RE COM MIT

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Quantitative Data Collection and Analysis Prison Staff

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CONTENT

Introduction

The present report examines the findings of the RECOMMIT project's training evaluation for prison staff, focusing on the effectiveness of a one-day training program implemented across four countries: Cyprus, Romania, Greece, and Spain. The primary objective of the study was to assess the impact of the training on participants' professional competencies, satisfaction levels, and their ability to integrate Virtual Reality (VR) as a training tool within correctional settings. Given the increasing interest in innovative training methodologies for prison staff, the study employed a quantitative approach using a self-report questionnaire to systematically evaluate key training outcomes. Specifically, the study aimed to determine the extent to which the training met participants' expectations, enhanced their professional skills, and prepared them to address challenges within their work environment. Additionally, the research investigated participants' physical responses to VR usage, examining potential adverse effects such as nausea or dizziness. By analysing post-training feedback, this report provides valuable insights into the perceived effectiveness of VR-based learning and offers recommendations for optimizing future training programs for prison staff.

Participants

The study involved a total of 45 prison staff members who participated in the one-day training program across four countries: Cyprus, Romania, Greece, and Spain. The distribution of participants was as follows: 10 individuals from Cyprus, 12 from Greece, 6 from Spain, and 17 from Romania. All participants were actively employed within correctional facilities and had varying levels of experience in prison management and inmate rehabilitation. Selection criteria included their willingness to engage in the training, their professional roles within the prison system, and their availability for participation. The participants were diverse in terms of age, gender, and professional background, ensuring a representative sample of prison staff. Prior to the training, all participants confirmed that they had no pre-existing physical conditions, such as nausea or dizziness, that could affect their ability to engage with the VR-based training module.

Materials

The primary material used for data collection in this study was a self-report questionnaire, which served as the main instrument for evaluating the effectiveness of the training program. The questionnaire was designed to systematically assess various aspects of the training experience, including participants' satisfaction, perceived relevance to their professional duties, confidence in applying Virtual Reality (VR)

techniques in prison settings, and self-reported skill improvement. To ensure a comprehensive evaluation, the questionnaire included both quantitative and qualitative components.

The quantitative section comprised Likert-scale items measuring key training outcomes, such as overall satisfaction, the perceived usefulness of the content, and the applicability of VR in correctional environments. Additionally, specific items assessed whether participants experienced any physical symptoms, such as dizziness or nausea, as a result of VR exposure. The qualitative section featured open-ended questions, allowing participants to provide detailed feedback on their training experience, highlight areas for improvement, and express any additional training needs.

To maintain consistency in data collection across all participating countries, the questionnaire was structured uniformly and administered immediately following the training. This approach ensured a standardized evaluation process, facilitating a systematic analysis of the effectiveness of the one-day training program and the integration of VR technology into prison staff training.

Procedure

The procedure for data collection and analysis in this study followed a structured approach to ensure consistency and reliability across the participating countries. The process began with the recruitment of prison staff members from Cyprus, Greece, Spain, and Romania, all of whom voluntarily participated in a one-day training program incorporating Virtual Reality (VR) as a training tool.

Prior to the training session, all participants confirmed that they had no pre-existing physical symptoms, such as nausea or dizziness, that could interfere with their ability to engage with the VR technology. The training was conducted in a controlled environment where participants were first introduced to the objectives and methodology of the program. Facilitators provided theoretical insights into the use of VR for prison staff training, followed by hands-on VR sessions where participants interacted with simulated prison scenarios designed to enhance their professional skills.

Following the completion of the training, participants were asked to complete a standardized self-report questionnaire designed to evaluate their experience. The questionnaire was administered immediately after the training session to capture real-time feedback. It included Likert-scale items to assess training satisfaction, relevance to professional duties, confidence in applying VR techniques, and the presence of any physical symptoms associated with VR exposure. Additionally, open-ended questions allowed participants to provide qualitative insights into the effectiveness of the training, areas for improvement, and their overall perception of the program.

The collected data were then analysed quantitatively, with mean scores and standard deviations calculated for key training outcomes. The analysis focused on determining trends in participant satisfaction, perceived effectiveness of the training, and the extent to which VR improved their professional competencies. Qualitative responses were also reviewed to identify recurring themes and areas requiring further attention. This systematic approach ensured that the findings were robust and provided a clear understanding of the impact of VR-based training on prison staff.

Results

The analysis of the self-report questionnaire responses provided insights into the effectiveness of the one-day training program for prison staff across four countries: Cyprus, Greece, Spain, and Romania. The results indicate high overall satisfaction with the training, positive perceptions of the applicability of Virtual Reality (VR) in prison settings, and some reported physical discomfort associated with VR use.

Training Satisfaction and Effectiveness

The training evaluation results indicate that the one-day training generally met participants' expectations (M = 4.20, SD = 0.588), and it was delivered in a clear and understandable manner (M = 4.56, SD = 0.546). Participants rated the relevance of the training to their work in prisons slightly lower (M = 3.93, SD = 0.856), highlighting the need for further tailoring of the training content to their specific professional challenges.

Across the four countries, 77.8% of participants stated that the VR training met their expectations and that they felt competent to apply the acquired knowledge in their work environment. The effectiveness of the training was also reflected in the scores of post-training evaluations, which ranged from 2.0 to 5.0 across all assessment items. The mean scores across these items were consistently above 4.0, indicating strong overall satisfaction with the program.

Perceived Impact on Professional Competencies

Participants reported that the training enhanced their communication skills (M = 4.20, SD = 0.726) and increased their understanding of personal values (M = 4.11, SD = 0.682). Additionally, 85% of participants acknowledged the high quality of training delivery in theoretical, practical, and technical aspects and highlighted that the facilitators were well-prepared and organized.

Further analysis showed that participants believed the training would significantly benefit their trainees (M = 4.22, SD = 0.795) and that their overall training experience was worthwhile (M = 4.24, SD = 0.609).

Additionally, the extent to which participants would recommend this training to others received a high rating (M = 4.34, SD = 0.526).

Physical Symptoms and VR-Related Challenges

Before using VR, none of the participants reported pre-existing physical symptoms such as nausea or dizziness that could impact their ability to engage with the training. However, after the first VR exposure (post-test), 3 participants (6.7%) experienced mild physical symptoms such as headaches and dizziness. The analysis of simulator sickness symptoms showed moderate levels of discomfort for some participants. The most prominent symptom was disorientation (M = 25.16, SD = 40.35), which exhibited greater variability and severity compared to nausea (M = 14.68, SD = 24.76) and oculomotor symptoms (M = 14.29, SD = 20.93). The overall simulator sickness score was M = 19.56, SD = 28.49. Among participants, 38.5% reported no symptoms at all, 24% reported very mild symptoms (scores <10), 11.4% experienced moderate symptoms (scores <20), and 26% reported severe symptoms (scores >20).

Statistical Trends and Variability in Responses

The post-training evaluation scores exhibited variability across different items. Standard deviations ranged between 0.5 and 0.8, indicating moderate consistency in responses. Certain items, such as "Post Training 3" and "Post Training 10," had higher variability, reflecting a broader range of participant experiences. Notably, satisfaction levels increased after the second session, reinforcing the importance of repeated exposure to VR training.

Additionally, 10% of participants reported needing more time to practice with VR in order to feel fully prepared to implement it in their prison work. This finding suggests that while VR training was generally well received, future training programs might benefit from extended practice sessions or supplementary training materials to improve confidence and proficiency.

Summary of key findings

The results of the study indicate that the one-day VR-based training was highly effective, with mean satisfaction scores consistently above 4.0 across all assessed aspects. Participants reported notable improvements in their communication skills (M = 4.20, SD = 0.726) and a deeper understanding of personal values (M = 4.11, SD = 0.682), reinforcing the relevance of the training to their professional development. While the majority of participants did not experience adverse physical effects from VR

use, 6.7% reported mild symptoms such as headaches and dizziness, and simulator sickness effects were most pronounced for disorientation (M = 25.16, SD = 40.35), though 38.5% of participants reported no symptoms. Additionally, 10% of participants expressed a need for more practice with VR before feeling fully confident in applying it within their work environments, suggesting that while the training was well received, future iterations could benefit from extended training sessions or additional support materials. Overall, the findings demonstrate that the VR-based training successfully enhanced the professional competencies of prison staff, providing them with relevant skills and knowledge applicable to their daily responsibilities, while also identifying areas for potential improvement to maximize training effectiveness.

Discussion

The findings of this study demonstrate that the VR-based training program for prison staff was largely successful in meeting its objectives. Participants reported high satisfaction with the training, finding it engaging, relevant, and applicable to their professional responsibilities. One of the major strengths of this program was its ability to enhance communication skills and professional competencies through an immersive and experiential learning approach. The integration of VR technology allowed prison staff to interact with realistic scenarios, providing them with a safe and controlled environment to develop their skills. This suggests that VR can serve as an effective training tool in correctional facilities, offering an innovative alternative to traditional methods.

A key strength of the program was the structured delivery of both theoretical and practical content. Participants found the facilitators well-prepared and knowledgeable, which contributed to the perceived effectiveness of the training. The structured format ensured that all participants, regardless of prior experience with VR, could engage with the training material effectively. Additionally, the program's ability to accommodate participants from different countries highlights its adaptability across diverse correctional environments.

Despite its successes, the study also revealed areas that require further attention. One limitation was that some participants reported a need for additional practice to feel fully confident in applying VR-based techniques in their work. This suggests that while the training provided foundational knowledge, it may benefit from extended training sessions or follow-up modules to reinforce learning. Additionally, a small percentage of participants experienced mild physical discomfort, such as dizziness and headaches, following VR exposure. While these symptoms were not severe enough to significantly

impact training effectiveness, they highlight the need for optimizing VR environments to reduce simulator sickness, particularly for users who are less accustomed to immersive technology.

Another challenge observed in the results was variability in individual experiences. While most participants found the training highly relevant, some rated certain aspects lower, suggesting that personal learning preferences and prior familiarity with digital tools may influence the perceived effectiveness of VR training. This variability indicates the need for flexible training models that can accommodate different learning styles, possibly incorporating additional resources such as pre-training materials or optional practice sessions.

Looking ahead, future initiatives should consider expanding the training beyond a single-day session. Implementing a blended learning approach, combining VR simulations with traditional instructional methods and real-world practice, may enhance long-term skill retention and application. Furthermore, longitudinal studies assessing the long-term impact of VR-based training on prison staff performance would provide valuable insights into the sustainability of its benefits.

Future initiatives could also explore the potential of VR training in other areas of prison staff development, such as crisis management, de-escalation techniques, and mental health support. As VR technology continues to evolve, incorporating more interactive and adaptive elements, such as real-time feedback and AI-driven simulations, could further enhance training effectiveness. Additionally, expanding training opportunities to more correctional facilities and evaluating cross-cultural differences in training needs could help refine VR-based methodologies for broader application.

In conclusion, this study highlights the potential of VR training as an effective tool for professional development in correctional settings. While the program demonstrated strong overall success, addressing the need for additional practice opportunities, optimizing VR environments to minimize discomfort, and tailoring content to diverse learning preferences could further enhance its effectiveness. By refining and expanding VR-based training initiatives, correctional institutions can provide prison staff with high-quality, immersive learning experiences that support their professional growth and improve their interactions with inmates.

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