based on the circumstances relating to the commission of the criminal offence, the personality of the offender, his or her previous personal history and conduct during the service of the sentence, his or her living conditions and the consequences which release on parole may bring about for the offender. The risk assessment determined by the judge in this way may be different, higher or lower. Nevertheless, due to the fact that the number 70 was previously anchored (reflected in the mind), it can be expected that it will be similar to this number, although – substantively – it may be unjustified. As indicated by R.H. Thaler and C.R. Sunstein, we usually start our findings with some "anchor" in the form of a known number, and then adjust in the direction we consider appropriate. Then, however, an error occurs and our adjustment is insufficient[21].

Considering the above-mentioned points, the question posed earlier as to whether the use of tools based on algorithms or artificial intelligence in criminal proceedings can strengthen the autonomy of the courts, appears legitimate. If tools based on algorithms (or artificial intelligence), designed to overcome the limitations of the human mind and to support the decision-making processes of individual subjects, including judges, begin to dominate these subjects, becoming de facto actual adjudicators in cases involving, for example, a conditional early release of a convicted offender from serving the remainder of their sentence, it would not be appropriate to speak of strengthening the autonomy of the courts and judges in this way, but of depriving them of any autonomy and causative power. Judicial autonomy requires that the judge should not feel or be bound by any external pressure, be it pressure from any entity (e.g. another judge) or from any object (e.g. an algorithmic tool). Their decisions should be based solely on their knowledge (including, in particular, knowledge obtained in the course of criminal proceedings sensu largo), their experience and principles of logical reasoning. Meanwhile, conscious and especially unconscious reliance by judges primarily on external factors, such as the result of using the OASys system, or even making decisions dependent on them, may result in a situation where court decisions are perceived not as independent, but as dependent on the subjective level, including, in particular, the society assessment. The negative subjective social perception of such decisions may also result from the fact that the tools based on algorithms, including in particular the factors, calculation formulas, etc. taken into account in their framework, are complicated, and thus – for a "normal" citizen (but also for a judge) – incomprehensible. ENCJ rightly indicates that: "independence must be earned. It is, by no means, automatic. The Judiciary achieves legitimacy and the respect of its citizens by excellent performance, resulting in impartial, well-reasoned, decisions. The best safeguard of independence is excellent and transparent performance. In that way, the Judiciary fulfills its mandate and demonstrates that it does so"[22].

By basing their decisions on the results of algorithm-based tools, judges would also be exposed to the risk of being intentionally or unintentionally manipulated by third parties, such as algorithm tool developers or other subjects (e.g. hackers) who might influence the potential outcome presented to the judge. M.R. Jonnson and J.L. Viljoen conducted a study on a group of judges and found that, according to them,

20 R.H. Thaler, C.R. Sunstein, *Impuls. Jak podejmować właściwe decyzje dotyczące zdrowia, dobrobytu i szczęścia*, Poznań 2017, Zysk i S-ka, p. 38.

21 See ibid, p. 38.

22 Independence and Accountability..., op.cit., p. 11.

risk assessment tools may, on the one hand, provide more information about the defendants and increase objectivity in the decision-making process, but, on the other hand, they may transfer bias from judges to the professionals who develop and administer the tools, making the situation even more complicated. Admittedly, fears of this kind – according to M.R. Jonnson and J.L. Viljoen – are not fully justified, as it turned out that the tools did not significantly affect judges' impressions of the offenders, and the only visible effect of their use was to increase the intensity and consistency of the tool's recommendations for high-risk adolescents[23]. It must be emphasized, however, that the risk always exists, and it is all the more real because the fact of interfering in various decision-making processes by interfering with electronic tools is nothing new, and it has recently become part of the popular doctrine of "hybrid warfare".

The General Assembly of the European Network of Councils for the Judiciary, meanwhile, indicates in The Hague Declaration On promoting effective justice systems[24], that: "Independent and accountable judiciaries are an essential component of high quality, effective and efficient justice systems, and a prerequisite for a well-functioning EU area of justice". It should therefore be an objective of the nation states to strive to create the conditions that will ensure a sufficiently high level of independence of the judiciary, which must be treated as the need to create conditions that will also ensure the independence of individual judges. It has been rightly pointed out that: "For the Judiciary to be independent, the Judiciary as a whole must be independent and the individual judge must be independent. A distinction needs to be made between the independence of the Judiciary as a whole and the independence of the judge. While the independence of the Judiciary as a whole is a necessary condition for the independence of the judge, it is not a sufficient condition. Individual independence can be affected by the external influence of state organizations and others, and by internal influences within the Judiciary"[25]. Factors relevant from the perspective of judicial independence include issues concerning: 1) selection, appointment and dismissal of judges and court presidents; 2) selection, appointment and dismissal of Supreme Courts judges and the President of the Supreme Court; 3) compliance with ENCJ guidelines about the appointment of judges; 4) evaluation, promotion, disciplinary measures and training of judges; 5) compliance with ENCJ guidelines about the promotion of judges. According to ENCJ, they also include issues related to internal independence, which can be disturbed by, inter alia: 1) influence by higher-ranked judges; 2) use and status of guidelines; 3) influence by the management of the courts[26]. Potential insistence on the use of objective tools (such as OASys) and a potential over-emphasis on the numerical results coming from formulas and factors that are not fully understood by judges would also seem – in my opinion – to pose such a threat to internal independence.

Thus, what can be done? Does the fact of the potential for strong influence by tools such as OASys on judges preclude their use within the criminal procedure? It seems not. It seems that the above circumstance only indicates that tools based on statistics should not be the sole basis for the decision-making body's assessment; they should be only one element of this assessment, an element that is only taken into account in the second instance. The most desirable system for making criminological prognoses should therefore be a mixed system containing, on the one hand, elements of the clinical method and, on the other hand, elements of the statistical method and, at the same time, a system which ensures that the results of algorithm-based tools are treated only as subsidiary arguments[27]. This is the type of system that was introduced in Estonia. However, the mere introduction of such a system is not sufficient. There is still a need for parallel and continuous training for judges; training to broaden their knowledge of criminology and

23 See M.R. Jonnson, J.L. Viljoen, *What are judges' views of risk assessments, and how do tools affect adolescent dispositions?*, „Psychology, Public Policy, and Law" 2021, no 27(1), pp. 112-123.

24 The General Assembly of the European Network of Councils for the Judiciary (the "ENCJ"), The Hague 3–5 June 2015, The Hague Declaration, On promoting effective justice systems, https://www.encj.eu/images/stories/pdf/GA/Hague/encj_the_hague_declaration_2015.pdf [accessed: 3.01.2022].

25 Independence and Accountability..., op.cit., p. 15.

26 Ibid, p. 19.

27 See K. Burdziak, E. Rüütel, *Prognoza kryminologiczna. Porównanie rozwiązań estońskich i polskich*, submitted at the Tygiel publishing house, during the review process.

statistics (and preferably also psychology and statistics), and that would allow them to fully understand the advantages and disadvantages of algorithm-based tools[28]. It would also be necessary to sensitize judges to potential cognitive and heuristic-related errors that could be related to their use of algorithm-based tools, and to "force" them to adequately justify their decisions on conditional early releases. The latter would oblige judges to re-analyze their previous decisions and perhaps allow them to spot any errors or simplifications that they used during the decision-making process. It would also allow potential appeal bodies to actually verify the merits of the decision previously taken by the first-instance body.

Additionally – it should be postulated that the decision on conditional early release (and not only) should be handed over to collegiate judicial panels. Logic and life experience indicate that the amount of potential pressure from any subject (e.g. another judge) or from any object (e.g. a tool based on algorithms) on a single judge faces less resistance than when applied across several members of a judicial panel.

At the same time, it should be noted that relying solely on statistical tools can never be an acceptable solution. Judges, professionals, and officials of the State Prison Service are all entities that must be actively involved in the procedure of assessing the possibility of a conditional early release of a convicted offender from serving the remainder of their prison sentence[29]. L. Eckhouse, K. Lum, C. Conti-Cook and J. Ciccolini rightly point out that: "At every layer of analysis, it is clear that statistical and computer reasoning can clarify what is at stake, but it cannot decide the correct path. The process of constructing these models requires human judgment about what fairness means in mathematical terms, and when it is morally acceptable to judge people based on the behavior of others. Judges, policymakers, and politicians like to be able to point to numbers to justify their decisions. But even if the risk scores were unbiased (which they are not), the numbers do not speak for themselves. We have to use human insight and human judgment to decide what they mean, and when we should use them. In doing so, policymakers and judges need to consider all three layers of bias and develop legal frameworks that promote transparency, accurate measurement, and just decision-making"[30].

Legal Acts:

Penal Code, https://www.riigiteataja.ee/en/eli/522012015002/consolide [accessed: 3.01.2022].
The Constitution of the Republic of Estonia, https://www.riigiteataja.ee/en/eli/530102013003/consolide [accessed: 3.01.2022].
The Prison Act, https://www.riigiteataja.ee/en/eli/504112013005/consolide [accessed: 3.01.2022].

Bibliography:

Boz H., *Anchoring effect: a myth or reality?,* „The International Journal of Economic and Social Research" 2019, no. 1(15), pp. 33-47.
Danziger S., Levav J., Avnaim-Pesso L., *Extraneous factors in judicial decisions*, „Proceedings of the National Academy of Sciences" 2011, no. 108(17), pp. 6889-6892, https://www.doi.org/10.1073/pnas.1018033108 [accessed: 3.01.2022].
DiBenedetto R., *Reducing recidivism or misclassifying offenders: How implementing risk and needs assessment in the federal prison system will perpetuate racial bias*, „Journal of Law and Policy" 2019, no. 27(2), pp. 414-452.

28 On the disadvantages of such tools, see e.g. R. DiBenedetto, *Reducing recidivism or misclassifying offenders: How implementing risk and needs assessment in the federal prison system will perpetuate racial bias*, „Journal of Law and Policy" 2019, no. 27(2), pp. 414-452.

29 See K. Burdziak, E. Rüütel, *Prognoza kryminologiczna*..., op.cit.

30 L. Eckhouse, K. Lum, C. Conti-Cook, J. Ciccolini, *Layers of bias: a unified approach for understanding problems with risk assessment*, „Criminal Justice and Behavior" 2019, no 46(2), p. 205, https://doi.org/10.1177/0093854818811379 [accessed: 3.01.2022].

Eckhouse L., Lum K., Conti-Cook C., Ciccolini J., *Layers of Bias: A Unified Approach for Understanding Problems With Risk Assessment*, „Criminal Justice and Behavior" 2019, no. 46(2), pp. 185-209, https://doi.org/10.1177/0093854818811379 [accessed: 3.01.2022].

Hofmański P., Waltoś S., *Proces karny. Zarys systemu*, Wolters Kluwer, Warsaw 2016.

Jonnson M.R., Viljoen J.L., *What are judges' views of risk assessments, and how do tools affect adolescent dispositions?*, „Psychology, Public Policy, and Law" 2021, no. 27(1), pp. 112-123.

Kahneman D., *Pułapki myślenia. O myśleniu szybkim i wolnym*, Media Rodzina, Poznań 2019, [e-book].

Markowsky G., *Physiology*, https://www.britannica.com/science/information-theory/Physiology [accessed: 3.01.2022].

Moore, *The Offender Assessment System (OASys) and the 2009–2013 research projects,* [in:] R. Moore (ed.), *A Compendium of Research and Analysis on the Offender Assessment System (OASys) 2009–2013*, Ministry of Justice Analytical Series, National Offender Management Service, London 2015, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/449357/research-analysis-offender-assessment-system.pdf [accessed: 3.01.2022].

Riives J., *Kriminogeensete riskide hindamise usaldusväärsus ning mõju kinnipeetava karistuse täideviimisele*, Unpublished, Tartu 2017, http://dspace.ut.ee/bitstream/handle/10062/56856/riives_janek.pdf [accessed: 03/01/22].

Rüütel E., *Korrektsioonipsühholoogia: tähed kaevu sügavuses. Õpik tööks kinnipeetavatega*, Sisekaitseakadeemia, Tallinn 2018.

Sootak J., Pikamäe P., *Karistusseadustik. Kommenteeritud väljaanne*, Juura, Tallinn 2021.

Thaler R.H., Sunstein C.R., *Impuls. Jak podejmować właściwe decyzje dotyczące zdrowia, dobrobytu i szczęścia*, Zysk i S-ka, Poznań 2017.

Wójcik D., Stosowanie w postępowaniu karnym narzędzi diagnostyczno-prognostycznych służących oszacowaniu ryzyka powrotności do przestępstwa, „Prawo w Działaniu" 2013, no. 16, pp. 59-102.

Official documents:

Independence and Accountability of the Judiciary and of the Prosecution Performance Indicators 2015 ENCJ Report 2014–2015, European Network of Councils for the Judiciary, The Hague 2015, https://www.encj.eu/images/stories/pdf/GA/Hague/encj_report_independence_accountability_2014_2015_adopted_ga.pdf [accessed: 03.01.2022].

The General Assembly of the European Network of Councils for the Judiciary (the "ENCJ"), The Hague 3–5 June 2015, The Hague Declaration, On promoting effective justice systems, https://www.encj.eu/images/stories/pdf/GA/Hague/encj_the_hague_declaration_2015.pdf [accessed: 3.01.2022].