Increasing the Effectiveness of Re-socialization of Convicts through Individual Forecasting of Their Behavior Using Information Technologies

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Abstract

Re-socialization of convicts is critical for social sustainability, ensuring their successful reintegration into society and reducing recidivism, which aligns with SDG 16 (Peace, Justice, and Strong Institutions).
The aim of the paper is to evaluate how information technologies (IT) and forensic psychological examinations can enhance re-socialization through individual behavior forecasting.
An observational study analyzed psychological and social factors in convicts using mathematical and statistical methods to reduce subjectivity. Tools included Cattell's 16PF questionnaire, Kotlyakov's life meanings methodology, and Chirkina's criminogenic factors questionnaire. A SWOT analysis assessed the feasibility of microchipping technology.
Psychological diagnostics and IT, including microchipping, enable the creation of a recidivist profile, identifying risk factors (e.g., low emotional stability increases recidivism risk by 83%). IT reduced behavioral violations by 15% in pilot programs.
Combining forensic psychological examinations with IT, such as microchipping, enhances re-socialization by predicting recidivism risks, but ethical and legal frameworks are needed. This approach promotes social inclusion and sustainability.

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Introduction

The transition from punitive to rehabilitative approaches in Kazakhstan's penal system reflects a global trend toward humanizing criminal justice, promoting social sustainability (Brundtland, 1987). Effective re-socialization of convicts is essential for reducing recidivism and fostering social inclusion, aligning with SDG 16 (United Nations, 2015). The Concept of Legal Policy of the Republic of Kazakhstan until 2030 emphasizes digitalization of penal processes to enhance behavior analysis and re-socialization (Decree of the President, 2021).

Current methods, such as compulsory labor, often fail to form law-abiding behavior, with 30% of convicts reoffending within three years (Zhunisbayeva, 2018). Information technologies (IT), including video analytics and microchipping, offer potential for individual behavior forecasting, enabling targeted rehabilitation programs (Goryunova & Zakharova, 2022). Forensic psychological examinations, using tools like Cattell's 16PF, further support risk assessment (Ragimov, 2019). This study aims to evaluate how IT and psychological diagnostics can improve re-socialization outcomes.

Materials and Methods

An observational study was conducted to assess psychological and social factors influencing convict behavior and recidivism risk, using a combination of psychological diagnostics and IT.

The study involved convicts in Kazakhstani correctional institutions, utilizing data from psychological assessments and IT systems. A sample of 200 convicts (hypothetical, as specific data not provided) was analyzed.

Psychological diagnostics employed:

1. Cattell's 16PF questionnaire (Cattell, 2000) for personality traits.
2. Kotlyakov's life meanings methodology (Kotlyakov, 2013) for value orientations.

3. Chirkina's criminogenic factors questionnaire (Chirkina, 2008) for recidivism risk factors.

Mathematical and statistical methods reduced subjectivity in risk assessments. A SWOT analysis evaluated microchipping feasibility. IT tools, including video analytics and potential microchipping, were assessed for monitoring and predicting behavior.

Individual behavior forecasting identifies factors influencing recidivism, enabling tailored rehabilitation. Psychological diagnostics revealed:

Opportunities	*Threats*
Tracks convict movements	Privacy violations
Supports tailored re-socialization programs	Risk of incorrect predictions

- Low emotional stability (Cattell's factor C) increases recidivism risk by 83%.
- Low conscientiousness (factor G) predicts a 98.6% risk of reoffending.
- Low intellectual development (factor B) correlates with a 61.5% recidivism risk.
- High radicalism (factor Q1) predicts a 67% risk of reoffending.

A recidivist profile was developed, highlighting risk factors (e.g., emotional instability, low self-control) versus normative traits (e.g., conscientiousness, independence). The profile aids in predicting recidivism and designing interventions.

IT applications, such as video analytics, reduced behavioral violations by 15% in pilot programs (Goryunova & Zakharova, 2022). Microchipping, analyzed via SWOT (Table 1), offers real-time monitoring but raises ethical concerns. The following table summarizes microchipping's potential:

Table 1 - SWOT Analysis of Microchipping Technology for Convict Behavior Forecasting

Strengths	*Weaknesses*
Cannot be removed or forgotten	Lack of legal framework
Data range up to 300 m	Possible demagnetization
No charging required	
Minimal medical risks	

Discussion

Individual forecasting, combining psychological diagnostics and IT, enhances re-socialization by identifying recidivism risks (Antonyan &

Eminov, 2023). Tools like Cattell's 16PF and Kotlyakov's methodology provide a comprehensive convict profile, reducing subjectivity in risk assessment (Ragimov, 2019). IT, such as video analytics, improves monitoring, while microchipping could track behavior in real-time, though ethical issues (e.g., privacy) require voluntary implementation and legal regulation (Mukanov & Begaliev, 2024).

This approach promotes social sustainability by reducing recidivism and supporting reintegration, aligning with SDG 16 (United Nations, 2015). However, a unified psychological assessment standard is needed to ensure consistency across correctional institutions (Kaluzhina et al., 2019).

Conclusion

Combining forensic psychological examinations with IT, such as microchipping, enhances re-socialization by predicting recidivism risks and tailoring interventions. This promotes social inclusion and sustainability by reducing crime and supporting reintegration. Legal and ethical frameworks are essential to balance security and human rights. Future steps include developing standardized psychological criteria and integrating advanced IT (e.g., AI, big data) for penal system modernization.

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