

Theoretical framework on risk and reactive



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Executive summary

This document presents the report referred to the work package T2.1 of the VR4React project, carried out by the Universidad Rey Juan Carlos, in collaboration with the information transmitted by the rest of the partners, on the situation in their different countries in relation to the object of study.

The document contains:

Firstly, an **introduction**, in which an approach is made to the state of the question and the objectives pursued.

On the other hand, **7 chapters**, which start from an initial conceptualisation of reactive aggression, to go deeper into this issue, pointing out factors that favour it and focusing the object of analysis in a very particular context, such as the penitentiary environment. Evidence is also provided on the use of virtual reality in prison treatment and its suitability for use in reducing reactive aggression in prison. It also establishes the need for a gender perspective in order to address the particularities of female inmates and their differentiated individual factors both in the development of aggressive behaviour and in the appropriate treatment mechanisms.

Finally, **conclusions** are drawn from the study, where the main ideas, the challenges encountered, as well as the lines to be followed in the future in this area are set out.

Lastly, the **bibliographical** references used in the report are indicated.

Introduction

This document presents the inception report of the VR4REACT- Reducing reactive aggression through virtual reality project. This project, funded by the European Commission in the framework of the Erasmus + projects, contains several objectives, among which are the promotion of the psychological, social and emotional well-being of inmates, linked to the reduction of reactive aggression in prison, which entails the development of a treatment on this issue for inmates, making use of technological development.

In this sense, the use of virtual reality is proposed for the implementation of treatments to reduce reactive aggression, focused on inmates, but also through the training of civil servants for the reduction of risk factors and for a better knowledge in favour of greater prevention and treatment.

The project consists of the following partners:

- Innovative Prison Systems (IPS) – Portugal,
- Polish Platform for Homeland Security (PPHS) – Poland,
- Education and Innovation Hub (KMOP) – Greece,
- University St Kliment Ohridski Bitola (UKLO) – North Macedonia,
- Ministry of Justice – Ankara Probation Directorate (DSDB) – Turkey,
- Baia Mare Penitentiary (ANP) – Romania,
- National Administration of Penitentiaries (ANP) – Republic of Moldova.
- Universidad Rey Juan Carlos -España

In this regard, it should be noted that, as we are in the framework of the EU, the establishment of common policies in various areas, such as security, the economy or the

protection of fundamental rights, is a constant. However, the penitentiary field is not usually a priority, as it is an area that is too secretive and where guidelines tend to be heterogeneous, even within the countries themselves -sometimes with regional and non-state competences-. Likewise, respect for the rights of inmates and their own dignity, as well as their integration into society - from which they should not be excluded by virtue of their imprisonment - is often a pending issue.

Therefore, the aim of this project is to make progress in improving prison life, through a mechanism that is applied homogeneously in the different penitentiary centres of the partners, with the possibility of extending it, in the future, to an application in the rest of the EU countries, in favour of a unified attention to the prison population throughout the Union.

In this line, it is useful to have a general overview of the state of affairs in the different partners that are part of the project, which is why a table is attached at the end of the report for each partner that shows, in general terms, the prison situation.

In this sense, although differences are established between countries, common issues are noted, such as the absence, in general terms, of a particularly violent criminality. It should also be noted that, in general, human resources are multiplied in terms of security and custody, while in the area of medical and/or psychological treatment, resources are, tendentially, much lower.

Finally, it should be noted that, as studies show, the prison population is predominantly male, with the percentage of female inmates being less than 8% of the population. However, this project will take into account the necessary gender perspective in this area, as we understand that the existence of a small percentage of female inmates is no justification for neglecting them, whose particularities must be taken into account in order to ensure adequate treatment.

On the subject matter addressed in this project, it should be noted that there are indeed treatments where virtual reality is applied. However, again, heterogeneity is evident. For example, there seems to be some momentum in this field in Greece and Portugal, while in other countries prison treatment using these resources has not had such a strong presence. However, it should be borne in mind that, despite their application in various institutions, the treatments developed with virtual reality do not focus, in any case, on the field of reactive aggression in prison.

As we have already mentioned, a more detailed analysis of these issues can be made in the annexes presented, where a general overview of the prison environment can be made in the context of each of the partners.

Finally, it should be noted that in the following lines a series of chapters will focus on the phenomenon of reactive aggression, starting with a necessary contextualisation of this, studying its conceptualisation, the associated factors, etc. Likewise, the prison will be analysed as a total institution and, therefore, a place with its own particularities that must be addressed. It will identify the evidence observed in the application of virtual reality in the penitentiary environment, highlighting the benefits that have been observed in its use. In addition, a chapter will be devoted to the attention to this issue from a necessary gender perspective in the field.

Lastly, the main conclusions will be presented, highlighting the limitations observed in the research, as well as the lines for the future. Finally, the bibliographical references taken into account for the development of the report will be indicated.

1. Reactive aggression: a conceptual approach

Within the specialised literature, there is a growing interest in the study, assessment and treatment of aggression (Cosi Muñoz et al., 2009), as evidenced by the large number of scientific publications on the subject (among many others, Anderson and Bushman, 2002; Kuhn et al., 2018; Ciesinski et al., 2023). This fact, in turn, should not be surprising if we take into consideration that aggression is one of the main problems of contemporary societies, especially due to the consequences experienced by the people who suffer from it and the phenomena to which it is generally associated (Andreu et al., 2009). Therefore, in order to avoid these effects, it is necessary to understand the dynamics surrounding aggressive behaviour (Penado et al., 2018).

In general terms, the most authoritative literature has pointed out that this type of behaviour begins to manifest itself in childhood and reaches its peak during adolescence, decreasing as adulthood is reached (Hubbard et al., 2010; López Romero et al., 2011). This fact largely explains why most publications on the subject have focused precisely on these population groups (Vitiello et al., 1990; Buchmann et al., 2013; Andreu et al., 2013). However, this by no means means means that, during adult life, aggressive behaviour becomes less important, which justifies the need to focus on this group as well.

First of all, it is worth noting that, despite its importance, it is very difficult to find a single, unequivocal concept of aggressiveness (Hartup, 2005). In this sense, Bushman and Huesmann (2010) state that, from social psychology, aggressiveness has tended to be defined as any act that is aimed at harming a person who does not want to be harmed. In other words, aggressiveness would refer primarily to an external behaviour that can be observed. However, for Vitaro and colleagues (2006), this concept is problematic in that it is not specific enough to encompass all forms of aggression. Moreover, the same authors also argue that the concept is too specific in terms of its objectives and

consequences. After all, it should not be forgotten that aggression is a complex and multidimensional phenomenon that is motivated by the concurrence of a whole series of risk factors (Penado et al., 2014).

In this context, given the heterogeneity of the construct, various classifications have been proposed that allow for a deeper understanding of the causes, development and subsequent evolution of aggressive behaviour (López-Romero et al., 2006). Among all of them, one of the most widely accepted in the specialised literature is that which, according to the underlying motivation, differentiates between "proactive aggressiveness" and "reactive aggressiveness":

With regard to the first of these - also referred to by some authors as "instrumental" or "cold-blooded" (Bushman and Anderson, 2001; Card et al., 2006; Del Vecchio, 2011) - aggressiveness is presented as a strategy that the subject sets in motion in order to obtain a specific goal or benefit (Penado et al., 2014, 37). In other words, in this case, aggression would be guided by an external reward (Cosi Muñoz, 2009, 159).

In these terms, Raine and colleagues (2006) have pointed out that this aggression is characterised as cold, instrumental and organised. It has also been argued that individuals who display this type of aggression have greater difficulty in displaying prosocial emotions such as empathy or guilt (Kruh et al., 2005). Following Hubbard and colleagues (2001), the origins of proactive aggression are to be found in Bandura's (1973) social learning theory. That is, in this modality of aggression, there is a tendency to consider aggression as an optimal way to obtain certain benefits (Velasco Gómez, 2011, 668). In other words, in social learning theory, aggression is viewed as an appropriate means to obtain the desired outcome.

In contrast, in the case of reactive aggression, it does not arise as a means to obtain a particular goal. Rather, it is a reaction to a threat, which may be real or perceived (Dodge and Coie, 1987). In this sense, the specialised literature has pointed out that, unlike proactive aggression, this is characterised by high levels of impulsivity, hostility and deficiencies in information processing, with the frequent presence of emotions such as anger or rage (Crick and Dodge, 1996; Raine et al., 2006; Bertsch et al., 2020). According to Penado and colleagues, people who display this type of behaviour tend to interpret ambiguous situations and actions in a negative way, which means that they are

read as a threat and trigger a consequent reaction (2014, 38). In terms of its theoretical roots, reactive aggression has its origins in the frustration-aggression model defined by Berkowitz (1990). In general terms, he proposes that the aggressive response is a hostile reaction that is based on anger in the face of frustration (Cosi Muñoz, 2009, 159). Therefore, it should not be surprising that, within the specialised literature, reactive aggression has been linked to low frustration tolerance (Hubbard et al., 2001; Vitaro et al., 2002; Marsee and Frick, 2007).

However, despite this distinction, it should be clarified that both types of aggression can also occur together (Bushman and Anderson, 2001; Barker et al., 2006; López-Romero et al., 2011), which has led some authors to question whether it makes sense to maintain this differentiation. In this line of thought, Bushman and Anderson (2001) have highlighted the existence of an overlap between both types of aggression. In a similar direction, Brendgen and his collaborators (2001) have pointed out that these two types of aggression tend to be present in most aggressors. In another vein, Felson (2002) suggests that all aggression should be considered instrumental from the very moment that the reflexive component - whether to a greater or lesser extent - is always present.

Other works, however, have defended the relevance of supporting this distinction (among others, Dodge and Coie, 1987; Vitiello and Stoff, 1997; Vitaro et al., 1998). Thus, for example, Velasco Gómez has pointed out that this taxonomy is decisive to study the motivations and intentions behind them and to articulate appropriate prevention programmes (2011, 669). In this sense, it has been argued that, although it is true that both forms of aggression can occur together, it is true that they are nourished by different correlates, thus demonstrating the relevance of addressing one and the other specifically (López-Romero et al., 2009, 4).

In terms of a cognitive level, the specialised literature has highlighted that reactive aggression tends to be linked to the tendency to negatively interpret ambiguous situations and actions (Dodge and Coie, 1987). That is, as a hostile connotation is attributed to them, they are interpreted as a threat, regardless of whether they are real or fictitious. In this sense, Velasco Gómez suggests that this modality of aggressiveness is related to a bias based on the tendency to make hostile attributions to the behaviour of others (Velasco Gómez, 2011, 668). At the same level of analysis, it has also been

shown that people who show a predisposition towards this type of aggressiveness have more limited social skills to resolve conflicts (Crick and Dodge, 1996).

From an emotional point of view, however, reactive aggression has been linked to high levels of impulsivity and anxiety, reduced frustration tolerance and a limited ability to respond to social stimuli (Marsee and Frick, 2007). In contrast, following Marsee and Frick (2007), proactive aggression would be related to a predisposition to value aggression as a useful and effective means to achieve certain social goals. In a similar dimension, the latter has also been linked to a low perception of punishment as a possible consequence of aggressive behaviour (Andreu et al., 2006) and traits of harshness and emotional instability (Frick et al., 2003).

On the other hand, some research has found a significant relationship between reactive aggression and greater problems in the social sphere (Hubbard et al., 2010). In a family dimension, it has also been highlighted that an authoritarian parental style and unstructured family relationships can lead to forms of reactive aggression (Vitaro et al., 1998). In contrast, exposure to aggressive models from childhood may favour the development of proactive forms of aggression, as this is presented as a valid means of resolving conflicts (Vitaro, Brendgen and Barker, 2006).

In short, as has been seen throughout this brief introduction, there are important differences between both types of aggression that justify their individualised study. For this reason, the following pages of this report will focus specifically on the particularities of reactive aggression in the context of the prison environment.

2. Reactive aggression in prison

As noted in the previous section, although they can occur together, the specialised literature makes a distinction between reactive and proactive aggression (Cima et al., 2007). In this sense, while the former would be a reaction to a real or perceived threat, the latter would be a means aimed at obtaining an external goal (Bushman and Anderson, 2001). In this sense, with specific reference to the prison setting, Cornell and his collaborators (1996) have pointed out that reactive aggression is the most basic form of aggression among offenders.

In these terms, it should be noted that prisons are configured as "total institutions" in the sense defined by Goffman. That is to say, as a place of residence and work where a large number of people, isolated from society, share a routine in their confinement (1999, 13). In this context, it is worth noting that fear is an omnipresent feeling among the prison population (Ríos, 2017), defining prisons first and foremost as hostile and exclusionary places where, to a greater or lesser extent, prisoners experience a whole series of somatic and psychosocial consequences that are enormously detrimental to their subsequent life in freedom (Liebling and Maruna, 2005). On this issue, for example, Valverde (1997) highlights how, among other consequences related to the progressive infantilisation of the subject, the rupture of social ties or the inability to maintain expectations of a better future, imprisonment means that inmates acquire a prison subculture in which violence plays a fundamental role.

With specific reference to aggression, it is important to note that this context clearly influences the way in which people shape their responses to particular stimuli. In this sense, as noted above, reactive aggression is characterised as a reaction to a real or perceived threat (Bushman and Anderson, 2001). Therefore, in a context where violence is presented as a consubstantial element and fear as an omnipresent element, it should not be particularly surprising that this form of aggression has a significant incidence in the prison context, which suggests the relevance of developing strategies that, as will be seen in the following pages, are directly aimed at managing it.

3. Factors that promote reactive aggression in prison.

The proposed objective of defining the factors that trigger reactive aggression in prison encounters a number of difficulties. Thus, it is only very recently that some specific studies have been published on the factors that trigger aggression in prison. In these publications, on the other hand, the authors highlight the difficulties encountered in the research, which result in significant limitations in the results obtained. With regard to the scarce literature, Trajtenber and Sánchez de Ribera (2019) point out that most of the publications are of Anglo-Saxon origin, on the American and British prison systems, when, however, it is in developing countries where most prison violence occurs. Indeed, neglect of this phenomenon has also taken place in Europe, with a dearth of descriptive comparative studies. This situation: theorisation led by American psychology and criminology and few empirical reports from other countries and regions, has prevented a generalisation of results.

The main obstacle to research relates to the difficulties in measuring violence itself. The Report on Human Rights in the Administration of Justice issued by the United Nations High Commissioner for Human Rights (2019) warns that the analysis of violence in prison has to contemplate not only that produced at the horizontal level, between prisoners, but also vertical violence, whether from prisoners towards officials (more visible in institutions with particularly harsh environmental circumstances, overcrowding, security control deficits, which lead to critical situations such as riots or hostage-taking) or from officials towards prisoners. The Report highlights that the lack of accountability for serious injuries and death during incarceration globally is not only a failure to take concrete responsibility, but also the creation of conditions conducive to the chronification of violence (Matthews, 2012; Modvig, 2014 highlight this invisibility of vertical violence).

This situation points to the existence of a black figure that is not included in official statistics, for various reasons. On the one hand, the collection of information is usually limited to the most serious forms of violence (homicide, sexual assaults, serious attacks

against physical integrity), without including bullying, intimidation and threats and other forms of psychological violence (Ireland, 2002). Moreover, as Tragtenberg and Sánchez de Ribera (2019) point out, official sources collect little information on different aspects of individuals that are relevant for understanding factors of aggression. The lack of sufficient resources (shortage of professionals to implement treatment programmes, lack of material resources, high ratios of inmates per centre), restricts the actions of prisons to the collection of data through standard forms, without even carrying out personal interviews (Cutíño Raya, 2015). Finally, the codes of conduct among prisoners impose a silence that prevents the reporting of aggressions on a horizontal level (Tragtenberg and Sánchez de Ribera, 2019).

The use of questionnaires has also been pointed out as an instrument with important limitations in the review of aggressiveness factors in prisons. In this sense, the tendency towards social desirability in the answers has been highlighted as an aspect that has a strong impact on the reliability of these questionnaires. Even with anonymity, the reluctance of prisoners to answer certain questions has been shown, as well as the development of a strategy of refusal to admit responsibility for acts of violence, both those carried out while serving their sentence and those that form part of their criminal record (Tragtenberg and Sánchez de Ribera, 2019; Alonso del Hierro et al., 2023). Another aspect that has been indicated as deficient is the use of self-reports that only include standard items, without taking into account recall biases and other individual variables, such as the presence of personality disorders, literacy level, verbal skills, national or migrant status, age or gender, or the specific circumstances of the prison environment (Lauterbach et al., 2007, Kuyck et al., 2013; Tragtenberg and Sánchez de Ribera, 2019).

Given these limitations found in studies, researchers propose the incorporation of dimensional measures in addition to categorical ones, as well as the combination of self-reports with other assessment instruments, observational and crime-related data, as well as intellectual deficits, analyses of impulsivity, personality disorders and substance use (Kuyck et al., 2013; Ślaski, S., 2021). Finally, among the difficulties encountered in defining the factors that promote reactive aggression in prisons is the questioning of the validity of the distinction between instrumental and reactive aggression in this setting. The hostility of the prison environment is an anxiety enhancer, which, when combined

with despair, is shown in studies to increase the level of aggression considerably (compared to control groups), requiring prisoners to acquire the "skills" of both categories, and to combine impulsivity-driven anger responses as well as instrumental violence strategies that enable them to acquire an image of power (Lauterbach et al., 2007; Kuyck et al., 2013; Ślaski, S., 2021).

However, the limitations found have not invalidated some interesting results. Thus, there is a majority conclusion that defends the validity of the differentiation between reactive and proactive aggression, as distinct concepts, although incorporating the possibility of mixed or hybrid aggression, and considering aggression as a complex multifactorial phenomenon (Chaux, 2003; Penado et al., 2014), which would benefit assessment, prevention and intervention. Defining aggression as reactive or proactive in a preponderant way allows for the design of assessment models and coping strategies with greater chances of success. In the prison context, studies have found, as already suggested, a preponderance of environmental factors in the generation of a state of anxiety as a basic element in the detonation of aggression (Tragtenberg and Sánchez de Ribera, 2019; Safranoff et al. 2020), which increase their potential depending on the specific situations of the centres.

This does not imply that these factors do not interrelate with other factors of an individual nature. Kuyck et al. (2013) point out as one of the main results of their study the higher correlation between the environment and impulsive aggression, compared to the control group, composed of non-prisoners. Slaski's (2021) work on negative transgression as a specific concurrent factor in prisoners concludes that 70% of reactive aggression in prison is determined by a state in which the dysfunctionality of the environment (threatening context, perceived lack of legitimacy of authority) interacts with situational anxiety, anger and impulsivity.

In this context, anxiety correlates with a lack of empathy leading to higher reactive than proactive aggression responses, in contrast to other contexts where empathy deficits are associated with higher instrumental aggression scores (Slaski, 2021). Several studies have highlighted the need to differentiate between prisoners with violent and non-violent histories (Millana Cuevas et al., 2006), specifying that those convicted of violence against close associates show a higher propensity for reactive and violent

aggression (Slaski, 2021). As a different aspect of violence measured in prison, Millana Cuevas et al. (2006) highlight, through studies with questionnaires that analyse the pleasure obtained through aggression, that inmates show a higher degree of hedonism than control groups, and that this pleasure intensifies the more violent the aggression is.

Precisely, the study concludes that, in the prison environment, aggressive actions related to pleasure are correlated with impulsivity, insofar as the more weight this has in decision-making, the less likely it is that the reward (instrumental factor) has a notable influence on the activation of aggression, in a differential way with control subjects. As has been pointed out, the incidence of environmental factors does not mean that they can be considered without their interaction with individual variables. Rodríguez Fornells et al. (2002) have placed value on the consideration of personality factors observed in the prison context (in a study carried out in prisons in Catalonia, Spain), finding the following relationships: the greater the violation of rules by prisoners (in their history and in prison), the higher their scores on the impulsivity, neuroticism and aggressiveness-hostility indices.

This assessment also indicates that the recklessness and extroversion present in younger offenders increases the potential for aggression. Taking into account several variables such as age at first admission, recidivism, disciplinary records, total time in prison, scores on the hostility, impulsivity and empathy deficits scales, the researchers conclude that there is a sufficient relationship with the aggressiveness shown in prison (findings that coincide with the studies of Kuyck et al. (2013) in Dutch prisons). It is also worth highlighting the intensity of antisocial behaviour as a factor enhancing reactive aggression in prison (Lauterbach et al., 2007), which is conditioned by the deficits in the capacity for empathy, to which reference has already been made.

These deficits are further conditioned in prison by the factor "loneliness", so that, according to the study by Lauterbach et al., the assessment of this condition, the feeling of loneliness in prison correlates positively with personal distress and negatively with empathic concern and perspective-taking, presenting itself as an enhancer of reactive aggression (correlations that are more pronounced in violent recidivist offenders). The multifactorial perspective, the majority of the most recent literature, calls for psychopathological symptomatology to be considered as well. According to studies

(Maccio et al., 2015; Burneo Garcés et al., 2018), the prevalence of mental disorders in prison is 5.3 times higher than in the general population and represents 58.7% of the prison population.

The study by Alonso del Hierro et al. (2023) concludes that psychopathological symptomatology, especially psychoticism (pattern of pathological behaviour, with isolation, schizoid disorders and psychotic symptoms) was more predictive of belonging to groups at moderate and high risk of violence, compared to other predictors of lesser intensity such as depressive symptoms and hostility. In the specific area of reactive aggression, these authors highlight the concomitance between hostility, hostile attributional biases and the presence of psychopathological symptoms.

In a similar way, the study conducted by Hornsveld et al. (2022) in Dutch prisons confirms the relationship between reactive aggression, found in similar studies over four decades, with the following factors: neuroticism, impulsivity, anxious responsiveness, anger and personality disorder symptoms. This combination is related to findings of widespread deficits in executive functions central to regulating anger and aggression, such as cognitive control, behavioural planning and emotion regulation.

These authors highlight as specific factors the greater weight of anger and aggression, which would define a "state of anger" as part of an existential situation in the life of inmates in prison, while pointing out the deficiency of means in prisons to detect psychopathological disorders that are not being treated. Finally, the multifactorial approach has been enriched in recent years by contributions from neurobiology and neuropsychology. Tangarife Calero et al. (2020) refer to various studies that show that neuropsychological dysfunctions linked to aggressive behaviour are related to structural alterations in the amygdala and the prefrontal cortex as well as functional alterations in the connectivity of these two brain regions, specifying a greater record in people with a greater tendency to reactive aggression. Other neurobiological studies (Cornet et al., 2015) found that neurocognitive dysfunctions, such as attention deficit or psychotic traits, were more decisive in the persistence of aggression than other factors such as criminal history.

This overview represents a perspective that addresses the complex phenomenon of aggression under the consideration of various factors, based on relevant studies. It is worth concluding with a positive assessment of the existing evidence, despite the problems initially raised, which suggests the desirability of addressing ambitious treatments that take into account the findings. This is the next step.

4. Initiatives to reduce reactive aggression in prison.

The analysis of initiatives to reduce reactive aggression in prison encounters two essential problems: on the one hand, there is not enough recent literature that systematically addresses the general conclusions obtained in these initiatives; the initiatives are scattered, and when they are carried out in prison settings, either the evaluations of these initiatives are not published, or their publication is limited to a national environment, through web pages and other channels of open information on the performance of penitentiary institutions. On the other hand, neither is there, at the European level, a solid development of treatment programs specifically aimed at reducing reactive aggression, but rather the approach to aggression is usually inserted in broader rehabilitation programs oriented to the acquisition of cognitive and emotional competences.

The situation is different in the Anglo-Saxon environment, where there has been a specialization in programs aimed at reducing violence in prison. Auty et al. conducted in 2017 a systematic review of various programs in the USA, UK, Australia, Canada and the Netherlands, from 1999 to 2015. One of the most interesting findings was precisely the lack of an evaluation and monitoring system in the development of these programs. Based on the applied analysis, other relevant results were the following. On the one hand, four categories of programs were identified as working best with offenders: (1) social learning interventions, (2) cognitive-conceptual approaches, (3) radical behavioral approaches, and (4) targeting specific criminogenic needs (not only anger and violence, but also association with fellow offenders, drug use, borderline personality disorder, and parasuicidal behavior. As well as programs that appear to be ineffective or even harmful:

(1) non-directive person-centered therapies, (2) psychoanalysis, (3) group therapies in the setting, (4) chemotherapies, and (5) "smarter punishment" models. It was also shown that the best scores were achieved by those programs that met some or all of the following conditions: use of the background obtained from previous studies, with correction of the limitations found above; structuring the program in stages (which kept in treatment only those inmates who managed to overcome phases (and thus show strong motivation); inclusion of assessment procedures; distinction between the criminogenic and non-criminogenic needs of the participants; and specific attention to criminogenic factors such as peer groups and social networks. Finally, Auty et al. (2017) also positively assesses programs that revised the disciplinary system and those that included adjustments to the gender of participants.

At the European level, the approaches promoted from the European Union have been directed rather towards two objectives: one of a generic nature that addresses the treatment of health (understood in a broad sense) in prison, with programs focused on reducing harm caused by drug addiction and others aimed at health care and awareness of its importance among prison officers (on the basis that this awareness is a priority to favor the culture of health in the centers) (Enggist et al., 2014); and other programs circumscribed to the treatment of terrorist "radicalization" (which have been evaluated, among others by Ronco et al., 2019, highlighting the overrepresentation of programs aimed at control, based on categorization, with dysfunctional results with the objectives pursued from the European Union).

However, in the context of each country, the programs in prisons are numerous and varied in nature. On the other hand, there is no homogeneous criterion regarding the compulsory nature of treatment. Once again, the difficulty in analyzing it lies in the lack of studies and publications that address its evaluation, as well as a systematic interpretation that provides the criteria followed and the methods used. This evaluation is usually included in technical documents published in open access on the websites of the penitentiary institutions of the different countries. The Annexes at the end of this Report include the information on the countries reported by the institutions participating in this Project.

In a brief review, we indicate here some of the programs aimed at reducing reactive aggression, either specifically or in a complementary manner, within the

treatment developed for some of the typically reactive types of violence, such as gender-based violence.

Precisely, among the objectives that have been most sought after in recent years are the treatment of those convicted of gender violence, some of which have been subjected to interesting evaluations that should be considered. In Spain, the program followed by Penitentiary Institutions is the "Intervention Program on Gender Violence for aggressors (PRIA)" which, however, is not aimed at those sentenced to custodial sentences but at those sentenced to measures of suspension or substitution of the sentence, insofar as these substitute measures are made dependent on the completion of the treatment. It is a psychoeducational program that uses an individual cognitive approach. The methodology used is that of a group format, working on the following aspects: identification and expression of emotions, cognitive distortions and irrational beliefs, assumption of responsibility and defense mechanisms, empathy with the victim, physical violence and control of anger and coercion and sexual aggression. According to the evaluators, the treatment achieved significant results in some of the following variables: fewer sexist attitudes; less jealousy; less emotional abuse; less couple conflicts; higher quality in the couple relationship; better assumption of responsibility for the criminal acts committed; more empathy, less impulsivity; less hostility; less anger and better anger control. In contrast to these conclusions, the Evaluation of the PREMOVIGE Program applied in some Spanish prisons and presented as an emotional program for prisoners for gender violence, concludes that the results with cognitive behavioral therapies are not as representative and assess more positively the achievements obtained with the program based on emotional aspects: specifically, the greater reduction in distorted thoughts about women and about the use of violence is highlighted (Rodríguez Espartal and López Zafra, 2013).

Also referring to gender violence and in the family setting, the "Psycho-social intervention program for prisoners who have committed domestic violence offenses" in Moldova and the "Technical intervention program for domestic violence offenders" in Portugal are also noteworthy.

Treatments for the reduction of anger and reactive aggression are also numerous. In Switzerland, the "Reasoning and Rehabilitation" Program was applied in a specific study with 213 men convicted of violent crimes (Baggio et al., 2020), held in different prisons in Switzerland. The methodology employed included weekly individual

therapy and reinforcement group therapy, conducted by psychotherapists and psychiatrists with a mixture of approaches (individual cognitive, psychodynamic therapy and systemic therapy) with an integrative approach. The results of the study point out as limitations the high dropout rate, as well as the inadequacy of the self-report questionnaires. However, the best results obtained in the reduction of aggressiveness through group therapy and work on emotions are highlighted as positive results. Other studies, such as the one carried out in Germany in 2022 on an innovative experience (dog-assisted emotional training) show better results with methods that work directly on emotions, instead of focusing on cognitive distortions (Hediger et. al., 2022). In Portugal, the Program to promote personal and emotional competencies "Generating social itineraries (GPS)" was evaluated by the University of Coimbra, finding positive findings (by comparing the results before and after treatment) in emotional self-control, impulse control, behavioral adjustment and reduction of feelings of mistrust, with better anger control, reduction of anxiety and depression, with improvement also in the development of prosocial thinking style (see information provided in the Annex).

With similar objectives, it is worth mentioning the Anger Management Program, Adult Intervention (HAYDE) and the "Anger Control" Program for young people ÖFKESİZ, implemented in Turkish prisons, the "Prison Violence Reduction Program" in Moldova, or the "Peace Prison" Program implemented in Greece. The evaluation of this program in 2019 and 2020 (see information provided in the Annex) positively assessed the transformations in communication and problem-solving skills of the participants, which uses training and role-playing scenarios for learning mediation and non-violent conflict resolution.

In short, a panorama that shows solid initiatives in the implementation of treatments that address learning in the transformation of emotions with innovative techniques that improve the participation and motivation of participants, which is an inexcusable starting point for the success of the programs.

5. The possibilities for reducing reactive aggression through virtual reality.

The first publications on the effectiveness of Virtual Reality in therapies and treatments of psychological disorders appeared at the end of the nineties in the last century. As highlighted by Botella Arbona et al. (2007), the first application focused on the treatment of acrophobia, the results of which were published in 1995 (Rothbaum et al., 1995), gradually expanding from its use to address phobias to a greater use in anxiety disorders and other psychological disorders. The advantages of this therapy are summarized by Botella Arbona (2007): insofar as the control of events is total, it is possible to offer the patient a safe environment; its technical possibilities allow individualization in its application; virtual "exposure" is clearly preferred by many people to whom exposure therapy is offered as a treatment.

The possibilities of Immersive Virtual Reality (IVR) are still in an exploratory phase. With the support of the European Union, the "EMMA's World" program was developed in Spain, by a research team of the University of Valencia, for the treatment of Adaptive Disorders (AD). It is a virtual reality system in which a series of virtual objects and environments can be used and personalized, so that they acquire a personal meaning "emotional device", which aims to promote the development of "life narratives" that have an emotional impact for use in psychological therapy. This "emotional device" was initially designed for the treatment of PTSD, pathological grief, and later extended to AT. The program allows the inclusion of symbols that represent the stressful event or that stimulate reactions that favor the emotional processing of the event. Based on positive psychology, this method not only aims at overcoming the traumatic event, but also at learning coping strategies (Baños Rivera et. al, 2008). The good results allowed the development of a variable, the EMMA-Infancy Program, which is based on the adaptation of the RVI program "The world of EMMA" for its application to traumatized children, whose evaluation concludes with a positive assessment based on the decrease in scores in the indicators of anxiety, depression, post-traumatic stress and

maladjustment (although the limitations of the study should be noted, as the analysis was reduced to one case) (López Soler et al., 2011).

In short, although research on IVR in the forensic field still suffers from limitations (Sygel et al., 2021, have shown that most of the studies conducted are small-scale and non-randomized, lacking evaluation and follow-up over a longer period of time), at the same time they present a panorama of opportunities with a capacity for application that has not yet been explored.

The advantages of using Virtual Reality in the analysis of people's reactions to violent incidents (which could trigger reactive aggression) have also been highlighted: compared to the limitations of other study methods that use simulations or role-playing in the laboratory, immersive Virtual Reality simulations provide a valid environmental setting, eliminating other limitations, such as the problem of physical danger (Rovira et al., 2009), and providing sufficient verisimilitude that seems to explain the good results obtained in most of the studies. As highlighted by researchers (Rovira et al., 2009; Lobbestael et al., 2021), IVR is presented as a tool capable of assessing in a more adequate way the differences between reactive and proactive aggressiveness, through the creation of a realistic and modifiable environment, with respect for ethical requirements. In the opinion of Lobbestael et al. (2021), the IVR makes it possible to evaluate predictors of aggressiveness, as well as the results obtained in therapies to reduce aggressiveness, more accurately than other techniques such as questionnaires; moreover, it can also be used as a training tool for professionals who are confronted with aggressive incidents, such as prison officers and workers, among others, to recognize the type of aggression that is present and to resort to an appropriate intervention.

Based on the phenomenon and the concept of reactive aggression and its specific analysis in the prison environment, different alternatives have been proposed to reduce it, including those that refer to the use of virtual reality, that is, technology that allows users to enter a computer-generated virtual environment, through the use of devices such as virtual reality glasses or helmets. These instruments provide an immersive sensory experience, including 3D images, sounds and, in some cases, even the possibility of interacting with the virtual environment. As has been pointed out, virtual reality currently has a multitude of uses in many fields, among which it is worth

mentioning psychology and therapy. Thus, virtual reality is used in therapies to treat disorders such as post-traumatic stress disorder, phobias and anxiety disorders, allowing patients to face their fears in a controlled and safe environment. In this sense, reactive aggressiveness in prison by inmates can be treated to mitigate or even eliminate it with such virtual reality devices as means of therapies or psychological treatments. These include:

1. Virtual exposure therapy: this uses virtual (secure) environments to recreate situations that trigger aggression. Prisoners can experience these situations in a controlled and safe environment, allowing them to practice and learn anger management strategies. Repetition of these situations in a virtual environment can help desensitize individuals and improve their ability to control their reactive aggression.

2°. Social skills training programs. Virtual reality can also be used to teach and practice social and communication skills. In this way, inmates can participate in interactive simulations where they are presented with challenging social scenarios and taught strategies for handling conflict constructively. This can help improve their ability to deal with stressful situations without resorting to aggression.

3°. Empathy and perspective programs that facilitate understanding of other people. Convicted prisoners can participate in virtual experiences that allow them to see the impact of their aggression on others and understand the negative consequences of their actions. This can help them to empathize and thus bring about a change of attitude towards less aggressive and more rational behaviors.

4°. Training in emotional control and stress management. Prisoners can participate in virtual sessions where they are taught strategies to recognize and regulate their emotions, as well as to manage stressful situations more effectively in safer environments. This can help reduce aggressive responses and control negative emotions.

It is recommended that virtual reality be one more tool in a comprehensive treatment to address reactive aggression in prison, adapted to the needs and

characteristics of each prisoner and each prison, and combined with other therapeutic and intervention therapies.

6. Evidence on the use of virtual reality for the reduction of reactive aggression in prison: case analysis.

According to experts in forensic psychiatry, there is a lack of significant clinical studies on current interventions using virtual reality in forensic psychiatry settings. This is primarily because incarcerated individuals with severe mental illness, often at high risk of violence, are for practical and ethical reasons (patient welfare, safety of care staff) often difficult to enroll in scientific studies (Sygel, K., Wallinius, M., 2021).

However, with respect to other prisoners (who do not suffer from mental illness), the following evidence of the application of virtual reality for the reduction of reactive aggression in prison is presented:

- In the European Union, the Erasmus+ STEPS Project involving Greece, Cyprus, Italy and Portugal should be highlighted (more information in the Annex). This is a VR program through the use of 3D Virtual Rooms, in which the participating inmates enter into the dramatized stories of former prisoners, but not following an automatic sequence; rather, the viewing and interaction experience depends on the participant's choices. Precisely, the behavior and choices of the inmate in this process is one of the materials used to favor an interaction that contributes to the development of emotional intelligence, the detachment of negative emotions (anger, aggressiveness, rejection, disappointment) and thus develop the ability to make good decisions. The analysis of the results of the Project has shown an improvement in the evaluation of the inmates' capacity for empathy, re-evaluation of their actions and increase in self-esteem.

- TRAIVR Project: Training of Refugee Offenders by Virtual (2020-2023), developed in Portugal. This project focuses on foreign inmates with language problems by developing a VR program to improve their coping skills (problem solving and emotion regulation). The VR system is advantageous in that it is not limited by lack of language proficiency.

- Immersive Virtual Reality program in Almedes Prison as a pilot test (Catalonia/Spain). This IVR program is based on the configuration of new virtual environments to work on empathy with men convicted of violent crimes. Although, as Barnes et al. (2022) point out in their evaluation, the sample was finally carried out on a very small group of convicts, six men, which requires that it be carried out on a larger group to be able to assess its effects. However, the results seem to be positive, as they have materialized in an exercise of reflection for inmates and analysis of their criminal responsibility, and a good tool to facilitate empathy with their victim.

- Rehabilitation program at HMP prison, Peterborough, in the United Kingdom (2015-2016). In this case, a rehabilitation program was implemented that included the use of virtual reality. Inmates participated in virtual reality sessions where they were presented with challenging situations and taught skills to control their aggression. Results showed that those who participated in the program experienced a decrease in aggression and an improvement in their behavior inside the prison (Webster, 2016).

- Oxford University study on the application of virtual reality on prisoners. The results showed that those who participated in virtual reality sessions experienced a significant decrease in aggressiveness and an improvement in their emotional control (Bowers et al. 2013).

In short, a sample of relevant studies on the application of virtual reality as an effective tool to decrease reactive aggression in prisons. However, such a tool would come as a complement to other therapies and treatments, but not as a

substitute. It should also be noted that the results depend on many variables, among which the characteristics of the prisons where they are applied stand out.

7. Gender perspective on the reduction of reactive aggression in prison

At this point, it is appropriate to dedicate a section in this report to developing the project with a necessary gender perspective in mind.

In general terms, research on crime and offenders from a gender perspective has traditionally been a neglected subject (as Zaffaroni, 2000, p.26). However, from the second half of the 20th century onwards, studies in which women occupy an active position have seen a significant evolution, especially in Anglo-Saxon countries (Sánchez, 2004, p. 241).

Within the abandonment of women as offenders, there is a notable lack of research about women inmates in prisons, where only recently has there been a growing interest in the subject, with some relevant research currently being carried out (among others, Almeda, 2002 or Juliano, 2008).

On this issue, it is true that, in general terms, the numbers of women inmates are residual. According to Eurostat data¹, the prison population in the EU exceeds 475,000 people, with a slight increase since 2020, with the lowest prison population rates in Finland, Slovenia, and the Netherlands and, on the contrary, the highest rates in Hungary and Poland.

In this context, only around 5.3% of the population would be women, even though between 2011-2019 the female prison population increased "significantly". In this field,

¹ <https://ec.europa.eu/eurostat/web/crime/database>

Spain stands out negatively, with a female prison population significantly higher than the European average - over 7%, as pointed out by the General Council of the Judiciary² -.

Despite this situation, the low percentage of women inmates would in no way justify the absence of scientific interest, nor an unequal situation of women in the prison environment, which seems to be highlighted by the research carried out in recent years, which shows, among other aspects, that women reside in worse facilities located in places that produce a distance from their social and family ties (Juliano, 2009, p. 84) as well as a markedly unequal treatment of women in prisons (Juliano, 2009, p. 84). 84) as well as a markedly medicalised and sexist treatment, with the maintenance of traditional roles in workshops and/or assigned jobs (Almeda, 2007, p. 27).

Hence the need to pay special attention to the particularities of women, due to their individual factors that differ from those of male inmates, making it possible for the development of treatments through virtual reality to be aimed also at the treatment of female inmates and, in any case, for their situations and differences to be studied for an appropriate application.

In the specific field of reactive aggression, as mentioned above, we are faced with a complex context, with multiple risk factors, which complicates research. However, despite the absence of studies focused on the prison environment - specifically, on women prisoners - the studies developed on the subject (essentially, in the field of adolescents), indicate that women, despite having a lower rate of aggression than men, when it occurs, it is produced to a greater extent in its reactive form (Penado, 2012, p. 176), which is interesting to take into account in our project, despite the fact that in general terms, also in the reactive modality, the highest percentage of aggressive behaviour is developed at the hands of men (Molero, Pérez-Fuentes and Gázquez, 2016, pp. 34-35)

The benefits of virtual reality in the treatment of aggression and, likewise, the benefits of the use of virtual reality in the treatment of inmates have been described

² <https://www.poderjudicial.es/cgpj/es/Temas/Estadistica-Judicial/Estadistica-por-temas/Datos-penales--civiles-y-laborales/Cumplimiento-de-penas/Estadistica-de-la-Poblacion-Reclusa/>

above, despite the fact that the treatment of reactive aggression in prison has not been considered so far, so that the evidence in this field is nil. In this line, the need to develop these treatment strategies using virtual reality is defended here, given the good results offered, but avoiding homogenising the treatment for male and female inmates, but attending to their own particularities, so that the treatment has adequate efficacy. In this sense, some studies linked to the subject point out that, in the case of female prisoners, strategies focused on the management of emotional stress are more effective than on the actual stressor, given the limited control over their environment that female inmates have. However, they found that both types of coping resulted in better adaptation (Nagy, 1997).

Therefore, the influence of multiple biological and individual factors and the context in which the risk factors develop must be taken into account (as pointed out by Penado, André and Peña, 2014), where, among others, the presence, in women, of issues such as the inability to regulate behaviour and emotions, the presence of previous abuse or low IQ (Connor et al. 2003) have been identified as factors conducive to reactive aggression (Connor et. al., 2003).

Furthermore, noting that the prison environment is a hostile place for the entire population, but that the dynamics that occur are different between men and women, as well as the triggers of aggression and the concerns of female inmates, it is important to note the specificities of the latter when developing the treatment of reactive aggression. Likewise, its application in the field of women's prisons is defended, given that, generally, this type of resource is used in men's prisons and, although it is understood that the female prison population is small, this should not justify abandoning the development of modern treatment techniques which help them to better control their emotions, a more appropriate prison life and the avoidance of aggressive situations, even if these are fewer than in the case of men's prisons.

8. Main conclusions and further developments.

Despite the questioning of the differentiation between proactive and reactive aggression, as the difficulties in delimiting their characteristics in individual cases, the possibility of joint incidence, as well as the fact that reactive aggression also has a reflective component, most researchers and professionals agree that these causal processes of aggression are nourished by different correlates, which indicates the need to address one and the other specifically.

In the area of interest to us, that of reactive aggression, the tendency to interpret ambiguous situations negatively, which has been explained as the "hostility bias" or hostile attribution to the behaviors of others, has been identified as an influential factor in its construction. In relation to emotions, reactive aggression has been linked to high levels of impulsivity and anxiety, reduced tolerance to frustration and a limited capacity to respond to social stimuli, which determines a considerable relationship between reactive aggression and problems in social life.

Studies have shown that reactive aggression is the modality most present among offenders. Moreover, the prison context represents a hostile and exclusionary place in which violence plays an essential role, as a factor that correlates with fear, which is also omnipresent.

Despite these indications, reactive aggression in prison has not been sufficiently studied. The first obstacle is the existence of a considerable black figure in prison, both at the horizontal level (among prisoners, where a code of conduct that imposes silence is common) and at the vertical level (where international NGOs have denounced the existence of a significant deficit in the assumption of responsibility for aggressions against inmates). The second difficulty encountered is the persistence of very limited intervention resources, both for the measurement of violence (in which the use of self-reported questionnaires, with limited effectiveness in response due to social desirability, is still the most widely used technique), and in the design of treatments, mostly based on individual interventions with a cognitive-behavioral approach.

These difficulties have not prevented the generalization of some conclusions in the determination of the triggers of reactive aggression in prison:

- Higher correlation between environment and impulsive aggressiveness.
- High scores in anxiety in inmates (versus control groups), together with anger and impulsivity, which allows defining a "state of anger".
- Presence of the factor "loneliness" which correlates positively with personal distress and negatively with empathic concern and perspective taking.
- The high prevalence of mental disorders in prison (according to studies, 5.3 times higher than in the general population).

In recent years, various initiatives have been developed to reduce reactive aggression in prison, although they have not been sufficiently evaluated in a comparative manner to draw generalized conclusions. Nevertheless, some studies have shown coinciding results:

- Some programs appear to be ineffective or even harmful: nondirective person-centered therapies, psychoanalysis, group therapies in the setting, and "smarter punishment" models. Programs using cognitive-emotional approaches, social learning interventions, emotion regulation and inclusion of other individual and criminological orientations have shown better results.

- Overall results improve when programs include implementation by stages and continuity, use of more attractive techniques for participants, use of evaluation and follow-up procedures.

- In the area of reactive aggression, two types of programs have been implemented:

- 1) Those targeting those convicted of gender-based violence. Despite the fact that these treatments have already been in development for some time, evaluations have not yet been carried out that are susceptible to generalization. In Spain, for example, there are studies that positively evaluate the achievements obtained with programs based on group therapy with a cognitive behavioral approach and others that maintain that in this modality the results are discrete and opt for a treatment focused on the improvement of emotional aspects.

2) Those that address the relationship between anger and reactive aggressiveness with rehabilitation difficulties. In this regard, experiences in some countries, such as Switzerland, Portugal or Turkey, indicate the greater suitability of treatments that focus on learning to transform emotions, with innovative techniques that improve participation and motivation.

There is a significant degree of agreement on the advantages of therapies using Virtual Reality, considering the following reasons:

- The participant is inserted in a safe environment; any physical risk is eliminated.
- The technical possibilities of virtual programs allow for individualization in their application.
- The "virtual exposure" is mostly preferred by the people to whom exposure therapy is offered.
- Virtual Reality is a tool with greater ability to differentiate between reactive and proactive aggressiveness.
- There are no ethical controversies.
- It is possible to use the therapy with inmates who are not fluent in the language and those who are conditioned by lack of prior training.

Virtual Reality provides an immersive experience with the ability to interact and create an environment of verisimilitude, having demonstrated a significant degree of realism in the response of the participants, even though they are aware of the characteristics of the program. In the prison setting, IVR has been used in the following treatments:

- Virtual exposure therapy, through the recreation of aggression-triggering situations.
- Social skills training programs.
- Empathy and perspective programs.
- Emotional control and stress management training.

With a view to the future development of this tool, the conclusions obtained allow us to incorporate the following recommendations:

- Incorporate a sufficient sample of convicts, both quantitatively (number of participants) and qualitatively: consider variables such as gender, age, substance use, intellectual index, presence of neurobiological alterations, criminal history, personality assessments and psychological disorders.
- In particular, to note the gender perspective, both in the evaluation of the participants and in the adaptation of the program, based on the observations indicated above, referring to the observation of the absence of this perspective in the current models.
- To encourage participation and maintenance in the program by means of an attractive and user-friendly design.
- Work on stress and anxiety beforehand, as a preparation for a positive disposition for performance in the activity.
- Include a previous analysis of the program's adjustment to basic ethical requirements, considering: respect for the dignity and autonomy of the participants, the intended value of the research, the verification that the benefit-harm relationship is acceptable and the previous forensic evaluation, with the aim of noticing the individual needs of the participants.

In this order of assessments, it is also appropriate, finally, to have a prior report on the specific prison context in which the program is to be implemented, which realistically notes the objective conditions in which the stay in prison takes place, both environmental and interpersonal, with particular attention to the situation of basic resources, health, the level of horizontal violence and the functioning of security and disciplinary measures. Without this review, the tool could be presented as a dysfunctional mechanism, and thus be noticed by potential participants, which would frustrate the necessary motivation to explore the possibilities of an instrument that in itself has shown important benefits.

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10. Additional documents.

1. Education and Innovation Hub (KMOP) – Greece

Category	Information
Jurisdictional Panorama	
Number of Prisons	36 prisons
Types of Prisons	<ul style="list-style-type: none"> • 4 rural prisons: a greek-specific type of semi-open prison. Rural prisons are the next stage after the closed prison, a kind of reward for the prisoner who has shown good behaviour in the closed prison. At the same time, the rural prison is also a preparation stage before free life, especially for those serving long sentences. Living in these prisons, with limited security measures, relies heavily on mutual trust between prisoners and the state • 3 juvenile prisons • 3 therapeutic prisons • 26 closed prisons
Human Resources Distribution	<p>Based on the article 86B of the Correctional Code (2017), the mission, structure and responsibilities of the services, the organic positions of the staff and their distribution by category, branch and speciality, the employment relationship as well as the selection, qualifications for appointment, recruitment, training, obligations and rights, branches and specialities of employees and any other relevant issue shall be regulated by a separate organic law and, until its adoption, by the Statute of the Ministry of Justice, Transparency and Human Rights and the Internal Regulations for the Operation of General Branches of the Ministry of Justice, Transparency and Human Rights. The same organic law or Statute shall provide for and regulate the part-time employment under private fixed-term contracts of doctors, nurses, therapists, teachers, social workers, psychologists, sociologists, criminologists and other persons</p>

	with special knowledge in detention facilities where there are no statutory positions or existing positions are vacant.
Prison Population rate	10.952 (SPACE I 2022)
Inmate Demographics	
Gender Distribution	Male prisoners: 95,1% Female prisoners: 4,9% (SPACE I 2022)
Nationality Distribution	Foreigners: 58,6% (SPACE I 2022)
Offense Types Distribution	Total number of sentenced prisoners in 2021: 8.349 Homicide and attempt: 9,4% Assault and battery: 1,6% Rape: 2,8% Other types of sexual offences: 1,7% Robbery: 15,3% Theft: 14,7% Economics/financial offences: 3,1% Drug offences: 23,1% Terrorism: 2,2% Road traffic offences: 0,9% Other offences: 25,1%
Compulsory Prison Treatment	No. According to the Correctional Code (article 30), inmates can be admitted to a special therapeutic detention facility where they shall be subjected to necessary hospitalisation measures or treatment programmes. A principal actor that offers treatment programs in Greece is the Therapy Centre for dependent individuals (KETHEA). KETHEA's prison interventions tackle the problems relating to drug use, lawbreaking and incarceration in an integrated way and fully reintegrate participants into society.
Average Length of Imprisonment	19,5 months (SPACE I 2022)
Programme/Treatment Initiatives	

<p style="text-align: center;">Types of Programmes/Treatments for offenders</p>	<p><u>KETHEAs' Counselling Programme and Rehabilitation Units</u></p> <p>Inmates start their participation in the treatment process when they join a KETHEA Counselling Programme. KETHEA runs 18 Counselling programmes, covering most of the prisons in Greece. The programmes:</p> <ul style="list-style-type: none"> • Diagnose and evaluate addicts' problems. • Motivate addicts to tackle their health problems. • Reduce addicts' involvement with substances. • Inform, motivate and prepare addicts to join a counselling or treatment programme, either in prison or outside in society, making use of the legal provisions for "conditional release". • Counsel inmates' families in cooperation with KETHEA services that are active in society. <p>When an inmate completes a counselling programme, they can be referred to one of KETHEA's prison recovery units for the main phase of their treatment. KETHEA runs a total of four therapeutic communities in male and female prisons around Greece. These include Greece's very first prison rehabilitation unit to be housed in its own separate wing and operate on a round-the-clock basis.</p> <p>The prison rehabilitation units seek to achieve full recovery by:</p> <ul style="list-style-type: none"> • examining the causes and the triggers of the addiction, • gradually changing negative behaviours and helping participants acquire new strategies for dealing with problems, • providing education and training, • reconnecting participants with their families in collaboration with KETHEA's units outside prisons, • referring participants to community-based rehabilitation programmes. <p><u>Prison of Peace</u></p>
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	<p>Prison of Peace addresses the need to reduce violence and promote peaceful conflict resolution within the prison environment, through a series of intensive experiential trainings on Peacemaking and Mediation, available to inmates and prison personnel (security officers, administrative staff, social workers and prison school teachers). The program invites the perspective that there can be a viable and sustainable non-violent approach to conflict both within the prisons and beyond, by training participants not only to be peacemakers and mediators themselves, but also to be able to pass on their knowledge and skills to their respective communities.</p> <p>In Greece, the Prison of Peace has systematically been implemented since 2016 with inmates and/or prison personnel in twelve Greek prisons.</p>
<p style="text-align: center;">Types of Programmes/Treatments with Virtual Reality for offenders</p>	<p><u>Project STEPS</u></p> <p>The Erasmus+ Project STEPS deals with the humanistic education of prisoners in four countries (Greece, Cyprus, Italy, Portugal). It set up an educational program around a number of Virtual Reality interactive movies based on dramatized real former prisoner's stories. In brief, prisoners go deep into other people's "misled" lives by entering 3D "rooms" in which the personal story of a former prisoner is unwrapped.</p> <p>Each Virtual Reality (VR) Unit provided a framework where each prisoner or ex-prisoner was able to move to a virtual room through Virtual Reality devices and the appropriate installation. In this virtual room, users see a number of items that are related to his/her profile and story. Usually, these items are related to the cause of his imprisonment. These items might be newspaper articles, photos, narrations or videos. The exact items that fit to the user's profile are selected and uploaded to the framework by the organizer of the session. The users wear their VR glasses and headphones and starts interacting with the unit through handheld sensors and dedicated user interfaces. They can pick a certain item and hear, watch or read it.</p>

They can move inside the physical room (where the installation is hosted) and by their movement to interact with the Virtual Room and all the items that appear in the Virtual Room. The user is able to move around in a set of ten different Virtual Rooms like rooms in prison, the place where the crime was committed, internal or external places etc.

Throughout users' VR experience, the VR Unit is tracking their behaviour and choices. This tracking information is directly uploaded to the statistics sub-unit of the platform and all these data are available to the organizer and the scientific personnel for post-processing.

The STEPS material, used by trained teachers or trainers, contributes to supporting the reintegration of prisoners into society by using as main means emotional intelligence and emotional literacy. With this, the primary objective is that the detainees will be freed from negative emotions, such as anger, aggression, rejection, and disappointment, in order to develop the ability to make good decisions. The users have the impression of being in the virtual world while having the ability to navigate and manipulate their own elements, putting themselves and their senses at the centre, to become witnesses and at the same time protagonists in stories perhaps similar to their own. The goal is to emotionally identify with another inmate's mental state of mind, to understand his / her behaviour and motivations and through this to understand their own behaviour, motivations and ultimately their self-esteem.

Research has shown that the free exchange of stories of different individuals supports their psychological state, helps them to reassess their actions, redefines their priorities and values, helps them gain self-respect and can lead them to take sound decisions which will ultimately lead to their reintegration into society.

Project ViRTI

The ViRTI project corresponds to the need to improve the educational environment and expand training programmes for prisoners, who generally have limited access to technical facilities because they are in a closed and confined environment. The ViRTI project aims to use virtual reality technologies by creating virtual environments, compensating for the lack of resources (such as laboratories, materials and tools) in prison facilities. In addition, by introducing interactive activities and gamification features into the learning content provided to prisoners, it will be possible to attract more participants and keep them motivated, thus reducing drop-out rates. With this project, it will be possible to increasingly encourage the implementation of virtual reality-based content in prisons, working with education and training providers for this purpose. In this way, more inmates will benefit from the use of this technology as an educational tool and will develop skills and competences, while gaining knowledge about sectors of the economy where there is a shortage of labour, thus increasing their employability.

J-SAFE Project

The project Judicial Strategy against all forms of Violent Extremism (J-SAFE) was funded by the European Justice Programme (JUST-AG-2016-03) and implemented during January 2018 – January 2021. This project aimed to analyse the current situation of prosecution and detection measures of extremism in all phases of the criminal procedure and create tools, protocols, and risk assessment guides to be used by judges and prison staff. Various training activities were carried out including understanding the processes of radicalisation in prisons, forensics operations for prevention and investigation and activities related to data surveillance within the prison environments. For the training activities, several scenarios with virtual reality were created aiming to enhance decision making capabilities, situational awareness and emotional resilience of judges and prison officers during dangerous, life-threatening situations.

Evaluation of the Initiatives

The **Prison of Peace** evaluation for June 2019- December 2020: great transformations in communication and problem-solving skills among the participants, a testament to how the Prison of Peace curriculum can be used to complement re-entry and rehabilitation processes.

Circle Keeper: By introducing participants to Peace Circles and instructing them to conduct these circles outside of the classroom environment, the Circle Keeper workshop is designed to foster community and relationship building. At least 80% of respondents noted that more people are engaged in a positive course of action or behaviour as a result of their participation in Prison of Peace.

Peacemaker: The Peacemaker workshop requires personal reflection, as it teaches participants to address how their emotions may have been devalued in the past and how they may be devaluing the emotions of others. Through the Peacemaker workshop, participants also learn results-based listening. This skill allows them to apply the reflective listening skills developed in the Circle Keeper workshop to help their fellow human in prison and beyond to feel heard and understood, while guiding them to solve their own problems without offering advice or solutions. All respondents (100%) noted that the workshop is successful in helping maintain or improve personal and community growth. It also helps participants see themselves and members of their respective communities differently. Most participants note a change in their attitude, behaviour and ability to effectively interact with others, including their families.

Mediation: Once they have learned, through results-based listening, to guide others in solving their own problems, the Mediation workshop teaches participants how to use this skill to de-escalate conflict. Through role-plays and scenarios written by inmates, participants learn the tools to resolve conflict between multiple parties without violence. All respondents (100%) noted that the workshop is helping them more deeply understand how their communication skills impact their lives. As they reported, this

	<p>practical training provided them the tools to peacefully address conflict in prison and beyond.</p> <p>In March 2020, the Committee for the Prevention of Torture of the Council of Europe published a negative report on Greek prisons and police detention facilities for 2019. The Greek government replied to this report, among others, by mentioning the Prison of Peace - Greece program as the only program intended for inmates that helps them to address violence in prisons (you may find the report here: https:// www.coe.int/en/web/cpt/-/council-of-europe-anti-torture-committee-publishes-report-on-gree-3 - mentioned in page 5)</p>
<p>Targeted Offenders</p>	<p>All type of offenders, offenders with dependencies and mental health problems.</p>
<p>Training for Prison Workers</p>	<p>Under the J-SAFE Project the Centre for Security Studies (KEMEA) held a workshop in Athens entitled “VR (Virtual Reality) Simulation Prison Search”, where seven prison officers of Korydallos Prison System (Greece) took part in this training activity. The executives that participated as trainers-experts were officers of the Hellenic Penitentiary Service and KEMEA. The training activities were delivered using an innovative methodology, called VR Blended Solution. This highly immersive solution allowed its users to simulate and experience the process of searching and investigating in a prison cell firsthand. Thus, the usage of VR equipment allowed the prison officer to look around the environment in a full 360° degrees to search for indicators of possible terrorist activity and radicalisation signs and to learn how to approach digital forensics operations in prison. Another scope of this training was also the evaluation of the benefits of blended VR for Security and Justice Trainings.</p>
<p>Does access to treatment give any judicial benefits?</p>	<p>Everyone who joins a KETHEA programmes can benefit from legal provisions designed to facilitate their efforts to fully recover and reintegrate themselves into society (conditional release, suspended sentences etc.), irrespective of whether they have been released or are still in prison.</p>

2. University St Kliment Ohridski Bitola (UKLO) – North Macedonia

Number of penitentiaries/prisons	<p>In North Macedonia there are 4 penitentiaries, 1 penitentiary of open type, 7 prisons and 2 open departments</p>
Jurisdiction of penitentiaries	<p>The jurisdiction of penitentiaries is organized at the national level. The administration and oversight of penitentiaries in the country fall under the responsibility of the Ministry of Justice. This means that all penitentiaries in North Macedonia operate under a unified national jurisdiction.</p>
Types of compliance foreseen in the legislation	<p>The prison sentence, the detention measure and the educational one the measure of referral to a prison is carried out in correctional institutions. Penitentiaries can be penitentiaries and prisons.</p>
Distribution of human resources by function	<ol style="list-style-type: none"> 1. The total number of staff in 2022 in penitentiary and correctional institutions is 950. Key departments in penal institutions in terms of the implementation of treatment of convicted persons for their resocialization as well as for the security of convicted persons are the Prison Police and the Department for Resocialization. 2. The number of employees in the Administration for the Execution of Sanctions in 2022 is 59 permanent employees and 7 non-permanent employees. <p>(39 executives, 695 custodial staff, there is no medical staff, responsible for evaluation 27, responsible for education activities 41, responsible for workshops/ vocational training 28, other staff working inside penal institutions 115)</p>
Prison population rate	<p>As on 31 December 2022 - 2362 or 113,5% rate</p>
Distribution by sex	<p>70 or 3.3 % female 2044 or 96,7 %male</p>
Distribution by nationality	<p>2077 Macedonian nationality, 285 foreign citizens</p>

Distribution by tipe of offence	<ol style="list-style-type: none"> 1. Homicide (including attempts): number 244 or 13.5%; 2. Assault and battery 57 or 3.1%; 3. Rape 41 or 2.3%; 4. Other types of sexual offences 89 or 4.9% ; 5. Robbery 325 or 17.9%; 6. Theft 374 or 20.7%; 7. Economic/ financial offences 171 or 9.4 %; 8. Drug offences 299 or 16.5%; 9. Terrorism 41 or 2.3%; 10. Road traffic offences 88 or 4.9% ; 11. Other offences 82 or 4.5%
Compulsory prison treatment	Yes/no (comments)
Average time spent in prison	13.9 months, average length of imprisonment, in months (based on the total number of days spent in penal institutions)
Intitatives in which virtual reality is applied in treatment	N/A
Evaluation of above mentioned innitiatives	N/A
Specific training for prison workers	<p>There were several trainings for prison workers:</p> <ol style="list-style-type: none"> 1. Radicalization in Correctional Institutions, 2. Rubicon - Citizens' Association: Sessions on communication skills, teamwork, and establishing a unified approach to working with at-risk children with employees from the Treatment and Prison Police Department, 3. Dutch Helsinki Committee: Training on security in the institution, training session on "Anti-Corruption Measures in the Correctional and Probation Service"; 4. Training for MDT (Multidisciplinary Teams) working with radicalized convicted individuals, followed by discussions with national trainers and supervised training, 5. Dutch Helsinki Committee - training on working with the TOPS program, focusing on social skills training for the Treatment Department, 6. Sequential training on release and post-penal assistance for radicalized convicted individuals,

	7. Training on mental health and management of frequent mental disorders in convicted persons (Council of Europe)
Does access to treatment give any prison benefits?	<p>For good behavior and commitment to work, as well as for encouraging good behavior and for developing a sense of responsibility and for interest and cooperation in the treatment carried out in the institution, convicted persons may be given separate facilities. Amenities represent a set of measures for encouraging the confidence of the convicted person, mitigating prison discipline and the negative effects of imprisonment, maintaining relations with the family and the outside world, encouraging the participation of the convicted person in the realization of the process of resocialization, strengthening responsibility and self-confidence to prepare him for life in compliance with the legal order and fulfillment of civil obligations.</p> <p>The type and extent of the amenities depends on the degree of securing and limiting the freedom of movement of the convicted person in the institution, his behaviour and the results achieved in the implementation of the individual program for the execution of the prison sentence.</p>

Category	Information
Jurisdictional Panorama	
Number of Prisons	In North Macedonia there are 4 penitentiaries, 1 penitentiary of open type, 7 prisons and 2 open departments
Types of Prisons	The prison sentence, the detention measure and the educational one the measure of referral to a prison is carried out in correctional institutions. Penitentiaries can be penitentiaries and prisons.
Human Resources Distribution	<ol style="list-style-type: none"> 1. The total number of staff in 2022 in penitentiary and correctional institutions is 950. Key departments in penal institutions in terms of the implementation of treatment of convicted persons for their resocialization as well as for the security of convicted persons are the Prison Police and the Department for Resocialization. 2. The number of employees in the Administration for the Execution of Sanctions in 2022 is 59 permanent employees and 7 non-permanent employees. <p>(39 executives, 695 custodial staff, there is no medical staff, responsible for evaluation 27, responsible for education activities 41, responsible for workshops/ vocational training 28, other staff working inside penal institutions 115)</p>

Prison Population rate	As on 31 December 2022 - 2362 or 113,5% rate
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Gender Distribution	70 or 3.3 % female 2044 or 96,7 %male
Nationality Distribution	2077 Macedonian nationality, 285 foreign
Offense Types Distribution	<ol style="list-style-type: none"> 1. Homicide (including attempts): number 244 or 13.5%; 2. Assault and battery 57 or 3.1%; 3. Rape 41 or 2.3%; 4. Other types of sexual offences 89 or 4.9% ; 5. Robbery 325 or 17.9%; 6. Theft 374 or 20.7%; 7. Economic/ financial offences 171 or 9.4 %; 8. Drug offences 299 or 16.5%; 9. Terrorism 41 or 2.3%; 10. Road traffic offences 88 or 4.9% ; 11. Other offences 82 or 4.5%
Compulsory Prison Treatment	<p>Training for the Implementation of the Suicide Prevention Strategy in Correctional Facilities in the Republic of North Macedonia was held in Skopje, organized by the Programming Office of the Council of Europe. The training covered key points of the Strategy, goals and risk/protection factors, best practices, as well as current procedures and coordination between representatives of the Correctional Institutions Administration and the Ministry of Health regarding the functioning of the Multidisciplinary Suicide Prevention Team (MST) in correctional facilities and the Central Suicide Prevention Team (CST). Representatives from the Sanctions Execution Directorate, the Ministry of Health, members of the Multidisciplinary Suicide Prevention Team from the Correctional Institutions in Stip, Prilep, Skopje, Bitola, and Kumanovo, as well as healthcare personnel, attended this training.</p> <p>The Association for Support of Identified and Potential Vulnerable Groups "VICTIM" Skopje, in collaboration with the Sanctions Execution Directorate, is implementing a project in the women's section of the Idrizovo Correctional Institution. The project "Rehabilitation of Female Prisoners" is financially supported by Civica Mobilitas. Within the project, theoretical workshops and yoga sessions are being conducted with the aim of successful rehabilitation of these women. As part of the project, 10 theoretical workshops and 10 yoga sessions were conducted. A total of 52 women serving sentences in the Idrizovo Correctional Institution actively participated in these activities. One of the key goals of this project was to improve the psycho-physical well-being of the women.</p> <p>The role of correctional institutions in the re-socialization and reintegration process of foreign terrorist fighters at the national level is particularly emphasized within the framework of the National Plan. Within the plan, the penal treatment conducted in correctional institutions is systematized as a distinct segment. Furthermore, the mutual collaboration and coordination among institutions in providing assistance upon the release of convicted individuals from serving their prison sentences are also strongly emphasized.</p>
Average Length of Imprisonment	13.9 months, average length of imprisonment, in months (based on the total number of days spent in penal institutions)

Programme/Treatment Initiatives	
Types of Programmes/Treatments for offenders	<p>As a programme type, the training for the Implementation of the Suicide Prevention Strategy in Correctional Facilities in the Republic of North Macedonia was held in Skopje, organized by the Programming Office of the Council of Europe. The training covered key points of the Strategy, goals and risk/protection factors, best practices, as well as current procedures and coordination between representatives of the Correctional Institutions Administration and the Ministry of Health regarding the functioning of the Multidisciplinary Suicide Prevention Team (MST) in correctional facilities and the Central Suicide Prevention Team (CST). Representatives from the Sanctions Execution Directorate, the Ministry of Health, members of the Multidisciplinary Suicide Prevention Team from the Correctional Institutions in Stip, Prilep, Skopje, Bitola, and Kumanovo, as well as healthcare personnel, attended this training.</p> <p>The Association for Support of Identified and Potential Vulnerable Groups "VICTIM" Skopje, in collaboration with the Sanctions Execution Directorate, is implementing a project in the women's section of the Idrizovo Correctional Institution. The project "Rehabilitation of Female Prisoners" is financially supported by Civica Mobilitas. Within the project, theoretical workshops and yoga sessions are being conducted with the aim of successful rehabilitation of these women. As part of the project, 10 theoretical workshops and 10 yoga sessions were conducted. A total of 52 women serving sentences in the Idrizovo Correctional Institution actively participated in these activities. One of the key goals of this project was to improve the psycho-physical well-being of the women.</p> <p>The role of correctional institutions in the re-socialization and reintegration process of foreign terrorist fighters at the national level is particularly emphasized within the framework of the National Plan. Within the plan, the penal treatment conducted in correctional institutions is systematized as a distinct segment. Furthermore, the mutual collaboration and coordination among institutions in providing assistance upon the release of convicted individuals from serving their prison sentences are also strongly emphasized.</p>
Types of Programmes/Treatments with Virtual Reality for offenders	No any VR treatment
Evaluation of the Initiatives	n/a
Targeted Offenders	N/A
Training for Prison Workers	<p>There were several trainings for prison workers:</p> <ol style="list-style-type: none"> 1. Radicalization in Correctional Institutions, 2. Rubicon - Citizens' Association: Sessions on communication skills, teamwork, and establishing a unified approach to working with at-risk children with employees from the Treatment and Prison Police Department, 3. Dutch Helsinki Committee: Training on security in the institution, training session on "Anti-Corruption Measures in the Correctional and Probation Service"; 4. Training for MDT (Multidisciplinary Teams) working with radicalized convicted individuals, followed by discussions with national trainers and supervised training,

	<p>5. Dutch Helsinki Committee - training on working with the TOPS program, focusing on social skills training for the Treatment Department,</p> <p>6. Sequential training on release and post-penal assistance for radicalized convicted individuals,</p> <p>7. Training on mental health and management of frequent mental disorders in convicted persons (Council of Europe)</p>
<p>Does access to treatment give any judicial benefits?</p>	<p>For good behavior and commitment to work, as well as for encouraging good behavior and for developing a sense of responsibility and for interest and cooperation in the treatment carried out in the institution, convicted persons may be given separate facilities. Amenities represent a set of measures for encouraging the confidence of the convicted person, mitigating prison discipline and the negative effects of imprisonment, maintaining relations with the family and the outside world, encouraging the participation of the convicted person in the realization of the process of resocialization, strengthening responsibility and self-confidence to prepare him for life in compliance with the legal order and fulfillment of civil obligations.</p> <p>The type and extent of the amenities depends on the degree of securing and limiting the freedom of movement of the convicted person in the institution, his behaviour and the results achieved in the implementation of the individual program for the execution of the prison sentence.</p>

3. National Administration of Penitentiaries (ANP) – Republic of Moldova.

No.	Data requested for VR4React report/ Question	Answer
1	The number of penitentiary institutions in the country.	17 penitentiary institutions (1 penitentiary for minors and young people; 1 penitentiary for women; 1 hospital-type penitentiary)
2	Jurisdictions are at the state or regional level.	Jurisdictions are at the state level.
3	The types of penitentiaries provided foreseen in national legislation (open, closed, semi-open, etc.).	a) open type; b) semi-closed type; c) closed type. d) detention center for minors and young people, e) penitentiary for women f) hospital-type penitentiary
4	Data on material/human resources used in penitentiary institutions.	The total number of staff - 2940 units Officers - 1111 units Agents - 1606 units Contract staff - 223 units
5	Distribution of human resources by functions/sexes (security, various specialists, etc.).	Women in leadership positions - 137 Women according to execution - 641 Men in leadership positions - 375 Men according to execution - 1458 Vacant positions - 329

		<p>Security - 67 Regime and intervention - 783 Guard - 672 Escort - 174 Psychologists - 34 Social workers - 24 Educators - 33 Social reintegration - 69 Moral-spiritual education - 4 Medical personnel (doctors) - 49 Medical personnel (secondary education/ nurses) - Others - 426</p>
6	Prison population rate.	6461 people detained
7	Prison population rate (disaggregated data).	<p>Convicted – 4807; Prevented – 988; Arrested for misdemeanor – 5; Women – 297; Minors (boys/girls) – 33/1; Former civil servants – 96; Sentenced to life imprisonment – 129 Others – 105</p>
8	Gender distribution.	<p>Man - 6163; Woman - 298.</p>
9	Distribution by nationalities.	81 foreign nationals
10	Distribution by type of crime.	<p>Minor offences 164 Less serious offenses 1185 Serious crimes 1992 Particularly serious crimes 1623 Exceptionally serious crimes 831 Other types 666</p>
11	Mandatory treatment/programs carried out in the penitentiary (if any).	<p>The educational and professional training program detained persons are carried out according to the recommendations of the individual resocialization the options of the vocational-technical secondary institution.</p> <p>In 2023, 438 inmates benefited from vocational-technical training.</p>

12	Average time spent in prison (if such data is collected).	Persons held in a closed detention regime (the strict) entitled to at least one hour of walking in the open
13	Initiatives where virtual reality is applied in treatment (if any).	There are currently no initiatives where virtual reality is applied in treatment.
14	Evaluation of initiatives where virtual reality is applied in treatment (if applicable).	Does not apply.
15	Specific training for penitentiary employees.	2 week initiation course for officers 3 months initiation course for non-commissioned officers Occasional training courses according to the field of work
16	Access to treatment/training and benefits offered in prisons.	All detained persons are subject to the process of correctional education and social reintegration.

4. Polish Platform for Homeland Security (PPHS) – Poland

Category	Information
Jurisdictional Panorama	
Number of Prisons	175
Types of Prisons	Total number of Penal Units: 175 Prisons as closed or semi-open or open or mix type (polish ZK): 64

	<p>Remand Centres as closed type (polish AŚ): 39 External Units as closed or semi-open or open or mix type (polish OZ): 69 Units for temporary accommodation of the sentenced as open type (polish OTZ): 3</p> <p>Within prisons: Units for female offender: 26 Homes for the Mother and Child: 2 Hospitals: 11 Schools: 23</p> <p>Sentence of imprisonment is carried out in the following types of penal institutions: – for juvenile (polish M); – for the sentenced for the first time (polish P); – for penitentiary recidivists (polish R); – for the sentenced to military detention (polish W); – in homes for the Mother and Child when incarcerated mothers want to exercise custody over their children before they turn three years old.</p> <p>Prisons can be categorized into three types: – closed (category I) high-security; [can be with External Units] – semi-open (category II) medium security [can be with External Units] – open (category III) low security</p> <p>Prisons and remand centers may have local or out-of-town branches. These are external branches and branches that provide temporary accommodation for the inmates. Unfortunately, such crystalline typology of prisons is very rare. Most often, the closed prisons include a branch of semi-open type or even the residential dorms of semi-open or open character. In that case the unit as a whole respects the primacy of the facility with the higher level of security. The remand centers with branches for inmates serving a sentence in a closed prison are equally common. This situation significantly hampers the protective aspect of the institution as each of the units or remand centers has its own profile and objectives.</p> <p>The penalty of imprisonment is carried out in the following types of prisons: 1) prisons for juveniles (polish M); 2) penitentiaries for serving a sentence for the first time (polish P); 3) prisons for penitentiary recidivists (polish R); 4) prisons for those serving a sentence of military detention (polish W);</p> <p>The penalty of imprisonment is carried out in the system: 1) programmed impact (polish p); 2) therapeutic (polish t); 3) ordinary (polish z).</p>
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	In determining the category of the prisoner, the following is used (for example: P1z – 1 is the prison category)
Human Resources Distribution	<p>Total prisons staff: 28798</p> <p>Security Department (about 50% of total staff);</p> <p>Penitentiary Department (social workers, psychologists, therapists, lecturers in schools) (about 15% of total staff);</p> <p>Administration (about 35% of total staff):</p> <ul style="list-style-type: none"> - Management - Logistic - Finance - Human Resources - Registration - Health Service (depends on possibility doctor, nurse, dentist; in hospitals – hospital stuff) - ICT - Legal - civilian workers
Prison Population rate	77934 (207 per 100000 citizens) [30 June 2023]
Inmate Demographics	
Gender Distribution	<p>Male: 95% (73973)</p> <p>Female: 5% (3961)</p>
Nationality Distribution	<p>TOTAL: 2,779% (2166); Male: 2,661% (2074); Female: 0,118% (92);</p> <p>Percentage breakdown of inmates by nationality (to total population of inmates):</p> <p>Ukraine:1,211% (944); Georgia:0,445% (347); Belarus:0,162% (126); Russia:0,114% (89); Moldova:0,094% (73); Romania:0,081% (63); Bulgaria:0,064% (50); Undetermined nationality: 0,055% (43); Germany:0,040% (31); Vietnam: 0,037% (29); Armenia:0,037% (29); Uzbekistan:0,032% (25); Lithuania:0,031% (24); Czech Republic:0,031% (24); Slovakia:0,024% (19); Latvia:0,023% (18); Nigeria:0,022% (17); India:0,021% (16); Azerbaijan:0,019% (15); Turkiye:0,013% (10); Stateless person: 0,012% (9); United States:0,010% (8); Kazakhstan:0,009% (7); Netherlands: 0,009% (7); Pakistan: 0,009% (7); Estonia: 0,008% (6); Italy: 0,008% (6); United Kingdom: 0,008% (6); Turkmenistan: 0,006% (5); Egypt: 0,006% (5); Bangladesh: 0,006% (5); China:0,005% (4); France: 0,005% (4); Iran: 0,005% (4); Cameroon: 0,005% (4); Norway: 0,005% (4); Syria: 0,005% (4); Sweden: 0,005% (4); Zimbabwe:0,004% (3); Serbia: 0,004% (3); Mongolia: 0,004% (3); Marocco: 0,004% (3); Kyrgyzstan: 0,004% (3); Israel: 0,004% (3); Iraq: 0,004% (3); Belgium: 0,004% (3); Albania:0,003% (2); Denmark: 0,003% (2); Greece: 0,003% (2); Spain: 0,003% (2); Canada: 0,003% (2); Palestine: 0,003% (2); Portugal: 0,003% (2); Tajikistan: 0,003% (2); Hungary: 0,003% (2); Algeria:0,001% (1); Saudi Arabia: 0,001% (1); Croatia: 0,001% (1); Ethiopia: 0,001% (1); Finland: 0,001% (1); Ireland: 0,001% (1); Jordan: 0,001% (1); Yugoslavia: 0,001% (1); South Korea: 0,001% (1); Lebanon: 0,001% (1); Libya: 0,001% (1); Malta: 0,001% (1); Republic of Bosnia and Herzegovina: 0,001% (1); Rwanda: 0,001% (1);</p>

	Senegal: 0,001% (1); Slovenia: 0,001% (1); Switzerland: 0,001% (1); Tanzania: 0,001% (1);
Offense Types Distribution	<p>Crime against: life and health 6%; homicide 8%; communication safety 9%; rape 3%; sexual freedom and morality 2%; bullying 6%; child support payments 9%; activities of state and local government institutions 2%; freedom 3%; justice 3%; organized crime group 2%; theft 7%; burglary theft 14%; robbery 12%; others against property 12%; business, money and securities 1%</p> <p>life sentence: 485 (0,622%) penalty of 25 years imprisonment: 1699 (2,180%)</p>
Compulsory Prison Treatment	<p>Yes, there is mandatory treatment for inmates. Executive Penal Code: Art. 117. § 1. A convict who has been found to be addicted to a substance psychoactive substance, as well as convicted of an offense specified in Art. 197– 203 of the Penal Code committed in connection with sexual preference disorders is covered, with his consent, by appropriate treatment or rehabilitation.</p> <p>§ 2. In the absence of the consent referred to in § 1, on the obligation the convict's submission to treatment or rehabilitation is decided by the penitentiary court meeting to be held in a prison. In the meeting, he has the right attended by the prosecutor, the convicted person and his defense counsel. Application for a declaration of obligation the convict's submission to treatment or rehabilitation may also be submitted by the director prison.</p> <p>§ 3. The obligation to undergo treatment or rehabilitation by the convicted person for a definite period, each time not longer than 2 years.</p> <p>Art. 118. § 1. In the event that the execution of the penalty of deprivation of liberty may endanger the life of the convict or cause serious damage to his health danger, the prison director, at the request of a doctor, immediately notifies the penitentiary judge thereof.</p> <p>§ 2. In the event that the convict's life is in serious danger, confirmed by at least two doctors, the necessary surgery can be performed medical, including surgical, even despite the convict's objection.</p> <p>§ 3. In the event of an objection by the convicted person, the court decides on the procedure penitentiary. The decision of the court may be appealed against.</p> <p>§ 4. In an emergency, if there is an imminent danger death of the convict, the doctor decides about the need for surgery.</p>
Average Length of Imprisonment	<p>legally imposed penalty imprisonment (without life imprisonment) 47,24 months</p> <p>legally imposed penalty imprisonment (without life imprisonment and penalty of 25 years imprisonment) 39,03 months</p>
Programme/Treatment Initiatives	
Types of Programmes/Treatments for offenders	<p>Polish Prison Service Readaptation Programs Base:</p> <ul style="list-style-type: none"> - with 4158 programs - favorable programs counteracting aggression, drug addiction for example „Let's kick racism out of the stadiums”
Types of Programmes/Treatments	There are no programs for VR use

with Virtual Reality for offenders	
Evaluation of the Initiatives	not applicable
Targeted Offenders	not applicable
Training for Prison Workers	Professional, improvement and specialist training dedicated to the tasks and positions performed. stationary, remote via videoconferences and webinars, e-learning but no VR use
Does access to treatment give any judicial benefits?	Yes. For example alcoholics treatment

5. Ministry of Justice – Ankara Probation Directorate (DSDB) – Turkey,

Category	Information
Jurisdictional Panorama	
Number of Probation Directorates	There are 145 probation directorates all over Türkiye. Ankara Probation Directorate is one of these 145 probation directorates, located in the capital city of Ankara.
Types of Prisons	N/A
Human Resources Distribution	There are 115 directors, 71 deputy directors, 99 chiefs, 258 psychologists, 388 sociologists, 99 social workers, 260 teachers, 3,534 probation officers, 341 officer and 28 drivers are actively working in the system in total. The number of voluntary and paid staff differs from year to year. In 2022, 19 volunteers contributed to the probation system and the number of paid employees reached 85. In Ankara Probation Directorate 1 director, 5 deputy directors, 6 chiefs, 16 psychologists, 24 sociologists, 10 social workers, 8 teachers, 151 probation officers, 16 officer are actively working. There are 238 staff working for Ankara Probation Directorate.
Probation Population rate	There are 367.695 probationers registered to the probation system in Türkiye. Ankara Probation Directorate is responsible for the enforcement of 18570 Probation cases.
Inmate Demographics	
Gender Distribution	There are 344.530 (%93,7) male probationers registered to Turkish Probation System. There are 23.265 (% 6,3) female probationers registered to the Turkish Probation System. In Ankara Probation Directorate there are 17351 (%93,4) male probationers, 1219 (% 6,6) female probationers.

<p>Nationality Distribution</p>	<p>The %2,8 (N= 10.295) of the total probationers are foreigners. There are 165 probationers from Algeria, 182 from Georgia, 138 from Palestine, 245 from Uzbekistan, 267 from Azerbaijan, 493 from Iraq, 617 from Turkmenistan, 698 from Irak, 947 from Afghanistan, 6433 from Syria. There are 110 probationers from other nationalities. In Ankara Probation Directorate. In Ankara Probation Directorate there are 2 probationers from Sudan, 2 Russia, 3 Uzbekistan, 3 Iran, 4 Ukrania, 6 Turkmenistan, 12 Afghanistan, 44 Iraq, 55 Syria. There 6 probationers from other nationalities.</p>
<p>Offense Types Distribution</p>	<p>N/A</p>
<p>Compulsory Prison Treatment</p>	<p>When convicts first arrive at the branch, an evaluation questionnaire called ARDEF is administered to them. In line with the needs determined as a result of this evaluation questionnaire, they are obliged to receive treatment on the basis of some individual and group work. In addition, those who come for substance use offenses are compulsorily directed to the hospital. These hospitals, which focus on substance abuse treatment for 1 year, are obligated to receive outpatient treatment.</p>
<p>Average Length of Probation Duration</p>	<p>Average duration of probation period is 1 year in Türkiye. The duration of treatment and probation are determined by the court. Likewise, the duration of the obligation to be deprived of certain rights, the duration of the supervised release measure given to persons benefiting from active remorse, and the duration of the residence period of the prison sentence are determined by the court. The duration of home arrest varies for women, children, and persons over the age of 65. The obligation to be under supervision and surveillance in a region after release is completed with the expiration of the period of conditional release. Community sanction is performed in a public institution or a private organization serving the public interest. When determining work, rehabilitation, and compensation for the damage done to the public, the court considers the skills of the person under probation, the safety of the victim and the community, and the work to be undertaken. The days and hours to be worked are determined by considering the individual's job, family life, or education. The person on probation completes one-third of the total time they will spend under probation serving their community sanction.</p>
<p style="text-align: center;">Programme/Treatment Initiatives</p>	
<p>Types of Programmes/Treatments for offenders</p>	<p>The rehabilitation studies in the audit/supervision/probation plan, are planned taking the result of the Research and Evaluation form ARDEF into account. This form is conducted right after the probationer arrives the directorate. This semi-structured interview focuses on the needs and risks of the probationer. It results in a plan that the probationer has to follow during his probation period. Individual interview is the first step the probationer has to attend. In the Turkish Probation System, individual interviews are conducted by probation experts who are psychologists, sociologists, social workers, and teachers). Individual interviews are held between 30-45 minutes. The aims of the interview can be summarized as follows: First individual interview: Informing and getting to know with the probationer. Crime prevention could only be possible by understanding the underlying causes of the probationer's criminal behaviour. In the first individual interview, the age, occupation, place of residence, crime story and educational and employment status of the probationers are discussed.</p>

Second individual interview: Learning the causes and effects of crime on the probationers' lives. In the second individual interview, information about the crime for which the person took the probation measure, the status of the individual, crime history in the family, the economic situation, social environment information, habits, leisure time activities, and the presence of substance use is learned from the probationer.

Third individual interview: Guidance on the further steps to be followed under probation plan and termination. The probationers are tried to be supported by motivational interviews. In the third individual interview, in the light of the information obtained in the previous two interviews, the number of individual interviews is increased by taking into account the psychiatric situation, the needs and wishes of the probationer. The probationer who will be unable to fit the group dynamics leaves the group work and continues the process with individual interviews.

In the third individual interview, in the light of the information obtained in the previous two interviews, the number of individual interviews is increased by taking into account the needs and wishes of the person, or the person who is thought to be unable to adapt to the group dynamics leaves the group work and continues the process with individual interviews. In these three interviews, the education, improvement, and execution processes of the person included in the probation system are carried out together. Guidance activities are carried out about the victimization and psychological effects of the person's criminal behaviour. The probationers are tried to be supported by motivational interviews. It is aimed to raise awareness by explaining the psycho-social effects of feelings and thoughts on behaviour, thus preventing criminal behaviour.

As the individual interview steps are completed by the probationer, group work and seminar studies start. These studies are also planned during the first stage- ARDEF. The topic of the group work and seminars were defined taking the needs of the probationer. Any probationer who is not capable of attending these group works (because of the psychiatric state or the type of crime like sexual crimes or drug dealing) should attend 10 more individual sessions rather than the group works.

The main purpose of rehabilitation studies is to strengthen the ability to resist risky behaviors and increase motivation for acquiring new skills. Implemented intervention programs have the purpose of supporting the individuals in becoming individuals who are responsible for their behavior, compatible with their environment, and useful to themselves and society. In the group works carried out within the scope of rehabilitation activities in our Directorate; attention is paid to the fact that the probationers belong to the same age group (adult vs. juvenile) and have a similar problem area and risk level. The studies are carried out by probation experts (psychologists, social workers, sociologists, teachers) who are experts in their field.

Group works progress in line with the obligatory needs and risk assessment analysis made with ARDEF. Intervention programs applied in group work can be structured by the central administration or by the probation specialist, depending on the needs. At every stage of the rehabilitation work, risks and needs are determined, and intervention programs are selected in line with this evaluation. While this increases the efficiency of the studies, it prevents the probationers from being exposed to inappropriate interventions. In addition, probationers can be directed to seminars conducted by other institutions and organizations, if necessary. This allows for a wide range of work to be done.

With these programs, probationers are empowered to cope with social pressures and make their own decisions. Substance use, anger control, conflict resolution, communication skills, saying no to others, coping with stress, and family life skills are among the topics covered in the group works. The following group rehabilitation programs are offered countrywide are :

- Alcohol and Drug Addiction—adult intervention program (SAMBA)
- Change for Life—adult intervention program (HAYDE)
- Anger Management—adult intervention program (ÖFKE),
- Family Training Program for Substance Users—adult Intervention Program
- Time for Change—Değişim Saati (TR)—adult Intervention Program
- Values—Değerler (TR)—adult Intervention Program
- Religious/Spiritual Guidance—adult Intervention Program
- Anger Management—ÖFKESİZ (TR) —juvenile intervention Program
- Alcohol and Drug Addiction—juvenile intervention program (SAMBA Junior)
- Basic Approach—juvenile intervention program
- General Criminal Behaviors—juvenile intervention program
- Avoiding Aggression—juvenile intervention program

In the one-to-one evaluation interviews before the group work, the adaptation and readiness levels of the probationers are evaluated. Thus, the effectiveness of group work is also increased. During the group work process, the status of probationers is evaluated regularly. While the sessions are going on, if there is a compliance problem and the needs differ, the situation of the probationer is reviewed and the rehabilitation works can be continued with individual meetings. In such a case, the expert who performs the group work reports the situation of the probationer. The studies to be applied are continuously developed and maintained if new needs are identified. In order to increase participation in group activities, these activities can be arranged according to the time intervals that are more suitable for the obliged parties. While this increases the motivation to participate in the studies, it provides an advantage in terms of the positive outcome of the process. The fact that the programs focus on different problem areas and more than one program focus on the same problem area makes it possible to use them in accordance with the individual differences.

Film screening, which is used to increase the effectiveness of the programs, is supportive of case example discussions and provides a good evaluation opportunity to measure the development level and motivation of the probationers. In the written evaluation made after each group work session, the compliance and motivation level of the probationers are evaluated. Thus, the effectiveness of group work/intervention programs is constantly measured. It also creates data for the programs to be developed.

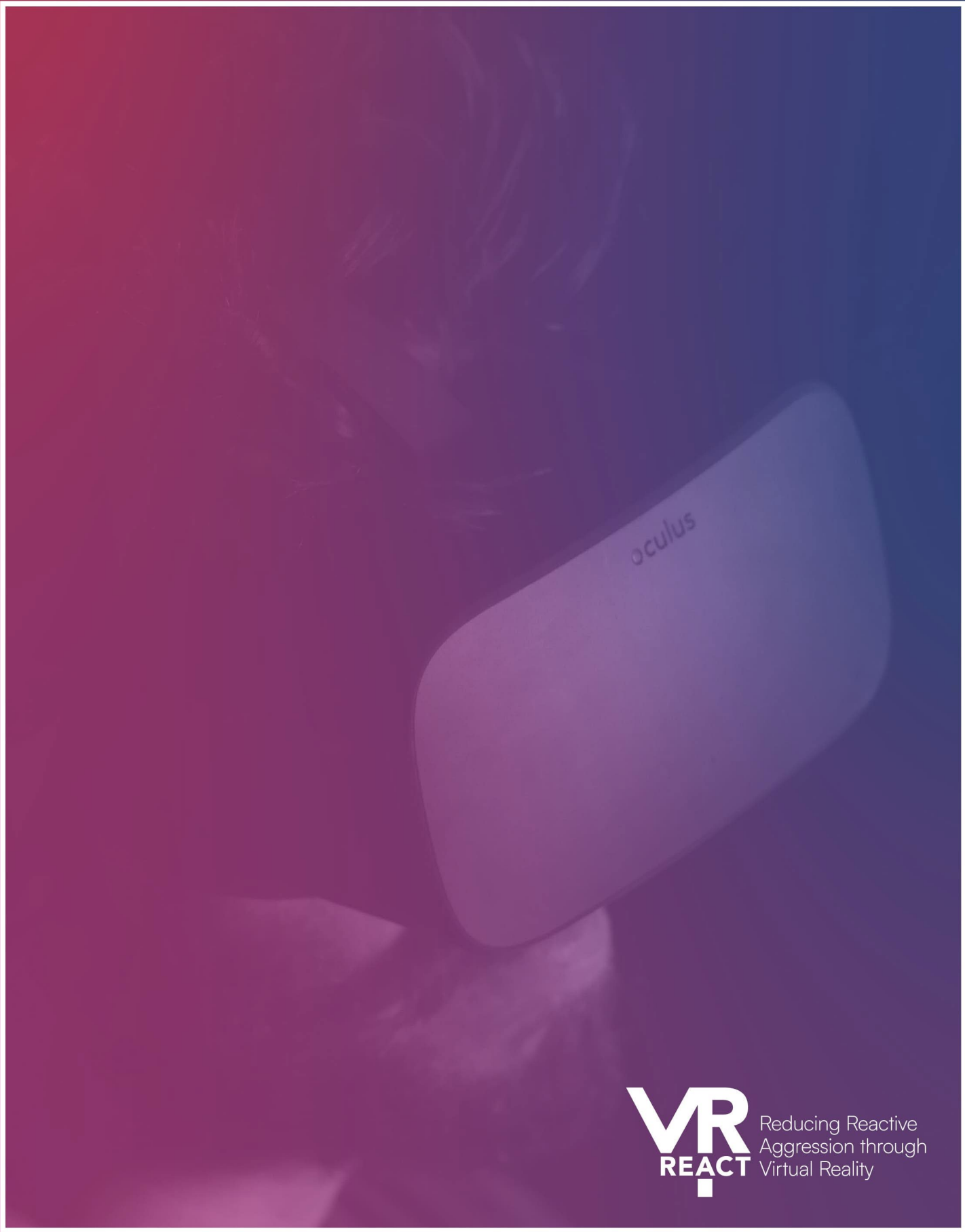
Probation specialists are supported by in-service training after they are selected through the central examination system. In addition, they can receive different trainings according to the units they work in. In-service training given both in the ministry and in our directorate are continuous. Training periods may vary according to the program content. In order to increase efficiency in studies, each expert attends more than one training with different content. System; works on the basis of development and continuous improvement, and

	<p>the in-service training also contribute to the effectiveness of group work. If necessary, meetings can be held where the experiences of experienced experts are shared and case examples are discussed and evaluated. This increases the quality of the studies and sets an example for correct intervention examples.</p>
<p>Types of Programmes/Treatments with Virtual Reality for offenders</p>	<p>There is no treatment program applied with virtual reality in Turkish Probation System yet. Ankara Probation Directorate is conducting an Erasmus+ KA204 Project- Training Offenders by Virtual Reality (TRAIVR). The project is planned to be completed on December 2023. The product will be piloted between September and October 2023. İzmir Probation Directorate had completed another Erasmus+ Project “VR for Drug Rehabilitation: Developing and Using Virtual Reality Technology for Rehabilitation of Drug Users in Probation Service” but it is used locally, not disseminated all over the country yet.</p>
<p>Evaluation of the Initiatives</p>	<p>N/A</p>
<p>Targeted Offenders</p>	<p>Ankara Probation Directorate’s Erasmus+ KA204 project namely “Training Offenders by Virtual Reality (TRAIVR)” targeted the refugee probationers who are coming for substance use crime. Since the studies show that substance use is sign of deficient coping skills; this group will be trained on problem solving and emotion regulation skills to decrease their re-offending possibility bu using VR. İzmir Probation Directorate’s project project aimed to develop a rehabilitation model for drug using probationers (between the ages of 18 and 30) by using VR technology.</p>
<p>Training for Prison Workers</p>	<p>There are administrative staff, probation experts and probation officers in the Probation Directorates. Psychologists, teachers, social workers and sociologists work under the title of probation expert. These personnel is given the training to improve their vocational training behaviors. These pieces of training are determined by the training center by conducting a training needs analysis. In addition, pieces of training to improve vocational training skills is planned within the framework of the suggestions given by the personnel during the training given to the personnel working in the field, by examining the projects developed in Turkey and abroad by the General Directorate of Prisons and Detention Houses (the controlling unit of probation centers), by conducting scientific researches.</p> <p>There are five staff training centers within the General Directorate of Prisons and Detention Houses in Turkey that provide training for personnel. These are located in the provinces of Ankara, Istanbul, Denizli, Kahramanmaraş and Erzurum. Trainings for the personnel mentioned above are given at the training centers specified. Experts are given training under the title of 'candidate civil servant training' when they first start to work, and various programs that they should apply to probationers in the probation directorate are taught. In addition, it is aimed to make the staff more competent by providing in-service training to all personnel during their working life, as needed. Experts are given training on group programs such as Samba (Treatment Programme for Substance Users), Anger Management, Hayde, and the probation officers receive in-service training on document management execution, UYAP e-justice (the centralized documentation platform used within Turkish Ministry of Justice)</p>

	<p>screen usage training, first aid, communication skills, and reporting to improve their vocational skills.</p> <p>In addition to centralized trainings, local trainings are planned and delivered to staff. Information and training seminars are given by the Ankara Probation Directorate by institutions such as the Green Crescent counseling centers, the narcotics branch, and Amatem- treatment procedures for substance users, communication and interview skills.</p>
<p>Does access to treatment give any judicial benefits?</p>	<p>Probation decisions made by judicial authorities are sent to probation directorates to be executed. Probation directorates carry out their work related to the execution of probation decisions through bureaus. At the initial stage, a written or electronic notification is issued within three working days, and the obliged parties are invited to the directorate using the proper techniques. In this notification, it is stated that the obliged party (the person on probation) must apply to the directorate within ten days of the notification. If they don't, file closure processes are forwarded to the Enforcement and Evaluation Commission for a decision. Individuals commencing probation are made aware of the procedures for probation, their responsibilities and rights, as well as the penalties for breaking them. The core of the probation service is the identification of risks and needs using an objective evaluation system with the aim of reintegrating those whose monitoring, follow-up, and progress are situated within the community. A probation plan is created for each person under supervision in accordance with both the type of decision or probationary term that the court or other judicial body has issued and the results of ARDEF. The probation plan is a document that records decisions regarding probation, the inspection process, and the work done to improve the person and to reintegrate them into society. It also determines the working method of probation personnel. A probation officer is designated as the case officer for each person for whom a probation plan is made. The probation officer oversees the probationer's supervision and follow-up, as well as any decisions made regarding their probation, drafts correspondence regarding the execution of the probation decision, warns probationers who break the rules, and completes the necessary notification procedures. On completion of the file registration, the relevant court authority is informed of the situation. If probation is not initiated despite sufficient notification, is broken despite warnings, is abolished, or is carried out by the legal authority, the file is closed. The commission evaluates warnings and violations, examines supervision/probation plans for compliance with laws and regulations, assesses the risks and needs of the person on probation and decides whether to approve or reject the prepared plan, and issues a warning to the individual who fails, twice within a year and without a valid and documentable excuse, to meet any of the obligations set by their plan. If a third violation is detected, the commission closes the file and sends it to the relevant judicial authority. Programs carried out within the scope of rehabilitation studies are given to the probationers as an obligation in the probation plan. Therefore any violation in the participation of these programmes will be treated as a breach. So the participation in the treatment programmes is obligatory if it is stated in the</p>

<p>probation plan and no judicial benefit aforementioned in the laws and regulations.</p>

6. **Innovative Prison Systems (IPS) – Portugal (Word version needed to be added)**
7. **Baia Mare Penitentiary (ANP) – Romania (we have not received the table)**
8. **Universidad Rey Juan Carlos (España)**



VR
REACT Reducing Reactive Aggression through Virtual Reality

This document reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.