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**OFFENDER'S PERSONALITY  
AND RISK OF VIOLENCE:**  
Issues of Psychological  
Assessment



Vilniaus  
universiteto  
leidykla



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Monograph

VILNIUS UNIVERSITY PUBLISHING HOUSE  
Vilnius, 2017

Approved and recommended for publication  
by Protocol No 16 of the Council of the Faculty of Philosophy  
of Vilnius University of November 24, 2017

Peer-reviewed by:

Prof. Dr. Laima Bulotaitė (Vilnius University)

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Assoc. Prof. Rokas Uscila (Lithuanian Law Institute)

Leidinio bibliografinė informacija pateikiama  
Lietuvos nacionalinės Martyno Mažvydo bibliotekos  
Nacionalinės bibliografijos duomenų banke (NBDB)

ISBN 978-609-459-907-1

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## FOREWORD

The history of violence is probably as old as the history of mankind. These days various media including TV, radio and internet portals provide information about acts of violence, which are becoming a part of our everyday life whether we like it or not. Understandably, the context of violence may differ. For example, in some cases it represents a conflict between two drunkards resulting in deadly knifing, while in other ones a bloody terrorist attacks or atrocities of war when tens, hundreds or even thousands of people perish. Evidently, the problem of violence has always been and still is urgent.

The World Health Organization (WHO; 2002, 2013, 2016) states that violence is a serious infringement upon human rights, representing one of the vital problems connected with the well-being of society, physical and mental health, and social functioning of people. Each year many people lose their lives or are maimed due to interpersonal or collective violence of different character. Statistics are plain: all over the world violence is one of the most common causes of death in the group of people aged 15-44 (WHO, 2002). Besides, violence is thought to be one of the twenty principle causes affecting the quality of life, and it is likely to become even more prominent by 2030 (Mathers, Fat, & Boerma, 2008). Therefore, it is not surprising that countries all over the world give special attention to this phenomenon, seeking to understand its original causes and to create more adequate prevention measures. For example, in 2011, the Council of Europe Convention on preventing and combating violence against women and domestic violence (Convention No 210) was adopted in Istanbul. By ratifying it, countries have committed to fight all forms of violence against women. Simultaneously, corresponding courses of action were envisaged, which were meant to cover prevention, protection and support, and also prosecution and active supervision of work carried out by institutions. In Lithuania, too, the Law on Protection against Domestic Violence (No XI-1425) was adopted in 2011. This legislation included a provision stating definitively that domestic violence is an offence and infringement on human rights and is greatly harmful to the whole of society. It should be noted that in 2017, the

Lithuanian Parliament (Seimas) adopted amendments and supplements to the Law on Fundamentals of Protection of the Rights of the Child (No XIII-204) by which all forms of violence against children were defined and forbidden.

In spite of unanimous agreement concerning the dangerous character of violence, countries have failed to work out a uniform definition of violence. Nevertheless, a number of variants can be found in various national and international (e.g. United Nations or European Council) documents. It is little wonder there is no solid definition of violence because it is a complex multi-faceted phenomenon. Since a uniform understanding of violence is absent, making a comparison among research findings obtained in different countries or preventive measures applied by them becomes complicated. In addition, not all acts are criminalized and presented in the context of criminal law. Consequently, not all violent persons are identified, nor can the offensive nature of their actions be proved in court. Equally important is the following: although the number of offenders who have committed violent crimes is relatively small compared to those who have committed other acts, crimes of violence produce the most painful negative and often long-term economic, social and emotional consequences both to separate individuals and society as a whole. In this regard, prominent psychiatrist James Gilligan (2002) states that one cannot understand either the causes of violence or the means of its prevention unless one abandons traditional categories of ethics and law.

*It is only by approaching violence from the point of view of empirical disciplines, as a problem in public health and preventive medicine, including social and preventive psychiatry and psychology, that we can acquire knowledge as to the causes and prevention of violence – by engaging in clinical, experimental, and epidemiological research on violent and non-violent behavior, the people who behave in those ways, and the circumstances under which they do so (p. 12).*

For this reason scientifically-grounded and exhaustive evaluation of violent behavior risks and subsequent implementation of violent behavior control and correction measures are important efforts taken for the purpose of securing protection for separate individuals and society against repeated crimes of violence. In Lithuania, criminal risk assessment is recognized as an obligatory procedure in the examination of the probability of a convicted persons' reoffending and the chances of reducing this probability (Lithuanian Law on Probation, 22-12-2011 No XI-1860). However, in contrast to Western practice, an exhaustive examination of a convict's personality in order to assess the risk of repeated offenses is not performed on a regular basis. What is more, in Lithuania not all opportunities for criminal risk

assessment are fully exhausted. For example, creation of social rehabilitation plans intended for convicts' lacks an integrated view on the interaction of various risk and protective factors. Therefore, correction of a convict's offensive behavior is not always successful because measures chosen for this purpose are insufficient and ineffective. Consequently, these attempts at rehabilitation often fail to answer the needs of individual convicts.

The Research Council of Lithuania, taking into consideration the importance of the problems discussed above, awarded financing for the following project being carried out on the researchers' initiative: "The Relationship between Personality Traits and Criminal Risk Factors in a Sample of Incarcerated Violent Offenders" (MIP-004/2015). The general purpose of the project is to determine interrelations between the character traits of people convicted of various violent crimes and predisposing factors. Exhaustive knowledge of a violent person's personality traits not only enriches the criminal risk assessment with valuable information about the incarcerated person but also helps specialists to apply the offensive behavior correction programs more effectively. In order to achieve the prime target of the project, a number of objectives were set: to appraise and compare personality traits of persons convicted for different offences (violent and non-violent) and assess the general criminal risk posed by them; to assess the risk of violent behavior using specialized violence risk assessment techniques and, additionally, results produced by a personality questionnaire; to provide an analysis of an incarcerated persons' offences one year after the primary assessment; and to describe the prognostic capabilities of these personality traits appraisal and criminal risk assessment methodologies. The present monograph is a constituent part of the project. Drawing upon analysis of the literature and review of research results, it also details the findings of this research project, offering practical insights for professionals working with convicts.

The monograph consists of eight basic parts. The first one analyzes the concept of violence and aggression, as well as aggression theories currently enjoying the most heated discussions in literature. Integrated models of aggression, which at the present moment are the focus of attention, conclude the presentation of theories. The second part provides a description of the concept of criminal behavior risk, focusing on risk factors which predict violent behavior and are mentioned in the literature most often. This part also introduces to the reader the most widely known and most frequently applied instruments for criminal risk assessment, giving special attention to the prognostic capacities of these violence risk assessment tools. Taking into account the emerging tradition of using these instruments for practical purposes in Lithuania and opening chances to carry out corresponding research, more attention is given to the overview of instruments used in this country.

The remaining parts of the monograph acquaint the reader with the methodology (Chapter 3) and results of research performed in 2015-2017 at corrective institutions in Lithuania, also introducing an exhaustive analysis of the literature regarding the issues under investigation. The first stage of research offers a comparison of personal characteristics demonstrated by persons convicted for various offences and by representatives of the general population on the Minnesota Multiphasic Personality Inventory – 2 (MMPI-2). Separately, a description of personality traits featured most commonly among violent offenders is given (Chapter 4). In addition, interrelations between these characteristics and criminal risk factors are traced. The second stage of research involved only former convicts whose terms of incarceration for violent crimes had already ended. The research was carried out using specialized instruments for violence risk assessment. These risk factors and their relations with various personality characteristics are presented (Chapter 5). Finally, an analysis of misbehavior demonstrated by convicts at corrective institutions over the period of one year is provided. The analysis focuses on the importance of correlates of personality and criminal risk (Chapter 6). Following the generalization of research findings (Chapter 7), insights important to the assessment of convicts' personality and criminal risk posed by them are offered. Finally, the monograph concludes with practical recommendations (Chapter 8). The authors hope that they will enable professionals to act more actively and more purposefully in the area of application of offensive behavior correction programs at corrective institutions, supplying researchers with new ideas for corresponding research.

Ideas and research findings described in this monograph were actively promoted at various national and international conferences. The authors enjoyed attention given by numerous colleagues and media representatives, and several scientific publications were prepared. The authors are grateful to foreign experts Dustin B. Wygant (USA) and Martin Sellbom (New Zealand) for valuable remarks and friendly co-operation in the realization of project ideas. Also, the authors want to express sincere gratitude to the management and officers of the Prison Department under the Ministry of Justice of the Republic of Lithuania for their trust and every kind of assistance at all stages of the research. Special thanks go to the project employees who contributed in numerous ways to the implementation of this project – Audrė Mišeikienė, Rūtenė Vilkaitė and Vilma Kuodytė. Lastly, the authors are immensely indebted to all the participants of this research. They greatly appreciate contributions made by psychologists and social rehabilitation unit workers at correctional institutions in Vilnius, Kaunas, Alytus, Panevėžys, Šiauliai, Marijampolė, Kybartai, and Pravieniškės. Without their assistance, many tasks associated with this project would have been hardly possible.

# 1

## THE CONCEPT AND THEORIES OF VIOLENT BEHAVIOR

### 1.1. The concept of violent and aggressive behavior

Although the phenomenon of violence is discussed quite often, a certain problem in defining the notion of violence exists in the scientific literature. This points out that a substantial number of authors inquiring into violence clearly do not distinguish it from aggression (Yakeley & Meloy, 2012). Not only that, it is possible to find instances where such concepts as anger, destruction, coercion, sadism, cruelty or brutality are also used as synonyms quite regularly.

The Lithuanian Language Dictionary (2017) defines violence as follows: violence is rude coercion, i.e. application of force for making somebody do something. The Law on Protection against Domestic Violence adopted in Lithuania in 2011 (No XI-1425 dated 26 May 2011) defines violence as purposeful physical, mental, sexual, economic or other effects made upon a person by action or inaction as a result of which the affected person suffers damage. The aspect of damage is also mentioned when aggression is defined. For example, The Dictionary of Psychology defines aggression as behavior whose primary or sole purpose or function is to injure another person or organism, whether physically or psychologically (Colman, 2015). Anderson and Bushman (2002) argue that violence is an extreme form of aggression, which may be caused by a variety of reasons (e.g., frustration, misinterpretation of social cues, violence in media, etc.). A similar idea is promoted by King (2012) who defines the concept of violence as a continuum. At one extreme of the continuum, there is destructiveness on the basis of which aggression forms, transforming later into violence and then evil occupying the other extreme of the continuum. This evil may be described as exceptionally cruel and brutal behavior. Correspondingly, Yakeley and Meloy (2012) state that a distinctive quality of violence is this: violence is a means of inflicting bodily damage, i.e., violence occurs when the body's limits are or may be infringed upon. Thus, all violent acts (e.g., murder, bodily injury, rape, etc.) are thought to be aggressive acts; however, such acts not always violent. Importantly, an aggressor (or a violent person) must be aware that the particular type of behavior is harmful and that the object of the aggression will try to avoid it (Bushman & Anderson, 2001; Baron & Richardson, 2004). So, accidental harm is not considered to be violence, nor is a certain type of

intentional injury which is inflicted in order to help (e.g., during the performance of a medical procedure). Evidently, some researchers and health professionals use rather differing definitions of violence, often taking no interest in aggression or the aggression-violence continuum. Accordingly, an act, for example, cannot be regarded as an act of violence unless legislation defines it as an act by which a human has sustained a serious bodily injury. Such a description, according to Anderson and Huesmann (2003), may be useful for epidemiological purposes; however, it is clearly insufficient for the explanation of the psychological mechanisms of violent behavior. Keeping in mind this polemic, seeking to avoid misunderstanding, and intending to introduce the phenomenon in greater detail, the authors shall use the concepts of violence and aggression as synonyms.

Most authors agree that, depending on the target of aggression, it is possible to distinguish two basic types of aggression, namely hostile and instrumental (Anderson & Bushman, 2002; Anderson & Huesmann, 2003; Baron & Richardson, 2004; Cornell et al., 1996). *Hostile* aggression (also called reactive, affective or impulsive aggression) arises without premeditation or intention, and it is essentially determined by impulsivity and negative emotions. Two basic characteristics of this type of aggression can be singled out: response to provocation and stimulation of hostility. Insults, menace of various types or frustrating situations, etc. may provoke it. The purpose of such an aggressive act is to injure or harm the victim in response to an upsurge of hostility, indignation, irritation, fear, etc. It usually happens against the background of an interpersonal conflict between the aggressor and the victim who often know each other or live as partners; however, there are exceptions to this rule. *Instrumental* aggression (also called proactive or premeditated aggression) is pre-planned, and it demands involvement of a greater number of cognitive functions. Two basic characteristics describe instrumental aggression, namely, orientation towards the goal and planning (Cornell et al., 1996). By this type of aggression, the perpetrator seeks to cause the victim to suffer harm in order to get something (money, attention, power, sexual pleasure). Instrumental aggression is a means to achieve a final goal, and it is not an instance of revenge or self-protection. Sometimes it is difficult to distinguish between these two types. However, a judgement becomes very important in the legal system because instrumental aggression brings on the perpetrator more serious consequences compared to the hostile aggression. Alternatively, some authors think that these two types of aggression (instrumental and hostile) do not represent two different categories but reflect two extreme points on the same continuum (Bushman & Anderson, 2001).

Since the variety of aggressive acts is endless, Buss (1961) suggests a system by which all aggressive acts can be defined basing on three dimensions: physical-

verbal aggression, active-passive aggression, and direct-indirect aggression. Thus, we have six categories by means of which we can describe any aggressive behavior. For example, a beating given to another person falls in the category of physical-active-direct aggression while slandering in the category of verbal-active-indirect aggression.

Some authors argue that aggression should be analyzed as a form of behavior, inseparable from emotion, motive or attitude (Baron & Richardson, 2004). In this case, notable misunderstanding arises because the term *aggression* is used quite often to describe particular emotional states (e.g., anger), motives (e.g., desire to harm others) or negative attitudes (e.g., racial or ethnic prejudice). Although all of these factors are important to the emergence of aggressive behavior, they do not constitute an obligatory condition for a display of behavior of this type. For example, aggression may break out when a human feels strong emotions, but it may also come out when such an emotional experience is absent. On the other hand, aggression is not necessarily directed towards unpleasant people or groups. This fact is illustrated perfectly by widely distributed instances of domestic abuse.

It is also vitally important to mention trait aggression, which is a specific personality characteristic defined by an individual's hostile beliefs and inclination to express anger and physical or verbal aggression (Buss & Perry, 1992). Research findings indicate that there is a relation between aggressive behavior and aggressiveness (Buss & Perry, 1992; Giancola, 2002). For example, the findings show that more aggressive persons are more inclined to behave aggressively in answer to provocation (Bettencourt, Talley, Benjamin, & Valentine, 2006). Giancola (2002) also found that alcohol affects these individuals more strongly even when the provocation level is low. In general, more aggressive individuals often perceive ambiguous environmental stimuli as a provocation due to their hostile beliefs and attitudes (Dill, Anderson, Anderson, & Deuser, 1997; Tremblay & Belchevski, 2004).

## 1.2. Theoretical models of aggression and violence

Psychology often interprets the causes of violence as individual or family dysfunction or pathology; thus, greater attention is usually paid to perpetrators' internal characteristics, direct circumstances, and the types of committed offence (Fagan & Wexler, 1987; King, 2012). Researchers do not doubt that a good understanding of individual differences is a vital pre-requisite for successful social rehabilitation of the offender (Chambers, Ward, Eccleston, & Brown, 2009). Nevertheless, seeking to understand the causes of violence more profoundly, researchers are seldom

content with such a view. Interpreting the phenomenon of violence, in addition to psychological factors, they also discuss political, economic, social, cultural and historical ones. Maybe for this reason it is sometimes difficult to spot purely psychological theories of violence because they often overlap with the theories of violence produced by other branches of social science.

In general, the psychological literature offers a number of theories analyzing the origins of aggression and violence and looking for ways to reduce both individual and social harm done by them. Practically, aggression and violence have been analyzed by representatives of every branch of psychological. A multitude of research projects have been and still are being carried out, but some authors notice that identical aggression-explaining variables figure in to several theories albeit with different weight (Schettler Heto, 2015). It must be noted that a unifying theory bringing together all important aggression variables is still missing although attempts have been made to produce one (Allen, Anderson, & Bushman, 2018). Further several major theoretical views are discussed, focusing on the most recent empirical research.

**1.2.1. Biological factors of violence.** Most authors inquiring into these factors agree that aggressive qualities are evident already in early childhood; their stability shows that there is definite biologically determined or inborn inclination towards their appearance (Englander, 2003). Accordingly, a group of theories highlighting the biological factors of violence describe the peculiar characteristics of brain dysfunction, autonomous system functioning, hormones, and temperament of violent people.

The literature distinguishes various brain dysfunctions, such as brain traumas, brain tumors, organic changes, birth traumas, etc. (King, 2012). It has been found that brain traumas are connected with the emergence of aggressive behavior later in life (Rao et al., 2009; Saoût et al., 2011; Tateno, Jorge, & Robinson, 2003). Some findings show that even up to 75 percent of violent offenders have suffered serious brain injuries (Mednick, Pollock, Volavka, & Gabrielli, 1982, as cited in King, 2012). According to Scarpa and Raine (2007), externalized behavior problems were expressed more strongly in a group of children who had suffered a brain trauma. The existence of such problems is a vital risk factor for the emergence of delinquent or criminal behavior in the future.

It must be noted that the place of brain injury is also important to the manifestation of violent behavior. In the opinion of Schettler Heto (2015), the frontal lobe is the most investigated area of the brain if research concerns the group of violent people because this particular brain area is important for the understand-



ing of emotions, control of emotions and behavior, decision making, and abstract thinking. Tateno with co-authors (2003) have found that the display of aggressive behavior is connected with the research participants' frontal lobe traumas, as well as with diagnosed depression, poor social functioning before trauma, and usage of psychoactive substances. There are data showing that poorly developed executive functions, which are performed in the prefrontal brain, are connected with aggressive behavior emerging due to impulsivity and reduced inhibition (Gontovsky, 2005). Besides, the volume of amygdala (responsible for emotions and sitting in the temporal lobe) is smaller in asocial and violent individuals, regardless of their age (Ermer, Cope, Nyalakanti, Calhoun, & Kiehl, 2012; Fairchild et al., 2011; Pardini, Raine, Erickson, & Loeber, 2014). Cope with colleagues (2014) compared the brain structure of youths who have and who have not committed murder, and they found that the first group of participants had a reduced volume of grey matter in their temporal lobes.

Inquiry into the functioning of the autonomous nervous system of children and youth demonstrating asocial behavior has clearly shown a lower level of tranquillization of this system—for example, heart rhythm or skin galvanic response—compared to a control group (Lorber, 2004; Ortiz & Raine, 2004). While the findings obtained in the group of adults characterized by aggressiveness are not so uniform, in principle, they corroborate the regularities found in children and adolescents when increased reactivity of the autonomous system to induced stress is concerned (Patrick, 2008).

Investigation into the influence produced by hormones on the development of aggression brought testosterone into the focus of attention. Testosterone is the main hormone among androgens; its increased volume is connected with more frequent violent crimes and domineering behavior (Englander, 2003). Although a number of earlier studies corroborated a positive relation between testosterone and aggression, more and more data today show that this is not a rule because the relation depends heavily on context (McEvoy, While, Jones, & Wapstra, 2015). For example, it was found that relationships between aggression and testosterone are weaker than the ones between testosterone and amygdala-pre-frontal lobe covariations or the latter's relations with aggression, which means that testosterone can account only in part for the emergence of aggressive behavior (Nguyen et al., 2016). Moreover, there are data showing that strong aggression may manifest itself even when the level of testosterone is low; that a negative relation may exist between testosterone and aggression; or that there are other hormones (e.g., progesterone and corticosterone) which affect aggressive behavior (Apfelbeck & Goymann, 2011; Duckworth & Sockman, 2012). There are data indicating, for example, that a low

quantity of cortisol (the so-called stress hormone) or serotonin (the mood-regulating hormone and neurotransmitter) is connected with a more frequent manifestation of aggressive behavior (King, 2012).

It is argued that temperamental qualities such as seeking novelty, avoiding harm, depending on reward, and persisting are inherited and connected with different systems of neurotransmitters (Cloninger & Svrakic, 2009). Inquiry into the relationship between temperament and aggressive behavior is currently developed together with a search for genetic factors of violence. For example, Basoglu and colleagues (2011) investigated young offenders, and they found that definite genotypes (DdeI and MnlI T/T) of membrane protein SNAP25 (synaptosomal-associated protein 25) could represent a higher risk factor for the emergence of asocial behavior and that SNAP25 polymorphism was related to weaker dependence on reward and stronger seeking of novelty in persons with personality disorders. Studies of twins also corroborated the hypothesis that genes affect the expression of aggression in some ways, although the findings also show that environmental factors are decisive for the manifestation of their influence (Rhee & Waldman, 2002). In sum, analysis of biological factors may be generalized as follows: in addition to the above-mentioned factors, research of aggressive persons must include environmental factors, such as ineffective parenting, low socio-economic status, bad interpersonal relations between parents, physical punishment, rejection by peers, etc.

*1.2.2. The concept of aggression in psychoanalytical theories.* According to S. Freud, the founder of this paradigm, an inner conflict between various personality needs and motives seeking to control behavior forms the basis of human motivation and performance. Each particular behavior is usually determined not by one but many motives, so human behavior is not accidental (Andrikiene, Laurinaitis, & Milašiūnas, 2004). In mental life, the leading role is given to subconsciousness containing two competing instinctive drives of life and death; together they determine human behavior. The drive of life is described as a desire to maintain and prolong life, while the death drive as a need to destroy and seek a state without pain or pleasure. It is the destructive instinct of death that invites aggressive impulses; expression of these impulses is controlled by psychological defense mechanisms. If these defense mechanisms are used too often or if they are not mature, this may bring on aggressive or violent behavior (Walker & Bright, 2009). Harding (2006) argues that anything that disturbs mental balance may provoke self-preservative aggression.

As can be seen, psychoanalytical theory describes aggression as a function of repressed anger and subsequent reaction to that anger, called catharsis (Schettler

Heto, 2015). In this case, catharsis releases negative feelings, and this reduces stress. Research findings also indicate that anger is a constituent part of aggressive behavior (Anderson & Bushman, 2002), and a display of aggression may reduce anger and aggression (Konecni, 1975). Nevertheless, it is stated that non-aggressive acts, too, may reduce the expression of anger and aggression in future (Konecni, 1975), so it is little wonder why clients are often encouraged to hash out their subdued anger during therapeutic intervention sessions.

However, opinions of representatives of the psychoanalytical paradigm about the origins of violence are not unanimous. For example, Klein, a representative of the object relation theory group, further develops Freud's death drive concept, analyzing aggression as a phenomenon which is inherently instinctive and unaffected by trauma or objects of the external world (Royston, 2006). This author pays great attention to envy, viewing it as an especially malignant form of early aggression. According to the author, envy, unlike other destructive impulses, is directed towards good objects. This happens at a rather early age when the child is still unable to endure an experience of frustration of his needs; consequently, he projects his aggression onto a good object (Andrikiene et al., 2004). If at that moment the child's mother feels fine and reacts with empathy to his aggression, this reduces the child's anxiety and helps him to identify with the good object, thus encouraging the development of a stronger ego. If the child experiences too much early envy or if his early aggression receives an inadequate reaction, he will be unable to distinguish between love and hate as an adult, and he will find it hard to control his destructive impulses. Winnicott (2009), however, rejects the concept of the death instinct, distinguishing between normal aggression as a vital and obligatory element of normal development necessary to separation and individuation, and pathological aggression as a reaction to an early trauma or loss. He stresses the importance of interaction between the child and his mother, especially the mother's ability to reflect the child, giving him a chance to cope with his aggressive feelings.

It must be noted, that representatives of object relations also attach great importance to the figure of the father on the basis of which the child creates a model of his relations with others. In this case, a fatherless child finds it hard to form more mature defense mechanisms which could help him replace his inborn aggressive reactions with socially acceptable and adaptive ones when establishing his relations with others (Winnicott, 2009). Therefore, attention is given to the defense mechanisms which are proposed to control emotional or behavioral reactions and to secure optimal functioning of personality (Schettler Heto, 2015). More mature defense mechanisms (e.g., humor, altruism, identification, sublimation, etc.) help the individual to cope with stress without losing the boundaries of reality or vio-

lating social norms. More primitive and dysfunctional defense mechanisms (e.g., splitting, projecting, omnipotence, projective identification, passive aggression, acting out, etc.) come out when the ego is weak, so their purpose is to keep an unpleasant emotional experience out of reach of his consciousness. It was found that mature defense mechanisms are related to better general adaptation; in contrast, immature ones are connected to a lower level of functioning (Erickson, Feldman, & Steiner, 1996).

Indeed, a majority of authors today distinguish the following three types of personality organization, resting upon the level of maturity of defense mechanisms used by the individual, the harmony of his personality, and the integrity of his identity feeling: neurotic, borderline, and psychotic (McWilliams, 2014). Confronted with internal conflicts or difficulties proceeding from life, personalities with a neurotic level of organization demonstrate mature defense mechanisms; their sense of identity is integrated well; and they are characterized by sane perception of reality. In contrast, personalities with a psychotic level of organisation use very primitive defense mechanisms; their behavior is disorganized and their relation with reality, etc. is impaired. Personalities with a borderline level of organisation are also characterized by rather primitive defense mechanisms; however their relation with reality is not impaired, and their identity condition is intermediate (between neurotic and psychotic); for this reason such personalities are often described as having conflicting traits of character and lacking authenticity and empathy; they are characterized by oppositions in their system of values, inadequately integrated conscience, original interpretation of ethical and moral norms, and poor regulation of affect, etc. This may be illustrated by research findings. For example, Hyatt-Williams (1998) who inquired into murderers in the United Kingdom thinks that these persons are characterized by perpetual anxiety which they cannot tolerate; consequently, they frequently use projective identification. Also J. R. Meloy (1997), who has studied sexual predators for a very long time, argues that they are mostly characterized by a borderline level of personality organisation and such defense mechanisms as splitting, projective identification, primitive idealization, and devaluation. Generalizing abundant psychoanalytical literature, Yakeley ir Meloy (2012) made the following conclusion: individuals who are violent on a stable basis are most often organized at a borderline or psychotic level of personality.

Currently, the role of attachment is especially noted in the etiology of violence (Gilligan, 2002; Fonagy, 2004). Bowlby, the creator of attachment theory, was aware of the limitations of traditional psychoanalysis and used an ethological perspective. He asserted that the child-mother relationship represents a form of behavior developed throughout evolution, arguing that it secures adaptation (Navickas and

Vaičiulienė, 2010). The mind of each child contains an inborn system of attachment, keeping the child not too far from his mother. Based on attachment, mother-child relations become closely related emotionally. If the mother is inaccessible to the child emotionally or physically, and if a chance to experience a close relation is missing, this may bring on serious psychological impairment, including the development of a delinquent character. As a result of interactions with the mother and corresponding emotions, representative models develop in the child's mind; they are called internal working models. These models greatly affect the entire functioning of the individual's mind: coping with stress, adaptation processes, etc. According to Fonagy and colleagues (2002), internal working models form owing to mentalization, i.e. the ability to understand one's own and other people's internal world. If the child's mental states have been adequately understood and reflected by his parents or guardians and if relations of secure attachment have prevailed, this means that favorable conditions for the development of mentalization have been created. Such a person as an adult will have a developed feeling of empathy and positive expectations; he will be able to control his emotions, reflect mental states of other people, and react appropriately to them. In contrast, if adequate reflection is missing and unsafe attachment prevails, a medium favorable to the development of distrust and hostility is created which often gives rise to aggression in relation to others (Fonagy et al., 2002; Gilligan, 2002). For example, research findings show that a more poorly developed reflective function is observed in persons who have committed violent crimes compared to those who have committed non-violent ones (Fonagy, 1999) It is also connected with pro-active (instrumental) aggression in young people who have committed violent crimes (Taubner, Wiswede, Nolte, & Roth, 2010) or with strongly expressed psychopathic traits in youths (Taubner et al., 2010; Taubner, White, Zimmermann, Fonagy, & Nolte, 2013). Moreover, it was found that insecure attachment is related to many forms of criminal behavior, such as violent criminality, sexual violence, non-violent criminality, etc. (Ogilvie, Newman, Todd, & Peck, 2014).

Bateman and Fonagy (2006) advance a hypothesis that some violent persons with complicated personality pathology (usually asocial personality disorder) have experienced in their childhood a serious trauma, and their attachment system has been disturbed, which, coupled with the development of neurobiological factors and psychological defense mechanisms, interfered greatly with the formation of mentalization. Underdeveloped ability to understand feelings, especially shame, guilt, and pangs of conscience, is, according to Gilligan (2002), the first supposition that comes to mind when explaining why certain people commit violent crimes. Another important supposition which greatly increases the probability that the

person will react violently (e.g., to the feeling of guilt) is his inability to understand that he has other socially-acceptable means for the maintenance and recreation of his self-esteem. By means of violence such a person will try to elicit respect from other people by means of violence because he feels unable to earn other people's respect by his achievements or personal qualities; so it may seem to him that the only way out is to elicit respect in the form of fear.

In conclusion, it is possible to state that the group of psychoanalytical theories is very wide; however, it fails to produce a uniform explanation of the origins of violence. It is obvious that much attention is given to various factors, such as maternal / paternal objects, psychological defense mechanisms, reality testing, self-attachment qualities, mental representations, suffered traumas, etc. Many of them have been studied empirically, especially in the search for successful ways of working with violent persons.

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**1.2.3. *The frustration – aggression theory.*** Dollard and colleagues (1939) put forward the first systematized theory of aggression (as cited in Warburton & Anderson, 2015). Drawing on certain premises of psychoanalytical theory, these authors stated that aggression was a consequence of frustration, i.e. a condition appearing due to obstacles on the way leading to one's goal. In short, if there is frustration, it will always bring on aggression. Although this theory managed to obtain some empirical data to corroborate its ideas, very soon it became clear that frustration does not always give birth to aggression and that a trace to frustration cannot be found in each aggressive act. Therefore, this theory was later supplemented by the idea that frustration can also stir other reactions (e.g., retreat from the situation, finding a new way to achieve one's goal, etc.) and not only aggression. What is more, aggressive acts may be modified or replaced if the aggressor himself is threatened with punishment.

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**1.2.4. *Aggression as a learned behavior.*** Studies of animals proved long ago that aggressive behavior can be changed owing to learning processes in which an important role is played by reinforcement (Dennen, 2005). There is no doubt that these processes are also greatly important to humans. Early representatives of learning theories proceeded from the premise that it is difficult to inquire into internal actions of the individual, so attention should be focused on his behavior, which is both observable and measurable (Shoham & Seis, 2012). While these researchers recognized the importance of specific inborn characteristics to the ability to learn, they essentially upheld their standpoint that any behavior – be it good or bad – can be learned. Consequently, such a stand would also be suitable for interpreting the

origins of aggressive behavior. Classical conditioning, instrumental conditioning, and social learning are the three main groups of learning theories, which distinguished themselves for their attempts to interpret the origins of aggression.

*Classical conditioning* rests on the idea that a formerly neutral stimulus, if administered together with an unconditioned one, gradually becomes conditioned, causing a conditioned reaction. This is the oldest interpretation of learning. However, it has been criticized for refusing to take notice of motivational processes, reward or environmental factors. Eysenck (1984) combined this view with the theory of traits, seeking to produce a more integrated view on personality. This author argued that asocial behavior, unlike prosocial behavior, was natural. Prosocial behavior is taught by authorities (e.g., parents, teachers, etc.) dealing out punishment for the infringement of norms. In this case, punishment affects the child as an unconditioned stimulus causing an unconditioned reaction (fear, anxiety, pain). Repeated often, these stimuli become associated with conditioned ones (e.g., thoughts about an offence, offensive acts, etc.), and in this way conscience forms, securing the individual's subsequent prosocial behavior. Genetic factors and the conditional / unconditional stimuli association rate are greatly important in this process. Research findings show that individuals ranking among psychopaths feature poorer conditioning and a smaller number of reactions to it, which allows for the conclusion that they fail to learn and predict possible consequences as successfully as others do (Eysenck, 1998).

One of the principal ideas employed for the interpretation of the origins of aggressive or asocial behavior in current studies is connected with reduced classical fear conditioning, which indicates to what degree the individual has learned to predict unpleasant events (Gao, Tuvblad, Schell, Baker, & Raine, 2015). Empirical research often mentions interrelations between poor skin conductance during fear conditioning and aggressive behavior observed in populations of children and adults (Fairchild, van Goozen, Stollery, & Goodyer, 2008; Rothmund et al., 2012). For example, Y. Gao with colleagues (2015) measured reactive and proactive aggression demonstrated by male and female youth participants when they were 10, 12, 15 and 18; they also measured skin conductance during fear conditioning when the youths were 18. The findings show that youths who rated higher on proactive aggression produced poorer conditioned responses; however, such a finding was absent if the rates of reactive aggression were higher. Thus, poor autonomous fear conditioning is related to increased instrumental aggressive behavior. Furthermore, longitudinal research involving 1795 children also indicated that poor skin conductivity at the age of 3 predicts an offence at the age of 23 (Gao, Raine, Venables, Dawson, & Mednick, 2010). The following conclusion was made: irrespective

of gender, ethnicity or socio-economic status, lack of the fear of socializing punishment coupled with amygdala and frontal cortex dysfunctions in children increases the risk of criminal offence later in life.

Psychopathic personalities reduced reactivity to a fear-inducing stimulus or any other emotional stimulus reflects the peculiarities of attention limiting the processing of peripheral information (Newman, Curtin, Bertsch, & Baskin-Sommers, 2010). This means that the lack of this additional information prevents such personalities from evaluating events they have experienced or decisions they have taken in greater detail, and for this reason their interpersonal interaction and self-control is inadequate and insufficient.

In the case of *instrumental conditioning*, the individual learns that two things go hand in hand and that a certain response to a stimulus produces certain consequences. Therefore, reinforcement is related to a reaction-inducing stimulus because it follows a desired reaction. The author of this theory is Skinner who argued that good or bad behavior exhibited by a human in a certain case depends on the type of reinforcement (reward or punishment) received previously for corresponding behavior (Shoham & Seis, 2012). Deprivation conditions are also important; their presence makes learning more successful. Having committed a crime, the person receives strong rewards (e.g., attention, material values, obedience, sexual gratification, etc.), which are generalized, and their importance does not depend on a particular situation of deprivation (Valickas, 1997). What is more, these rewards are often immediate, giving satisfaction at once, which produces a stronger effect compared to consequences that come only later or not at all. Punishment is not a sufficient means of influence to every individual (Schettler Heto, 2015). It should be emphasised that asocial individuals are more affected by reward than punishment, so if they are sufficiently rewarded, depending on the characteristic arousal level, these individuals may learn certain behavior just like others (Raine, 2013).

Bandura (1973), author of *social learning theory*, states that an individual can learn aggressive behavior by watching the actions of others (e.g., parents, teachers, TV characters, celebrities, etc.) and consequences produced by these actions. Rewards may be supplied not only by external environmental sources but also by the internal states (e.g. pride or satisfaction) of the individual. Correspondingly, the individual does not have to learn all his life from his mistakes in order to predict the character of consequences. More specifically, the totality of consequences following from aggressive acts observed by the individual enables him to form expectations concerning the consequences of aggression and assess the value of aggression (Bandura, 1973; Bandura, 2009). Learning by observation is determined by the following four interrelated processes: attention, retention in memory, re-



production, and motivation; i.e., the individual not only has to pay attention to a particular modelled situation and retain it in his memory but also be able to reproduce it and have sufficient motivation to perform new behavior, expecting a particular result (Bandura, 2009). Such learning produces the greatest effect if it is experienced in a family, subculture and through TV.

The findings of numerous studies carried out recently also corroborate the importance of modelling to the formation of aggressive behavior. For example, several meta-analyses and systematic reviews of the research support the idea that violence observed by children through various media, especially video games and TV, is related to physical and non-physical aggression exhibited by these children (Anderson et al., 2003, 2010; Browne & Hamilton-Giachritsis, 2005; Huesmann & Taylor, 2006). The effect produced by these media has remained stable against the controlled socio-demographical, family, and community factors, and also the child's mental health indicators (Coker et al., 2015).

**1.2.5. Social cognitive theories.** To begin, these theories as the social learning theory also state that aggressive behavior can be learned, and as the social learning theory also pays serious attention to cognitive processes without which the modelling would simply be impossible. Having chosen to discuss these theories separately, we must note that due to the above-named reasons such division is only relative. Besides, the literature offers a number of variants: in some cases these approaches are discussed together (Schettler Heto, 2015), and some – separately (Shoham & Seis, 2012).

Interpreting the origins of aggression, most representatives of social cognitive theories basically agree with behaviorists. However, they add that appraisal of the individual's cognitive environment is the principal element for an aggressive response. They state that the way in which the individual reads a disturbing environmental stimulus plays an important role, especially in terms of the level of displayed aggression (Kassinove & Tafrate, 2006). The individual's cognitive system for interpretation of disturbances depends on experiences supplied by culture and subculture, as well as on previously modelled behavior. The *aggression scheme model* (Mann & Beech, 2003) explains that experience accumulating throughout development encourages the appearance of dysfunctional beliefs which bring on problematic cognitive evaluations in later situations. Like in the general theory of schemes, categorical beliefs cause impaired reflection on social situations. For example, sexual predators stubbornly keep to their primary schemes regarding themselves as victims. They often feel insulted or indignant in response to their environment, providing certain "evidence" to prove their beliefs. It has also been

found that sexual offenders believe that children are sexual beings, that using no force means that the offence is less harmful to the victim, that some individuals are superior to others, and that the world is a dangerous place in which individuals are affected by uncontrollable external forces (Ward, 2000).

Berkowitz (1989) advanced the theory of *cognitive-associative network*. In it, he reviewed the role of frustration, taking into consideration the currently available information about synapses. He stated that aggressive behavior was determined by the relationship between emotions, behavior and cognitions acting within the associative network of neurons. This implies that unpleasant events, such as frustration, provocations, strong sound, high or low temperature, unpleasant smells, etc., bring on a negative affect which through synapses is connected with various thoughts, feelings, motor and physiological reactions which encourage a fight or flight response. Flight associations excite fear, while fight associations stir up anger. In the latter case, aggression may arise, depending on individual genetic predispositions, previous learning, and characteristics of the situation. It must be noted that aggressive thoughts, emotions and behavioral tendencies are strongly related in human memory. Concepts similar in their meanings (injury, pain) and often activated simultaneously (weapon, shot) in human memory create strong associations. If one concept is primed or in activation, this also stimulates the related concepts, increasing their activation. This theory also stresses the importance of higher level cognitive processes, such as appraisal and attribution; for example, a person can reduce or increase his aggressive impulses by attributing definite motives to the behavior of another person or thinking about the consequences of an aggressive reaction. This model, according to Anderson and Bushman (2002), is especially suitable for interpreting hostile aggression; however, the activation processes themselves also have a great effect on other types of aggression.

Huesmann (1998) put forward the *script theory*, arguing that children observing violence delivered by media learn aggressive behavioral scripts, i.e., experiences of violence create template representations in their minds; later the individual uses them seeking to understand real-life situations and give support to his behavior. Representations of various childhood experiences are kept in long-term memory in the form of scripts, schemes, or working models, which form the basis for social cognition (Huesmann, Moise-Titus, Podolski, & Eron, 2003). Scripts are created by means of implicit and explicit incentives and punishments where an important role belongs to social learning and experience. If aggressive situational stimuli are present, it is likely that aggressive behavioral scripts may become activated. In this case, self-control mechanisms are important: if the behavioral script contradicts the norms of behavior internalized by the individual, the probability of its application is low.

Dodge (1990) pays attention to the processing of social information; these processes take place before making a decision to react aggressively. The *social information processing model* covers six stages: encoding stimuli, interpreting stimuli, goal setting, generating possible reactions, evaluating and selecting reactions, and implementing behavior. These processes may take place consecutively one by one; however, some may occur simultaneously or be omitted altogether (Crick & Dodge, 1994). This theory focuses on how a person perceives other people's behavior and ascribes attributions to their motives. A vital construct in the social information theory is the tendency to form hostile attributions, i.e., the inclination to interpret ambiguous or unclear events as hostile. Not only that, Dodge (1990) describe different styles of aggression, which are used by individuals seeking to achieve different problem solving goals: proactive aggressors pursue instrumental goals by means of aggression, while reactive aggressors respond to the circumstances of the existing situation with anger. Principally, this is an unconscious and automated process. This model was intensively tested by researchers, and findings showed that the tendency of hostile attributions reliably predicted aggressive behavior (Warburton & Anderson, 2015).

**1.2.6. Trajectories of violent behavior.** This group of theories seeks to interpret changes in offensive behavior, including aggression, from the perspective of human development. Research findings show that social and criminal behavior grows throughout adolescence, reaching its peak at 17 (the peak of violent crimes comes a little later, compared to crimes against property), and decreasing when the individual turns into an adult (Piquero, 2007). This tendency remains stable in various samples, irrespective of ethnicity or the historical circumstances of a particular country. The literature (Monahan, Steinberg, Cauffman, & Mulvey, 2009) provides a number of factors affecting the growth of delinquent activity in early and middle adolescence (e.g., greater susceptibility to peer pressure and decreased parental control, etc.); it also analyzes factors accounting for the reduction of asocial behavior (e.g., achievement of the status of an adult person and adoption of social roles in the areas of work, marriage, parenthood, and psychosocial maturity, which includes increased self-control, stronger resistance to peers, and an ability to reject immediate gratification when pursuing one's goals). An upturned U curve is suitable for explaining the general inclination to change offensive behavior in adolescence; however, exceptions are possible because not everyone stops committing crimes upon reaching adolescence, or because a drop in criminal behavior differs in time or by character (Sampson & Laub, 2003). One of the most popular views on differing individual asocial behavior development trajectories was presented by

Moffitt (2006). She distinguished between individuals whose antisocial behavior is limited in adolescence, and those whose antisocial behavior starts at an early age and continues into adulthood. While antisocial behavior in both groups is similar in adolescence, its causes differ: adolescents from the first group, by means of their antisocial behavior, seek to look and feel more adult, so upon reaching adulthood this need simply loses its urgency. Adolescents belonging to the second group are distinguished by neuropsychological and cognitive deficiency, which in interaction with early unfavorable family experience, affects their functioning, supporting manifestations of antisocial behavior in adulthood. In addition to these two, a third group is distinguished. It is composed of youths who do not exhibit any signs of criminal behavior at all. However, more than three possible trajectories of antisocial behavior are found by other researchers. Piquero (2007), having analyzed more than 80 studies, states that on the average three to five trajectories are distinguished, and that a slightly increased number of them is found if self-evaluation questionnaires instead of arrest statistics are used for the identification of antisocial behavior. For example, Monahan and colleagues (2009), having analyzed the data of 1170 young offenders, described five trajectories of antisocial behavior: a) youths whose antisocial behavior stays low on a stable basis; b) individuals who are featured by medium-level antisocial behavior on a stable basis; c) persons who become actively involved in antisocial activities in early adolescence, though manifestations of such behavior drop down immediately after that; d) youths whose antisocial behavior reaches its peak during mid-adolescence, dropping down immediately after that; and e) individuals who get involved in antisocial activities in adolescence, continuing into adulthood. Although the number of trajectories differs, the basic idea supported by scientific articles remains unchanged: most youths upon reaching adulthood stop behaving antisocially, and only a small fraction (6 percent – as shown by the above-mentioned study by Monahan and co-authors) pursues a criminal career.

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*1.2.7. Aggressiveness as a personality trait* could be described as a stable and long-term style of thinking, expressing one's feelings, and behaving which can be measured using a continuum of individual differences (Paulhus, Curtis, & Jones, 2018). *The Big Five*, or a five-factor (Neuroticism, Extraversion, Agreeableness, Openness, and Conscientiousness) personality model advanced by McCrae and Costa (1997) is especially popular in the area of personality aggression analysis. The literature most often mentions interrelationships between Aggressiveness, low Agreeableness, low Conscientiousness, and high Neuroticism (Bartlett & Anderson, 2012; Jones, Miller, & Lynam, 2011). The first two personality dimensions in

this case are related to impulsiveness, while Neuroticism is usually related to inability to control anger.

Krueger with co-authors (2002) argue that interpersonal aggression, generally externalized behavior and destructiveness are related to a personality construct called callousness. Besides, it has been found that arousal seeking, low timidity, and low behavioral control are also featured in aggressive individuals (Frick & Morris, 2004). Other peculiar features of personality are reviewed and discussed as well; lately the tendency to analyze relationships between differences in individual aggression and the so-called *Dark Tetrad*, a particular group of personality constructs, consisting of such personality traits as Machiavellianism, narcissism, psychopathy, and sadism, is observed (Paulhus, 2014). It must be noted that the construct of sadism was missing in the original *Dark Tetrad* (Jones & Figueredo, 2013). Although the theoretical basis of the concepts differs, instruments measuring these variables, as indicated by research findings, overlap significantly. It was found that out of the four above-mentioned traits, psychopathy, demonstrated the strongest relations with aggression (Hecht, Berg, Lilienfeld, & Litzman, 2016). For the prediction of future aggressive behavior, the construct of psychopathy proved the best in comparison to the other tetrad constructs (Paulhus et al., 2017).

**1.2.8. Integrated theories of aggression.** Currently, there exists more than one theoretical model seeking to integrate the accumulated knowledge of aggression. For example, the *I-cubed model* should be mentioned. Rapidly gaining popularity, this model interprets the emergence and intensity of aggressive behavior in the context of the interaction of three processes (Finkel & Hall, 2018; Slotter & Finkel, 2011). First of all, *Instigation* is distinguished; it covers direct environmental stimuli and circumstances (e.g., provocations, rejection, and obstacles on the way to one's goal) in various situations. These stimuli create a specific environment, which incites the individual to behave aggressively. However, the force with which the aggressive behavior will be displayed will depend on the forces of *Impellance*, which are described as situational or dispositional qualities. Ranked among them are, for example, the constructs of the Dark Tetrad, and anger as a personality trait, and hostile thinking; while among situational qualities the possession of a weapon is included. *Inhibition* represents a set of situational and dispositional qualities; this set will determine how inclination to react aggressively will come into view in the form of aggressive behavior. Clearly, some individuals will react aggressively, while others will be inclined to control and subdue the arising desire to react in an aggressive way. The literature shows that the inhibition force will depend on self-control (Denson, DeWall, & Finkel, 2012), functioning of the frontal cortex

(Séguin, 2004), and involvement in romantic relations with the object of potentially aggressive behavior (Slotter et al., 2012), etc.

However, today, the multidimensional *General Aggression Model* (GAM) put forward by Anderson and Bushman (2002) is mentioned most widely and most often. Interpreting the phenomenon of aggression, it integrates the role of various social, cognitive, and biological factors; thus, it is possible to find in this model components of various aggression theories (e.g., cognitive neoassociation theory, script theory, social learning theory, etc.). GAM posits that the manifestation of human aggression is affected strongly by the structures of knowledge acquired through experience (e.g., beliefs and attitudes, schemes of perception and expectations, behavior scripts) which, in turn, influence perception, interpretation, decision making, and behavior on various levels (Allen, Anderson, & Bushman, 2017). These structures of knowledge, if repeated, may become automatized and can include both cognitive and affective components.

GAM consists of two basic parts: proximal and distal processes (Allen et al., 2017; Anderson & Bushman, 2002). Proximal processes characterize a certain display of aggressive behavior in three stages involved in action: (1) the inputs stage describes how personality and situational factors increase or reduce the probability of aggression due to their influence on internal state variables (e.g., thoughts, physiological or psychological excitation, emotions and feelings) positioned in the second stage. Factors increasing the probability of aggression are called risk factors, while the ones reducing it are protective factors. Numerous person factors connected with the manifestation of aggression have been identified; for example, positive attitudes towards aggression, aggressive behavioral scripts, moral justification of violence, hostile attributions, low self-control, high narcissism, certain personality disorders, etc. The group of situation factors includes provocation, social rejection, frustration, low mood, alcoholic intoxication, violence demonstrated in media, pain, hot temperatures, presence of a weapon, etc.; (2) in the routes stage, as already mentioned, the inner state variables change due to the effect produced by situational and personality factors. Besides, these inner state variables may change depending on the peculiarities of their interaction (e.g., anger may invite hostile thoughts and increase excitement, or watching some situation may invite hostile thoughts which may bring on anger which, in turn, will raise excitement); (3) in the outcomes stage, the processes of evaluation and decision making, and also the behavior outcomes come into the focus of attention. The situation is appraised automatically, depending on the individual's inner state. After that, he decides how to react to a particular event. The decision depends on existing resources and characteristics of that event. For example, if there is plenty of time and intellectual

resources are sufficient, and if the result of immediate evaluation is important but does not give any pleasure, then the person will appraise carefully the event anew, paying attention to alternative interpretations (i.e., a well-considered action). If resources are insufficient, then behavior scripts, which were activated as early as in the immediate appraisal stage, may be used (i.e., an impulsive action).

Distal processes always act as a background for proximal processes, and they explain how biological and environmental factors, interacting with each other, affect personality, which in its turn is responsible for the manifestation of personality and situation factors (Allen et al., 2017; Anderson & Bushman, 2002). Ranked among biological factors increasing the probability of aggression are the following: impaired activity and attention worsened executive functions, imbalance of hormones, higher level of testosterone, etc. Environmental factors include violence-supporting cultural norms, at-risk families, complex living conditions, violent environment, deprivation, victimization, and perpetual demonstration of violence by media, etc.

GAM is used to explain a rather wide spectrum of aggressive and violent behaviors in various contexts, such as domestic violence, sexual aggression, effects produced by violence in the media, suicidal behavior, and even violence connected with global warming. Accordingly, various interventions to reduce display of particular aggressive behaviors are suggested (Gilbert, Daffern, & Anderson, 2017).

To sum up, various theoretical views have been presented in this chapter, and it is possible to state that huge progress is observed in explaining the origins of aggression. Basic factors of aggressive behavior risk and protective factors have already been determined, and their impact is actively being researched, giving special attention to their interaction.

## 2.1. Concept and application of the criminal risk assessment

According to Philipse (2005), assessment of a certain risk is an item issued based on probabilistic calculations that in the future a particular undesirable event will take place. In short, risk assessment represents an attempt at predicting the future. In regards to assessment of criminal behavior, including the risk of violence, it is generally recognized that such a task is complex to a professional requested to identify individuals who, under certain conditions and over a certain period of time, are likely to cause certain harm, which beyond any doubt may affect the quality of life of both the subjects and their potential victims, unless the professional finds that the subjects do not have a strong inclination to offend (Douglas, Hart, Groscup, & Litwak, 2014). Hanson (2009) argues that assessment of criminal behavior, including violence may be regarded as a separate form of psychological appraisal. Western legal systems, surely, regard risk assessment as an ordinary procedure which has been performed for decades. However, its concept, methods, and research directions have changed quite rapidly over past decades.

Significantly, two basic models (clinical and statistical) used for the assessment of criminal risks have enjoyed a long discussion in literature. The *clinical* model is a diagnostic one, and its success depends on the clinical experience of professional practitioners (Andrews & Bonta, 2010). In this case, a professional passing his judgement concerning criminal risk bases himself on data coming from his non-structured interview with the offender, as well as information contained in his case file or, if needed, supplied by other sources. Douglas et al. (2014) state the following: although non-structured clinical prediction remains the most prevalent risk assessment practice, it cannot be regarded as assessment of risk *per se* because a set of rules defining assessment is missing. This method of prediction is based on professional opinion, experience, and intuition; the choice of risk factors and the ways of interpretation are absolutely free. For this reason, this particular risk assessment method, despite its popularity, has been perpetually criticized for its insufficient precision and reliability, focusing especially on the problem of possible bias (Harris & Hanson, 2010).



So, in order to eliminate the above problems, the *statistical* risk assessment model came into existence; it was based on the findings of empirical research and mathematical statistics (Philipse, 2005). In this case, the basis of prognoses is represented by empirically-determined risk factors (e.g., age, number of crimes committed by the convict, his childhood problems, etc.) which are related to criminal behavior by means of a statistically significant relationship (Lancaster & Lumb, 2006; Bullok, 2010). Statistical assessment of risk is performed keeping to standardized rules; risk factors, upon their determination, are transformed into a final solution using mathematical algorithms (McGuire, 2004; Philipse, 2005). Usually, this solution comes to light in the form of a judgement concerning a low, medium, or high risk of offense posed by the subject.

A very large number of criminal risk factors have been identified. Initially, for the purpose of creating standardized risk assessment techniques, the so-called historical or *statistical* variables (e.g., demographic characteristics, age at the time of first conviction, character of committed crimes, etc.) were described (Miller, 2013). However, soon the following weaknesses of these methodologies were noticed: firstly, analysis of non-changeable risk factors did not allow identification of the object of intervention; secondly, the rate of risk assessed in this way practically always increased with the growth of criminal history. Taking into account this circumstance and also the increasing accuracy of research findings, new methodologies for the appraisal of risk were created along with the elaboration of the old standardized ones. In addition to statistical risk factors, they also included variable or *dynamic* ones (e.g., antisocial attitudes, impulsiveness, abuse of psychoactive substances, etc.) (Campbell, French, & Gendreau, 2009). These dynamic risk factors, which are often referred to as criminogenic, need may changes due to natural changes occurring in life (e.g. creation or loss of one's family) and also due the application of social rehabilitation measures (e.g. cognitive behavior therapy).

There is every reason to believe that risk assessment instruments created on the basis of the statistical model are not only more reliable compared to the clinical assessment but also provide the opportunity to collect data systematically, compare large samples of participants, and conduct research of every design (Conroy & Murie, 2007). However, assessment performed even in such a way is not flawless. Statistical assessment is usually criticized for its inability to encompass certain important characteristics of a convicted person's personality and exceptional circumstances, for its weak prognoses in cases of very young offenders concerning their risk of repeated offenses, and lack of precision when predicting probability in cases of rare criminal acts (Howard et al., 2006). This list of problems is not finite. This means that in order to secure the quality of assessment, it is necessary to re-

new and update instruments used for the assessment of risk on a perpetual basis (Mandeville-Norden & Beech, 2006).

Analysis of the development of research concerning this problem shows that first attempts at reviewing how the level of personal danger is assessed were undertaken by professionals as early as in the 1980s. Findings, generalized first by Monahan (1981) and later by other researchers (Litwak & Schlesinger, 1987; Litwak, Kirschner, & Wack, 1993) were published in scientific journals. The greatest attention in these publications was given to the accuracy of assessment in predicting violence. Although the authors stated that research findings actually do not annihilate the chances of clinical assessment, presuming that this approach could be valuable in judging the danger posed by a certain person, later it was suggested to replace clinical evaluations with statistical instruments without reservation (Quinsey, Harris, Rice, & Cormier, 1999). Discussions continued between supporters of the two approaches; however, it was unanimous that further research was needed to prove the merits and flaws of these methods (Douglas et al., 2014).

It is possible to argue that the above-mentioned discussions eventually produced a third approach. This risk assessment method was called *Structured Professional Judgement* (SPJ). Steadily gaining popularity, it is now used more and more often (Penney, McMaster, & Wilkie, 2014). In this case, not only empirically-determined general and protective risk factors but also relevant unique combinations of these factors are important; these particular combinations are analyzed by a professional possessing corresponding competence. In contrast to statistical appraisal, the SPJ procedure is based not only on theoretical and empirical information about criminal behavior but also on clinical experience. A judgement obtained by SPJ also usually provides information about the risk posed by the offender, the ways of managing this risk, the intensity of interventions applied, etc. (Webster, Haque, & Hucker, 2014). This means that SPJ risk assessment instruments allow specialists possessing clinical information and seeking to pass a well-considered judgement not only to describe criminal risk factors according to a standardized scheme but also to take into account all other important circumstances. Thus, a combination of nomothetic (statistical) and ideographic (focusing on individuality and peculiarity) approaches in risk assessment secures an individualized professional opinion up to scientific standards (Helmus, Hanson, Thornton, Babchishin, & Harris, 2012) because a comparison of scores exhibited by a certain subjects with normal ones provides a chance to describe, at the same time, the unique aspects of individual functioning (DeMatteo, Batastini, Foster, & Hunt, 2010; Heilbrun, Grisso, & Goldstein, 2009).

In sum, it is possible to state that a scientifically-substantiated and empirically-corroborated basis is vital for the individualization of punishment. At present, such basis is represented by various instruments for the assessment of convicted people, including the ones designed for assessing criminal risk. In the 1990s, criminal risk assessment was incorporated into regular work with offenders in Canada and the USA (Andrews & Bonta, 2010; O'Malley, 2008). This encouraged intensive research and distribution of criminal risk instruments all over the world. Criminal risk assessment findings were applied at different stages of the criminal procedure. Taking these findings into consideration, measures of punishment were selected by adapting behavior correction programs to the individual, thus securing more successful rehabilitation. These findings were also used when considering the expediency of release before term, etc.

Nowadays, the following tendency is observed: standardized instruments for the assessment of criminal risk are also expected to determine the factors of risk faced by the offender, intervention objects, and measures, and to assess the rate of social rehabilitation progress (Campbell et al., 2009). It must be mentioned that the currently dominant Risk-Need-Responsivity (RNR) social rehabilitation model created by Andrews and Bonta (2010) also focuses on the risk assessment findings. This model consists of the following three basic principles of effective social rehabilitation of offenders (Andrews et al., 2011):

- 1) Principle of risk means that the level of intensity of services provided to the offender must answer the level of risk posed by the offender; more intensive program work must be performed with persons posing a higher criminal risk; as for low risk persons, their own strengths should be used to the full from the start, which means that these interventions should be minimal;
- 2) Principle of needs: important here is the orientation towards criminogenic needs (to dynamic risk factors) or to such needs of the offender which are functionally related to criminal behavior. The following eight basic factors of risk/needs are distinguished: antisocial associates, antisocial cognitions, antisocial personality pattern, history of antisocial behavior (note: this is a static factor of risk), substance abuse, and family and / or marital, school and / or work, and leisure and / or recreation;
- 3) Principle of susceptibility/ responsiveness, which means that the type and methods of intervention must answer the style and abilities of the offender. If the character of these principles is taken into consideration and if a particular social rehabilitation professional applies adequate interventions, the risk of criminal behavior drops down too (Campbell, Schmidt, & Werhler, 2016).

Although it is recognized that the RNR model is perhaps one of the most effective ones for the assessment and rehabilitation of offenders (Ward, Mesler, & Yates, 2007), the Good Lives Model (GLM) is currently discussed widely. The authors who have advanced it (Barnao, Ward, & Robertson, 2016; Ward, Rose, & Willis, 2012) state that social rehabilitation, in order to reduce future criminal risk, must pay heed not only to criminogenic needs and orient to the reduction of deficit; it is necessary to empower the offender himself so that he can reinforce his strengths, set such goals which are important to him personally, and seek in this way a better life by socially-acceptable means. The better life is described through primary goods – activities, experiences, and situations which are important to the person (e.g., knowledge, mastery at work, healthy physical functioning, mental interests, creativity, etc.) and which, if present, invite the feeling of fulfilment and the sense of happiness. Criminogenic needs come out when individual or environmental setbacks do not allow achievement of these goods, or create such circumstances, which imply that these goods can be achieved only by illicit means (Barnao et al., 2016). If social rehabilitation provides offenders with adequate knowledge, helps them to acquire needed skills and competencies, and empowers them so that they become able to overcome obstacles on the way to a good life, it will reduce the risk of criminal behavior. While this model does not actually deny the importance of criminal risk assessment, it gives priority to other issues in the management of this particular risk (Looman & Abracen, 2013).

It is possible to state in conclusion, that assessment of criminal risk factors is an important step leading eventually to results desirable both by the offender and society. Violence risk factors most often discussed in the professional literature are further discussed below.

## 2.2. Violence risk factors

The literature analyzes various violence risk factors boasting a rather long history of empiric research. Research findings show that violent offenders commit a larger number of crimes, their education level is lower, their problems connected with the usage of psychoactive substances are more expressed, and they have more friends with criminal experience, etc. (Mills, Kroner, & Morgan, 2011).

Hall (2007), having generalized this information, distinguishes three main groups of these factors:

- 1) factors related to the history of violence (e.g., previous violent acts, variety of such behavior, last violent crime, benefit from violence, violent parents, violence suffered in childhood, etc.),

- 2) violence-related factors of opportunity/chance (e.g., recently acquired weapon, discontinued drug usage, release from prison, etc.),
- 3) circumstances leading to violence (intoxication, breakup of relationships, etc.).

A more exhaustive review of violence risk factors is given by Melton and colleagues (2014). These authors note that some factors are important for the violence risk assessment, while others for the management of that risk. First of all, dispositional factors include masculine gender, young age, and certain personality characteristics usually connected to antisocial personality disorder or psychopathy. Further, historical factors of violence are described, which include history of arrests, early beginning of criminal behavior, impaired behavior and delinquency. The second group is represented by contextual factors, such as availability of a weapon, absence of social support, or availability of a victim. The last group of risk factors is clinical, consisting of problems related to the use of psychoactive substances and diagnoses of specific mental disorders (e.g., schizophrenia, maniacal depression, etc.). According to the authors, the so-called MacArthur study greatly affected the construction of this classification (Monahan et al., 2001). The study examined 1136 male and female forensic psychiatry patients discharged from various US forensic psychiatry institutions within one year. The research produced as many as 134 risk factors, and 70 of them showed a statistically significant relationship with possible manifestations of violence in the future. The reviews indicate that the greater part of violence risk factors repeat in all promoted classifications; however, some factors have lately received special attention from researchers. These will be discussed in greater detail.

*The relationship between previous offenses and future violence.* In order to clear up the issue of violence risk factors, a considerable research study was done. It was found that a former violent act increases the probability of violence in the future (Webster, Douglas, Eave, & Hart, 2007), and every previous act of sexual violence also increases the probability of a subsequent identical act (Boer, Hart, Kropp, & Webster, 1997). Here it is important to pay attention to the frequency and seriousness of previous violence and to the tendency of committed acts to become increasingly serious. However, many works have not limited themselves to the study of manifestations of violence, which are numerous, inquiring also into the factors connected with the general criminal behavior in the future. In many cases, the general picture of re-offenses included also violent crimes (Mills et al., 2011). It was found that formerly committed non-violent crimes may be a risk factor for sexual violence (Hanson & Thornton, 2000) or domestic violence (Quinsey, Harris, Rice, & Cormier, 2006). Consequently, in order to understand criminal risk factors

which may send violent people into action, analysis is required of risk factors of any type, i.e., factors ascribed both to general and specific violent behavior. Quite often, these factors overlap (Mills et al., 2011); however, they are not identical, and this is particularly true of specific types of violent crimes (Melton et al., 2007).

*The relationship between violence and psychoactive substance abuse.* Use of psychoactive substances is often connected with criminality, unemployment, parenting difficulties, and other social problems. For example, in the USA, 77.5% of persons convicted for violent crimes in 2006 were intoxicated with psychoactive substances at the time these crimes were committed. Alcohol was specified most often (56.6% cases), other substances being marijuana, cocaine, heroin and other opiates, stimulants, etc. (Mattson & Pietz, 2015).

Research findings indicate that persons dependent on psychoactive substances feature externalized personality traits, such as impulsiveness or lack of self-control (Grant et al., 2004), so these persons are described as more impulsive, disobedient, and less able or willing to control the impulses of their behavior compared to other people. It is noteworthy to point out that these persons often feature high co-morbidity with other mental disorders, which is especially observed among convicts with diagnosed dependence on psychoactive substances (James & Glaze, 2006). In this case, above all, personality disorders are mentioned. For example, Grant et al. (2004) found that as many as 69% of persons exhibiting diagnosed mental or behavioral disorders due to the abuse of psychoactive substances also demonstrated a diagnosed personality disorder characterized by emotional lability and impulsive behavior. Importantly, antisocial personality disorder (Krueger et al., 2007) and borderline personality disorder (Grant et al., 2008) were observed in this group statistically significantly more often. After all, presence or absence of a diagnosis of some mental disorder does not matter: both male and female criminal offenders use psychoactive substances more often in comparison with the rest of population (Fazel, Bains, & Doll, 2006).

Currently, some authors are discussing the specter of externalization (Bogg & Finn, 2010; Krueger et al., 2007) covering antisocial behavior, personality traits connected to impulsiveness, lack of constraint, lack of control, and aggressiveness, as well as inclination to use psychoactive substances. Accordingly, there is a growing volume of research findings showing that externalized behavior is strongly related to various hereditary, environmental, and neuropsychological factors (Mattson & Pietz, 2015). Indeed, Elbogen and Johnson (2009) found that most persons who committed violent crimes under the influence of intoxication were relatively young males, had smaller income, had committed violent acts more frequently, and experienced imprisonment at a young age, etc. In addition to that, due to problems

arising out of their psychoactive substance abuse, these persons had experienced victimization, problems at work, loss of a job, or a divorce more often over the past twelve months. It was found that the following family factors predicted their future violent behavior best of all: parents using psychoactive substances, minimal behavioral supervision, low socio-economic status of the family, and family conflicts (Elbogen & Johnson, 2009).

These problems are often accounted for by neuropsychological deficiency showing itself through poor self-regulation, i.e., poorer motor control, emotional regulation, and inadequate expression of executive functions, etc. (Mattson & Piletz, 2015; Verdejo-Garcia, Lawrence, & Clark, 2008). It must be borne in mind that executive functions including a group of cognitive processes (e.g., planning, goal setting, attention, concentration, control of actions according to the needs of a particular situation, etc.) are vital for successful adaptation and effective functioning in life (Vaughan & Giovanello, 2010).

*Mental disorders and violence.* Violent crimes often agitate society; no wonder, media reflect them very intensively, trying to provide also the reasons for such behavior. Quite often, especially in case of an extremely cruel crime, opinions that the perpetrator possibly suffers from some mental disease flood in. However, such interpretation of events increases tension in society and creates a stigma or biased attitudes towards mental disorders as if strongly related to possible display of violence. Yet the findings of current research show that relationships between violence and mental disorders are not as strong as they may seem to a detached observer (Guy & Douglas, 2015; Mills et al., 2011). Ironically, individuals suffering from a serious mental disease often become victims of interpersonal violence; moreover, self-harming behavior is more characteristic of them than violent acts against other people (Latalova, Kamaradova, & Prasko, 2014; Persson, Belfrage, & Kristiansson, 2017; Silver, Piquero, Jennings, Piquero, & Leiber, 2011). The probability of violence goes up only if the person suffering from mental disorders has used psychoactive substances. For example, Junginger with colleagues (2006) found that out of a total number of 113 persons detained for criminal behavior and diagnosed with Axis I disorders (Diagnostic and Statistical Manual of Mental Disorders [DSM]), such as schizophrenia specter or mood disorders, in only 4% of cases was mental disorder directly connected to offending, and in 4% of cases it was connected indirectly. The rates increased significantly if a person suffering from mental disorders was intoxicated with psychoactive substances at the moment of offending (19% and 7% of cases, respectively). Research analysis done by Monahan (2007) also showed that the effect produced by mental disorders on the venting of violence was not too great compared with the total population. This finding is corroborated by the

MacArthur study results (Monahan et al., 2001). Nevertheless, some research data provides evidence to support the idea that there is a relationship between violence and certain symptoms of mental disorder; for example, threat/control override, presence of delusions (Teasdale, Silver, & Monahan, 2006) or affective and positive psychotic symptoms in persons with diagnosed depression (Yang, Mulvey, Loughran, & Hanusa, 2012). In the latter case, alcohol is significant because it facilitates the display of violence.

It is noteworthy to point out that assessment of such relationships should also include other factors which show themselves simultaneously and facilitate the manifestation of risk factors; they include, for example, unemployment, poverty, absence of a dwelling place, and the above-mentioned abuse of psychoactive substances (Draine, Salzer, Culhane, & Hadley, 2002). Persons with mental disorders often encounter discrimination and increased risk of exclusion even when compared to other disabled groups (Mikutavičienė and Guščinskienė, 2012). At the political level, no small number of documents seeking to ensure that disabled people have equal rights and opportunities have been issued. In practice, however, they often fail to work because communities are short of resources, hence, unable to provide enough social rehabilitation services (Junginger et al., 2006). This in turn makes social isolation and exclusion even more acute, encouraging the use of psychoactive substances, etc. On the other hand, persons suffering from mental disorders are dependent on financial, social and psychological support from their families. Unfortunately, such dependence increases the probability of domestic conflicts, which may invite an outburst of violence (Guy & Douglas, 2015). In this case, assistance may be perceived as a measure of compulsion, provoking an aggressive defense (Silver, 2006).

It must be noted that in spite of frequent discussions about poorer executive abilities exhibited by violent persons, there are data (Naudts & Hodgins, 2006) indicating that executive functions and verbal abilities may be developed better in schizophrenics with a history of perpetual violence and antisocial behavior compared to patients without a history of violence. However, reduction in the volume of the amygdala is more pronounced, and the number of anomalies observed in the white matter of the amygdala is greater.

*The relationship between socio-economic status and violence.* Children brought up in poverty are more inclined to become involved in antisocial behavior, such as aggression, breaking of rules, and delinquency, compared to children raised in more favourable conditions (Bjerk, 2007; Tremblay et al., 2004). This relationship gives rise to many discussions about whether poverty is the cause of children's antisocial development, or maybe this relationship is better explained by primary



general characteristics of these particular children or families living in poverty (e.g., history of aggression in the family, personality traits, genetic inclination, etc.) (Jaffee, Strait, & Odgers, 2012). Antisocial behavior demonstrated by children and adolescents predicts a wide range of negative consequences in adulthood, including involvement in offenses and violence (Theobald & Farrington, 2012).

Children living in poverty face stressful events on a perpetual basis. Stressors include rude parenting, family conflicts, pictures of violence, bad living conditions, etc. (Russell & Odgers, 2015). Perpetual encounters with stress in daily life prolongs activation of the stress response system, and this impairs the development of self-regulation (e.g. attention, impulse control, deferred gratification, working memory) (Blair & Raver, 2012; Evans & Kim, 2013). Hertzman and Boyce (2010) think that such everyday experiences later contribute to the appearance of negative consequences in adulthood (e.g. physical or mental health). Thus, economic difficulties make children's behavioral and emotional problems more serious because they foster the probability of tension, conflicts, and hostility in the daily interaction between children and parents. Stress related to living in poverty reduces parents' chances to react in the way which supports children, so instances of rude parenting with punishments dealt out generously become more and more frequent (McLoyd, 2011). Home turns into a place where aggressive, hostile, and vicious behavior is learned, and this behavior is subsequently modelled, reinforced, and developed further. Parents from families struggling with economic difficulties reject children more intensively, are less interested in them, and give them less support. All of this affects children's development, bringing out a larger number of externalized problems (Grant et al., 2003).

Jaffee, Strait and Odgers (2012), having reviewed the findings of various research studies, conclude that poverty affects children's antisocial behavior to a greater degree than genetic inclinations or other family or child characteristics. Therefore, to conclude, it is possible to argue that children's poverty is a strong risk factor for the development of their antisocial behavior in the future. However, not all children living in poverty get involved into antisocial behavior. The Differential Susceptibility Theory (DST) (Ellis et al., 2011) posits that some children may be inherently more susceptible to their environment, both positively and negatively. These susceptible children may become higher-risk if their environment is perpetually stressful; however, they may become low-risk children if the environment is supportive. Susceptible or receptive, children may differ not only genetically but also by their physiological parameters and behavioral phenotypes (Belsky & Pluess, 2009). Children with one or more such susceptibility markers may be prone to display negative qualities (antisocial behavior) upon getting into

a negative context (poor home and neighborhood), yet they also have a tendency to show positive qualities (good self-regulation, pro-social behavior) upon getting into a positive context (supportive environment). This shows that youths who formerly were regarded as more vulnerable may be more susceptible to good or bad influences depending on their environment. Consequently, these youths may also be more susceptible to interventions. It was also found that the fact of belonging to the group of African-Americans was often regarded as a factor of increased risk of violence; however, its weight has decreased and it is now becoming statistically insignificant if the socio-economic status of research participants is controlled (Swartz et al., 1998).

This chapter has only discussed a few risk factors because their wider analysis is provided in Chapters 5 and 6 of this monograph, taking into consideration the goals of this research. In conclusion, it is possible to state that a risk assessment procedure should integrate various factors which must not be limited to personality, environmental, or historical ones but also include factors connected with certain situations. It is vitally important to take into account the character of offenses committed by the person, the rate of violent offenses among them, and the degree of gravity of these offenses. In general, analysis of research studies should not leave out such issues as research limitations and the problem of generalizing findings. This means that some instruments which are suitable in one context may be useless in another.

### 2.3. Overview of the criminal risk assessment instruments

Nowadays, a wide variety of instruments for the assessment of criminal risk can be observed, and these instruments are based both on statistical calculations and on structured professional judgements. This review begins with discussion of instruments developed for the assessment of general criminal risk, proceeding later to the chances of assessing violence risk, and concluding with research findings focusing on several instruments mentioned most frequently in meta-analyses (Fazel, Singh, Doll, & Grann, 2012; Singh, Grann, & Fazel, 2011).

In Western countries, one of the most well-known assessment instruments of general recidivism is *The Level of Service Inventory-Revised* (LSI-R). Created in 1995 by Canadian researchers Andrews and Bonta, the LSI-R consists of 54 items for the rating of 10 areas which are most important to criminal recidivism, poor adaptation to a corrective institution, and the results of release on probation. These factors include criminal history, education / employment, financial, family/mari-

tal, accommodation, leisure/recreation, companions, alcohol / drug problems, emotional / personal, and attitudes / orientation. The instrument is designed not only to help professionals to structure their opinions about the criminal risk but also to determine the goals of convicts' rehabilitation and level of supervision.

*The Offender Assessment System (OASys)*. This instrument is intended for assessing general criminal risk posed by convicts, as well as for planning their term of punishment and appraising changes which take place during this period (Bullok, 2011; Home Office, 2002). The OASys was created and is used in the prison and probation system of the United Kingdom. This instrument is used to assess static and dynamic risk factors related to violent behavior that have been empirically tested and distinguished by Andrews and Bonta (2010). These factors include history of offenses, education, living conditions, emotional well-being, relationships, etc. Besides, application of the OASys is special in the following respect: the convict may review his punishment and supervision plan and give his opinion about it (approve it or not, add his comments, etc.). Currently, this instrument represents the basis of the system for working with convicts in England and Wales (Žukauskienė, Laurinavičius, & Singh, 2014).

*The Psychopathy Checklist – Revised (PCL-R)* and its version called *Hare Psychopathy Checklist: Screening Version (PCL:SV)* belong to the most popular psychopathy assessment instruments developed based on Hare's model of psychopathy (Hare, 2003; Hart, Cox, & Hare, 1995). Special attention is paid to the assessment of psychopathy because psychopathic offenders are characterised by a richer variety of offenses, three times higher rates of repeated offense, and four times higher rates of violent re-offense, as well as inability to participate constructively in psycho-corrective programs (Hemphill, Hare, & Wong, 1998). These psychopathic qualities are determined by disorders in the emotional, behavioral, and interpersonal sphere. Persons exhibiting high psychopathy rates are featured by a shortage of empathy and guilt, aspiration to dominate and manipulate surrounding people, and impulsive and risky behavior (Douglas et al., 2005; Mokros et al., 2015). In North America (the USA and Canada) assessment of psychopathy usually takes place in corrective institutions or forensic psychiatry hospitals. The PCL-R and PCL:SV methodologies are successfully applied when performing an institutional classification of convicts, making decisions concerning medical treatment, and identifying convicts with high risk of inappropriate behavior in institutions or convicts unfit for participation in group therapy or psycho-corrective programmes. These instruments may be administered only by professionals possessing special qualifications, experience in psycho-diagnostic evaluation, and having corresponding education (e.g., psychologist, psychiatrist). Findings from the assessment

of psychopathy are used as additional information when considering the risk of re-offenses. They are included in the composition of some specialized methodologies, such as the HCR-20, VRAG violence risk assessment and SVR-20 or SORAG sexual violence risk assessment.

As has been mentioned, professionals passing judgement often have to take into consideration the specific circumstances of each separate level in various contexts; thus, over the past two decades, the number of instruments oriented to target circumstances has grown considerably.

Understandably, the need to create instruments able to predict future violent behavior is very urgent. Here, *The Historical, Clinical and Risk Management Scales-20* (HCR-20), one of the most famous instruments, should be mentioned. The scales were authored by Canadian researchers Webster, Douglas, Eaves, and Hart (2007). The instrument is composed of ten risk factors related to the past (e.g., young age at first violent incident, relationship instability, prior supervision failure, etc.); five factors describe the current situation (e.g., lack of insight, active symptoms of major mental illness, etc.), another five are connected with the future (e.g., exposure to destabilizers, noncompliance with remediation attempts, etc.). The HCR-20 belongs to the structured professional judgement model of instruments because inclusion of the subject into a low-, medium- or high-risk group carried out for clinical purposes does not depend on the arithmetic sum total of points given to him on the rating scales, i.e., the decision made by the rater depends not on the quantity of risk factors but on their combinations and the importance of their actual manifestation (Webster et al., 2007). Surely, professional administration of this instrument requires adequate professional qualification; for example, raters must have a university education and a stock of knowledge about the origins, causes, and control of violence; they must be experienced in carrying out individual assessment, and are required to prove that their supervised clinical training has been accomplished, etc.

The first version of the instrument appeared in 1995, and the second one in 1997; this, according to Douglas et al. (2014), has become the most widely used and the best-validated instrument for violence risk assessment. Research findings indicate that the HCR-20 excels in validity and evaluator compatibility (Penney et al., 2014; Strub, Douglas, & Nicholls, 2014). However, it must be noted that the validity of this instrument has more often been researched across forensic psychiatry patient groups, although the HCR-20 was originally created for the appraisal of risk both in the general and forensic psychiatry patient population (Jung et al., 2013). Over the past few years, research has also increasingly covered other target participant groups (Douglas et al., 2014).

In 2013, the third version of the HCR-20 V<sub>3</sub> was published. It includes a number of innovations introduced based on research findings. These innovations were connected both to the contents of items (e.g., a request to rate a particular psychopathy variable PCL-R or PCL:SV was left out because the very concept of the variable was widened and subsequently called a “personality disorder”) and with the very procedure of rating (e.g., instead of the digital 0, 1, 2 representation used for encoding, a verbal rate „slightly-“, „medium-“ or „strongly-expressed“ for indicating intensity of a certain action was introduced) (Douglas et al., 2014a). However, most innovations are related to the risk control area which has widened considerably: there appears a request to create various risk scripts and corresponding risk management strategies before passing a final judgement concerning risk of violence.

*The Spousal Assault Risk Assessment (SARA)* and *Brief Spousal Assault Form for the Evaluation of Risk (B-SAFER)*. The SARA, created by North American psychologists Kropp, Hart, Webster and Derek, and also the B-SAFER, authored by Kropp, Hart and Belfrage, are intended to assess the risk of violence against a spouse (Kropp et al., 1999; Kropp et al., 2005). Work on these methodologies started upon noticing that society becomes more and more aware of the importance of domestic violence to social and economic processes (Kropp & Gibas, 2010). The SARA and B-SAFER assess, to a large degree, the same theoretically-grounded and empirically-substantiated factors relating to domestic violence; based on an overview and ratings of these factors, a judgement concerning the degree of violence risk is passed. Both instruments belong to the structured professional judgement model of instruments, which means that their administrators must be aware of the factors of domestic violence behavior and its effects, and understand the process of risk appraisal (Kropp et al., 1999; Kropp et al., 2005). In order to fill out the questionnaires, one must possess psychodiagnostic assessment knowledge. This means that users who are not mental health professionals may consult these professionals and familiarize themselves with existing documentation, noting that their rating result is not final, or they may skip certain items without rating them. However, in such cases it is necessary to specify the limitations of assessment (Kropp et al., 1999).

The SARA and B-SAFER rating is performed based on an interview with the suspect and his victim; standardised assessment of physical and emotional violence; standardised assessment of dependence on alcohol and other substances; and additional data (e.g., filed materials, reports). Collected material, separate factors concerning violence against a spouse/partner, and the importance of these factors for predicting possible future violence are rated.

The SARA assessment tool consists of 4 scales (Kropp et al., 1999): 1) the criminal history section, which includes 3 items (i.e., past assault of family members, past assault of strangers or acquaintances, past violation of conditional release or community supervision); 2) the psychosocial adjustment section, which includes 7 items (i.e., recent relationships problems, recent employment problems, victim of and/or witness to family violence as a child of adolescent, recent substance abuse/dependence, recent suicidal or homicidal ideation/intent, recent psychotic and/or manic symptoms, personality disorder with anger, impulsivity, or behavioural instability); 3) spousal assault history section, which includes 7 items (i.e., past physical assault, past sexual assault/sexual jealousy, past use of weapons and/or credible threats of death, recent escalation in frequency or severity of assault, past violation of “no contact” orders, extreme minimization or denial of spousal assault history, attitudes that support or condone spousal assault); and 4) alleged (current) offense section, which consists of 3 items (i.e., severe and/or sexual assault, use of weapons and/or credible threats of death, violation of “no contact” order).

The B-SAFER assessment tool consists of 2 sections, each of them containing 5 items. These are rated twice from the perspective of the present and the past (Kropp et al., 2005): 1) intimate partner violence (i.e., violent acts, violent threats or thoughts, escalation, violation of court order, violent attitudes); 2) psychosocial adjustment (i.e., general criminality, intimate relationship problems, employment problems, substance use problems, mental health problems). Risk assessment by the SARA and B-SAFER instruments may be used at all stages of criminal procedure, starting with the pre-trial investigation and ending with release on probation. Appraisal of the risk of violence against a spouse may also be carried out in civil cases.

Another instrument which is quite popular around the world is called the *Violence Risk Appraisal Guide* (VRAG; Quinsey, Harris, Rice, & Cormier, 1998, 2006). It was originally created for the appraisal of repeated violence risk posed by forensic psychiatry patients, but soon it gained popularity. For this reason, it started to be used for various populations, such as general psychiatry patients (Harris, Rice & Camilleri, 2004), general convicts (Hastings, Krishnan, Tangney, & Stuewig, 2011; Kroner, Stadtland, & Eidt, 2007) or certain persons convicted of sexual offenses (Langton, Barbaree, Seto, Peacock, Harkins, & Hansen, 2007; Sjöstedt & Långström, 2002). The VRAG represents a group of statistical instruments, so objective information about characteristics of a subject’s offense is gathered (e.g., victim injury for index offense, age at index offense, etc.), and about living circumstances, both present and former (e.g., elementary school maladjustment, lived with both biological parents to age 16, marital status, history of alcohol problems, etc.).

Furthermore, the VRAG has another important property: this instrument regards mental health diagnostics as an important factor, which must be taken into consideration by all means when calculating an overall score. The VRAG consists of 12 items, and upon summing up the results, the subject is included into one of the nine risk categories.

Proceeding from the VRAG's medium success rate for predicting a repeated arrest for sexual offenses, and seeking to improve its applicability for a specific sample of convicts, Quinsey with colleagues (2006) added to VRAG items by also including some items specific to sexual crimes. In this way, the *Sex-Offender Risk Appraisal Guide* (SORAG) came into existence. This instrument consists of 14 items, 10 of which are identical to VRAG items. Other items cover the history of violent offenses, the number of convictions for previous sexual offenses, history of sex offenses against girls under age 14 only, and also the phallometric testing results. While findings produced by many studies are corroborative, and while it is argued that this instrument is one of the best for predicting future violence and sexual offenses (Hanson & Morton-Bourgon, 2009), Bartosh, Garby, Lewis, and Gray (2003) think that prognostic validity of this instrument differs, depending on the type of sexual offender. According to them, the SORAG is more fit for predicting violent re-offenses among child rapists than rapists, although sufficiently high correlations were found in both groups of research participants. In contrast, Rettenberger and Eher (2007), who researched persons put on the register of sexual offenders in Austria, found that SOGAR prediction was more accurate in the groups of rapists. Evidently, this diversity of findings begs for researchers' attention; it should be directed, among other things, towards the analysis of findings obtained in different environments.

Having inquired into the patterns of repeated offending displayed by sexual predators, Hanson (1997) created *The Rapid Risk Assessment for Sexual Offense Recidivism* (RRASOR). It was intended for professional practitioners seeking to select and classify sexual offenders by the level of risk. The RRASOR covers only four levels, such as prior sex offenses, age at release, victim gender, and relationship to victim(s). Thus, this instrument does not record all factors connected with repeated sexual offenses. Conception of such a short instrument was based on the findings of a research study involving 2592 persons (Hall, 2007). The research sought to find out how well the RRASOR ratings can predict the probability of a new sexual offense within five to ten years following release from a corrective institution. It was found that the re-offense index for offenders who gathered 0 points was 4.4% after 5 years, and 6.5% after 10 years; while this index for persons who received 5 points was 49.8% and 73.1%, respectively (Hanson, 1997). Attention must be paid

to the circumstances in which this instrument should be used in combination with other information. Thus, in order to formulate an opinion, it is necessary to pay heed to the harmony of various data.

*The Minnesota Sex Offender Screening Tool – Revised* (MnSOST-R) is another popular statistical instrument for sexual violence assessment, and it was created taking into consideration the needs of corrective institutions of that particular state (Epperson et al., 2003). The MnSOST-R consists of 16 items, 12 of which describe historical data, such as number of sex/sex-related convictions, length of sexual offending history, force of the threat of force ever used to achieve compliance in any sex offence, committing the act in a public place, pattern of substantial drug or alcohol abuse, etc; the remaining 4 concern items related to incarceration at a corrective institution, and they include discipline history while incarcerated, chemical dependency treatment while incarcerated, etc. (Barbaree et al., 2006). Research findings show that this instrument demonstrates a relatively high level of prognostic force (Hanson, 2000). For example, Epperson et al. (2003) state that the AUC rate for the prediction of sexual re-offenses by the MnSOST-R in their sample of offenders was equal to 0,77. Subsequent research of separate samples using the MnSOST-R produced a similar rate – 0,73. Both AUC rates show that the MnSOST-R is a reliable and valid tool for predicting re-offense among sexual offenders (Richardson, Huebner, & Valentine, 2006). Still, it should be noted that prognostic chances offered by the MnSOST-R are limited because this instrument involves institutional factors. This instrument helps to predict the re-offense risk for such sexual offenders who were previously imprisoned. As for other limitations, it must be noted that there are data showing that accurate rating on the MnSOST-R is a rather difficult procedure (Barbaree, Seto, Langton, & Peacock, 2001). It demands chronological information about offenders, which is hardly available having in mind the short period of time given for that purpose.

In 1999, a group of Canadian researchers created another highly popular statistical instrument for the assessment of sexual offenses risk. It is called the *Static-99* (Hanson & Thornton, 2000). This instrument covers The Structured Anchored Clinical Judgement-Minimum Version - SACJ-MIN) and the already mentioned RRA-SOR; each of these instruments was designed for assessing the re-offense risk posed by sexual offenders. The Static-99 is applied exceptionally for the assessment of adult male offenders convicted formerly for a sexual offense, and on condition that there was direct contact between the identified victim and the perpetrator (Austin, Peyton, & Johnson 2003); so persons who were tried for prostitution, pimping, public indecent exposure, illegal pornography viewing, etc. are not assessed on this instrument. The authors of the Static-99 argue that this instrument can be used for the



assessment of risk posed by first-time or repeated offenders (Harris, Phenix, Hanson, & Thornton, 2003). The instrument consists of ten separate static factors. The following data are evaluated: prior sex offenses, prior sentencing dates, non-contact offences, index non-sexual violence, prior non-sexual violence, unrelated victim, stranger victim, male victim, young, single. The instrument is characterised by good prognostic validity for sexual re-offense (Barbaree, Seto, Langton, & Peacock, 2001; Bartosh, Garby, Lewis, & Gray, 2003; Harris, Rice, Lalumiere, Quinsey, Boer, & Lang, 2003; Sjöstedt & Långström, 2001) and violent re-offense among sexual offenders (Barbaree et al., 2001; Sjöstedt & Långström, 2001). Research findings show that the Static-99 is quite precise in predicting sexual and violent re-offense among UK and US offender samples (Stalans, 2004), and also in other countries (de Vogel, de Ruiter, & van Beek, & Mead, 2004; Sjöstedt & Långström, 2001).

*The Sexual Violence Risk-20 (SVR-20)* represents structured clinical recommendations for the rating of offensive sexual behavior (Boer, Hart, Kropp, & Webster, 1997). The instrument contains 20 items, covering psycho-social adaptation factors (e.g., sexual deviance, victim of sexual abuse, major mental illness, substance use problems, past nonsexual violent offenses, past nonviolent offenses, etc.), sexual offense factors (e.g., multiple sex offense types, physical harm to victim(s) in sex offenses, uses weapon/threats in sex offenses, extreme minimization or denial of sex offenses, etc.), and factors connected with future plans (e.g., lacks realistic plans, negative attitudes toward intervention).

Each item is rated in a way which is similar to the HCR-20 procedure, that is on a 3-level rating scale; besides, the rate must indicate additionally whether the degree of a particular factor's expression has changed lately. This information may be useful in carrying out clinical assessments when it is necessary to select the most suitable risk management strategy and to predict whether the general risk posed by the person will increase or decrease over time (i.e., to record the dynamic aspects of risk). A final opinion is formulated by using notions, such as "low", "medium" or "high" risk. As can be seen, the SVR-20 also belongs to the group of structured professional judgement model of instruments. So, the rater must answer to the same high requirements as in the case of the HCR-20.

The SVR-20 is not applicable for the determination of whether a particular person committed an act of sexual violence in the past, or whether he "fits in with the profile of a sexual offender" because such a profile is non-existent (Boer et al., 1997). Also, this methodology cannot be used in assessing the risk of non-violent criminal behavior, non-sexual violence or other specific forms of violence (such as violence against a spouse or bullying/teasing). Within its own category, the SVR-20 is the most widely used instrument for the assessment of sexual violence risk;

it is a reliable, valid, and sufficiently powerful prognostic tool (Boer & Hart, 2009; Rettenberger, Boer, & Eher, 2011).

The above analysis demonstrates that the area of criminal risk assessment has developed intensively over the past decade; as a result, numerous and various instruments have appeared on the market. For example, a worldwide survey of 2135 mental health professionals (the survey covered 44 countries) showed that over the past 12 months they used at their places of work more than 400 instruments for violence risk assessment (Singh et al., 2014). Among the most frequently mentioned instruments, approximately one half consisted of statistical ones and one half of instruments based on the SPJ. As is indicated in an overview of surveys targeting professionals by Hurducas and colleagues (2014), 104 professionals (largely from the USA and UK) usually used the PCL-R or PCL:SV and the HCR-20 in order to assess the risk of violence. Over that period of time, a substantial number of meta-analyses of the application of these instruments was published which shows that intensive research has been carried out in this field of knowledge. One of them (Campbell, French, & Gendreau, 2009), having reviewed 88 studies, states that the volume of effect produced by various instruments (e.g., HCR-20, LSI-R, PCL:SV, etc.) regarding the prognostic chances for violence actually did not show any statistically significant differences; however, the VRAG was the best in the area of predicting violent re-offense. Moreover, the authors argued that more precise instruments were the ones which gathered information not only about static but also about dynamic risk factors.

Another meta-analysis (Yang, Wong, & Coid, 2010), having compared the prognostic validity of nine risk assessment instruments, both actuarial and PSJ, states that all instruments predict criminal re-offense similarly (except the PCL-R); however high heterogeneity was present in the results. Twenty-five percent of heterogeneity was accounted for by differences among the instruments themselves, while the rest of the variation in the data was due to certain methodological differences among researches (e.g., different age of research participants, observation period, and especially the definition of sexual violence). Indeed, instruments are used across very different populations: general, psychiatry patients, forensic psychiatry patients, convicts serving their terms in prison, or convicts with alternative punishments. With regard specifically to forensic psychiatry patients, huge differences can be observed among countries which determine specific features of forming a particular sample. For example, in some countries, personality disorders represent the object of forensic psychiatry, while in other countries they do not. The same can also be said about differences in risk assessment data in male and female populations. The authors encourage research in this area, arguing that inquiry into the specific criminogenic

needs of both genders will help to improve interventions (Garcia-Mansilla, Rosenfeld, & Nicholls, 2009). Such a need is also illustrated by Kreis, Schwannauer and Gillings (2014) who carried out meta-analysis of studies investigating the re-offense risk factors in females. Although it was found that female criminal risk factors are mentioned most often, the authors state that research findings are not corroborated or thorough. What is more, out of 593 research studies which answered the primary search criteria, only 8 were included in the final analysis. Clearly, inquiry into criminal risk posed by females needs attention and thoughtfulness.

Analysis of the literature on risk assessment demonstrates that statistical instruments predict sexual re-offense more successfully compared to SPJ ones (Hanson & Morton-Bourgon, 2009). However, as noted by Douglas and colleagues (2014a), virtually all comparisons which have revealed similar prediction indices of statistical and SPJ instruments were performed by summing up the ratings on items provided in SPJ instrument manuals, i.e., by using these instruments as statistical tools. While calculation of summary scores for scientific purposes is recommended, it is also suggested to avoid doing it when performing assessment for clinical purposes because a fixed agreed upon exclusion rating that the rater could use to assign subjects into groups of low, medium, or high risk is missing (Boer et al., 1997; Webster et al., 2007). Evidently, simple administration of an instrument, especially with regard to the group of SPJ instruments, cannot be considered a risk assessment procedure because it represents only one of many constituent parts of this process; this thought is highlighted by scientific discussions (Douglas et al., 2014; Hanson, 2009; Mills, 2017). In order to avoid such problem in some updated versions of SPJ instruments, a chance of rating by points has ceased to exist.

Another meta-analysis focused on the validity of violence risk assessment instruments (Fazel, Singh, Doll, & Grann, 2012). Having generalized data from 13 countries (73 general and convict populations, 24847 individuals in total), the authors made the following conclusion: instruments spotlighted persons characterized by high violence and general criminal re-offense with a medium degree of accuracy but only in cases when social rehabilitation or other risk management goals were sought after. If risk assessment findings were used in determining a penalty or sanctions or in making a decision concerning the person's release from prison, a tendency to overrate/increase possible manifestations of violence or general criminality in the future was observed. The good news is this: all instruments allowed identification of persons with a low level of criminal risk quite accurately. It must be noted that this meta-analysis was interested in the characteristics of nine instruments, which are described in great detail also in this book (LSI-R, PCL-R, SORAG, HCR-20, SARA, etc.).

## 2.4. Overview of the situation of criminal risk assessment in Lithuania

Upon the restitution of independence of Lithuania, criminal policy like many other areas of national administration faced an urgent need to introduce reforms. According to Sakalauskas (2012), comparative analysis of criminal justice carried out in the context of European Union integration in 1991-2002 allowed for the following statement: Lithuania was among the EU leaders by the number of incarcerated offenders per 100 000 residents; and the frequency of application of incarceration as a means of punishment was one of the highest. This problem was already mentioned in the previous chapter. However, research findings and world practice shows that isolation of the offender *per se* does not secure behavior correction; sometimes it complicates his re-integration into society even more. It became evident that in Lithuania, chances of alternative punishments, that is, punishments unrelated to incarceration (e.g., limiting of freedom, public works, release on probation, etc.) were insufficiently exhausted in the process of a convicted person's resocialization (Mackevičius and Rakštelis, 2010). Accordingly, taking into consideration European Council Committee of Ministers recommendations for the area of criminal policy (Bikelis, 2012) and seeking to reduce the number of persons sentenced to imprisonment, a new Lithuanian punishment performance code was adopted in 2002; this code established the following principles: punishment performance individualization, social community participation in the process of convicts' correction, and just and progressive performance of punishment (Malevski and Valentukonis, 2014). In this case special attention was paid to the assessment of criminal risk.

As mentioned above, criminal behavior prognosis seeks to determine the probability of re-offense describing simultaneously the criminogenic needs able to affect it and the possible ways of managing criminal behavior risk, etc. Assessment of the risk and social rehabilitation which were carried out drawing on assessment results have been integrated into the Lithuanian Law on Probation (No XI-1860) adopted on 22 December 2011, and into the Lithuanian Law on Amending the Punishment Performance Code (No XII-1818) adopted on 23 June 2015. The Lithuanian Law on Probation (2011) states that criminal risk assessment is a standardized inquiry into the probability of an indicted or sentenced person's criminal behavior and the chances of its reduction. The Lithuanian Law on Amending the Punishment Performance Code (2015) states that in order to manage the criminal behavior and implement restorative justice, the following actions of social rehabilitation of convicts must be performed: 1) assess the criminal risk (based on methodologies and programs approved by the PD director); 2) identify criminogenic factors; and

3) identify and implement measures by which variable criminogenic factors are eliminated. Furthermore, on the basis of the OASys methodology for assessing risk posed by convicts, a social research conclusion form (Lithuanian Minister of Justice Order No IR-159 of 14 June 2012) was approved.

In Lithuania, criminal risk assessment is usually carried out at the beginning of the period of incarceration when officers have to decide on the specific aspects of their corrective work with the convict (Ustinavičiūtė, 2012), or make decisions concerning his release on probation. Assessment of risk provides information about a convict's qualities and his criminogenic needs, the urgency of which may be reduced or eliminated by applying purposefully relevant intervention measures (Čėsniėnė, 2007). However, it must be noted that risk assessment can be used at practically every stage of the criminal justice system. For example, such assessment may help to predict the behavior of an arrested person, helping judges to determine the most suitable preventive measure. It must be borne in mind that the primary purpose of this measure is to secure undisturbed pre-trial examination and to put a stop to new criminal acts. Accordingly, the suspect may be arrested if there is a well-grounded opinion that he will run away or hide himself, interfere with the process, or commit new crimes. However, analysis of the arrest regulation and application practice has exhibited the inclination of Lithuanian courts to use this preventive measure too often, and their unwillingness to apply alternative measures (Sakalauskas, 2014; Human Rights Monitoring Institute, 2011). It is equally important to note that the courts, when providing the grounds for arrest, deviate in some cases from the practice established by the European Court of Human Rights (ECHR), especially in the interpretation of the grounds for arrest.

The ECHR, in its practice, has emphasized many times that the probability of a suspect's running away, hiding, or committing a new criminal act cannot be measured solely by the stricture of sanction, which threatens him; it should be assessed also taking into consideration other significant circumstances (Human Rights Monitoring Institute, 2011). In this case, criminal risk assessment results could be of service by providing unique information about the specific qualities of the arrested person, facilitating in this way the process of adopting a decision concerning further preventive measures.

Prison Department under the Ministry of Justice of the Republic of Lithuania (hereafter referred to as the PD), has recognized the importance of criminal risk assessment, therefore, acquired in 2007-2012 six criminal risk assessment instruments successfully used in Western Europe and North America (HCR-20, PCL:SV, OASys, SVR-20, SARA and B-SAFER) and carried out steps necessary for their adaptation. For example, the OASys was adapted in Lithuania in 2011. Research findings corroborated its effectiveness in assessing criminogenic factors, differentiating offender

groups by risk, and predicting the criminal behavior of Lithuanian convicts reliably (Ustinavičiūtė, 2012; Ustinavičiūtė et al., 2009, 2010). During adaptation of the PCL:SV in 2008, research was carried out, and findings corroborated the constructive validity of the PCL:SV posited by its authors in a sample of Lithuanian convicts (Laurinavičius et al., 2011; Žukauskienė et al., 2010). Research performed in 2008–2009 across the population of Lithuanian offenders convicted for sexual offenses also reconfirms the validity of the SVR-20 (Mitrauskas & Čėsniėnė, 2011). What is more, numerous research studies have been carried out using the HCR-20, and they elicited data from both forensic psychiatry patients and convicts (Čėsniėnė, 2010). Upon completion of a longitudinal research study, it was concluded that the prognostic power of the final criminal risk judgement passed based on the HCR-20 was quite good for a period of 5 years in the case of a violent crime (Čėsniėnė & Klimukienė, 2014). During the adaptation of the SARA and B-SAFER, research into prognostic validity of these methodologies was carried out in 2007 and 2008 (Žukauskienė & Laurinavičius, 2009; Laurinavičius & Žukauskienė, 2009). The findings showed that qualified raters could classify subjects by risk groups based on the factors of violence against a spouse and the description of rating criteria provided by these tools (Žukauskienė & Laurinavičius, 2009). The findings also indicate that these factors predict violence within two months (Laurinavičius & Žukauskienė, 2009).

The findings were presented in national and foreign publications and at conferences (in addition to the already specified ones, Čėsniėnė, 2010; Žukauskienė et al., 2014, etc.). Accordingly, behavioral correction programs, such as “One-to-one”, or “Behavior-Conversation-Change” (BCC), or “Equip”, etc. were also adapted to convicts with different criminogenic needs. Approval of criminal risk assessment instruments and behavioral correction programs confirmed by the PD director’s order No V-211 of 25 June 2012 opened wider prospects to the individualization of punishment performance in a definite case, encouraging more progressive development of the punishment performance system in Lithuania.

In sum, it is possible to argue that general and specific criminal risk assessment instruments recognized in the world and empirically grounded have been adapted and are currently used in Lithuania. Each of these instruments is featured by a separate assessment object, rating / assessment model, and requirements for the user, etc. Table 1 offers general main characteristics of risk assessment instruments approved and practically applied in Lithuania. As already mentioned, standardized criminal risk assessment instruments ought to identify not only the factors of risk posed by the offender or intervention measures but also cover the appraisal of social rehabilitation progress. As is indicated by the table, almost all criminal risk assessment instruments approved in Lithuania answer these requirements.

**Table 1. Characteristics of criminal risk assessment instruments used in Lithuania.**

Instrument	Character of the risk-under-assessment	Age of the ratee	Risk management plan as a constituent part of the instrument	Duration of the assessment procedure	Character of the instrument	Qualification of the rater
OASys	General criminal risk	From 18 years	Yes	OASys 1 - 90 min. OASys 2 - 180 min.	Combined (statistical and SPJ)	1
HCR:20	Violence risk	From 18 years	HCR-20 V2 - no HCR-20 V3 - yes	Not specified	SPJ	2
SVR-20	Sexual violence risk	From 18 years	No*	Not specified	SPJ	2
SARA/B-SAFER	Violence against spouse / partner risk	From 18 years	No*	60-90 min.	SPJ	2
PCL:SV	Psychopathy as a factor increasing the criminal risk	From 18 years	No*	80 min.	Scale	3

\* Risk assessment data are used for risk management planning.

Note: SPJ – structured professional judgement; meanings of digits representing the level of rater's qualification: 1 – a practitioner qualified to use the instrument; 2 – a psychologist or comparable speciality (psychiatrist, social worker, etc.) practitioner with the knowledge of and skills in testing; 3 – a professional meeting requirements for level 2 and having clinical assessment experience.

It must be noted that accurate appraisal of risk is based on the corresponding qualifications of the rater and his competence to carry out the rating. A qualified rater bases his judgements on data collected from various sources using specially-designed procedures, he interprets them following instructions given in user's manuals or some other structured patterns, and his judgement concerning final risk is passed with regard to all significant elements (Heilbrun, 2009). For this reason, exceptional attention is paid to raters' training and to the improvement of their professional qualification. The PD training center (2012) has publicized that training courses involving all methodologies discussed in this chapter (except B-SAFER which is virtually a simplified form of SARA) are run almost annually. Therefore, corresponding knowledge and skills are acquired by specialists working with target groups (see Table 2).

**Table 2. Number of professionals who participated in the criminal risk assessment instrument trainings in 2012-2015.**

Instrument	Participants	2012	2013	2014	2015	In total 2012-2015
OASys	N	216	55	35	17	323
	PSI	7	5	1	3	16
HCR-20	N	29	17	–	6	52
	PSI	21	8	–	5	34
SVR-20	N	29	17	–	6	52
	PSI	21	8	–	5	34
SARA	N	29	17	–	7	53
	PSI	21	9	–	5	35
B-SAFER	N	–	–	–	–	–
	PSI	–	–	–	–	–
PCL:SV	N	29	17	–	7	53
	PSI	21	9	–	5	35

*Note:* N – total number of professionals who participated in trainings (including professionals from psychological service institutions); PSI – professionals from psychological service institutions.

In summary, it is possible to state that there are several instruments in Lithuania which have been adapted and are currently used for the assessment of risk proceeding both from specific (e.g., HCR-20, SVR-20), and general criminal behavior



(e.g., OASys). Importantly, the PD training centre offers training and long-term supervision to professionals in order to solve various problems connected with the application of these instruments.

However, in spite of these positive changes, some problems related to criminal risk assessment or some arguable aspects of these problems largely concerning the practice of assessing general and specific risk still exist. Firstly, it must be mentioned that a social inquiry report form and methodological recommendations for its development were approved by the Lithuanian Minister of Justice Order No IR-159 of 14 June 2012 and Order No 1R-229 of 20 August 2015 for the purpose of forming a uniform practice at probation and corrective institutions. The social inquiry report form is mostly based on the structure of the OASys methodology, which means that the OASys is almost becoming the only obligatory method of assessment.

Thus, only the general criminal risk, non-specific to the offensive act committed by convicts or offenders released on probation, is assessed obligatorily, which in certain cases may lead to erroneous conclusions. Besides, risk assessment by the OASys is statistical, i.e., future behavior is predicted on the basis of statistical information gathered. Consequently, as many as 30 percent of the final risk score consists of information about former offenses. Therefore, risk assessment for first-time offenders, if performed on the grounds of this methodology, cannot be very accurate. Likewise, if offenses are specific (violent, sexual, etc.), the OASys assessment fails to produce reliable information on the risk of re-offense. What is more, criminal behavior risk assessment instruments designed specifically for underage offenders are missing in Lithuania. This means that this type of risk is assessed with the help of the OASys methodology. Since the OASys is intended for adults, some parts of it do not reflect the underage person's reality; as such, they are omitted (e.g. items about offenses committed in adulthood or relations with a partner). For this reason the criminal risk score for underage persons is often inadequately low, which fails to reflect the real situation.

Another problem is related to raters' qualifications. On the one hand, adequate attention is given to this issue because raters are trained and supervised. On the other hand, the OASys may be administrated also by officers and not only by professionals with special education (e.g., psychologists, social worker, psychiatrists), which is common in the case of assessing specific risks. Understandably, officers who do not have specialized knowledge find it harder to assess various behavioral, emotional, and cognitive problems. The findings of research show that some scales, such as "Thinking and behavior" or "Attitudes" are much more difficult to rate reliably (Bullok, 2011). It was also noticed that quite often the OASys ratings

were not exhaustive or were incomplete or improperly filled out (Howard, 2009; Moore 2007; Morton, 2009). Bearing in mind that the methodology may be used by successful trainees representing various professions and having different education or work experience, it is evident that rating mistakes are unavoidable (Bullok, 2011). It is possible that similar tendencies also exist in Lithuania because differing assessment practices have been developed in separate corrective institutions. For example, in some institutions, all assessment work is performed by one person (usually, the head of the unit); in other institutions, some parts of the OASys, such as “Thinking and behavior”, “Attitudes”, and “Emotional well-being” are rated by psychologists, and the rest by officers. So, there are reasons for stating that in such case the compatibility of evaluators may be insufficiently high.

Finally, emphasis should be given to the following circumstance: work load connected with the assessment of risk posed by convicts is steadily increasing both at foreign and Lithuanian corrective institutions due to the rising need to manage criminal risk. However, currently the ratio of criminal risk raters to their subjects is disproportional. Corrective institutions face substantial turnover of personnel; moreover, the number of professionals with psychological training is perpetually insufficient. This means that not all professionals trained to administer risk assessment instruments are still employed at institutions under the PD, and newly-employed personnel still cannot perform all functions assigned to them because they are not adequately trained. Before the training starts, assessment is performed by professionals who are already able to do it. Because of this, their work load increases even more, which gives rise not only to huge stress and dissatisfaction but also increases the probability of rating mistakes.

In summary, data collected in the past few years show that imprisonment as a form of punishment continues to be used more often; while application of release on probation is seldom used. In Lithuania, the number of incarcerated offenders dropped down in 2013 to its 2001-2002 level, occupying now the third place (after Russia and Belarus) among all European states by the number of prisoners (Sakalauskas, 2014). In 2016, similar tendencies were observed: Lithuanian institutions housed 7355 convicts, i.e., 254 convicts per 100 000 residents of Lithuania (The International Centre of Prison Studies, 2017). This rate was, again, lower than the one demonstrated by Russia and Belarus, exceeding significantly the rates shown by older EU member states. Proper imprisonment (deprivation of liberty and arrest) in our country accounts for almost 40 percent of all punishments awarded – this is a very large proportion compared to many other European countries; the absolute value of punishments involving proper imprisonment in 2014 was the highest (4953) for the past 10 years; and of proper arrests (2484) –

almost twice as big as in 2004 (1352) (Sakalauskas, 2014). The relative proportion of punishments non-related with proper imprisonment increased over 2012–2014, mostly due to more intensive prosecution of domestic violence. Obviously, this situation demands more thorough analysis and strategic decisions in the nearest future because imprisonment usually fails to put a stop to a repeated offense. On the contrary, it increases the probability of committing such an act in future. In the following chapters of this monograph, this fact is discussed in greater detail and substantiated with research findings.

Based on the literature, the general goal of this research was formulated – to appraise the relationships between personality traits exhibited by persons convicted of violent crimes of various character and criminal risk factors. In order to achieve this goal, the following general research objectives were formulated:

- To assess the personality traits of offenders sentenced to imprisonment and the criminal risk posed by them;
- To carry out violent behavior risk assessment by using specialized violence risk assessment instruments and applying personality questionnaire survey results;
- To provide an analysis of misconduct committed by convicts at corrective institutions one year after their primary assessment, and to determine the prognostic capabilities of personality traits and criminal risk assessments;
- To offer practical insights to professionals working with convicts.

Accordingly, empiric research was composed of two stages. Below, a general description of the methodology used at each stage is provided; detailed methodology, together with specific targets and hypotheses, is given in Chapters 4-6 dealing with separate aspects of this research.

### 3.1. The first stage of the research

**3.1.1. Research participants.** In order to achieve results reflecting the population of incarcerated offenders as accurately as possible, the random sampling method (when each unit of a definite population has equal chances to be invited to participate in a particular study) was used. Through random sampling, 401 participants (351 males and 50 females) serving their terms in corrective institutions of Lithuania were selected. Randomly generated numbers were forwarded to corrective institutions, and psychologists working at those corrective institutions invited persons corresponding to those numbers in the institution's general list of convicts to participate in the research. Upon giving their consent to participate, convicts signed a written consent form, gave answers to the questions of a semi-structured interview and social-demographic data questionnaire, and filled out a questionnaire prepared for this research. A total of 334 persons (83%) agreed to take part in

the research of whom 287 were males and 47 females. The mean age of the males was 35.2 years (SD=11.5), and their mean conviction rate was 4.9 (SD=3.9). The mean age of the females participating in the research was 37.7 years (SD=11.0), and their mean conviction rate was 3.9 (SD=3.4). Following one year after the primary data collection, the corrective institutions involved in this research were asked to give data about participants' behavior (e.g., infringements of regulations and the character of these offences) at those institutions. It must be noted that all information about convicts (e.g., assessment protocols, questionnaires, register of offences) was forwarded to the PD where it was anonymized; only after that was the information handed over to the group of researchers involved in this research.

**3.1.2. Research instruments and other data collection methods.** *Socio-demographic questionnaire.* Questionnaires were filled out based on the results produced by the interviews with the convicts. Convicts were interviewed by a psychologist working at the institution. Information was gathered about the age, education, number and character of previous convictions, marital status, previous psychiatric treatment, facts concerning crimes committed under the influence of psychoactive substances, working experience, etc.

*The Offender Assessment System (OASys).* This instrument is intended for assessing the risk of reconviction posed by persons released from prison (Home Office, 2002). The OASys consists of 12 main sections:

- 1) Offending Information (current and previous offences against the law);
- 2) Analysis of Offences;
- 3) Accommodation (description of the living conditions, quality of the dwelling and locality);
- 4) Education, Training and Employability (history of work and training);
- 5) Financial Management and Income (ability to distribute one's income);
- 6) Relationships (the quality of relations with other people and the connection between these relations and offensive behavior is assessed);
- 7) Lifestyle and Associates (leisure and with whom one interacts);
- 8) Drug Misuse;
- 9) Alcohol Misuse;
- 10) Emotional Well-being (emotional problems interfering with the daily functioning of self and others);
- 11) Thinking and Behavior (one's features of thinking, especially aspects related to social problems);
- 12) Attitudes (how one views his / her offensive acts and prescribed supervision).

A system of the determinate range of scores for all individual items is used in the OASys methodology. The interval of scores for each separate item is 0, 1, and 2. The rating is performed based on information from the personal criminal case file, custodial sentence, information obtained by interviewing the offender using a semi-structured interview, and additional information supplied by social workers, the offender's family and friends, etc. (Home Office, 2002). Research findings corroborated the capacity of this methodology to predict reoffending of Lithuanian offenders reliably (Ustinavičiūtė, 2012; Ustinavičiūtė et al., 2009, 2010).

*The Minnesota Multiphasic Personality Inventory-2* (MMPI-2; Butcher, Graham, Ben-Porath, Tellegen, Dahlstrom, & Kaemer, 2013). This instrument represents a self-report, standardized personality assessment questionnaire containing 567 statements. The questionnaire consists of Clinical, Restructured Clinical, Content, Supplementary, and Personality Psychopathology Five scales. When giving answers to given statements, the subject is to choose one answer *Yes* or *No*. MMPI-2 was adapted and standardized in Lithuania in 2013, which allowed for research into the capacity of its application for the assessment of offenders. The MMPI-2 is the most-widely researched and the most frequently used standardized personality assessment instrument in the world, and it is also one of the most popular tools in the forensic settings (Archer et al., 2006). The MMPI-2 questionnaire scales assess such important personality features as the use of psychoactive substances, control of aggression, asocial behavior, suicidal tendencies, etc. More detailed information about the Lithuanian MMPI-2 can be found in the Manual (Butcher et al., 2013); information about the scales comprising this instrument and their interpretation is given in Chapter 4 of this monograph.

*The Offender Misconduct Assessment Questionnaire*. Data about misconduct of research participants over the period of one year was gathered by psychologists working at corresponding corrective institutions. Based on official records made in the convicted persons' cards, they marked the dates and character of infringements on internal regulations and rules of the institution. This was done following the principle that information recorded on the questionnaire reflected objectively the observed conduct problems of the convict and was a reliable external variable helping to relate psychological assessment performed in different ways (OASys and MMPI-2) with problematic or dangerous behavior.

Misconduct means all actions which were recorded by officers and which brought upon the convict a certain sanction or penalty (e.g., warning or reprimand, ban on purchasing food, solitary confinement, etc.). Here are some examples of such behavior: infringements of a general character and breaking of rules, all violations which can be regarded as especially harmful or disturbing to the safety of

the institution (e.g., arson, distribution of narcotics, weapon possession, telephone possession), and assault on personnel or other convicts. Authors of monograph created this questionnaire.

**3.1.3. Research procedure.** The first stage of research was carried out in May-September 2015. At the beginning, after intensive analysis of theoretical and methodological aspects of the research, necessary documentation was prepared; then followed the co-ordination of actions with all corrective institutions concerning implementation of the research. It must be noted that the project was presented at the Conference of PD leaders, heads of PD units, and directors of institutions under the PD held at the PD on 5<sup>th</sup> of May in 2015. This secured the diffusion of the research design across corrective institutions and timely execution of scheduled tasks.

Upon reception of official PD statistics on offenders incarcerated in all corrective institutions of Lithuania as of May 2015, a sample of research participants (both genders, irrespective of the character of committed offence) was created. This stage involved certain risk connected with the number of participants. Since it was difficult to predict how many persons would agree to take part in the research in the planning stage, more convicts than were needed were invited to participate when forming the sample (401 data questionnaires were mailed off expecting that at least 300 persons will give their consent). Research forms with questionnaires were distributed among employees of corrective institutions, which was followed by detailed instructions to these people. The leading group of researchers visited institutions participating in the research, answering all questions concerning project implementation. Some institutions published information about these meetings on their websites.

Each participant was interviewed, each had a MMPI-2 questionnaire filled out, data from his / her file collected, and the OASys assessment completed. All research data were collected and encoded by the PD; researchers, as prescribed by Lithuanian law, received anonymized data for further analysis. By coincidence, because of amendments to some legislation, in September 2015 unrest developed in the prisons (e.g., protests, hunger strikes), and therefore continuity of the research was threatened. However, an adequately-built schedule allowed for the gathering of most data before that unforeseen event. The rest of the data was collected after the unrest, i.e., by October 2015. Data of this research are provided in Chapter 4.

As planned, protocols for information about misconduct committed by the sample of the first stage research participants (i.e., frequency, character, penalties) over the period of one year were prepared. These data were obtained in October 2016. Corresponding research findings are given in Chapter 6.

## 3.2. The second stage of the research

**3.2.1. Research participants.** The second stage of the research focused on persons incarcerated for a violent crime and their violent behavior risk assessment. The convenience sampling method was used for the research. Criterion for an invitation to participate in the research was the violent character of the invitee's last crime. Taking into consideration relevant literature analysis, and seeking to carry out the tasks set for our empiric research, the following offences were included in the category of violent crimes: homicide (CC, Clause 129-131), purposeful health disturbance (CC, Clause 135, 136 and 138), rape (CC, Clause 149), sexual violence (CC, Clause 150), forcing an underage person to engage in sexual intercourse (CC, Clause 151, part 2), robbery (CC, Clause 180), property extortion (CC, Clause 181), riot (CC, Clause 283), resistance to authority or a person carrying out the functions of public administration (CC, Clause 286).

Like the first stage participants, convicts who agreed to participate signed a written consent form, gave their answers to the questions of a semi-structured interview and social-demographic data questionnaire, and filled out questionnaires prepared for this research. In addition to that, assessment of specific (violent) behavior risk and another psychological appraisal were performed. Research was carried out by psychologists working at three corrective institutions (two male institutions, and one female). A total of 166 persons agreed to take part in the research of whom 116 were males and 50 females. The mean age of the males was 40.5 years (SD=11.8), and their mean conviction rate was 5.9 (SD=3.1). The mean age of the females participating in the research was 41.7 years (SD=12.5), and their mean conviction rate was 1.7 (SD=1.6).

**3.2.2. Research instruments and other data collection methods.** In order to collect data, some methods used for this purpose in the first stage of research were also employed in the second stage: the socio-demographic questionnaire, the OASys and MMPI-2 (see the description of first stage methods). Also, the following violence risk assessment instruments were used:

*The Historical, Clinical and Risk Management Scales-20* (HCR-20; Webster et al., 2007). The HCR-20 is a description of violent behavior risk factors. It consists of 20 statements, the first ten of which cover factors of the past (Historical, abbr. H), the following five describe factors of the present day (clinical data, or Clinical, abbr. C), and the other five cover variables of the future (risk management data, or Risk Management, abbr. R):

- 1) Previous Violence;



- 2) Young Age at First Violent Incident;
- 3) Relationship Instability;
- 4) Employment Problems;
- 5) Substance Use Problems;
- 6) Major Mental Illness;
- 7) Psychopathy;
- 8) Early Maladjustment;
- 9) Personality Disorder;
- 10) Prior Supervision Failure;
- 11) Lack of Insight;
- 12) Negative Attitudes;
- 13) Active Symptoms of Major Mental Illness;
- 14) Impulsivity;
- 15) Unresponsive to treatment;
- 16) Plans Lacking Feasibility;
- 17) Exposure to Destabilizers;
- 18) Lack of Personal Support;
- 19) Noncompliance with Remediation Attempts;
- 20) Stress.

Taking into consideration the firmness of belief that the rated risk factor exists beyond any doubt each of statement is assessed on the interval of scores 0, 1, and 2. The prognostic power of the final judgement concerning criminal risk made based on HCR-20 methodology is valid for a period of five years, which is quite good in the case of violent crimes committed in Lithuania; however, prognosis of general offensive behavior is statistically significant but not very marked (Čėsnienė & Klimukienė, 2014).

*The Sexual Violence Risk-20 (SVR-20)* contains structured clinical recommendations for the assessment of violent sexual criminal behavior (Boer, Hart, Kropp, & Webster, 1997). The instrument consists of 20 statements:

1. Sexual Deviation;
2. Victim of Sexual Abuse;
3. Psychopathy;
4. Major Mental Illness;
5. Substance Use Problems;
6. Suicidal / Homicidal Ideation;
7. Relational Problems;
8. Employment Problems;
9. Past Non-sexual Violent Offences;

10. Past Non-violent Offences;
11. Previous Supervision Failures;
12. High Density Sex Offences;
13. Multiple Sex Offence Type;
14. Physical Harm to Victim(s) in Sex Offences;
15. Uses Weapon / Threats in Sex Offences;
16. Escalation in Frequency / Severity of Offences;
17. Extreme Minimization or Denial of Sex Offences;
18. Attitudes that Support or Condone Sex Offences;
19. Lacks Realistic Plans;
20. Negative Attitude Towards Intervention.

Statements 1-11 describe the psychosocial functioning of a person; statements 12-18 cover the features of a sexual crime; and statements 19-20 address factors connected with future plans. Each statement is rated in a way similar to the rating on the HCR-20, based on a 3-level rating scale; moreover, the rater is required to indicate additionally whether the intensity of display of definite certain factor has changed lately. This information may be useful when carrying out clinical assessment or when trying to choose the most suitable risk management strategy, or to predict whether the general risk posed by the person will increase or decrease with time (i.e., to capture the dynamic factors of risk). The final judgement is formulated using such notions as “low”, “medium”, and “high” risk. The SVR-20 is distinguished by criterion validity (Mitrauskas & Čėsniënė, 2011).

*The Hare Psychopathy Checklist: Screening Version (PCL:SV; Hart et al., 2009).* Based on all of the information gathered, the following 12 characteristics of a person are rated on a 3-level rating scale from 0 to 2:

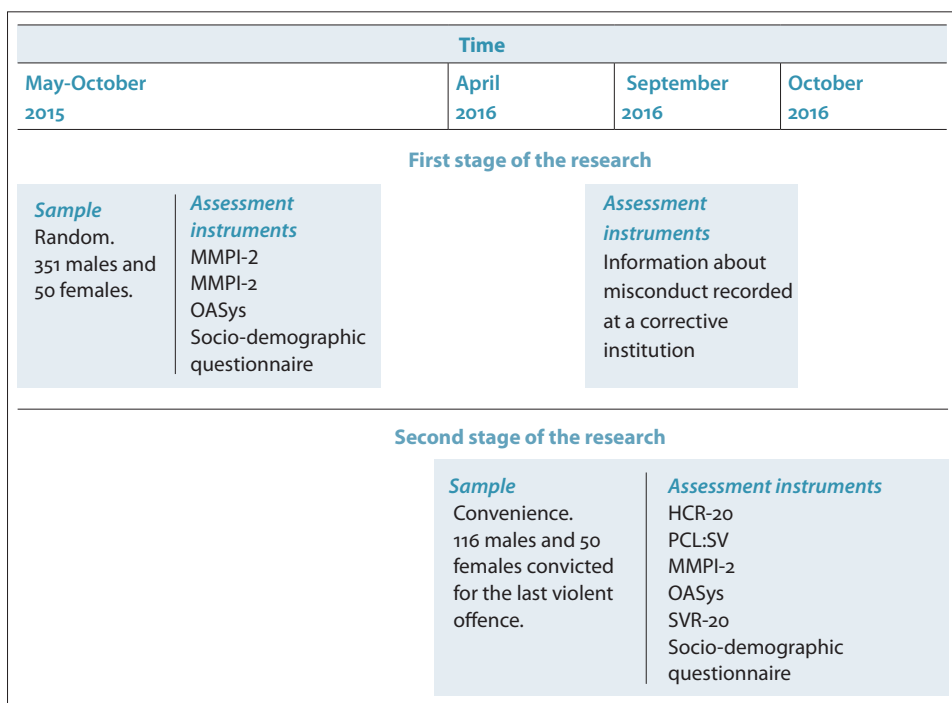
- 1) Superficial;
- 2) Grandiose;
- 3) Deceitful;
- 4) Lacks Remorse;
- 5) Lacks Empathy;
- 6) Does not Accept Responsibility;
- 7) Impulsive;
- 8) Poor Behavioral Controls;
- 9) Lack Goals;
- 10) Irresponsible;
- 11) Adolescents Antisocial Behavior;
- 12) Adult Antisocial Behavior.

The PCL:SV Manual provides descriptions of each statement to be rated, which helps the rater to rate every statement. The PCL:SV instrument, by its nature, is a scale. Its digital expression represents the sum total of ratings given for each statement. The digital expression of this scale may vary from 0 to 24, reflecting the level of expression of the subject's psychopathy in comparison with other members of the population. On the PCL:SV, persons who are 18 or older can be assessed. The assessment procedure consists of a semi-structured interview and collection and analysis of additional information. PCL:SV research carried out in the sample of Lithuanian convicts demonstrated high construct validity of this methodology (Laurinavičius et al., 2011; Žukauskienė et al., 2010). A psychopathy assessment is also included in the HCR-20 and SVR-20 as additional information for passing a judgment concerning the risk of reconviction.

**3.2.3. Research procedure.** Preparatory actions for the second stage of research produced necessary material (e.g., instructions, data collection protocols, etc.). This time it was decided to form a convenience sample of persons convicted for violent offences (at least 150 persons of both genders) at three corrective institutions of Lithuania – in Alytus and Lukiškės (males), and in Panevėžys (females). Such a decision was made according to the availability of adequately-qualified psychologists employed at those institutions, which is vital for the administration of violent risk assessment instruments (HCR-20, PCL:SV, SVR-20). It must be noted that people cannot use these instruments unless they possess special competences and skills.

Data were collected in 2016. Following detailed instructions, research material was distributed among the employees of Alytus Correction House, Lukiskes Remand Prison-Closed Prison, and Panevezys Correction House. Members of the project's leading researcher group visited these institutions and answered all questions asked by employees involved in the research. Consent to participate in the research was received (in total 166 persons of whom 50 were females and 116 males); personality assessment (by the MMPI-2 questionnaire) and criminal risk assessment (by the OASys, PCL:SV and HCR-20 of all research participants, by the SVR-20 only of persons convicted of sexual offences) was performed. Data of this research are presented in Chapter 5.

A detailed scheme of the whole research is shown in Fig.1.



**Fig. 1. Scheme of the research stages.**

### 3.3. Methods of statistical analysis

IBM SPSS Statistics 24 and Microsoft Excel programs were used for statistical processing and graphic representation of data. Parametric and nonparametric statistical methods were used for comparing groups and assessing relationships between variables. In cases of parametric statistics, the difference of relationship and means was interpreted based on the landmarks of Cohen (1992) effect size interpretation.

# 4

## CONVICT PERSONALITY TRAITS AND CRIMINAL RISK FACTORS

### 4.1. Review of relevant studies

As was previously mentioned in the scientific literature review, personality traits are being intensely studied for the purpose of revealing their likely relation to manifestation of aggressive behavior in individuals. A variety of personality trait inventory tests are utilized abroad for this particular purpose; for instance, there are the NEO PI-R (Personality Inventory-Revised; Costa & McCrae, 1992), MPQ (Multidimensional Personality Questionnaire; Tellegen, 1982) and many others, but as the MMPI-2 (The Minnesota Multiphasic Personality Inventory; Butcher et al., 2001) is the most often used inventory, the most extensive presentation is provided about that.

**4.1.1. MMPI-2 applicability and prevalence.** The Minnesota Multiphasic Personality Inventory 2 (MMPI-2), as well as its original edition (MMPI) and its increasingly popular shortened version (MMPI-2-RF), is one of the most frequently used self-report inventories in the world (Graham, 2012; Grover, 2011) for the assessment of personality traits and psychological disorders (Butcher et al., 2001; Butcher et al., 2013). Although the primary intention for creating the MMPI was related to its application in the clinical setting, it began to be used in other areas during its development and improvement, such as law enforcement, among others. (Ben-Porath & Graham, 1995). From the outset, many researchers who were using this inventory, directed their studies towards investigating the etiology of criminal conduct in order to explain the psychological mechanisms behind various crimes and to describe and explain the criminal conduct of offenders (Sellbom & Anderson, 2013); however, the field of MMPI-2 application has widened considerably since then. Due to standardized administration and its plentiful use for scientific research, the MMPI-2 has not only become the most frequently used personality assessment instrument in general, but also the most frequently used personality assessment questionnaire in custodial evaluation (Archer, Hagan, Mason, Handel, & Archer, 2012; Archer, Buffington-Vollum, Stredny, & Handel, 2006). The MMPI-2 is currently employed for various purposes both in criminal and in civil cases; for instance, for evaluating the competency to stand trial (i.e., understanding of the

legal process and the ability to defend one's case in court), criminal responsibility, mental health problems of defendants and convicts, therapeutic options, as well as identification of children's place of residence, incurred damages, malingering and similar issues relevant in court (Archer et al., 2012; Graham, Ben-Porath, & Stafford, 1995). The MMPI-2 is regarded as a trustworthy assessment questionnaire. A survey of US forensic psychologists lead to the conclusion, that 95% of respondents hold the opinion that the MMPI-2 satisfies the Daubert criteria\* for most court needs (Bow, Gould, Flens, & Greenhut, 2006).

During individual assessment, utmost attention is paid to the validity of acquired data. Validity scales have already been created for the first edition of the MMPI; by using them, the intention was to control data corruption problems inherent to all self-report inventories. The initial version had four validity scales and the MMPI-2 has nine: Cannot Say (omitted items), Inconsistent Response Scales (VRIN – Variable Response Inconsistency and TRIN – True Response Inconsistency scales), Infrequent Responses (F – Infrequency, Fb – Back F, Fp – Infrequency-Psychopathology scales) and Defensiveness (L – Lie, K – Correction, S – Superlative Self-Presentation scales). These scales assess the subjects' attitudes towards the assessment. Thus the Infrequent Response scales demonstrate the subjects' aim to exaggerate the intensity of measured symptoms of Psychopathology, and Defensiveness scales manifest their aim to disprove the existence of certain psychological problems (Butcher et al., 2001; Butcher et al., 2013). Validity scales can provide valuable information for the assessors on subjects' attitudes towards the evaluation, independent of their knowledge of the existence of validity scales; however, the individual MMPI-2 assessment must be carried out only by well-trained professionals, especially in custodial evaluation (Graham, 2012).

Although validity scales provide valuable information on the individuals' attitudes towards the assessment, when assessing different populations, when the aim is to establish defining characteristics of these populations, validity scales are used for selection of protocols suitable for analysis. When conducting comparative analysis of convict populations, it is customary to provide data on the quantity of invalid protocols. For instance, one article mentions that there are 15% (Megargee, Mercer, & Carbonell, 1999) or 21% (Black et al., 2004) of such protocols, and some authors even mention 40% (Wright, Nussbaum, Lynett, & Buis, 1997). One can

\* The Daubert criteria define stricter requirements for scientific evidence by highlighting the importance of sound scientific knowledge (Melton, Petrila, Poythress, & Slobogin, 2007). They serve as a basis for the assumption that the method used to substantiate a claim should be open to empirical testing, analyzed in detail in scientific articles and recognized by the scientific community in the relevant field, and must have precise definitions and clearly defined limits of application.

argue that the distinguishing feature of the convict sample is not only higher scores on certain scales but also larger numbers of protocols unfit for analysis. Some studies have reported more than half of respondents' data to be invalid (Ardolf, Denny, & Houston, 2007); however it is worth mentioning that sampling criteria chosen by different authors might vary slightly.

*4.1.2. Application of the MMPI-2 for testing convict populations.* MMPI-2 studies of convict populations highlight characteristics inherent to this social group, which, as has been stated above, are mostly thought to be related to the etiology of criminal conduct. Convicts' MMPI-2 scores reflect stronger manifestation of antisocial behavior, irresponsibility, substance abuse, disconstraint etc. Convicts also have other problems, such as higher levels of depression, and health problems, and these characteristics may be associated with conditions at the place of incarceration. A review of the most general results of studies in which different convict populations were assessed using the MMPI-2 is provided below.

While analyzing the MMPI-2-based descriptive studies of offenders, a study by Black et al. (2004) conducted in the USA seems exceptional due to its large sample size. It investigated the frequency of clinically significant scale scores from a sample of 34281 males and 6878 females. The results of this study revealed that 66% of incarcerated males and 70% of incarcerated females had a higher score on at least one scale ( $T > 64$ ), and the scales of Psychopathy Deviate (Pd), Paranoia (Pa) as well as Hypomania (Ma) had the most frequent occurrence of higher scores. Megargee, Mercer and Carbonell (1999) arrived at similar results in their study, during which they analyzed data from 842 (425 males and 417 females) MMPI-2 protocols. This study was concerned with analysis of frequency of combinations of Clinical scales, the frequency of clinically significant  $T$ -scores in specific scales as well as means of MMPI-2 scales. It was found that 60.5% of inmates had higher scores in at least one Clinical scale with the Psychopathy Deviate (Pd) scale being the most prevalent. With regards to mean scores of the MMPI-2, it has been observed that the scores for the main Clinical, Content and Supplementary scales were similar between males and females. The offenders had higher scores of Hypochondriasis (Hs), Depression (D), Psychopathy (Pd), Paranoia (Pa), Psychasthenia (Pt), Schizophrenia (Sc), Hypomania (Ma), Anxiety (ANX), Health Concerns (HEA), Bizarre Mentation (BIZ), Cynicism (CYN), Antisocial Practices (ASP), Negative Treatment Indicators (TRT), College Maladjustment (Mt), Anxiety (A), Post-Traumatic Stress Disorder-Keane (PK), Marital Distress (MDS), Overcontrolled Hostility (O-H), MacAndrew Alcoholism Scale-Revised (MAC-R), Addiction Admission (AAS) and lower Ego Strength (Es), Dominance (Do), and Social

Responsibility (Re). The authors' hypotheses were largely confirmed. The effect size of differences reached  $d = 1.35$ , which, according to Cohen (1992), is considered to be a large effect size. It is worth mentioning that differences within the female group had larger effect sizes. This might be explained by the fact that despite the almost equal number of males and females in the general population, females constitute about 5% of the population of correctional facilities. This might mean that incarcerated females are more socially deviant than incarcerated males (Megargee et al., 1999).

Similar results were obtained in another study conducted in the USA which analyzed the MMPI-2 scores of 233 male convicts (Wise, 2009). This study also calculated new Restructured Clinical and Personality Psychopathology Five scales which were products of MMPI-2 development. Restructured Clinical scales were created in order to improve discriminant validity of clinical scales (Tellegen et al., 2003). These authors aimed to purify clinical scales by eliminating items which assessed general unhappiness and dissatisfaction (demoralization) and were included in several clinical scales. Wise (2009) presents results from selected scales and they mostly correspond to results by Megargee et al. (1999). The greatest effect sizes of score differences were found in Pd  $d = 1.48$ , Hs  $d = 1.05$  and MAC-R  $d = 1.01$ . Taking the Restructured Clinical scales into consideration, Demoralization (RCd)  $d = 0.79$ , Somatic Complaints (RC1)  $d = 1.06$ , Antisocial Behavior (RC4)  $d = 0.61$ , Ideas of Persecution (RC6)  $d = 0.79$ , Dysfunctional Negative Emotions (RC7)  $d = 0.70$  surpassed the population norms by at least by average effect size. Psychoticism (PSYC) stood out among the scales of Personality Psychopathology Five, which had a score difference with the population norm which almost reached medium effect size  $d = 0.49$ .

Less representative studies with smaller samples of convicts are characterized by similar sets of strongly expressed scales. Ben-Porath, Shondrick and Stafford (1995) have published data on MMPI-2 clinical scale scores of 137 Caucasian and 47 African American male convicts. The results demonstrate that both samples differ between each other only in two scales out of 25: African Americans had higher CYN and ASP scores. This is to show that convicts of different ethnic background share similar characteristics. In this study the sample of Caucasian convicts' Pd ( $T = 67.80$ ), Sc ( $T = 67.80$ ) and ANX ( $T = 61.25$ ) scores surpassed the average scores of population norms, and the African American sample had the following scores: Pa ( $T = 66.77$ ), Pd ( $T = 65.66$ ) and BIZ ( $T = 63.56$ ). Similar results were obtained from the non-English-speaking environment, specifically in a sample of 28 Mexican convicts (Boscan et al., 2002). Mexican convicts most markedly differed from the general population in their high scores on the following Clinical scales: Pd ( $T =$



62.50), Pa ( $T = 62.29$ ), Sc ( $T = 71.64$ ) and Ma ( $T = 62.07$ ). Out of the Content and Supplementary scales, differences in FRS ( $T = 67.75$ ), DEP ( $T = 64.32$ ), FRS ( $T = 67.75$ ), TRT ( $T = 64.25$ ), Es ( $T = 39.00$ ), Do ( $T = 37.04$ ), Re ( $T = 39.14$ ), MAC-R ( $T = 64.25$ ) are also worthy of note. Higher scores on the same scales in differing cultural and linguistic environments suggest that populations of prison inmates in different countries share more similarities than differences.

The MMPI-2 was used for studying very peculiar samples, such as serial killers. Culhane, Hildebrand, Walker and Gray (2014) have analyzed 61 profiles of male serial killers. Despite the peculiarity of the sample, serial killers were described by the same scales, although their scores in most cases surpassed the results published by Megargee et al. (1999). The scores found to be in greatest excess as compared to the population average were Pd ( $T = 74.48$ ), Pa ( $T = 64.03$ ), Sc ( $T = 64.43$ ), ASP ( $T = 63.62$ ), MDS ( $T = 65.43$ ) ir MAC-R ( $T = 61.72$ ). Lowest scores occurred on the Do ( $T = 39.15$ ) and Re ( $T = 38.89$ ) scales, which demonstrates the low self-esteem and disregard for social norms within this group of convicts.

Considering studies of the MMPI-2 scores of females it is worth mentioning that McAnulty et al. (2014) analyzed MMPI-2 predictive validity when estimating treatment success of participants in a residential rehabilitative treatment program for a sample of 144 nonviolent female offenders. This study also produced similar results regarding the sets of scales and effect sizes. Pd  $T = 75.31$  and AAS  $T = 72.90$  scores were highest, which demonstrates that the females under assessment were highly socially deviant and had a strong tendency to admit their addiction problems. It is worth noting as well that the Antisocial Behavior (RC4) scale score  $T = 71.19$  was one of the highest. The fact that the aforementioned scale score averages cross the threshold of clinical significance of  $T > 65$  demonstrates the high levels of psychopathology among members of this group of females.

The MMPI-2 was translated, adapted and standardized for the Lithuanian population in 2013. This allows for the differentiation of various groups, including convicts, according to their psychological characteristics. To the extent known, the Lithuanian convict population has yet to be studied using the MMPI-2. The only study found was that of participants of a substance abuse rehabilitation program in which one of the studied groups was substance abusers sentenced to prison (Baltrūnas, Bagdonas, Kairys, Liniauskaitė, & Pakalniškienė, 2013). The results of this study demonstrate that the convicts participating in this rehabilitation program, in comparison to the general population, had higher scores on the DEP, BIZ, ANG and ASP scales. However, it is worth noting the sample of studied convicts was a relatively small (27 convicts) and non-randomly selected convenience sample. Although the results correspond, in principle, to the aforementioned results of

other studies, the small size of the sample probably determined the low manifestation of observed differences. This is also demonstrated by large, yet statistically insignificant effect sizes of observed difference, e.g., the *T*-score of Pd scale differs by the considerable amount of 9 points from the population norm (Baltrušas et al., 2013).

*4.1.3. The predictive capabilities of the MMPI-2 to assess risk of criminal conduct.* Since one of the most important aims of psychological assessment is predicting future behavior, studies employing the MMPI and its subsequent versions have served the purpose of testing the predictive validity of this self-report inventory when assessing criminal conduct risk. In the 1960s, several attempts at creating separate scales for criminal conduct risk assessment were made. These attempts were relatively successful, although some scales remained invalidated (Megargee & Carbonell, 1995). Later studies mostly investigated MMPI-2 capabilities of assessing violent behavior risk (Heilbrun & Heilbrun, 1995; Sellbom, Ben-Porath, Baum, Erez, & Gregory, 2008). Results of longitudinal studies of criminal conduct prognostic capabilities of the MMPI-2 suggested that the MMPI-2 is not the most suitable instrument for evaluating violence risk (Campbell, French, & Gendreau, 2009).

The not-so-successful usability of the MMPI-2 in predicting future behavior is primarily related to the fact that the MMPI-2 assesses personality characteristics; meanwhile, the occurrence of criminal conduct might be equally determined by socio-demographic and situational factors. Megargee (1995) claims that by evaluating behavior with an instrument designed for assessment of personality characteristics, researchers are committing the fundamental attribution error well-known in social psychology. Instead, assessment of criminal conduct risk should include a broader spectrum of factors. In the area of criminal risk assessment, criminogenic needs classification by Andrews and Bonta (2010) is therefore devised most frequently. These authors distinguish 8 groups of criminogenic needs, the relevance of which is related to the increase in probability of criminal behavior. These needs are enumerated in the following order: (1) History of Antisocial Behavior; (2) Antisocial Personality; (3) Antisocial Cognition; (4) Antisocial Associates; (5) Family/marital Relationships; (6) School/Work; (7) Leisure Activities; and (8) Substance Use. Most criminal conduct risk assessment instruments, including the OASys (Home Office, 2002), which is used in Lithuania, include this criminogenic needs classification as a built-in feature. The majority of these factors are relatively well operationalized, and they can be assessed based on available documents and criminal records of the offenders. For instance, a person's education, professional qualifications or marital

status are attributed to criminal conduct-related sociodemographic characteristics, and they can be reliably evaluated based on available documents and other sources. Authors of criminal risk assessment instruments emphasize the reliability of this assessment procedure as opposed to results of self-report inventories. However, a number of factors distinguished by Andrews and Bonta (2010) may be related to personal characteristics (e.g., Antisocial Cognition or Substance Use), and the available documented information is usually insufficient for their accurate assessment. Results of the MMPI-2 test might provide the assessors with important information on personality traits related to criminal conduct risk. In this case, both the assessors' qualifications and availability of results acquired by other assessment instruments are of vital importance.

It is worthy of note that criminogenic factors (as well as sociodemographic and personality factors) are interrelated, thus personality traits of the offender, when assessed using the MMPI-2, could theoretically predict the offender's future behavior. This is well demonstrated in studies which use Restructured Clinical scales or the shorter MMPI-2-RF version (Ben-Porath & Tellegen, 2008) to predict the success of offenders' participation in addiction recovery programs, batterer intervention programs and probation success. At this point, the similarities between the MMPI-2 and the MMPI-2-RF should be mentioned. Restructured Clinical scales of both questionnaires are composed of the same questions; however, the MMPI-2-RF Personality Psychopathology Five (as well as validity scales) has fewer questions and has correlation coefficients to corresponding MMPI-2 scales in the range of 0.84-0.94 (Harkness et al., 2013). This information allows for the development of assumptions about the relationship between the MMPI-2 Restructured Clinical and Personality Psychopathology Five scales and other variables, based on the results of MMPI-2-RF studies. It should be mentioned briefly, that studies of criminal offenders have revealed the success of their participation in addiction recovery programs is significantly related to lower RC4, RC8, RC9, PSYC-r and DISC-r scores (Mattson, Powers, Halfaker, Akesson, & Ben-Porath, 2013). Domestic violence offenders' termination of participation in batterer's intervention programs and domestic violence recidivism was positively related to RC4, RC7 and RC9 scales (Sellbom et al., 2008). A comparison of the MMPI-2RF scales of probation completers and violators revealed that probation violators scored higher on the RC4, RC8 and DISC-r scales (Tarescavage, Luna-Jones, & Ben-Porath, 2014). As for studies investigating the possible relationships between criminal conduct risk assessment measures, they are scarcely abundant. Worthy of mention is a study by Tarescavage, Cappo and Ben-Porath (2016) who investigated the relationships between the MMPI-2-RF scores of male adults who were convicted of sexual offenses

against children and their scores of dynamic risk assessment measure LSI-R. The results revealed that all the Restructured Clinical scales except Low Positive Emotions RC2 had a significant correlation with the total LSI-R score. The RC4 scale had the strongest correlation. A significant correlation was also observed with regards to the Disconstraint-revised DISC-r scale (Tarescavage et al., 2016). Results of studies reviewed support the claim that risk assessment measures are able to successfully account for separate personality traits of the offenders, and the strongest correlation occurs when using scales that assess offenders' behavioral control issues.

**4.1.4. The aim and hypotheses of the research.** Building on previously conducted MMPI-2 studies of criminal offender groups, we predicted that Lithuanian convicts should have similar character traits, related to impaired behavioral control and emotional problems. Our hypotheses involved only those scales that are statistically significantly or with an effect size no smaller than average and populations of convicts featured in at least half of the studies reviewed. We did not formulate separate hypotheses for the female sample because the review of relevant studies revealed this option to be unfeasible. While envisaging hypotheses about the relationship between MMPI-2 scales and reoffending risk scores, we predicted that the same scales which differentiate Lithuanian offenders from the rest of the local population, should be related to reoffending risk. This is especially the case with behavioral control-related scales.

Based on the review of relevant studies, we predicted that Lithuanian offenders, in comparison to the MMPI-2 standardized sample, should be characterized by higher (+) or lower (-) scores on these scales: clinical scales of Hypochondriasis (Hs+), Depression (D+), Psychopathic Deviate (Pd+), Paranoia (Pa+), Psychasthenia (Pt+), Schizophrenia (Sc+), Hypomania (Ma+), Antisocial Behavior (RC4+), Ideas of Persecution (RC6+), and Dysfunctional Negative Emotions (RC7+). They should also be characterized by the following content scales: Depression (DEP+), Health Concerns (HEA+), Bizarre Mentation (BIZ+), Cynicism (CYN+), Antisocial Practices (ASP+), Family Problems (FAM+), and Negative Treatment Indicators (TRT+). We have also predicted that content scales related to behavioral, emotional problems and drug abuse should characterize the studied sample: Anxiety (A+), Ego Strength (Es-), Dominance (Do-), Social Responsibility (Re-), Post-Traumatic Stress Disorder-Keane (PK+), Marital Distress (MDS+), Overcontrolled Hostility (O-H+), MacAndrew Alcoholism Scale-Revised (MAC-R+), and Addiction Admission (AAS+). We also raised the hypothesis that the same scales differentiating the offenders from the general population would significantly cor-

relate with reoffending risk scores. We predicted as well that the offenders would have higher scores on the DISC scale, which assesses the person's level of impulse control and need for stimulation, and also that the DISC scores would be significantly related to reoffending risk scores.

In conclusion, the aim of the study was to reveal the personality characteristics of the convicts' population by assessing them with the MMPI-2. In addition to that, the aim was to reveal the personality characteristics of violent offenders. We also sought to investigate the relationship between MMPI-2 scales and risk of reoffending scores within the population of incarcerated offenders and to assess it separately for the sample of violent offenders.

## 4.2. Methodology

*Participants.* Out of the total population of 7296 male and female offenders serving prison sentences in 12 Lithuanian correctional facilities, 351 males and 50 females were randomly selected and were given invitations to participate in this study. Out of this pool, 82% of males ( $N = 287$ ) and 94% of females ( $N = 47$ ) agreed to participate and fill out the questionnaires. In order to assure the reliability of the results, only valid MMPI-2 protocols were selected for analysis. In order to eliminate invalid protocols, we used cutoff scores on the validity scales typically recommended by the authors of the MMPI-2 and other researchers employing this inventory in their studies (Black et al., 2004; Butcher et al., 2013; Graham, 2012; Wise, 2009): Cannot Say  $N \geq 30$ , L (Lie)  $\geq 80$  T, K (Correction)  $\geq 80$  T, VRIN (Variable Response Inconsistency)  $\geq 80$  T, TRIN (True Response Inconsistency)  $\geq 80$  T, F (Infrequency)  $\geq 100$  T, and Fb (Back F)  $\geq 100$  T or Fp (Infrequency-Psychopathology)  $\geq 100$  T. It is worth mentioning that the MMPI-2 scores were calculated only if participants scored all the items in each scale. If at least one validity scale remained unscored, we chose not to use the protocol in further analysis. It is likely that this procedure eliminated a number of valid protocols; however, this way we managed to assure that no invalid protocols were used in the analysis. Based on the selected validity scores we had to eliminate 20.5% male ( $N = 59$ ) and 26.6% female ( $N = 12$ ) protocols, leaving 214 male and 35 female protocols, in which none of the validity scales exceeded the differential values and there were no unanswered items, and these were used for subsequent analysis of imprisoned offenders. As previously mentioned, the ratio of invalid MMPI-2 protocols varied between 15-40% in other studies (Black et al., 2004; Megargee et al., 1999; Wright et al., 1997). Regarding the fact that a tiny portion of protocols were eliminated, among other things, due to

unscored validation scales, we may assume that research participants answered the questionnaire with sufficient diligence. Detailed information about the participants' frequencies of validity scale score differences is available in Appendix 1.

In order to verify the homogeneity of the participant groups selected for analysis and eliminated from analysis, they were compared according to available sociodemographic characteristics about them. This comparison revealed that males eliminated from further analysis had no significant differences as compared to the group selected for further analysis with regards to their age ( $t_{(271)} = 1.52, p = .13$ ), official marital status ( $\chi^2(1, N = 270) = 1.74, p = .19$ ), years of education ( $t_{(268)} = -0.71, p = .48$ ), number of convictions ( $t_{(269)} = -0.70, p = .48$ ), number of violent offenses ( $t_{(265)} = -1.08, p = .28$ ), age at first conviction ( $t_{(266)} = 1.09, p = .28$ ), and age at first encounter with the police ( $t_{(256)} = 1.75, p = .08$ ). Lack of these differences provides a basis for extrapolating the aforementioned interpretation to the whole sample of male convicts. A comparison of sociodemographic characteristics of the females eliminated from further analysis and selected for further analysis revealed that although the former group was homogeneous with respect to official marital status ( $\chi^2(1, N = 47) = .67, p = .44$ ), years of education ( $U = 155.5, p = .17$ ) and number of violent offences ( $U = 150.0, p = .10$ ), they were also older ( $U = 119.5, p = .03$ ), had fewer convictions ( $U = 118.0, p = .02$ ), had their first conviction at an older age ( $U = 122.5, p = .04$ ) and had their first encounter with the police at an older age ( $U = 110.0, p = .04$ ). Considering the relatively tiny size of the female convict sample size and the differences between the two groups of females, interpretation of the results will be limited to this particular sample of female participants.

The average age of the male sample selected for further analysis was  $M = 34.7$  ( $SD = 11.3$ ), 22.6% of them were officially married, they had completed  $M = 10.5$  ( $SD = 1.6$ ) years of education, had  $M = 4.9$  ( $SD = 4.2$ ) convictions, had committed  $M = 1.3$  ( $SD = 1.5$ ) violent offences, were aged  $M = 21.4$  ( $SD = 8.3$ ) at their first conviction, and had their first encounter with the police at the age of  $M = 18.4$  ( $SD = 7.7$ ). The average age of females was  $M = 35.4$  ( $SD = 9.9$ ), 28.5% were officially married, they had completed  $M = 9.7$  ( $SD = 3.3$ ) years of education, had  $M = 4.5$  ( $SD = 3.7$ ) convictions, had committed  $M = 0.5$  ( $SD = 0.8$ ) violent offences, were aged  $M = 25.3$  ( $SD = 8.1$ ) at their first trial, and were aged  $M = 24.1$  ( $SD = 8.9$ ) at the time of their first encounter with the police.

In addition to that, we have also discriminated a group of offenders incarcerated for their last violent offense within the groups of males and females. The researchers were granted access to the description of their most recent criminal case files, which enabled them to gather more detailed information about the circumstances of their violent offences. The selection criteria of the last violent offence

does not mean that the other group did not include offenders of violent crimes, therefore we made no group-to-group comparisons in this case. All the analyses were completed in parallel, and the same hypotheses were tested both in the general sample and in the separate sample of convicts convicted of their last violent offences. Out of the latter sample, 38% of males and 60% of females were convicted for murder (The Criminal Code of the Republic of Lithuania, Ch. 129).

*Assessment methods.* The following methods of data collection were used: sociodemographic questionnaire, the OASys and MMPI-2 (see the description of stage 1 data collection methods in Chapter 3). It should be noted that internal consistency of the 49 questions of the OASys reoffending risk assessment was equal to  $\alpha = 0.88$ .

*Research procedure.* A random sample of 401 participants (351 males and 50 females) incarcerated in twelve Lithuanian correctional facilities was selected for analysis (for more details, see the research procedure description for stage 1 in chapter 3).

*Statistical analysis methods.* The SPSS 24.0 software package was used for data processing. For inter-group comparison, the Student  $t$  test was used (with an assumption of normal distribution or a large sample) and the Wilcoxon signed rank test  $W$  (with an assumption of absence of normal distribution or a small sample). The effect sizes were computed for a normally distributed data sample accounting for a standard deviation within samples under comparison. When interpreting the effect sizes, threshold values recommended by Cohen (1992) were used:  $d \geq 0.20$  – small effect size,  $d \geq 0.50$  – medium effect size,  $d \geq 0.80$  – large effect size. For assessing relationships between the MMPI-2 scales and OASys scores, the Pearson  $r$  and Spearman  $r_s$  correlation coefficients were estimated. When interpreting the strength of correlations, threshold values recommended by Cohen (1992) were as follows:  $r \geq 0.10$  – low effect,  $r \geq 0.30$  – medium effect,  $r \geq 0.50$  – large effect.

### 4.3. Results

The result section presents all the scores of the Clinical, Restructured, Clinical, Personality Psychopathology Five, Content and Supplementary scales. Due to the large number of MMPI-2 scales, we shall not discuss results characterized by less than small effect sizes ( $d < 0.20$  or  $r < 0.10$ ) in the concluding paragraphs of this chapter. We shall pay most attention to scales mentioned in the hypotheses. Table 3 demonstrates the statistical data of the Clinical, Restructured Clinical and Personality Psychopathology Five scales both from the general male sample and the male violent crime offender sample (henceforth VM sample). Table 4 demonstrates assessment results for equivalent scales of both female samples.

*The Clinical, Restructured Clinical and Personality Psychopathology Five scales.*

As evident in Table 3, the largest percentages of male scores that crossed the threshold of clinical significance  $T \geq 65T$  occurred on the Pa (13.3%), Pd (12.9%) and Sc (11.3%) scales of the general male sample, and the Sc (14.8%), Pa (13.5%) and Pt (12.8%) scales of the VM sample. In the general male sample, the scales of Pd and Pa had statistically significant estimated effect sizes that were larger or equal to small effect size difference from the norm, and VM sample was distinguished by its higher Pd, Pa (medium effect sizes), Pt and Sc (small effect size) scale scores. Along with these predicted differences we detected unpredicted higher Mf scale scores in both male samples and higher Si scale scores in the VM sample. In the general male and VM samples, all the Restructured Clinical scales referred to in the hypotheses had the largest proportions of persons who had high scores. Thus, in the general sample, the percentage of high-scoring individuals was distributed accordingly: RC4 (10.0%), RC6 (15.5%) and RC7 (11.4%). The percentages of high scores in the VM sample were RC4 (13.5%), RC6 (17.7%) and RC7 (13.6%) respectively. The same scales in both samples of males exhibited higher scores than in the general population, and although these differences of averages were no smaller than the small effect size, they did not reach medium effect size. The VM sample was discriminated from the rest by higher RC8 scores. The only scale from the Personality Psychopathology Five selected for hypothesis testing was the DISC scale, and its scores for the chosen significance level were higher than the average for the general population in both male samples (the effect size in the general sample was very close to medium). PSYC scores were higher in both male samples and NEGE scores were higher in the VM sample.

Table 4 demonstrates results of the previous scales for the general female sample and female violent crime offender sample (henceforth the VF sample). We must immediately point out that due to the small sample of female violent crime offenders ( $N = 10$ ), no statistically significant differences were observed. The largest percentages of females whose scores crossed the threshold of clinical significance  $T \geq 65T$  in the general female sample were observed on the Ma (14.7%) and Pd (12.5%) scales, but in the VF sample, significant results were observed in these scales: Sc (30.0%), Pd (20.0%) and Pt (20.0%). The RC4 was clearly discriminated from other Restructured Clinical scales, where both female groups had the highest percentages of clinically significant scores (33.3% in each sample). Considering the differences between the general sample of female convicts and the general population, a score difference of small size and opposite direction than expected occurred on the D scale, i.e., female convicts had a lower depression score. No other results



contradicting our hypotheses occurred. Females were characterized by high scores on the Pd, Ma, RC9 (small effect size), RC4 (medium effect size) and DISC (large effect size) scales.

*Content and Supplementary scales.* Table 5 demonstrates the results of the content scales, where it is evident that the highest number of high scores from the general male sample occurred on the O-H (18.8%), ASP (17.1%) and DEP (13.3%) scales, yet the VM sample was characterized by high scores on the DEP (17.7%), O-H (16.5%) and ASP (14.2%) scales. The majority of content scales that were predicted to surpass the population norms performed as expected not only in the general male sample but also in the VM sample. Supplementary scales in both male samples in most cases confirmed our hypotheses. Statistically significant differences in comparison to the general population occurred in 7 out of 9 expected scales. The greatest differences occurred on the MAC-R (medium effect sizes for both samples), O-H (close to medium effect size in general and medium effect size in VM samples) and Es (small in the general and close to medium effect size in the VM sample).

Table 6 demonstrates the Content and Supplementary scale results for the female samples. The largest number of clinically significant Content scale scores was obtained in FRS (17.6%) from the general female sample and ANG (40.0%) from the MS sample. Score differences were statistically significant only for SOD scale scores in the SM sample, for which no hypothesis was being tested. The result obtained apparently demonstrates that females who have committed violent offences experience statistically significantly greater social discomfort. The general female sample was characterized by a relatively low occurrence of expected significantly high scores of Supplementary scales. Only 3 scales (the O-H, MAC-R and AAS) out of 9 demonstrated statistically significant differences for the sample of female convicts. It is, however, worth noting that the differences obtained had large effect sizes. The MAC-R scale, which is related to alcohol abuse and risky behavior, stood out from other scales ( $T = 60.51$ ). A high MAC-R score was characteristic of the VF sample as well.

To sum up, it is notable that that the majority of hypotheses related to specific MMPI-2 scales were confirmed. Both male and female prison inmates differed from the general population of Lithuania by the same characteristics as convicts in other MMPI-2 studies. Figures 2 and 3 show graphs of both male and female convicts' MMPI-2 scores, which provide solid grounds for the statement that male and female convicts share similar personality characteristics according to MMPI-2 assessment.

**Table 3. The scores of MMPI-2 Clinical, Restructured Clinical and Personality Psychopathology Five scales of the general sample of male inmates and the specific sample of male inmates convicted for their last violent offence**

Scale	Males (n = 214)				V. males (n = 114)					
	M(SD)	t	p	d	% ≥ 65T	M(SD)	t	p	d	% ≥ 65T
Hs	49,54 (6,84)	-0,97	,334	-0,05	3,8	50,42 (7,26)	0,61	,546	0,05	5,4
D	49,51 (7,82)	-0,91	,364	-0,06	4,3	50,36 (8,21)	0,46	,649	0,04	5,5
Hy	50,43 (7,54)	0,82	,414	0,05	2,9	50,89 (8,23)	1,15	,254	0,10	4,5
Pd	<b>55,44 (8,35)</b>	<b>9,39</b>	<,001	<b>0,59</b>	<b>12,9</b>	<b>55,22 (8,36)</b>	<b>6,55</b>	<,001	<b>0,57</b>	<b>12,7</b>
Mf	<b>52,76 (8,49)</b>	<b>4,63</b>	<,001	<b>0,30</b>	<b>8,9</b>	<b>52,61 (9,04)</b>	<b>2,99</b>	,003	<b>0,27</b>	<b>10,3</b>
Pa	<b>55,76 (9,05)</b>	<b>9,23</b>	<,001	<b>0,60</b>	<b>13,3</b>	<b>56,26 (8,89)</b>	<b>7,43</b>	<,001	<b>0,66</b>	<b>13,5</b>
Pt	51,10 (9,71)	1,63	,104	0,11	9,6	<b>52,08 (10,40)</b>	<b>2,09</b>	,039	<b>0,20</b>	<b>12,8</b>
Sc	<b>51,79 (9,65)</b>	<b>2,64</b>	,009	<b>0,18</b>	<b>11,3</b>	<b>52,93 (10,56)</b>	<b>2,89</b>	,005	<b>0,29</b>	<b>14,8</b>
Ma	50,92 (10,57)	1,26	,211	0,09	9,5	50,31 (10,47)	0,31	,755	0,03	7,1
Si	50,80 (8,93)	1,27	,205	0,08	5,4	<b>52,39 (9,47)</b>	<b>2,59</b>	,011	<b>0,24</b>	<b>8,5</b>
RCd	50,99 (9,88)	1,45	,149	0,10	11,9	<b>52,02 (10,56)</b>	<b>2,04</b>	,044	<b>0,20</b>	<b>15</b>
RC1	49,85 (7,65)	-0,28	,782	-0,02	3,4	51,06 (8,30)	1,34	,183	0,11	6,3
RC2	<b>48,57 (8,01)</b>	<b>-2,59</b>	,010	<b>-0,16</b>	<b>2,9</b>	49,45 (8,46)	-0,68	,496	-0,06	3,6
RC3	<b>51,67 (8,94)</b>	<b>2,71</b>	,007	<b>0,18</b>	<b>4,7</b>	<b>51,78 (8,67)</b>	<b>2,18</b>	,032	<b>0,19</b>	<b>4,4</b>
RC4	<b>54,40 (8,79)</b>	<b>7,23</b>	<,001	<b>0,47</b>	<b>10,0</b>	<b>54,51 (9,09)</b>	<b>5,23</b>	<,001	<b>0,47</b>	<b>13,5</b>
RC6	<b>53,63 (10,45)</b>	<b>5,07</b>	<,001	<b>0,35</b>	<b>15,5</b>	<b>54,32 (10,91)</b>	<b>4,21</b>	<,001	<b>0,41</b>	<b>17,7</b>
RC7	<b>51,85 (10,40)</b>	<b>2,58</b>	,011	<b>0,18</b>	<b>11,4</b>	<b>52,71 (10,22)</b>	<b>2,80</b>	,006	<b>0,27</b>	<b>13,6</b>
RC8	<b>51,65 (10,10)</b>	<b>2,37</b>	,019	<b>0,16</b>	<b>11,8</b>	<b>52,40 (10,45)</b>	<b>2,44</b>	,016	<b>0,23</b>	<b>13,3</b>
RC9	50,77 (9,69)	1,16	,247	0,08	7,1	49,91 (9,57)	-0,10	,917	-0,01	5,4
AGGR	49,57 (9,57)	-0,65	,518	-0,04	3,8	49,19 (9,27)	-0,92	,359	-0,08	2,7
PSYC	<b>52,92 (10,03)</b>	<b>4,21</b>	<,001	<b>0,29</b>	<b>10,0</b>	<b>53,78 (10,52)</b>	<b>3,79</b>	<,001	<b>0,37</b>	<b>12,6</b>
DISC	<b>54,67 (8,95)</b>	<b>7,57</b>	<,001	<b>0,49</b>	<b>10,0</b>	<b>53,09 (8,66)</b>	<b>3,76</b>	<,001	<b>0,33</b>	<b>7,2</b>
NEGE	<b>51,55 (9,20)</b>	<b>2,44</b>	,016	<b>0,16</b>	<b>10,0</b>	<b>52,14 (9,46)</b>	<b>2,36</b>	,020	<b>0,22</b>	<b>11,0</b>
INTR	<b>48,86 (7,65)</b>	<b>-2,07</b>	,039	<b>-0,13</b>	<b>3,8</b>	50,33 (8,11)	0,43	,671	0,04	5,5

Note: V. males – males convicted for violent offence. M – mean, SD – standard deviation, d – Cohen's d, % ≥ 65T – percentage of respondents characterized by T score ≥ 65; Hs – Hypochondriasis, D – Depression, Hy – Hysteria, Pd – Psychopathic Deviate, Mf – Masculinity-Femininity, Pa – Paranoia, Pt – Psychasthenia, Sc – Schizophrenia, Ma – Hypomania, Si – Social Introversion, RCd – Demoralization, RC1 – Somatic Complaints, RC2 – Low Positive Emotions, RC3 – Cynicism, RC4 – Antisocial Behavior, RC6 – Ideas of Persecution, RC7 – Dysfunctional Negative Emotions, RC8 – Aberrant Experiences, RC9 – Hypomanic Activation, AGGR – Aggressiveness, PSYC – Psychoticism, DISC – Disconstraint, NEGE – Negative Emotionality/Neuroticism, INTR – Introversion/Low Positive Emotionality. Statistically significant differences between offenders and normative samples are bolded.

**Table 4. The scores of MMPI-2 Clinical, Restructured Clinical and Personality Psychopathology Five scales for the general sample of female inmates and the specific sample of female inmates convicted for their last violent offence**

Scale	Fem. (n = 35)				V. fem. (n = 10)				
	M (SD)	t	p	d	M	Med	W	p	% ≥ 65T
Hs	48,11 (7,00)	-1,60	,119	-0,22	44,27	48,00	11,00	,092	0,0
D	<b>46,70 (7,36)</b>	<b>-2,61</b>	<b>,013</b>	<b>-0,38</b>	46,27	47,74	13,00	,138	0,0
Hy	48,20 (7,55)	-1,39	,173	-0,20	45,51	42,82	13,00	,138	0,0
Pd	<b>54,51 (9,41)</b>	<b>2,71</b>	<b>,011</b>	<b>0,46</b>	54,35	56,90	41,00	,167	20,0
Mf	47,39 (9,05)	-1,66	,107	-0,27	47,28	47,85	15,00	,373	11,1
Pa	52,84 (8,50)	1,89	,068	0,31	52,92	53,81	36,00	,386	0,0
Pt	49,22 (8,74)	-0,53	,602	-0,08	52,53	53,37	36,00	,386	20,0
Sc	50,39 (8,99)	0,25	,805	0,04	52,12	52,21	33,00	,575	30,0
Ma	<b>53,12 (8,83)</b>	<b>2,06</b>	<b>,047</b>	<b>0,33</b>	52,56	50,68	41,00	,166	10,0
Si	51,22 (9,55)	0,72	,477	0,12	55,31	60,84	43,00	,114	0,0
RCd	49,72 (9,34)	-0,17	,865	-0,03	50,87	50,87	28,00	,959	0,0
RC1	49,26 (7,28)	-0,61	,549	-0,09	44,57	45,13	11,00	,092	10,0
RC2	<b>46,90 (6,25)</b>	<b>-2,90</b>	<b>,007</b>	<b>-0,37</b>	50,84	51,14	28,00	,959	0,0
RC3	51,66 (8,06)	1,20	,239	0,18	53,1	55,02	30,00	,373	11,1
RC4	<b>57,70 (12,47)</b>	<b>3,55</b>	<b>,001</b>	<b>0,68</b>	60,88	54,49	34,00	,173	33,3
RC6	52,33 (8,23)	1,67	,104	0,25	52,27	54,44	38,00	,281	0,0
RC7	50,70 (9,29)	0,44	,660	0,07	52,79	54,00	33,00	,575	20,0
RC8	51,90 (8,06)	1,38	,178	0,21	50,32	48,32	28,00	,959	0,0
RC9	<b>53,60 (7,44)</b>	<b>2,83</b>	<b>,008</b>	<b>0,41</b>	53,65	54,26	40,00	,202	10,0
AGGR	50,38 (6,51)	0,34	,735	0,04	50,1	48,80	26,00	,878	10,0
PSYC	52,63 (8,49)	1,83	,076	0,28	52,47	51,27	33,00	,573	10,0
DISC	<b>57,85 (9,58)</b>	<b>4,78</b>	<b>&lt;,001</b>	<b>0,80</b>	55,43	54,28	45,00	,074	10,0
NEGE	49,93 (8,57)	-0,05	,965	-0,01	51,91	53,24	34,00	,507	10,0
INTR	47,57 (7,62)	-1,80	,081	-0,27	50,36	51,12	30,00	,799	0,0

Note: Fem. – females, V. fem. – females convicted for violent offence. M – mean, Med – median, SD – standard deviation, d – Cohen's d, W – Wilcoxon signed-rank test, % ≥ 65T – percentage of respondents characterized by T score ≥ 65; Hs – Hypochondriasis, D – Depression, Hy – Hysteria, Pd – Psychopathic Deviate, MF – Masculinity-Femininity, Pa – Paranoia, Pt – Psychasthenia, Sc – Schizophrenia, Ma – Hypomania, Si – Social Introversion, Rcd – Demoralization, RC1 – Somatic Complaints, RC2 – Low Positive Emotions, RC3 – Cynicism, RC4 – Antisocial Behavior, RC6 – Ideas of Persecution, RC7 – Dysfunctional Negative Emotions, RC8 – Aberrant Experiences, RC9 – Hypomanic Activation, AGGR – Aggressiveness, PSYC – Psychoticism, DISC – Disconstraint, NEGE – Negative Emotionality/Neuroticism, INTR – Introversion/Low Positive Emotionality. Statistically significant differences between offenders and normative samples are bolded.

**Table 5. The scores of MMPI-2 Content and Supplementary Scales for the general sample of male inmates and the specific sample of male inmates convicted for their last violent offence.**

Scale	Males (n = 214)				V. males (n = 114)				
	M (SD)	t	p	d	M (SD)	t	p	d	% ≥ 65T
ANX	50,06 (9,14)	0,10	,924	0,01	50,89 (9,47)	1,00	,320	0,09	5,4
FRS	<b>51,84 (9,96)</b>	<b>2,70</b>	<b>,008</b>	<b>0,18</b>	<b>53,27 (10,56)</b>	<b>3,29</b>	<b>,001</b>	<b>0,32</b>	<b>13,3</b>
OBS	49,14 (10,54)	-1,19	,234	-0,08	50,51 (10,76)	0,50	,619	0,05	10,7
DEP	<b>51,47 (9,96)</b>	<b>2,15</b>	<b>,033</b>	<b>0,15</b>	<b>52,38 (10,62)</b>	<b>2,38</b>	<b>,019</b>	<b>0,23</b>	<b>17,7</b>
HEA	50,51 (7,46)	0,982	,327	0,06	51,17 (8,05)	1,53	,129	0,13	5,4
BIZ	<b>52,43 (10,21)</b>	<b>3,47</b>	<b>&lt;,001</b>	<b>0,24</b>	<b>53,54 (10,76)</b>	<b>3,49</b>	<b>&lt;,001</b>	<b>0,34</b>	<b>13,3</b>
ANG	49,68 (9,88)	-0,47	,642	-0,03	50,19 (9,86)	0,20	,841	0,02	10,6
CYN	<b>51,58 (9,80)</b>	<b>2,34</b>	<b>,020</b>	<b>0,16</b>	51,58 (9,48)	1,77	,079	0,16	5,3
ASP	<b>54,23 (10,45)</b>	<b>5,88</b>	<b>&lt;,001</b>	<b>0,41</b>	<b>53,23 (10,34)</b>	<b>3,32</b>	<b>,001</b>	<b>0,32</b>	<b>14,2</b>
TPA	<b>48,26 (10,86)</b>	<b>-2,35</b>	<b>,020</b>	<b>-0,17</b>	48,38 (10,34)	-1,67	,098	-0,16	6,1
LSE	50,38 (10,38)	0,54	,592	0,04	51,35 (10,77)	1,33	,187	0,13	10,6
SOD	51,29 (9,64)	1,93	,055	0,13	<b>52,89 (9,59)</b>	<b>3,16</b>	<b>,002</b>	<b>0,29</b>	<b>13,6</b>
FAM	48,98 (9,14)	-1,63	,104	-0,11	49,59 (9,25)	-0,47	,641	-0,04	4,4
WRK	<b>47,08 (9,16)</b>	<b>-4,60</b>	<b>&lt;,001</b>	<b>-0,30</b>	48,44 (9,90)	-1,65	,102	-0,16	4,6
TRT	48,88 (9,79)	-1,66	,098	-0,11	49,46 (10,38)	-0,55	,581	-0,05	8,0
A	<b>51,89 (10,53)</b>	<b>2,57</b>	<b>,011</b>	<b>0,18</b>	<b>52,70 (10,37)</b>	<b>2,72</b>	<b>,008</b>	<b>0,27</b>	<b>11,9</b>
R	<b>48,72 (9,39)</b>	<b>-1,97</b>	<b>,050</b>	<b>-0,13</b>	49,49 (8,98)	-0,60	,551	-0,05	4,5
Es*	<b>46,45 (8,81)</b>	<b>-5,80</b>	<b>&lt;,001</b>	<b>-0,38</b>	<b>45,64 (9,08)</b>	<b>-5,06</b>	<b>&lt;,001</b>	<b>-0,46</b>	<b>29,7 (T &lt; 40)</b>
Do	<b>48,37 (9,59)</b>	<b>-2,46</b>	<b>,015</b>	<b>-0,17</b>	<b>46,88 (9,86)</b>	<b>-3,31</b>	<b>,001</b>	<b>-0,31</b>	<b>1,8</b>
Re	<b>47,50 (9,52)</b>	<b>-3,82</b>	<b>&lt;,001</b>	<b>-0,26</b>	<b>47,72 (9,94)</b>	<b>-2,42</b>	<b>,017</b>	<b>-0,23</b>	<b>3,6</b>
Mt	49,26 (8,96)	-1,19	,235	-0,08	50,28 (9,50)	0,32	,753	0,03	5,4
PK	50,96 (9,36)	1,48	,140	0,10	51,74 (9,55)	1,92	,058	0,18	10,9
MDS	50,92 (9,01)	1,49	,138	0,10	51,19 (9,26)	1,37	,175	0,12	5,3
Ho	50,21 (10,52)	0,29	,771	0,02	50,44 (10,13)	0,46	,649	0,04	5,5
O-H	<b>54,84 (10,56)</b>	<b>6,60</b>	<b>&lt;,001</b>	<b>0,47</b>	<b>55,31 (10,06)</b>	<b>5,51</b>	<b>&lt;,001</b>	<b>0,53</b>	<b>16,5</b>
MAC-R*	<b>56,13 (8,93)</b>	<b>9,83</b>	<b>&lt;,001</b>	<b>0,65</b>	<b>55,37 (8,93)</b>	<b>6,25</b>	<b>&lt;,001</b>	<b>0,57</b>	<b>13,9 (T &gt; 66)</b>
AAS*	49,88 (8,15)	-0,22	,825	-0,01	51,44 (9,00)	1,71	,089	0,15	22,80 (T > 60)
APS*	48,96 (11,13)	-1,35	,177	-0,10	49,05 (10,85)	-0,93	,357	-0,09	18,0 (T > 60)
GM	49,03 (9,49)	-1,47	,142	-0,10	<b>47,34 (10,24)</b>	<b>-2,70</b>	<b>,008</b>	<b>-0,26</b>	<b>5,6</b>
GF	49,16 (8,05)	-1,49	,138	-0,09	49,77 (8,45)	-0,28	,779	-0,02	4,6

Note: V. males – males convicted for violent offence. M – mean, SD – standard deviation, d – Cohen's d. % ≥ 65T – percentage of respondents characterized by T score ≥ 65; \*other than T ≥ 65 cutoff score was applied. ANX – Anxiety, FRS – Fears, OBS – Obsessiveness, DEP – Depression, HEA – Health Concerns, BIZ – Bizarre Mentation, ANG – Anger, CYN – Cynicism, ASP – Antisocial Practices, TPA – Type A, LSE – Low Self-Esteem, SOD – Social Discomfort, FAM – Family Problems, WRK – Work Interference, TRT – Negative Treatment Indicators, A – Anxiety, R – Repression, Es – Ego Strength, Do – Dominance, Re – Social Responsibility, Mt – College Maladjustment, PK – Post-Traumatic Stress Disorder, MDS – Marital Distress, Ho – Hostility, O-H – Overcontrolled Hostility, MAC-R – MacAndrew-Revised, AAS – Addiction Admission, APS – Addiction Potential, GM – Gender Role – Masculine, GF – Gender Role – Feminine. Statistically significant differences between offenders and normative samples are bolded.

**Table 6. The scores of MMPI-2 Content and Supplementary Scales for the general sample of female inmates and the specific sample of female inmates convicted for their last violent offence.**

Scale	Fem. (n = 35)				V. Fem. (n = 10)					
	M (SD)	t	p	d	% ≥ 65T	M	Med	W	p	% ≥ 65T
ANX	49.80 (9.38)	-0.13	.900	-0.02	0	51.71	54.34	36.00	.386	0.0
FRS	50.26 (12.50)	0.12	.905	0.02	17.6	48.25	47.39	21.00	.507	10.0
OBS	47.83 (9.21)	-1.39	.172	-0.23	0	52.39	55.55	32.00	.645	0.0
DEP	49.47 (8.60)	-0.35	.731	-0.06	6.2	52.86	56.62	29.00	.441	11.1
HEA	50.48 (7.51)	0.38	.708	0.05	0	46.74	49.34	19.00	.385	0.0
BIZ	51.67 (6.92)	1.41	.168	0.19	5.9	50.6	46.60	22.00	.572	10.0
ANG	50.54 (10.69)	0.30	.766	0.05	11.4	53.86	49.28	35.00	.444	40.0
CYN	52.34 (9.24)	1.47	.150	0.24	2.9	54.5	55.64	36.00	.109	0.0
ASP	53.62 (11.73)	1.80	.081	0.33	8.8	54.75	54.10	41.00	.167	20.0
TPA	47.65 (10.18)	-1.37	.181	-0.23	0	51.44	53.92	32.00	.646	0.0
LSE	47.50 (8.27)	-1.79	.083	-0.27	0	50.47	51.12	31.00	.720	0.0
SOD	51.38 (8.13)	1.00	.323	0.15	8.6	<b>55.58</b>	<b>54.98</b>	<b>48.00</b>	<b>.036</b>	<b>20.0</b>
FAM	49.57 (10.00)	-0.25	.805	-0.04	11.8	49.66	45.52	29.00	.878	20.0
WRK	47.36 (9.47)	-1.60	.119	-0.27	6.1	51.22	48.94	31.00	.721	10.0
TRT	49.78 (9.66)	-0.13	.895	-0.02	8.8	51.79	53.80	24.00	.859	22.2
A	50.87 (9.18)	0.54	.592	0.09	6.1	52.19	51.02	34.00	.507	20.0
R	49.91 (7.33)	-0.07	.946	-0.01	0	51.3	50.47	32.00	.646	0.0
Es*	47.09 (8.24)	-1.99	.055	-0.32	18.8 (T < 40)	47.42	45.33	20.00	.444	30.0 (T < 40)
Do	48.45 (8.42)	-1.06	.298	-0.17	0	44.13	45.92	8.00	.084	0.0
Re	46.18 (11.10)	-1.98	.056	-0.36	0	43.25	43.26	12.00	.114	0.0
Mt	48.20 (8.38)	-1.27	.212	-0.20	0	50.81	51.37	32.00	.646	0.0
PK	49.65 (9.26)	-0.22	.828	-0.04	3.0	52.71	54.13	37.00	.331	10.0
MDS	50.55 (8.60)	0.38	.710	0.06	2.9	50.3	44.23	29.00	.877	0.0
Ho	50.20 (9.52)	0.12	.904	0.02	5.9	52.51	50.94	29.00	.441	11.1
O-H	<b>55.01 (10.14)</b>	<b>2.92</b>	<b>.006</b>	<b>0.50</b>	<b>22.9</b>	49.6	50.60	27.00	.959	10.0
MAC-R*	<b>60.51 (8.20)</b>	<b>7.47</b>	<b>&lt; .001</b>	<b>1.15</b>	<b>8.8 (T &gt; 75)</b>	<b>59.22</b>	<b>58.00</b>	<b>52.00</b>	<b>.012</b>	<b>10.0 (T &gt; 75)</b>
AAS*	<b>53.71 (8.98)</b>	<b>2.37</b>	<b>.024</b>	<b>0.39</b>	<b>36.4 (T &gt; 60)</b>	54.86	55.97	33.00	.212	33.3 (T > 60)
APS*	49.15 (8.92)	-0.56	.580	-0.09	14.7 (T > 60)	49.33	49.91	21.00	.506	0.0 (T > 60)
GM	<b>53.57 (9.15)</b>	<b>2.21</b>	<b>.035</b>	<b>0.37</b>	<b>12.5</b>	54.45	56.00	34.00	.173	11.1
GF	<b>46.28 (7.64)</b>	<b>-2.75</b>	<b>.010</b>	<b>-0.42</b>	<b>0</b>	43.14	45.11	9.00	.109	0.0

Note: Fem. – females, V. Fem. – females convicted for violent offence. M – mean, Med – median, SD – standard deviation, d – Cohen's d, W – Wilcoxon signed-rank test, % ≥ 65T – percentage of respondents characterized by T score T score ≥ 65; \*other than T ≥ 65 cutoff score was applied. ANX – Anxiety, FRS – Fears, OBS – Obsessiveness, DEP – Depression, HEA – Health Concerns, BIZ – Bizarre Mentation, ANG – Anger, CYN – Cynicism, ASP – Antisocial Practices, TPA – Type A, LSE – Low Self-Esteem, SOD – Social Discomfort, FAM – Family Problems, WRK – Work Interference, TRT – Negative Treatment Indicators, A – Anxiety, R – Repression, Es – Ego Strength, Do – Dominance, Re – Social Responsibility, Mt – College Maladjustment, PK – Post-Traumatic Stress Disorder, MDS – Marital Distress, Ho – Hostility, O-H – Overcontrolled Hostility, MAC-R – MacAndrew-Revised, AAS – Addiction Admission, APS – Addiction Potential, GM – Gender Role – Masculine, GF – Gender Role – Feminine. Statistically significant differences between offenders and normative samples are bolded.

**Table 7. The relation between the MMPI-2 scales and the OASys reoffending risk scores in both samples of male inmates**

MMPI-2 scales	<i>r</i>		<i>r</i>		<i>r</i>			
	Males (n =214)	V. Males (n =114)	MMPI-2 scales	Males (n =214)	V. Males (n =114)	MMPI-2 scales		
Hs	,152*	,275**	ANX	,247***	,305**	A	,274***	,270**
D	,042	,024	FRS	,205**	,311**	R	-,116	-,077
Hy	,040	,138	OBS	,190**	,214*	Es	-,191**	-,226*
Pd	,320***	,390***	DEP	,321***	,364**	Do	-,247***	-,271**
Mf	,120	,233*	HEA	,150*	,262**	Re	-,303***	-,346***
Pa	,191**	,284**	BIZ	,189**	,247**	Mt	,255***	,260**
Pt	,255***	,300**	ANG	,205**	,169	PK	,293***	,316**
Sc	,299***	,345***	CYN	,068	-,021	MDS	,261***	,238*
Ma	,222**	,209*	ASP	,264***	,088	Ho	,180*	,132
Si	,138	,152	TPA	,203**	,195*	O-H	-,201**	-,163
RCd	,285***	,297**	LSE	,189**	,181	MAC-R	,254***	,239*
RC1	,124	,252**	SOD	,068	,024	AAS	,297***	,335**
RC2	,074	,077	FAM	,283***	,355**	APS	,128	,183
RC3	,083	-,007	WRK	,291***	,335**	GM	-,218**	-,329**
RC4	,421***	,457***	TRT	,272***	,288**	GF	-,264***	-,244*
RC6	,203**	,237*				AGGR	,119	,113
RC7	,180*	,206*				PSYC	,254***	,234*
RC8	,158*	,246**				DISC	,248***	,226*
RC9	,223**	,230*				NEGE	,212**	,270**
						INTR	,064	,050

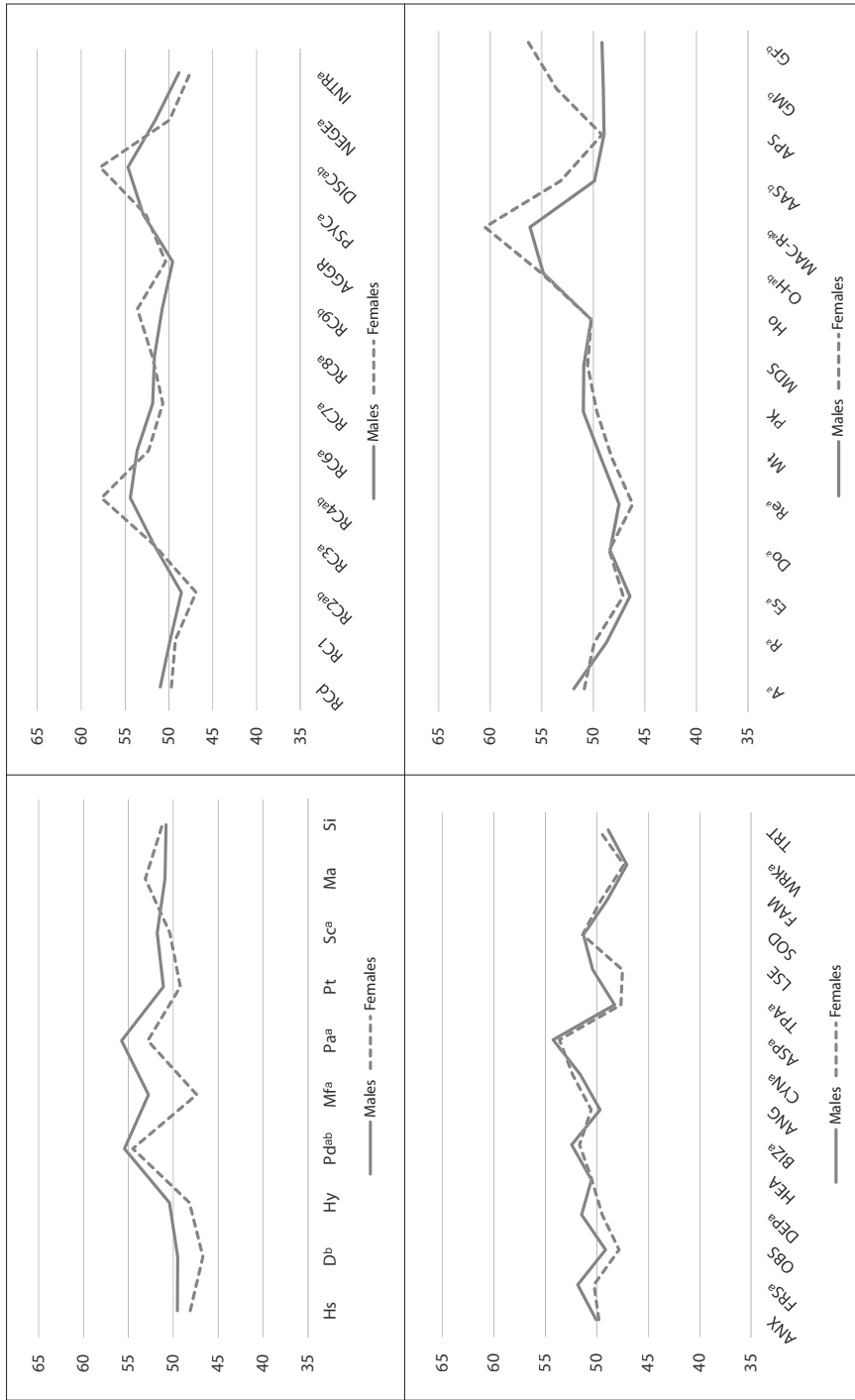
Note: V. Males – males convicted for violent offence. *r* – Pearson's correlation quotient.

\*  $p < 0,05$ ; \*\*  $p < 0,01$ ; \*\*\*  $p < 0,001$ .

**Table 8. The relation between the MMPI-2 scales and the OASys reoffending risk scores in both samples of female inmates**

MMPI-2 scales	$r_s$		MMPI-2 scales		$r_s$		MMPI-2 scales		$r_s$	
	Fem. (n = 35)	V. Fem. (n = 10)	Fem. (n = 35)	V. Fem. (n = 10)	Fem. (n = 35)	V. Fem. (n = 10)	Fem. (n = 35)	V. Fem. (n = 10)	Fem. (n = 35)	V. Fem. (n = 10)
Hs	,296	,683*	,048	,768**					,138	,823**
D	,244	,554	,020	,640*					,131	-,213
Hy	,326	,215	,129	,837**					-,114	-,746*
Pd	,595**	,855**	,091	,619					-,181	-,451
Mf	-,230	-,085	,238	,679*					-,370*	-,866**
Pa	,137	,760*	,304	,850**					,257	,720*
Pt	,167	,884**	,073	,729*					,236	,837**
Sc	,318	,766**	-,055	,152					,382*	,767**
Ma	,214	,850**	,229	,698*					,041	,800**
Si	,158	,524	,006	,790**					-,032	-,767**
RCd	,264	,828**	,143	,644*					,419*	,726*
RC1	,258	,547	-,061	,190					,564**	,877**
RC2	,086	,508	,296	,830**					-,157	-,080
RC3	,003	,571	,308	,762*					-,139	-,644
RC4	,718***	,950***	,155	,714*					-,323	-,563
RC6	,288	,922***							,146	,472
RC7	,041	,781**							,365*	,777**
RC8	,309	,731*							,502**	,557
RC9	,221	,723*							,117	,768**
									,350	,547

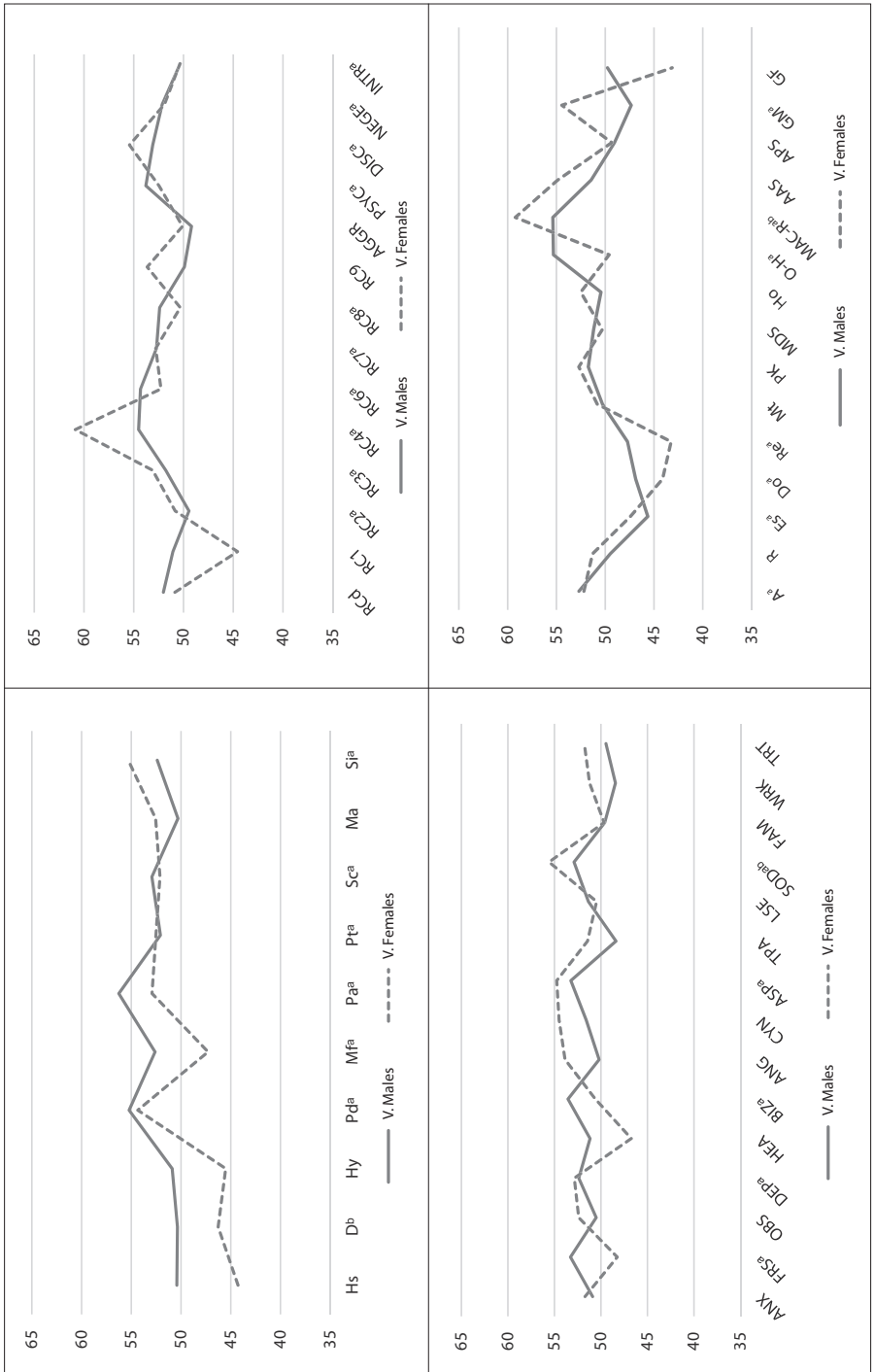
Note: Fem. – females; V. Fem. – females convicted for violent offence.  $r$  – Pearson's correlation quotient,  $r_s$  – Spearman's correlation quotient.  
\*  $p < 0,05$ ; \*\*  $p < 0,01$ ; \*\*\*  $p < 0,001$ .



**Fig. 2 Graphical representation of MMPI-2 scales for male and female inmates.**

Note: The scales with statistically significant score differences from the standardization sample are marked with <sup>a</sup> (male) and <sup>b</sup> (female) letters.





**Fig. 3. Graphical representation of MMPI-2 scales for male and female inmates sentenced for their last violent offense**

Note: The scales with statistically significant score differences from the standardization sample are marked with <sup>a</sup> (male) and <sup>b</sup> (female) letters.

For the most part, investigation of the relationship between the MMPI-2 scales and OASys reoffending risk scores have largely confirmed our predictions. Results shown in tables 7 and 8 demonstrate that the correlation coefficients are statistically significant and share the same direction both in male and female samples, which suggests that the risk of criminal conduct is related to the personality characteristics assessed by the MMPI-2 which differentiate prison inmates from the general population. Both in male and in female samples, criminal conduct risk is related to the Pd, RC4, DISC, Re, MDS, MAC-R, and AAS scales mentioned in the hypotheses, and most of the correlations were of at least medium strength ( $r \geq 0.30$ ). This appears to demonstrate that the assessment of criminal conduct risk is related to criminals' personality MMPI-2 characteristics which discriminates these individuals from the rest of the general population. The MMPI-2 and OASys relationship estimates presented in Table 8 demonstrate stronger and more numerous relationships for the sample of female last violent crime offenders, despite the fact that the size of the studied sample is several times smaller. Statistically significant relationships were detected between scores on the OASys and the following MMPI-2 scales mentioned in the hypotheses: Hs, Pd, Pa, Pt, Sc, Ma, RC4, RC6, RC7, DISC, HEA, BIZ, FAM, TRT, A, Es, Re, PK, MDS, MAC-R, and AAS.

#### 4.4. Discussion

The MMPI-2 and its various derivatives is one of the most frequently used self-report inventories for personality assessment in the world. It is most often used by mental health specialists for personality assessment, for establishing treatment goals and drawing up treatment plans, and for assessment of treatment progress and efficacy. The way it is used by mental health specialists is equally applicable to offender assessment and rehabilitation (Forbey & Ben-Porath, 2002). However, in order to use this assessment measure on any population, in this case the population of imprisoned convicts, one needs to test its validity. With this study we aimed to assess members of the Lithuanian convict population using the MMPI-2 and to compare our findings with the results other studies. We were guided by the assumption that populations in different countries are more similar than different. We also made an assumption that the Lithuanian convict population should be characterized by the same MMPI-2 scales which differ from the norm in other cultural and linguistic environments. In order to test this assumption, we chose the random sampling method, and this allowed us to make conclusions about characteristics of the Lithuanian convict population's MMPI-2 scores. It must be noted,

however, that despite the fact that around 18.7% of incarcerated women participated in the study, the absolute number of analyzed protocols was small ( $N = 35$ ). Consequently, although there are some grounds for the claim that our data on female convicts represents all Lithuanian female convicts very well, the small number of participants allows us to draw reliable conclusions only about cases when MMPI-2 score differences between the female convict sample and standardized sample (the norm) were large. This effect was even more pronounced when analyzing the results of female violent crime offenders, in which case the number of analyzed protocols was even smaller ( $N = 10$ ).

Before conducting data analysis, we had formulated our hypotheses based on the review of relevant studies. In our hypotheses we tried to predict the specific MMPI-2 scales that should characterize the Lithuanian convict population. The hypotheses were built not so much upon a theoretical basis (i.e., which personality characteristics should characterize both male and female convicts), but rather upon an empirical basis (i.e., what MMPI-2 scores are typical for convict populations of other nations). This way we avoided the necessity to replicate all the postulates of both psychological and criminological theories of criminal conduct etiology, but could still predict whether the characteristics related to criminal conduct, as established by the results of other studies of convicts, are characteristic to our research sample as well. We have made an assumption that the characteristics differentiating convicts from the general population are related to their reoffending risk.

We did not predict differences in the MMPI-2 scale scores between groups of males and females incarcerated for their last violent offence mostly due to the variety of violent offences and the heterogeneity of this group. We justify our choice with the results of the majority of studies which demonstrate that MMPI-2 scales are able to differentiate criminals from the general population, but differentiation of convicts by types of crime is not unequivocally successful (Megargee & Carbonell, 1995). With regards to the meaningfulness of using the MMPI-2 for assessment of the convict population, the results of the primary analysis (i.e., a comparison of convict group results and the norm) should reveal, whether the MMPI-2 scales are able to detect differences between criminals and the general population. The secondary analysis of correlations between the MMPI-2 scale scores and reoffending risk score should inform us about the efficacy of the MMPI-2 when differentiating male and female offenders according to their risk of reoffending score. We predicted that the same scales should be able to differentiate both the offender group from the population and offender groups among themselves. The scales which demonstrated significant results in both primary and secondary analysis

indicate their suitability for practical applications. The study results have largely confirmed our assumptions.

We shall begin the discussion of study results from the frequencies of clinically significant scale scores within the convict population. In the male groups of our study (both in the general sample and in last violent crime offender sample) the highest scores ( $T \geq 65$ ) occurred on the Pa, Pd and Sc scales. In the general female sample, most of the high scores occurred on the Pd, Sc and Ma scales, and in the violent offender group, Sc, Pd and Pt scales are noteworthy in this regard. This tendency is in line with the US convict population MMPI-2 assessment results. In the study by Megargee et al. (1999), already mentioned on multiple occasions, the largest number of males had high scores on the Pd and Pa scales, and high Pd, Pa, Sc and Ma scores were observed in the group of female convicts. In the study of the US prisoner population by Black et al. (2004), the largest percent of males and females had high scores on the Pd scale. In another mixed sample of North American inmates, most of the high scores occurred on the Pd and Sc scales (Wise, 2009). Results of the Lithuanian study match the results of the US inmate population study. However, it is worth mentioning that although high scores occurred on the same scales, the proportions of high-scoring inmates differ. For instance, in the aforementioned US studies of inmate populations, high score on the Pd ( $T \geq 65$ ) were obtained from 37%, 41% and 63% male convicts respectively, and in the case of Lithuanian, the high Pd score was characteristic only of 12.9% of inmates. We may therefore make a preliminary conclusion that the results of the Clinical scales in our sample of convicts match the results of studies conducted in North America only with respect to the set of scales where convicts had high scores, yet there is a mismatch of percentages of high-scoring inmates.

For comparison of high scores of the MMPI-2 Content scales and Supplementary scales, we employ the results of the study by Megargee et al. (1999). Concerning the Content scales of the Lithuanian male convicts (both the general sample and last violent crime offender sample), most of the high scores ( $T \geq 65$ ) occurred on the ASP and DEP scales. In the general female sample, the FRS scale was markedly distinguished by high scores, and in the violent crime offender subgroup, most of the clinically significant high scores occurred on the ANG scale (40%). When comparing our results with that of Megargee et al. (1999), we see that for the male sample, high scores occurred most frequently on the ASP, CYN and DEP scales, which largely corresponds to our results. A similar match did not occur in the female sample. In the aforementioned study, females had high scores on the CYP and ASP scale twice as often as that of FRS and SNG scales.

Most of the high scores ( $T \geq 65$ ) on the Supplementary scales in both male samples were obtained from the O-H and MAC-R scales, and for females, the occurrence of high scales was most numerous on the O-H scale (only in the general sample). For some scales the frequencies were estimated using cutoff scores provided in the MMPI-2 manual (Butcher et al., 2013). Thus, for the female samples, we used  $T \geq 75$  for the MAC-R scale,  $T \geq 60$  for the AAS scale, and for the Es scale we found it more meaningful to use the lowest threshold value of clinical significance  $T \leq 40$ , which corresponds to poor general psychological adaptation and poor prospects for treatment. Low clinically significant Es scores were characteristic of 23.6% of males and 18.8% of females (in the violent crime offender samples, the proportion was accordingly 29.7% and 30.0%). In our male sample, the scales with high scores coincided with scales mentioned in the study by Megargee et al. (1999). Meanwhile, in the US female sample, the O-H scale had medium frequency of high scores in comparison to other supplementary scales. Although we have indicated a match between Lithuanian and American populations of convicts, the same tendency prevails that for the Lithuanian population, the percentage of participants with high scores on separate scales is 2-3 times lower than in the American population. For instance, 42% of US convicts obtained high MAC-R scores, but the proportion is only 15.6% for Lithuanian convicts. When attempting to explain the lower percentage of high scores in the Lithuanian sample, standard deviations of Lithuanian scale scores attracted our attention. We noticed that the standard deviations within our sample rarely surpassed the  $T > 10$  threshold, which is indicative of the homogeneity of the Lithuanian sample. Meanwhile the standard deviations of the US studies varied between 11-14 points, which is indicative of greater heterogeneity of the US convict sample and, simultaneously, the larger numbers of persons with high scores.

In order to assess the characteristics of the Lithuanian convicts' MMPI-2 test results, we compared their results with that of the standardized sample. Most of the differences in the male sample coincided with the differences predicted by our hypotheses and thus, confirmed them. Due to the small size of the female sample, less of the observed results were statistically significant and all except one confirmed our hypotheses. Because of the smaller female sample size, only differences of larger effect sizes were statistically significant.

Firstly, we shall discuss the results of male convicts. Most of the observed differences were characteristic both of the general sample and of the separately analyzed sample of inmates who were incarcerated for their last violent offence. Considering the Clinical scales, males had higher scores on the Pd, Pa and Sc scales with medium Pd and Pa effect sizes. Our findings matched the results of the stud-

ies reviewed above (Ben-Porath et al., 1995; Boscan et al., 2002; Culhane et al., 2014; Megargee & Carbonell, 1995; Wise, 2009). They reflect the inmates' problems with law enforcement (Pd), suspiciousness, rigidity (Pa), and disorientation (Sc) (Butcher et al., 2013; Graham, 2012). The results of the Restructured Clinical scales also proved to be statistically significant and confirmed our hypotheses, specifically the RC4, RC6 and RC7 scores, which significantly surpassed the population norms. Meanwhile, RC4 and RC6 differences had a medium effect size. Our findings match the results of the Northern American convict population study by Wise (2009) and reflect the antisocial attitudes and behavior (RC4) of convicts, their distrust in others and inability to forge close relationships (RC6), a higher level of fearfulness and anxiety (RC7). Regarding the scales of the Personality Psychopathology Five, the DISC scale significantly discriminated the convicts from the general population, as expected, and this difference almost reached the level of medium effect size ( $d = 0.49$ ). The DISC scale represents such behavioral problems as propensity for risky behavior, immorality, impulsiveness, substance abuse, aversion to routine, etc. (Butcher et al., 2013; Graham, 2012), thus the results prove its usefulness for convict assessment.

The majority of scales mentioned in the hypotheses statistically significantly discriminated the groups of convicts from the general population, of which the ASP had the largest difference. The ASP scale is designed to specifically assess problems with law enforcement and antisocial behavior, thus it is unsurprising that this scale was the one which discriminated the convicts from the population most markedly. According to the effect size, the second best at discriminating the convicts from the general population was the BIZ scale, which indicates likely psychotic and schizotypal tendencies of convicts. Meanwhile, the average CYN scores in the general male sample were higher than the general population and showcase that hostility towards others is prevalent in this group.

Considering supplementary scales, the hypotheses based on them had the most confirmations both in the general and the VM sample, i.e., score differences of 6 out of 9 scales (A, Es, Do, Re, O-H and MAC-R) were statistically significant. The MAC-R scale produced the largest effect size  $d = 0.65$  in the general sample, which confirms the existence of the relationship between criminal conduct and alcohol misuse, risky behavior, aggressiveness, etc. In the study by Megargee et al. (1999), the MAC-R scores surpassed that of all the other Supplementary scales, and the researchers explained this by relating this result to the increasing number of inmates suffering from alcohol and drug addiction in the US. It is worth mentioning that the MAC-R scale had one of the largest high score frequencies among other scales in other studies as well. For example, in the Mexican convict

sample, the mean MAC-R score was  $T = 64.25$ , which is very close to the score indicating severe problems related to alcohol abuse and antisocial behavior (Boscan et al., 2002). Higher than average and approaching the medium effect size, the O-H scores support the claim that Lithuanian male convicts are inclined to suppress their anger, and this may result in loss of self-control and outbursts of aggression. Considering another scale, the Es, the scores of both male convict samples were smaller. Low scores on this scale indicate lack of psychological resources when coping with stress and other challenges and predict poor psychotherapeutic treatability (Graham, 2012). The convicts were also characterized by low self-esteem (lower Do scores), and irresponsibility and immorality (lower Re scores). Such lower scores in supplementary scales were typical to convicts in many studies (Ben-Porath et al., 1995; Boscan et al., 2002; Culhane et al., 2014; Megargee et al., 1999; Wise, 2009).

Although the majority of predicted results were confirmed, it must be noted that only one scale, the MAC-R, had a medium effect size different from the norm. In the studies we have reviewed, effect sizes were substantially greater, for example, in the MAC-R scores in the study by Megargee et al. (1999), the effect size was almost twice as large ( $d = 1.25$ ) as in our sample. The same goes for a large part of the significant results in our study. The results presumably indicate that the MMPI-2 results of Lithuanian inmates deviate far less from that of the general population.

Statistically significant MMPI-2 scores in the female sample were less numerous due to the small sample size. This is especially true for the subgroup of females incarcerated for their last violent offence. The direction of results for females matched that of males, but, in addition to that, had larger effect sizes. In the general female sample, one outcome contradicted our hypothesis on depression – female inmates had lower scores on the depressiveness (D scale). We could explain this result only by assuming that the inmates experience less stress in the place of incarceration than in their usual social environment. As was previously mentioned, the proportion of female inmates is several times lower (in our study it was 20 times lower) than that of males, and this indicates that correctional facilities receive females with exceptionally high levels of deviation. They might have extremely highly expressed social maladaptation and inability to solve problems of everyday life. In this case, incarceration in a correctional facility might alleviate difficulties of everyday life and staff of custodial institution satisfies their basic needs. It must be added as well that we did not observe the expected results in the D scales of male inmates.

Regarding the MMPI-2 scales which confirmed our hypotheses, the ones describing antisocial behavior and substance abuse, the Pd, Ma, RC4, DISC, O-H,

MAC-R, and AAS stood out with their large effect sizes. This is especially true for the MAC-R ( $d = 1.15$ ) scale, which confirms time and time again the relationship between alcohol abuse, risky behavior and criminal conduct. In contrast to males, females seemed more inclined to admit their addictions related to substance abuse (indicated by high AAS scores).

Figures 2 and 3 visually represent male and female MMPI-2 profiles, and by analyzing them, one can see their similarities. In the profile of the Clinical scales, it is visible that higher values for the Pd and Pa scales clearly emerge from the rest of the scales for both sexes, and in the female sample, the Ma is very prominent as well. In the profile of the Restructured Clinical and PSY-5 scales, the RC4 and DISC scales are very prominent for both sexes, but a higher Hypomanic Activation (RC9) is more characteristic to females. Profiles of Content scales and Supplementary scales demonstrate the same tendencies, and the only obvious differences, which are visually discernible, occur in the Gender Role-Masculine and Gender Role-Feminine (GM and GF) scales that were not included in our hypotheses. Such discrepancy between the male and female samples is predetermined by the content of the scales themselves because they assess the interests traditionally associated with male and female gender roles. It is necessary to add that the validity of the content of the GM and GF scales has not been confirmed yet. It is thought that a high GM score (both for males and females) represent general adaptation and not masculine interests. Due to the lingering ambiguity surrounding these scales, they are not recommended for use for routine interpretation and prediction of inmates' behavior, and in the meantime their use is restricted to scientific research only (Graham, 2012). With the exception of these scales, graphical analysis of the MMPI-2 alone allows one to make assumptions about the fact that the MMPI-2 discriminates the same characteristics identifying male and female offenders, and it is characteristic to both the general samples and last violent crime offender samples.

To finalize the discussion of the results for this part of the study, we return to the relatively small (in comparison to other studies) effect sizes and smaller percentage of high-scoring participants. We believe that, in part, these results can be explained by the slight differences of sampling procedure used in this and in other studies. Unlike the most reviewed foreign studies, wherein the MMPI-2 assessment was used as a routine procedure in routine practice, participation in our study was voluntary and did not affect the decisions regarding the severity of the sentence issued, parole conditions, etc. Consequently, the willingness of the convicts to participate in our study could have been determined by the special character of the relationship between convicts and personell. It is likely that the most non-cooperative and antisocial convicts refused to participate in our study, thereby reducing



both the number of high-scoring individuals and the differences of average scores.

If the first analysis demonstrated the ability of the MMPI-2 scales to differentiate convicts from the general population, then the analysis of the relationship between the MMPI-2 scales and OASys reoffending risk measures should have revealed how well the MMPI-2 is able to differentiate the convicts in terms of risk of reconviction. Also, the results of correlation analysis allow us to make assumptions about the role played by personality factors in the process of criminal behavior assessment. Again, our results were influenced by the different sizes of male and female samples, which resulted in the most statistically significant results obtained in the male sample. However, it should be noted that the correlations between the MMPI-2 scales and OASys that were statistically significant in both male and female samples shared the same direction. This again confirms the assumption that the same personality characteristics are in the same way associated with criminal behavior irrespective of gender.

In the male samples (both in the general and in the VM sample), the relation with risk of reconviction with greater than small effect size was detected in the vast majority of MMPI-2 scales mentioned in the hypotheses. Statistically significant correlations were not detected only between the D and CYN scales and the OASys reoffending risk score. The strongest correlation (medium correlation,  $r \geq 0.30$ ) was observed between the reoffending risk score and the Pd, Sc, RC4, DEP, FAM, Re (-), PK, and AAS scores. These and other correlations indicate that the assessment of reoffending risk is related to convicts' antisocial behavior, relationship problems, depression, irresponsibility and various addictions. The fact that these correlations have a theoretically well-founded direction confirms both the validity and suitability of both methods of assessment for the population of convicts. Particular attention is drawn to the scales mentioned in the hypotheses which discriminate convicts from the population and are associated with higher risk of repeated criminal conduct. These scales are the Pd, Pa, Pt, Sc, RC4, RC6, RC7, DISC, DEP, BIZ, A, Es, Do, Re, MDS and MAC-R. It must also be noted that although the imprisoned males shared a highly expressed characteristic of over-controlled hostility (the O-H scale), the risk of repeated conviction in the general sample was related to lower control of the expression of hostility.

Concerning the correlation between the MMPI-2 scores of female convicts and their reoffending risk, the estimates obtained demonstrate that the results of the risk assessment are strongly related to the females' personality characteristics. In the general female group, the Pd, RC4, DISC, Re (-), MDS, MAC-R, and AAS scales were distinguished by medium and strong correlations with reoffending risk. The relationships observed in this study suggest that the risk of criminal behavior

in the female sample is as much associated with the same personality traits that reflect behavioral and emotional issues and addiction-related problems as in the male sample. It is worth noting that the relations between different measures in the female sample are stronger and the differences of correlational coefficients between the RC4 scales and OASys scores in male and female samples cross the threshold of statistical significance ( $Z = 2.4, p < .05$ ). When analyzing relationships in the three times smaller sample of females sentenced for the last violent offence in which 60% of women were convicted for murder, it was observed that these relations were more numerous and had larger coefficients. In this group, the majority of the correlations proved to be statistically significant, and the correlational coefficients obtained reached as high as  $r_s = 0.95$ . Statistically significant correlations of medium strength were observed between the OASys and Hs, Pd, Pa, Pt, Sc, Ma, RC4, RC6, RC7, HEA, BIZ, ASP, FAM, A, Es (-), Re (-), PK, MDS, OH (-), MAC-R, and AAS scales. The results confirm the theoretical assumption that crimes committed by convicted women and, in particular, women whose last crime was violent, are strongly related to specific personality traits and psychopathology. However, due to the small female convict sample, a tiny number of the MMPI-2 scale scores predicted in the hypotheses differed from the general population norm, and most of them (the Pd, RC4, DISC, MAC-R, and AAS) were also significantly related to reoffending risk.

Summarizing the results of the correlational analysis, one can conclude that risk of reoffending for convicts of both genders is associated with similar MMPI-2 scales that measure behavioral problems, cognitive deficiencies and emotional problems, and these scales also discriminate convicts from the general population.

## 4.5. Summary

The Lithuanian population of prison inmates, including those who are incarcerated for violent offences, share the same characteristics with inmate populations of other nations. These characteristics, as established by MMPI-2 studies, are related to antisocial practices, disconstraint, lack of stress-coping ability, anger management problems, addictions, etc. Male convicts, when compared to the Lithuanian MMPI-2 standardization sample, exhibited higher scores on the Psychopathic Deviate (Pd), Paranoia (Pa), Antisocial Behavior (RC4), Ideas of Persecution (RC6), Bizarre Mentation (BIZ), Antisocial Practices (ASP), Overcontrolled Hostility (O-H), MacAndrew Alcoholism Scale-Revised (MAC-R), Psychoticism (PSYC), and Disconstraint (DISC) scales and lower scores on the Ego Strength (Es) and So-

cial Responsibility (Re) scales. Female convicts exhibited higher scores on the Psychopathy Deviate (Pd), Hypomania (Ma), Antisocial Behavior (RC<sub>4</sub>), Hypomanic Activation (RC<sub>9</sub>), Overcontrolled Hostility (O-H), MacAndrew Alcoholism Scale-Revised (MAC-R), Addiction Admission (AAS), and Disconstraint (DISC) scales and lower scores on the Depression (D) and Low Positive Emotions (RC<sub>2</sub>) scales. It is also worth noting that many of the MMPI-2 scales discriminating convicts from the general population are associated with the risk of repeated conviction. This relation between personality characteristics and reoffending risk is extremely strong in the sample of female convicts sentenced for violent offences. The results obtained confirm that the MMPI-2 is a suitable instrument for the purpose of psychological assessment of convicts in Lithuania.

# 5

## LINKS BETWEEN CRIMINAL RISK FACTORS AND PERSONALITY TRAITS

### 5.1. Research review

As was already mentioned in the previous chapters, violent crimes form a small part of all offenses, but the consequences of these crimes for society and crime victims are extremely painful (Broadhurst et al., 2017). For example, some authors suggest that experienced violence causes changes in neurological structures and increases risk of antisocial personality disorder and criminal activity (Morley, 2015).

Violent crimes analyzed in the scientific literature cover a wide range of criminal acts. According to Zamble and Quinsey (2001), the group of violent offenders includes persons who have at least one violent offence in their criminal record. However, it is important to note that the isolation of groups, categories, or types of offenders according to criminal acts they commit may create an illusion that offenders classified in one category or another cannot fall into another type or category at the same time. According to Andrews and Bonta (2010), very few offenders specialize in only one type of criminal activity. The discrimination of categories and types of offenders is usually determined by the criminal's propensity for one type offense instead of another. For example, sex offenders are more likely to repeatedly perpetrate sex crimes as compared to other criminals.

A number of studies have been and are currently being conducted in order to identify the personality characteristics of convicts belonging to different types of criminality and to distinguish developmental pathways of criminal history (Bouffard & Zedaker, 2016; Reid, 2017; Richards et al., 2013; Scott et al., 2009). However, the results of these studies indicate that there is only a small percentage of specialist offenders. Most criminals commit a wide range of crimes, and their victims are very diverse. It is obvious that the so-called criminal specialization is a rarity, and the focus on the last serious crime may sometimes obscure the characteristics that would otherwise allow another type of offense to be foreseen. Simon (1997) conducted a review of studies, investigating the personality characteristics of violent offenders. These studies analyzed the personality characteristics of general offenders, domestic violence offenders and sex offenders. It turned out that for violent crime offenders with different specialties, most of their personality characteristics overlapped.

The results of interdisciplinary studies reveal a multitude of violence-related sociological, psychological and neurological criminogenic risk factors (Louw et al., 2005; Morley, 2015), which include the male gender, an early history of violent crime (Lewis, 2010), and childhood experience of emotional abuse and neglect (Morley, 2015; Tapscott et al., 2012). Violent offenders are more impulsive than non-violent offenders, they lack self-control and have more anger management difficulties (Zamble & Quinsey, 1997). Because of their lack of social skills, they typically have problems maintaining social relations and suffer from low self-esteem. In addition, violent behavior risk factors include neurological abnormalities, antisocial personality disorder, etc. (Lewis, 2010; Mela et al., 2014; Morley, 2015; Tapscott et al., 2012). Manifestation of the latter factors are particularly exacerbated by alcohol abuse (Lewis, 2010; Zamble & Quinsey, 1997). It is likely that interaction between these factors significantly encourages violent crime in males. Furthermore, results of previous studies suggest that females committing the most serious crimes have similar psychopathology as males who commit violent crimes, and, therefore, the etiology of gender-based violence might be similar (Lewis, 2010). We have already mentioned in Chapter 2 that violence risk factors can be classified in many ways. They are grouped into categories of demographic, individual/psychological, family-related, and peer/social or community/society-related risk factors (Morley, 2015; Palermo, 2015).

**5.1.1.1. Risk factors for violent behavior.** Based on our analysis of the scholarly literature, we have highlighted the categories of factors that predict the incidence of violent behavior in most studies. These factors are demographic (e.g., male gender, young age, and socio-demographic status), criminal history (e.g., previous convictions and previous acts of violence), social (e.g., peers and family relationship), personality (e.g., antisocial personality disorder, psychopathy, impulsiveness, over-controlled hostility, mental disorders, and substance abuse).

**5.1.1.1.1. Socio-demographic characteristics.** Most of violent crimes are committed by men (Howard & Dixon, 2012; Morley, 2015). This is commonly observed in the prison population as well due to the considerably larger number of male convicts in comparison to females. Young age is also associated with higher risk of violence (Andrews & Bonta, 2010; Howard & Dixon, 2012). The younger the person is at the first incidence of violent crime, the more likely is his conviction for violent behavior in the future (Barbaree et al., 2009). The age of sex offenders at the time of release from prison is also a significant predictor of recidivism. Furthermore, it has been established that older men who are prone to domestic violence are less

likely to be grouped with high-risk domestic violence offenders than younger people (Richards et al., 2013).

We have already mentioned that research has been conducted for a long time searching for links between low socioeconomic status and criminal behavior. Persons with low socioeconomic status likely encounter more economic and financial difficulties that prevent them from satisfying basic needs. This leads to dissatisfaction and tension, and these individuals experience stress (Aaltonen et al., 2011). According to Botelho and Gonçalves (2016), low socioeconomic status interacts with other factors to create conditions that promote circumstances inducing violence, which hinders the development of prosocial rules. This automatically reduces the self-control of these individuals and increases the likelihood of their criminal behavior. When young people are not able to receive education, become employed, or find a permanent place of residence, and the state does not apply poverty reduction measures, the homicide risk may increase in these circumstances. Long-term unemployment and low levels of education are among the most important predictors of violent behavior (Aaltonen et al., 2011; Andrews & Bonta, 2010; Howard & Dixon 2012, 2013). The risk of violence is also associated with work-related difficulties (Liu et al., 2011), problems related to permanent residence (Howard & Dixon, 2012, 2013), and low income (Stalans et al., 2004). Thus, reviewed research results largely confirm that low economic status and associated risk factors predict violent crime in both male and female samples. However, it should be emphasized that socio-demographic characteristics alone do not determine manifestation of violence, but it is assumed that some life experiences of young people spur their aggressiveness or violence. Certain risk factors at the age of 10, 14, or 16 years can predict the probability of future violence (e.g., hyperactivity, low school commitment, poor achievements at school, poor family relationships, etc.) (Palermo, 2015).

*5.1.1.2. Criminal history factors.* Since the early onset of a criminal career is associated with greater future activity and diversity of criminal behavior (Ustinavičiūtė, 2012), it is not surprising that previous violent behavior is considered to be the most important predictor of future violence. Research confirms this assumption. Although homicide offenders are sometimes portrayed as unfortunate victims of difficult and disruptive circumstances, analysis of their life stories suggests that these individuals have committed more than one violent crime before (Lang et al., 1987). Richards et al. (2013) conducted an analysis of 317 domestic violence offenders. For data analysis, researchers collected over 10-years-worth of data from the offender's criminal records, including information about arrests for domestic violence. After conducting logistic and multi-nominal analysis of regression mod-

els, the authors distinguished several groups of convict's and their pathways to the development of violence. Two groups of domestic violence were distinguished: low and high crime rate groups. Also, three groups of non-domestic violence trajectories were discriminated (i.e., very low frequency, low frequency and high frequency). The study found that a history of domestic violence and/or previous offenses was related to alcohol or drug abuse and predicted entrance to the group of high domestic violence risk. Meanwhile, previous arrests for domestic violence predict entrance to both the low-frequency and high-frequency groups of non-domestic violence offenders (Richards et al., 2013).

It should be noted that previous violent behavior distinguishes violent offenders from other offender groups (Howard & Dixon, 2012; Lewis, 2010). According to Lang et al. (1987), when comparing violent offenders with non-violent offenders, the biggest differences lie not in the personality structure, but in the history of the personality and how often that person demonstrates violent behavior. The number of convictions is also a good predictor of violent crimes (Howard & Dixon, 2012; Lang et al., 1987). The criminal history of violent offenders often involves not only violent crime but also other types of criminal acts, which is why perpetrators usually have previous convictions and their first encounter with law-enforcement often occurs at a young age. Interestingly, offenders of domestic violence and other types of violent crimes are more likely to have a history of arrests for substance abuse-related offenses (Stalans et al., 2004) than non-violent offenders.

Although the characteristics of criminal history are thought to be among the most important indicators of violent behavior, and past violence is a highly predictive variable, specifically for violent behavior in the future, these factors are static. While dealing with an offender, analysis of the variables of a criminal history will mostly affect the predictions of his violence and reoffence. While working with the offender, it is important to identify such causes of violence that respond well to correction.

*5.1.1.3. Social characteristics.* Developing and learning patterns of violent behavior can increase the likelihood of such crime as murder (Botelho & Gonçalves, 2016). It can be said that offenders using violence against others grow up in “disappointing” dysfunctional families, where they constantly observe and experience various forms of violence. According to Andrews and Bonta (2010), one of the five most powerful risk factors for domestic violence is family stress. There is no doubt that the problems encountered in the family are predictive of the behavior of violent juvenile delinquents (Mulder et al., 2010). In addition, parental crime predicts child crime. Farrington, Coid and Murray (2009) conducted an analysis of three

generations in their study. The authors relied on the assumption that children of convicted parents also engage in criminal activity. The results obtained confirmed their assumption, but only in the male sample. However, their study also revealed that not only the family but also its socioeconomic status is important for the development of criminal behavior. Nonetheless, violence displayed in the family, the neighborhood or the immediate social environment is not the sole promoter of aggressive behavior. Baskin and Sommers (2014) found that young people living in a neighborhood supportive of the norms of a subculture of aggressive and violent behavior are exposed to high risk of becoming both a victim and perpetrator of violence. These authors, in an effort to distinguish between different developmental pathways of violent offenders, have found that the main factors discriminating the groups of pathways to violent behavior are community-based violence and the misuse of psychoactive substances. Those individuals who were more likely to encounter violence in their immediate environment and had greater addiction to psychoactive substances were more likely to act violently.

The persistent display of scenes of aggression and violence by the media is also worthy of note. Observation of violent scenes increases the aggressiveness of young people, yet not all of them commit violent offenses. However, studies that analyze observation of violence do not always take into account whether innocent monitoring of violent scenes occurs, or whether the person's lifestyle increases the likelihood of finding oneself in situations or circumstances where such violence will occur. In other words, having violent friends, observing violence or experiencing violence are lifestyle indicators that increase the risk of violent crime (Nofziger & Kurtz, 2005).

The manifestation of violence is encouraged not only by the offender's family, social environment and lifestyle. An adult offender also creates new interpersonal relationships. The marital status of convicts is a risk factor associated with domestic violence. It was found that offenders of domestic violence who were married had lower incidence of crime compared to those who were not married (Richards et al., 2013). A number of scientific studies also confirm that one of the risk factors predicting violence is problems of interpersonal relations and conflicts (Zamble & Quinsey, 2001). However, it should be noted that most of these interrelationships are determined by analyzing violent behavior in the domestic environment. Communication problems in the family, poor communication skills, the dominance of one of the partners, control, and disrespectful behavior towards the other can increase the risk of domestic violence. Partner aggression often occurs after family conflicts (Goussinsky et al., 2017). It should be noted, however, that studies focusing on all types of violent offenders sometimes fail to observe the relations between the aforementioned constructs (Liu et al., 2011).



*5.1.1.4. Personality characteristics.* The prevalence of personality disorders in the offender populations is much higher than in the general population. Persons with these disorders are at a higher risk of reoffending (Liu et al., 2011; Shaw et al., 2012). In addition to that, with the rise in personality psychopathology, alcohol misuse also increases (Shaw et al., 2012). Therefore, the analysis of this construct requires a lot of attention, especially in the case of violent crime offenders.

In the scholarly literature, antisocial personality disorder is often used as a synonym for aggressive behavior or violence (Morley, 2015). It has been established that such disorders include a number dynamic factors like antisocial attitudes, poor self-regulation, anger control problems, poor problem-solving skills, impulsiveness, risky behavior, adventurous pleasure seeking, disregard for others, callousness, and aggressive behavior (Andrews & Bonta, 2010; Diamond & Magaletta, 2006; Falk et al., 2017; Howard & Dixon, 2012; 2013; Wygant et al., 2006) which are predictors of violence risk (Howard & Dixon, 2012, 2013). It is important to note here that the application of self-report inventories (MMPI-2, NEO PI-R, MPQ, etc.) made it possible to better analyze both antisocial personality disorder-related characteristics, other personality-related characteristics and psychopathological characteristics of violent offenders. These assessment capabilities are well illustrated by the MMPI-2 scales of the Personality Psychopathology Five, which are designed to assess the characteristics of an abnormal personality and are associated with personality disorders such as antisocial personality disorder (Wygant et al., 2006).

Studies which analyzed the violent crime offender profiles based on the MMPI-2 scores of criminals found that criminals are characterized by high scores in sets of the D, Pd, Pa, Pt, Sc, and Ma scales (Brad et al., 2014). The results demonstrate, that this group of convicts is characterized by mood disorders, paranoia, exaggerated emotional reactivity, impaired mental ability, obsessive and compulsive behavior. Persons with these profiles are also characterized by antisocial behavior, impulsiveness, lack of empathy, anger, tendency to blame others, and negative emotionality. Similar results were obtained in the sample of serious crime offenders (e.g., murderers). Culhane et al. (2014) performed 61 MMPI-2 personality assessment of serial killers. The results they obtained confirmed that the offenders were most strongly characterized by the scales of Pd (T = 74.48), Sc (T = 64.43) and Pa (T = 64.03). The population score averages were also substantially exceeded on the MDS (T = 65.43), ASP (T = 63.62), MAC-R (T = 61.72) scales, which indicates that this group is experiencing great stress due to family problems. It is characterized by antisocial behavior and alcohol-related problems. The lowest scores were obtained on the Do (T = 39,15) and Re (T = 38,89) scales, which makes it possible to conclude

that such persons violate social norms and have low self-esteem. Meanwhile, the comparison of the psychological characteristics of murderers based on MMPI-2 assessment did not show any significant differences (Brad et al., 2014). This only reaffirms the assumption that similar types of psychopathology are typical for violent offenders of all kinds, and higher scale scores characterize them in comparison to non-violent offenders. In addition to that, an analysis of the prognostic validity of the RC Restructured scales made by Sellbom et al. (2008) found that Antisocial Behavior (RC4) and Hypomanic Activation (RC9) of domestic violence offenders are better predictors of reoffending than variables of criminal history. In cases where scale scores were higher than 65 T, the probability of violence risk increased by as much as 60-70%. Recent research suggests that assessment based on the MMPI-2 can provide meaningful information for assessing risk of violent behavior. It is also important to mention here the capabilities of the MMPI to evaluate such personality constructs as psychopathy. The latter factor is highlighted as one of the best predictors of violence and is strongly linked to violent crime (Brad et al., 2014; Roberts & Coid 2007; Flores-Mendoza et al., 2005). Although there is not enough research into the relationship between MMPI-2 scales and psychopathy, studies by Sellbom and his colleagues (2005, 2007) which examine the convergent and discriminatory validity of the MMPI-2 can be mentioned. The results they obtained confirmed that the scores of the restructured RC4 scale had the highest predictive power compared to other MMPI-2 scales (ASP, Pd, Ma) when predicting psychopathy. However, the latter scale works best when assessing the social deviation predictive factor of psychopathy. Meanwhile, emotional and interpersonal components of psychopathy are best represented by low estimates of the Low Positive Emotions (RC2) and Dysfunctional Negative Emotions (RC7) scales (Sellbom et al., 2005). The manifestation of psychopathic characteristics is well illustrated by the behavior of serial killers. The latter behavior is of a compulsive nature because these individuals feel a craving and an impulse to kill but plan their crimes, and the violence they use is instrumental in nature (Reid, 2017). The characteristics of these individuals overlap with the personality traits mentioned in the construct of psychopathy: coldness, planning, and benefit-seeking antisocial behavior. It's important to mention at this point that the emotional problems inherent to the construct of psychopathy are particularly characteristic of those who commit severe violent crimes. Roberts and Coid (2007), who analyzed the psychopathy and criminal behavior characteristics of prisoners in England and Wales, found that the psychopathy factor, reflecting the emotional problems of convicts, are associated with violent criminal activity. The analysis of psychopathy characteristics based on the PCL-R assessment of Brazilian prison population has replicated the results of the

above-mentioned study (Flores-Mendoza et al., 2005). Scientists have identified positive relationships between psychopathy's interpersonal / emotional factor and violent crimes. Meanwhile, property crimes were related to both the interpersonal / emotional and social deviance factor of psychopathy. However, during this study, no relationship was observed between the characteristics of psychopathy and the characteristics of personality, such as aggressiveness, domination, perseverance, etc. On the other hand, persons who have committed particularly serious crimes seemed more likely to lie, to conceal the psychopathology characteristic to them or episodes of aggressive behavior. It is likely that these people are trying to conceal the feelings of anger, the need to kill and the frustration they experience. It may very well be that for violent offenders who had experience of persistent violence in their families, their own violence does not seem so obvious. Therefore, they seek to introduce themselves as non-hostile and non-aggressive individuals (Lang et al., 1987). The results of studies conducted with samples of imprisoned females matched the characteristics of the male groups. Thus, individuals with characteristic callousness and lack of empathy are usually unable to understand the stress experienced by others and are not afraid of the negative consequences of their behavior (Thomson et al., 2016). Therefore, summing up the results of the aforementioned studies, we suggest that a previous history of violence, emotional problems, and psychotic traits that define antisocial behavior are a significant source of violence risk.

As previous analysis has shown, more and more research is under way in which, with the help of cluster analysis, researchers are trying to identify profiles of violent offenders. However, there is another group of violent offenders which is distinguished from other groups by mental health disorders. Investigating the relationship between mental health disorders and violent behavior raises many challenges for researchers. One of them is that there are more factors associated with these constructs, such as a low socioeconomic status, incapacity for work, low social support, etc. (Silver et al., 2008). The greatest interest for researchers is the issue of causation, i.e., whether mental disability predicts violent behavior. Some studies show that a history of former psychiatric treatment predicts violent behavior (Howard & Dixon, 2012, 2013). Silver, Felson and Vaneseltine (2008) conducted a retrospective follow-up study to identify the links between mental health issues and violent behavior. In order to isolate the effect of overlapping variables, the investigators controlled the variables of previous violent offenses, gender, age, previous cases of victimization and substance abuse. It has been found that mental health disorders of convicted prisoners are more related to personal assaults and sexual offenses rather than to other types of crimes. Convicts who attacked chil-

dren and acquaintances in comparison with attackers of other groups of victims had the most pronounced mental health disorders. Among the male and female homicide offenders with mental health disorders, the following disorders were the most commonly reported: schizophrenia, psychosis, and mood disorders (Richard-Devantoy et al., 2016). However, some studies have shown that mental disorders are more prevalent among women who committed murders and assaults rather than among men (Silver et al., 2008). In addition, women with mental disorders are more likely to attack men than women. Such a risky and dangerous behavior, considering the difference in physical strength between men and women, is based on an erroneous assessment of circumstances and delusional thinking. When comparing female convicts with mental disorders to the mentally healthy group of female convicts, symptoms of depression and hallucinations are most prevalent in the first group during the act of murder, and they share stronger alcohol addiction. When compared to men, such women are more likely to kill their relatives, especially when the victim is physically abusive (Richard-Devantoy et al., 2016). Women are less likely to commit murder at public places, and they are more likely to hide their victims. More than half of the women who have killed their relatives suffer from a life-long mental disorder. However, it is noted that women without mental disorders possess a higher risk of killing another person. In this case, it is particularly important to emphasize that people with mental disorders constitute a very small proportion of the population of all murderers, therefore stereotyping should be avoided (Botelho & Gonçalves, 2016).

According to some authors, psychiatric disorders more often play the role of mediator (Richard-Devantoy et al., 2016). Persons with mental disorders are likely to have more problems related to various criminogenic factors. This may be a disability, place of residence-related problems, or lack of support from relatives. In this regard, their assessment may increase the risk of repeated violent offense. So, after completing the research review, it became clear that the idea that perpetrators of serious crimes are mentally ill has been proved to be correct, but only in part. In general, people with mental disorders pose the greatest threat to the lives of others when they are not taking medication related to their disorders and are effected by alcohol consumption. It should be emphasized that substance abuse is one of the main factors associated with risk of violent behavior.

Substance abuse is characteristically typical not only to perpetrators of violent crimes but also to non-violent offenders. However, differences in the level of alcohol consumption or drug abuse among these groups are often significant. Longitudinal studies confirm that alcohol addiction is the main factor discriminating domestic violence offenders from perpetrators of other offenses (Andrews & Bonta,

2010). Problems with the use of psychoactive substances are related to repeated violent offenses (Liu et al., 2011). In addition, alcohol misuse is common among offenders of various types of violent crimes (Lang et al, 1987; Howard & Dixon, 2012; 2013; Stalans et al., 2004). Comparative study results also show that not only previous offenses, committed under the effect of alcohol, can predict violent behavior. When comparing violent and non-violent offenders, it was found that the former, before committing sex offenses, were more likely to be intoxicated from alcohol or other psychoactive substances.

The impact of psychoactive substances on the manifestation of violence is independent of such violence encouraging factors such as criminal peers, familial criminality, impulsiveness, early-onset of antisocial behavior and so on. The use of these substances can have a dual effect on the manifestation of violence. Persons suffering from addiction to these substances are often unemployed and lacking good education, and they are more likely to have difficulties when creating families, maintaining warm relationships with relatives and finding a good job (Baskin & Sommers, 2014). Thus, the use of psychoactive substances can serve as a mediator that encourages other violence risk factors or an obstacle to the creation of protective factors against violent behavior.

Studies of violent offenders carried out in Lithuania partly confirm the role of the criminogenic risk factors analyzed earlier. While comparing these factors, there were significant differences between different groups of offenders, but violent offenders had fewer problems related to living conditions and neighborhood problems, and fewer financial, educational and employment-related problems than their non-violent counterparts, yet they were more susceptible to problems of alcohol abuse (Ustinavičiūtė, Laurinavičius, Žukauskienė & Bandzevičienė, 2010). Also, when comparing offenders of property crimes, violent offenders and sex offenders, violent offenders were found to have more behavioral problems antisocial personality disorder, and external behavioral difficulties. They were also more hyperactive, more impulsive, and more often used avoidance strategy during stressful situations (Ustinavičiūtė, 2012).

Mackoniene and Žukauskienė (2010) performed a comparison of personality traits of property offenders and violent offenders based on the NEO PI-R scores and found that Openness to Experience, Activity and Self-consciousness was more characteristic of offenders who committed property offenses, while differences in other scale scores were statistically insignificant. Pocius (2007) compared the influence of social factors on the development of criminal behavior of homicide offenders sentenced to life imprisonment and that of thieves. He found that those convicted to life imprisonment for murder often had experienced violence at home

and at school, were more likely to run away from home, and had a more problematic childhood in general. The latter had more communication difficulties and poorer social skills.

In summary, we suggest that the results of studies carried out in Lithuania do not provide a complete picture of the violent offender. These studies analyze discrete factors predicting violent behavior and, for the most part, make comparisons between different groups of offenders. Consequently, it is difficult to obtain a general picture of the characteristics of violent offenders and to identify the links between the analyzed risk factors and the risk of violence.

**5.1.2. The aim and hypotheses of the research.** Based on the analysis of the studies on the characteristics of violent offenders, we predicted that violent offenses perpetrated by inmates in Lithuanian correctional facilities would be characterized by specific demographic, criminal history, social and personality characteristics. The following hypotheses were formulated during the research:

1. The age of violent offenders is linked to convicts' risk of violence: younger convicts are at higher risk of violence.
2. The characteristics of the criminal history of violent offenders (the OASys Offending Information scale, the number of previous violent crimes and convictions) relate to the convicts' risk of violence: inmates with longer experience of criminal and violent behavior have a higher risk of violence.
3. The social characteristics of those who commit violent crimes (the OASys Accommodation, Education, Training and Employability, Financial Management and Income, Relationships, Lifestyle and Associates scales) are associated with the convicts' risk of violence: the more pronounced problems in these areas are the higher risk of violence they will possess.
4. The personal characteristics of convicted offenders (the behavior control issues and emotional problems associated with the clinical construct of psychopathy and antisocial personality disorder, assessed by the PCL: SV and selected MMPI-2 scales) are related to convicts' violence risk: the risk of violent behavior will be directly related to the more pronounced psychopathology:
  - a. The risk of violence will be positively correlated to the PCL: SV total score and PCL: SV 1 (Interpersonal / Emotional) and PCL: SV 2 (Behavior / Antisocial) scale scores;
  - b. The risk of violence will be positively correlated to the scores of these MMPI-2 scales: Clinical scales: Hypochondriasis (Hs +), Depression (D +), Psychopathy Deviate (Pd +), Paranoia (Pa +), Psychasthenia (Pt +), Schizophrenia (Sc +), Hypomania (Ma +), Depression (DEP +), Bizzare Mentation (BIZ +);

scores of Restructured Clinical Scales: Low Positive Emotions (RC2 +), Cynicism (RC3 +), Antisocial Behavior (RC4 +), Ideas of Persecution (RC6 +), Dysfunctional Negative Emotions (RC7 +), Aberrant Experiences (RC8 +), Hypomanic Activation (RC9 +); scores of Content Scales: Bizarre Mentation (BIZ +), Anger (ANG +), Cynicism (CYN +), Antisocial Practices (ASP +), Family Problems (FAM +), Work Interference (WRK +); scores of Supplementary Scales: Ego-Strength (Es-), Domination (Do-), Social Responsibility (Re-), Marital Distress (MDS +), Overcontrolled Hostility (O-H +), MacAndrew Alcoholism Scale-Revised (MAC-R +), Addiction Admission (AAS +); Personality Psychopathology Five scores of: Aggressiveness (AGGR +), Psychoticism (PSYC +), Disconstraint (DISC +), Negative Emotionality / Neuroticism (NEGE +), and Introversion / Low Positive Emotions (INTR +).

In summary, the aim of this research phase was to reveal the demographic, criminal history, social and personality characteristics of the violent crime offenders (assessed by the OASys, MMPI-2, PCL: SV) which are related to the convicts' violence risk (assessed by the HCR-20).

## 5.2. Methodology

*Participants.* The criterion for the invitation to participate in this stage of study was the violent nature of the last committed crime. By using the convenient sampling technique, 166 people were selected and gave a consent to participate. Among those who filled out questionnaires, 69% (n = 116) were males and 31% (n = 50) were females. The average age of male participants was 40.5 (SD = 12.1) years, the average number of convictions was 5.7 (SD = 3.0), the number of violent crimes was 2.5 (SD = 1.5), the age at the first conviction was M = 19.5 (SD = 5.8), the age at the first contact with police was M = 17.7 (SD = 6.1), 29.7% were officially married, and the number of completed years of secondary education was M = 9.9 (SD = 1, 8). The average age of female participants was 41.7 (SD = 12.5) years, the average number of convictions was 1.6 (SD = 1.5), the number of violent crimes was 1.1 (SD = 0.40), the age at first conviction was M = 35.5 (SD = 14.3), the age at the first contact with police was M = 33.3 (SD = 15.3), 30% of them were officially married, and the number of completed years of secondary education was M = 10.7 (SD = 1.2).

In order to carry out the task of empirical research, the definition of violent crime included the following offenses: homicide (Articles 129-131 of the Criminal Code of the Republic of Lithuania, henceforth – CC), intentional disruption of health (Articles 135, 136 and 138 of CC), rape (Article 149 of CC), sexual assault

(Article 150 of CC), robbery (Article 180 of CC), extortion (Article 181 of CC), riot (Article 283 of CC), and resistance to a public servant or person performing functions of public administration (Article 286 of CC).

According to the type of the last crime, these groups of convicted offenders who committed violent crimes were identified: non-domestic murderers ( $n = 21$ ), domestic murderers, domestic violence offenders, sex offenders and offenders of other types of violent crime. In the male sample, non-domestic murderers accounted for 29.6% ( $n = 34$ ), domestic murderers – 18.3% ( $n = 21$ ) domestic violence offenders – 10.4% ( $n = 12$ ), sex offenders – 4.3% ( $n = 5$ ) and offenders of other types of violent crime accounted for 37.4% ( $n = 43$ ) of participants. In the female sample, non-domestic murderers accounted for 50% ( $n = 23$ ), domestic murderers – 17.4% ( $n = 8$ ), domestic violence offenders – 4.3% ( $n = 2$ ), sex offenders – 2.2% ( $n = 1$ ) and offenders of other types of violent crime accounted for 26.1% ( $n = 12$ ) of participants.

*Assessment methods.* The following data collection methods were used for gathering data: socio-demographic questionnaire, OASys, MMPI-2, HCR-20, PCL: SV, SVR-20 (see Chapter 2, Description of Methods of Second Study Phase).

To ensure the reliability of the results during data analysis, only valid MMPI-2 protocols were selected. The rejection of invalid protocols was based on the use of differential values of the validation scales traditionally recommended by other authors (Black et al., 2004; Butcher et al., 2013; Graham, 2012; Wise, 2009): Unanswered Items  $N \geq 30$ , L (Lie)  $\geq 80$  T, K (Corrections)  $\geq 80$  T, VRIN (Variable Response Inconsistency)  $\geq 80$  T, TRIN (True Response Inconsistency)  $\geq 80$  T, F (Infrequency)  $\geq 100$  T, Fb (Back F)  $\geq 100$  T and Fp (Infrequency-Psychopathology)  $\geq 100$  T. It should be noted that the MMPI-2 scales were scored only if all the items were answered on each scale. If at least one validity scale remained unscored, we chose not to use the protocol in the following analysis. It is likely that a part of valid protocols was rejected in this way, but it was ensured that the analysis did not include invalid protocols. Based on the validity scale values chosen, 50.8% of male protocols ( $n = 59$ ) and 44% of female protocols ( $n = 22$ ) were rejected, and 57 male and 28 female protocols in which validation scales did not surpass the differential value or had no unanswered items were used to carry out a further analysis of convicts serving prison sentences.

In this study, we used the OASys scores of Offending Information scale for assessing variables of criminal history, and for assessing socio-demographic characteristics we used the scales of Accommodation, Education, Training and Employability, Financial Management and Income, Relationships, Lifestyle and Associates, and further we assessed psychological personal characteristics using the scales of



Drug Misuse, Alcohol Misuse, Emotional Well-being, Thinking and Behavior, and Attitudes. The consistency data of the scales used in the study are presented in Appendix 2. Scales with the Cronbach alpha internal consistency reliability coefficients of less than 0.5 show insufficient internal scale consistency (Vaitkevičius and Saudargienė, 2006), therefore these data were not included in further analysis. For the male sample, the scales of Education, Training and Employability ( $\alpha = .39$ ), Emotional Well-being ( $\alpha = .46$ ), and Attitudes ( $\alpha = 0.49$ ) were excluded, and for the female sample, the scales of Relationships ( $\alpha = -.01$ ), Lifestyle and Associates ( $\alpha = .14$ ), Drug Misuse, Alcohol Misuse ( $\alpha = .42$ ), Emotional Well-being ( $\alpha = 0.45$ ) and Attitudes ( $\alpha = .24$ ) were excluded.

PCL: SV consistency data are shown in Appendix 2. The F4 scale had a Cronbach alpha internal consistency coefficient of less than 0.5 for both male ( $\alpha = .23$ ) and female ( $\alpha = .34$ ) samples, so this data was not included in further analysis.

*Research procedure.* A convenience sample of 166 participants (116 males and 50 females) serving prison sentences in three Lithuanian correctional facilities were selected (see Chapter 2 for a detailed description of the second stage procedures).

*Statistical analysis methods.* The SPSS 24.0 software package was used for data processing. The Spearman  $r_s$  correlation coefficient was used for estimation of relationships between variables.

### 5.3. Results

In order to test the hypotheses raised in this part of the study and to reveal the demographic, criminal history, social, and personality psychological characteristics peculiar to violent offenders, the link between these characteristics and violence risk was investigated.

Tables 10 and 11 show the data of demographic variables and their relationships with the risk of violence. Statistically significant relationships were identified in the male sample between the violence risk and age ( $r_s = .31, p < .01$ ) and between violence and socioeconomic status represented by scores of the Financial Management and Income scale ( $r_s = .29, p < .01$ ). It is noticeable that the correlations are different and of medium strength. Meanwhile, the strength between socioeconomic characteristic and violence risk is weak. In the female sample, no relationship between risk of violence and demographic characteristics was detected.

While assessing the relationship between characteristics of the criminal history variable and risk of violence in the male sample, a statistically significant relationship was found with the number of violent crimes ( $r_s = .27, p < .01$ ) and the

OASys scores of Offending Information scales ( $r_s = .22, p < .01$ ). In the female sample, statistically significant relationships were found only with the OASys scale assessing criminal history ( $r_s = .30, p < .01$ ). The relationship between the number of convictions and the risk of violent behavior was not detected in both samples. Although only one correlation was found in the female sample, its effect size was medium. Meanwhile, in the male sample correlation effect sizes were small.

**Table 10. The relationship between the HCR-20 and offender's age, number of convictions and the number of violent crimes in the male and female convicts for recent violent crime samples.**

	$r_s$	
	Male	Female
Age	<b>.31</b>	.09
Number of convictions	.18	.03
Number of violent crimes	<b>.27</b>	.15

Note.  $r_s$  – Spearman's rank correlation coefficient. Statistically significant correlations at level  $p < .05$  are bolded.

Table 11 presents statistics for the correlation analysis of social characteristics, difficulties of accommodation, relationships, lifestyle and associates and violence risk variables. Statistically significant relationships between the aforementioned constructs were found only in the sample of male violent offenders. All the OASys scales assessing different social contexts (i.e., Accommodation, Education, Training and Employability, Financial Management and Income, Relationships, Lifestyle and Associates) are positively related to the risk of male violence, and the links with the Relationships scale were most pronounced ( $r_s = .40, p < .001$ ). The scales of Lifestyle and Associates ( $r_s = .28, p < .01$ ) and Accommodation ( $r_s = .25, p < .05$ ) are least pronounced. No statistically significant relationship between the social characteristics and the risk of violence was observed in the female sample.

The HCR-20 Violence Risk and OASys and PCL:SV scale score correlations to a large extent confirmed the predicted regularities. The results presented in Table 11 show that correlation coefficients of the same direction and at the level of statistical significance are in the samples of both females and males. The criminal risk of violence in men ( $r_s = .39, p < .001$ ) and in women ( $r_s = .51, p < .001$ ) was associated with OASys Thinking and Behavior scale. However, in the group of violent women, the correlations obtained were stronger than in the male sample. Statistically significant correlations with drug abuse ( $r_s = .21, p < .05$ ) and alcohol abuse ( $r_s = .35, p < .001$ ) were observed only in the male sample. The relationship between alcohol abuse and the risk of violence was medium, and it was weak in the case of drug abuse.

**Table 11. Associations of HCR-20 risk of violent behavior with OASys sections and PCL:SV scales in male and female convicts for recent violent crime samples.**

PCL:SV	$r_s$		OASys sections	$r_s$	
	Male	Female		Male	Female
Total	<b>.40***</b>	<b>.49***</b>	Offending Information	<b>.22*</b>	<b>.30*</b>
Part 1	.18	<b>.37*</b>	Accommodation	<b>.25*</b>	-.08
Part 2	<b>.53***</b>	<b>.51***</b>	Education, Training and Employability	-	.22
F1	-.01	<b>.35*</b>	Financial Management and Income	<b>.29**</b>	.18
F2	<b>.30**</b>	.29	Relationships	<b>.40***</b>	-
F3	<b>.51***</b>	<b>.55***</b>	Lifestyle and Associates	<b>.28**</b>	-
F4	-	-	Drug Misuse	<b>.21*</b>	-
			Alcohol Misuse	<b>.35***</b>	-
			Emotional Well-Being	-	-
			Thinking and Behavior	<b>0.39***</b>	<b>.51***</b>
			Attitudes	-	-

Note.  $r_s$  – Spearman’s rank correlation coefficient. Statistically significant correlations are bolded. In cases when scales’ internal consistency reliability estimates (Cronbach’s alpha) were lower 0.5 correlation coefficients were not presented and are marked “-”. Part 1 – PCL:SV Interpersonal/Affective Factor; Part 2 – PCL:SV Lifestyle/Antisocial Factor; Factor 1 – PCL:SV Interpersonal; Factor 2 – PCL:SV Affective; Factor 3 – PCL:SV Lifestyle; Factor 4 – PCL:SV Antisocial.

$p^* < .05$  (2-tailed),  $** p < .01$  (2-tailed),  $*** p < .001$  (2-tailed).

In both samples, the most pronounced relationship was observed between the risk of violent behavior and the PCL:SV factors of social deviation and lifestyle ( $r_s \geq .50$ ). As expected, as the risk of violent behavior of male and female violent crime offenders’ rises, so does their social deviation, antisocial behavior and anti-social lifestyles. The overall score of the PCL:SV scales had a statistically significant correlation with risk of violence in both female ( $r_s = .40, p < .001$ ) and male ( $r_s = .49, p < .001$ ) samples. The relationship between the PCL: SV interpersonal / affective factor psychopathy (part 1) ( $r_s = .37, p < .05$ ), psychopathy interpersonal Factor 1 ( $r_s = .35, p < .05$ ) and the risk of violence was only observed in the female sample. Meanwhile, the relationship between psychopathy affective factor ( $r_s = .30, p < .01$ ) and the risk of violence was only found in the male sample. The results of the MMPI-2 personality scale scores and the HCR-20 violence risk score have largely confirmed our assumptions about their interrelation. Relationships between personality traits and risk of violence have been identified. The results presented in Table 12 show that most correlational coefficients that reached

the level of statistical significance were only found in the male sample. The size of the female sample was several times lower than that of men; therefore, it seems that only two statistically significant correlations with Sc ( $r_s = .41, p < .05$ ) and OBS ( $r_s = .46, p < .05$ ) scales have been found. However, they were stronger than most statistically significant correlation found in the male sample. In the male sample, the risk of violence was associated with the following scales mentioned in the hypotheses: the RC2, RC4, RC9, ANG, ASP, FAM, Do, MDS, MAC-R, AAS, DISC, and NEGE. This would indicate that the risk assessment of criminal behavior is related to the personality traits of offenders assessed by the MMPI-2, which differentiate them from the general population and, in some cases, from offenders who have committed non-violent crimes.

For the purpose of a more detailed analysis of the characteristics of violent people, according to their last conviction, three groups of offenders were identified: homicide, domestic violence, and offenders of other violent crimes. Appendices 3 and 4 present comparative statistics of different groups of offenders, criminal history variables, socio-demographic and personality characteristics. However, there were no statistically significant differences between male and female groups in terms of both age and criminal history and the OASys scores for risk factors (see Appendices 3 and 4).

A comparison of the MMPI-2 scales of personality characteristics scales (see Appendices 5 and 6) in the male sample have shown that in the different groups of violent male offenders, statistically significant differences were found between the scores of the Restructured clinical scale of Somatic Complaints (RC1) ( $\chi^2 = 7.02, p = .030$ ). For domestic violence offenders (mean rank = 30.00), it is more likely that they have somatic complaints than for those offenders who have committed other types (mean rank = 17.76) of violent crime. Female groups differed when comparing the Clinical Paranoia (Pa) scales ( $\chi^2 = 8.87, p = .012$ ). Females who have committed other violent crimes (mean rank = 9.97) in comparison with those who committed murders (mean rank = 20.67) have more delusions, ideas of persecution and so on. Comparison of the remaining MMPI-2 Clinical, Restructured Clinical, Personality Psychopathology Five, Content and Supplementary scale scores showed no statistically significant differences between men and women who have committed violent crimes.

The study also compared the OASys reoffending risk scores and HCR-20 violence risk scores for groups of violent offenders (see Appendix 7). No statistically significant differences were found between the groups of both females and males ( $p \geq .05$ ).

**Table 12. Spearman's Rank Correlations of the HCR-20 Risk of Violent Behavior Score and MMPI-2 Scales in male and female convicts for recent violent crime samples.**

MMPI-2 scales	$r_s$		MMPI-2 scales		$r_s$		MMPI-2 scales		$r_s$	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Hs	.02	.06	RCd				ANX		A	
D	.01	.05	RC1				FRS		R	
Hy	<b>-.39**</b>	-.14	RC2				OBS		Es	
Pd	.23	.03	RC3				DEP		Do	
Mf	-.18	.10	RC4				HEA		Re	
Pa	.23	.21	RC6				BIZ		Mt	
Pt	.25	.34	RC7				ANG		PK	
Sc	<b>.36*</b>	.28	RC8				CYN		MDS	
Ma	.29	-.02	RC9				ASP		Ho	
Si	-.21	<b>.41*</b>					TPA		O-H	
			AGGR				LSE		MAC-R	
			PSYC				SOD		AAS	
			DISC				FAM		APS	
			NEGE				WRK		GM	
			INTR				TRT		GF	

Note.  $r_s$  – Spearman's rank correlation coefficient. Statistically significant correlations are bolded. Hs – Hypochondriasis; D – Depression; Hy – Hysteria; Pd – Psychopathic Deviate; Mf – Masculinity-Femininity; Pa – Paranoia; Pt – Psychasthenia; Sc – Schizophrenia; Ma – Hypomania; Si – Social introversion; RCd – Demoralization; RC1 – Somatic Complaints; RC2 – Low Positive Emotions; RC3 – Cynicism; RC4 – Antisocial behavior; RC6 – Ideas of Persecution; RC7 – Dysfunctional Negative Emotions; RC8 – Aberrant Experiences; RC9 – Hypomanic activation; AGGR – Aggressiveness; PSYC – Psychoticism; DISC – Disconstraint; NEGE – Negative emotionality/ Neuroticism; INTR – Introversion / Low Positive Emotionality; ANX – Anxiety; FRS – Fears; OBS – Obsessiveness; DEP – Depression; HEA – Health Concerns; BIZ – Bizarre Mentation; ANG – Anger; CYN – Cynicism; ASP – Antisocial Practices; TPA – Type A Behavior; LSE – Low Self Esteem; SOD – Social Discomfort; FAM – Family problems; WRK – Work Interference; TRT – Negative Treatment Indicators; A – Anxiety Scale; R – Repression Scale; Es – Ego Strength Scale; Do – Dominance Scale; Re – Social Responsibility; Mt – College Maladjustment; PK – Post-Traumatic Stress Disorder; MDS – Marital Distress Scale; Ho – Hostility; O-H – Over-Controlled Hostility Scale; MAC-R – MacAndrew Alcoholism Scale Revised; AAS – Addictions Acknowledgement Scale; APS – Addictions Potential Scale; GM – Gender Role - Masculine; GF – Gender Role - Feminine.

\*  $p < .05$  (2-tailed). \*\*  $p < .01$  (2-tailed). \*\*\*  $p < .001$  (2-tailed).

Summarizing the results, we suggest that the hypotheses raised in our study about the differences in criminal history, individual and personality characteristics of violent crime offender groups have partly been proved. The groups did not differ statistically significantly regarding the predictive factors of reoffending risk and violence risk.

## 5.4. Discussion

Interdisciplinary studies identify a number of static and criminogenic risk factors that predict violence, starting with demographic variables such as male gender and low education, and finishing with personality characteristics such as impulsiveness, lack of social skills, poor anger management, and personality and mental disorders (Lewis, 2010; Louw et al., 2005). By analyzing the predictive risk factors for violence one can assemble the portrait of violent crime offender's personality traits and characteristics. However, researchers investigating the causes of violence often choose isolated predictive characteristics of individual violent behavior. The comparison of offenders who have committed violent and non-violent crimes is often used to determine the characteristics of the typical offenders. In this case, even the discrepancies found can only lead to tentative assumptions that more or less expressed criminogenic factors may be associated with the risk of violence. Additional studies are needed to determine if these interrelations truly exist. The results of studies carried out in Lithuania also do not provide a complete profile of violent offender characteristics (Mackonienė & Žukauskienė, 2010; Pocius, 2007; Ustinaviciute et al., 2010). It is therefore difficult to obtain a general picture of the violent crime offender.

In order to provide as much detail as possible in the image of violent offenders, we analyzed the demographic characteristics of the offender. Although young age is associated with higher risk of violent behavior (Andrews & Bonta, 2010; Howard & Dixon, 2012; Richards et al., 2013), the results of our study showed opposite trends. As the age of a man increases, so does the number of violent crimes for which he is convicted. The average age of men participating in this phase of the study was about 41 years. It might be the case that offenders who have committed violent crimes may have more criminal experience, and for this reason this relationship was observed. Meanwhile, the pattern of relationships between the risk of violence and the financial difficulties experienced, characteristic to males, confirmed the ideas of earlier research (Aaltonen et al., 2011; Botelho & Gonçalves, 2016). It is believed that low socioeconomic status leads to more financial and eco-

conomic difficulties. Without dealing with these difficulties, a person experiences great stress, anger, and dissatisfaction, and is more vulnerable and sensitive to the frustration experienced. The latter can trigger the person's aggressive behavior. It should be noted that the previous history of criminal behavior and learned scenarios increases the probability of violence. Although this behavior has negative consequences in the short-term perspective, it is beneficial for the individual and allows him to quickly and effectively achieve the desired result. A person without an alternative behavioral scenario will continue behaving violently in pursuit of his goals. Therefore, previous violent behavior is considered to be both the most important predictor of violence and the most important characteristic that distinguishes violent offenders from offenders of other types of crime (Howard & Dixon, 2012; Lewis, 2010). The results of other studies (Liu et al., 2011) and the sample of men who participated in our study substantiate this assumption. Serious offenders have a number of violent crimes on their criminal record (Lang et al., 1987; Richards et al., 2013). Although the number of convictions is also attributable to violent crime predictors (Howard & Dixon, 2012; Lang et al., 1987), our study found no link between the risk of violence and the number of offenses in both male and female samples. In the domestic environment, violent crime offenders and offenders of other violent crimes have a higher numbers of arrests related to psychoactive substance abuse than non-violent offenders (Stalans et al., 2004). Therefore, in future studies, when analyzing the relationships between characteristics of criminal history and violence risk, we would recommend to analyse only previous offences related to storage and use of psychoactive substances. However, the study revealed a statistically significant relationship between the OASys scale of Offending Information and violence risk measures both in the male and female samples. In essence, these findings confirm that the comprehensive information, which includes a plethora of variables about offenders' criminal history, based on offender's criminal case files, is linked to the risk of violence. The results of earlier studies also confirm the ability of this scale to predict the risk of violence (Howard & Dixon, 2012, 2013). To sum up, we can say that the link between the history of crime and the risk of violence is not debatable and provides a lot of information when assessing the risk posed by the offender. However, the latter is static and does not yield to correction attempts.

By analyzing the dynamic characteristics of male offenders, the associations established in our study have reaffirmed the idea that violent offenders have various social and interpersonal relationship difficulties related to the risk of violent behavior. This has reaffirmed the assumption that the formation of criminal behavior is mediated not only by the family (Zamble & Quinsey, 2001), but also by the

socioeconomic status of a person, the immediate social environment (Farrington et al., 2009). Individuals living in a neighborhood supportive of a violent and aggressive subculture fall into the group of increased violence risk (Baskin & Sommers, 2014). The presence of violent associates and observation of a violent lifestyle are the indicators that not only increase the risk of violent crime (Nofziger & Kurtz, 2005) but also support the manifestation of such behavior. When investigating the influence of the social environment to the offender's behavior, the focus should be on establishing, improving and maintaining interpersonal, pro-social relationships. Low education and long-term unemployment also significantly predict violent behavior (Aaltonen et al., 2011; Andrews & Bonta, 2010; Howard & Dixon, 2012, 2013). Therefore, reducing these needs of the offender would help avoid other life difficulties. The opportunity to work and study can raise offenders from low socioeconomic status, provide opportunities to get acquainted with persons supporting pro-social norms and reduce the amount of stressful experiences.

Factors of violence risk are not limited to socioeconomic characteristics. This study clearly revealed that personality characteristics play an important role in the etiology of violent behavior. The relationship between the HCR-20 Violence Risk and OASys and PCL:SV total score and MMPI-2 scales estimates largely confirmed the predicted regularities. The relationship between the risk of violence and the personality traits associated with the antisocial personality disorder and psychopathy construct was confirmed by the results of previous studies (Diamond & Magaletta, 2006; Falk et al., 2017; Flores-Mendoza et al., 2005; Roberts & Coid, 2007; Morley 2015). The correlation between PCL:SV social deviance and lifestyle factors expressed most prominently in both male and female samples show that regardless of gender, the psychopathic / antisocial behavior aspect is most closely related to the risk of violence. The greater the antisocial behavior, the greater the risk of violence. In the male sample, the relationship between the risk factor of psychopathy and violence reflecting emotional problems has confirmed that men's inability to maintain strong interpersonal relationships and inability to feel compassion are positively related to the risk of violence. Because the PCL:SV interpersonal / emotional psychopathy factor and the psychopathy interpersonal factor were only related to risk of violence in the female sample, this provides a basis for several assumptions. First of all, most women involved in this study have been convicted for very serious crimes: over 67% of them were convicted for murder. Although murderers' behavior has been found to be compulsive in nature, those offenders characterized by an interpersonal / emotional psychopathy factor tend to plan their crimes and use violence only for a particular benefit (Thomson et al., 2016). Therefore, we can assume that such women are emotionally cold, they tend



to have less empathy and they do not feel afraid of the negative consequences of their behavior.

In analyzing the relationship between the MMPI-2 personality characteristics and HCR-20 violence risk factors, we will first discuss the results of men. The results obtained confirm that the personality characteristics and psychopathology of juvenile offenders are associated with their risk of violence (Culhane et al., 2014; Diamond & Magaletta, 2006; Falk et al., 2017; Howard & Dixon, 2012, 2013; Silver et al., 2008). The correlations between the Antisocial Behavior (RC4) and Hypomanic Activation (RC9) corroborated the results of Sellbom et al. (2008). However, the strength of the correlations obtained does not allow for the assumption that the characteristics of criminal behavior are less important predictors for the risk of violence. Although the relationship between Anxiety (ANX) and violent behavior risk was confirmed, no relation between Aggressiveness (AGGR), Psychopathy (PSYC), and Introversion / Low Positive Emotions (INTR) was observed. According to Flores-Mendoza et al. (2005), especially serious offenders are more likely to lie, to conceal their characteristic features of psychopathology or episodes of aggressive behavior and to present themselves by forming a socially acceptable image, or it might be that to these individuals, their own aggressiveness is less obvious (Lang et al., 1987).

In our study, the relationships between the aforementioned construct factors assessing psychopathy and the risk of violence were the strongest, especially in the case of antisocial behavior. Meanwhile, the relationship between MMPI-2 characteristics related to psychopathy, antisocial personality disorder and the behavioral characteristics of Low Positive Emotions (RC2), Antisocial Behavior (RC4), Antisocial Practices (ASP), Disconstraint / Impulsiveness (DISC) and Negative Emotionality / Neuroticism (NEGE) and the risk of violence was only moderate. However, the results obtained were partly consistent with the findings of studies reviewed above (Sellbom et al., 2005, 2007). In essence, they confirmed that an increase of a persons behavioral and emotional difficulties increases the risk of violent behavior. Our research also identified links between the risk of violence and positive association to Marital Distress (MDS), Antisocial Behavior (RC4 and ASP), and MacAndrew Alcoholism Scale-Revised (MAC-R), as well as negative association with Domination (Do) and violence risk in the male sample. With increasing marital distress, alcohol-related problems, and the decrease in the self-esteem of convicts, the probability of violence increases.

Although in the female sample the correlations between the MMPI-2 and violence was higher, only a few correlations were identified. Relationships were identified between Social Introversion (Si) and Obesity (OBS). However, we must note

that these scales were not mentioned in the research hypothesis. In addition, 50 women agreed to participate in the study, but the absolute number of women analyzed in the study was only 24 cases. Such a small number of cases may not reflect the results of women who have committed violent crimes. Also, most of the OASys scale scores could not be included in further analysis, as the internal consistency of these scales was insufficient.

Finally, it should be noted that in the sample of male violent offenders, a link has been identified between the use of psychoactive substances and the risk of violent behavior. Relationships were found both with the OASys (Drug Misuse, Alcohol Misuse) and MMPI-2 (MAC-R and AAS) scales assessing addiction. These results confirm the results of longitudinal (Andrews & Bonta, 2010) and other studies (Baskin & Sommers, 2014; Liu et al., 2011; Richards et al., 2013). The impact of psychoactive substances on violent behavior is very important and multifaceted. It can become a mediator that encourages other risk factors for the risk of violence. A person who uses psychoactive substances may lose their job, lack proper education, and fail to control their actions or emotions. The use of psychoactive substances can become an obstacle to the creation of factors protecting against violent behavior (e.g., family). In addition, the impact of psychoactive substances on the manifestation of violence is independent of other factors such as offending peers, familial criminality, impulsiveness, devastating neighborhood, and early-onset of antisocial behavior (Baskin & Sommers, 2014). The inability to solve problems or problem avoidance may also be related to the use of excessive amounts of alcohol or other psychoactive substances by violent people (Ustinavičiūtė, 2012). Therefore, in case of substance abuse, corrective measures aimed at reducing the aforementioned difficulties are necessary in order to reduce the risk of violent behavior.

Although during the course of the research we assumed that the persons who committed murder and those who committed violent offences in the immediate social environment would be distinguished by the specific characteristics of the criminal history, individual characteristics of personality, and by risk scores, the results of the investigation did not confirm these differences. The breakdown of offenders into groups was based on the nature of the last crime. It would seem that the history of previous offences was not sufficiently detailed and did not allow for the peculiarities of specific groups of offenders to be revealed. In addition, only a very small proportion of offenders are committing criminal offenses of the same type (Andrews & Bonta, 2010). The results support the idea that there is only a small percentage of specialist offenders. Most criminals commit a wide range of crimes, their characteristics overlap, and the choices they make are very different (Simon, 1997).

In summary, the results obtained confirm the theoretical assumption that the risk of violence for male convicts is related to demographics, criminal history and social characteristics, personality traits and psychopathology. The obtained associations substantially confirm the idea that the etiology of violent behavior is multifaceted, including not only personality characteristics, but also the social environment of a person, or even national social policy. However, the explanation of the influence of these factors on the role of some characteristics is likely to be more important, covering more contexts that determine the continuation of a criminal career.

## 5.5. Summary

The results of the study suggest that the risk of violent behavior among male violent crime offenders is related to demographics, criminal history, social characteristics, personality traits and psychopathology. Also, based on the results of the study, we can assume that the assessment measures used in the study, such as the OASys, PCL: SV, MMPI-2 constructs, are related to the risk of violence. Therefore, these measures can provide additional information when assessing violent crime offenders. The results of the study suggest that perpetrators of homicide, domestic violence, and of other types of violent crimes do not differ among themselves in their criminal history, difficulties they encounter, or in their personality characteristics and psychopathology.

# 6

## INSTITUTIONAL MISCONDUCT ANALYSIS: THE ROLE OF PERSONALITY TRAITS AND CRIMINAL RISK ASSESSMENT

### 6.1. Research overview

State institutions that carry out criminal justice often evaluate the effectiveness of their work with convicted persons on the basis of statistics on the recidivism of released prisoners or other persons who have served sentences. Such attention to these indicators is understandable, especially given that the work of the researchers analysing criminal behavior confirms that the professionalism, qualifications and attitude of prison staff supervising convicted prisoners (French & Gendreau 2006; Steiner & Wooldredge 2009; Beijersbergen et al., 2015), or environmental conditions of the institution where the offenders are supervised (French & Gendreau, 2006; Steiner & Wooldredge, 2009) may determine offenders misconduct in the future.

Over the past few decades, the number of investigations into the risk factors for criminal behavior has increased significantly, but the number of studies that investigate the misconduct of prisoners at correctional institutions is still low (Drury & DeLisi, 2010). Given that misconduct in correctional institutions causes problems not only to the perpetrators themselves but also to those who supervise them (Steiner, 2009), it is surprising that the analysis of this behavior so far has not received much interest. Several assumptions can be made regarding such a choice of scientists.

From public's point of view, a person's imprisonment is often perceived as the last step in the accomplishment of justice. Meanwhile, from the point of view of the offender and the legal system, the offender's imprisonment is just the beginning of the execution of the sentence and the main part of the work with the offender. This is especially true given that by limiting the freedom of the offender, supervisors are not always successful in terminating his criminal career. Some convicts in correctional institutions, as well as those supervised under probation, continue to commit violations of the law.

On the other hand, in order to carry out a violation study in a prison, it is required to co-operate with the participants of the system that carries out the supervision of offenders. Given the restrictions on the freedom of convicts, these

individuals are quite difficult to reach even for research purposes. Also, an analysis of offences at correctional institutions may be a very sensitive topic to staff in correctional facilities, given that an increasing number of offenses is a clear indicator on the basis of which we can evaluate the efficiency of the prison staff's activity and their ability to ensure control (Griffin & Hepburn, 2013). The safety of the institution and personnel is a sign of a well-managed and administered institution of imprisonment, thus any violations of the order of the institution or episodic attacks committed by convicts serve as indicators of the difficulties that the system's managers face while trying to ensure control of the situation (Griffin & Hepburn, 2013; Steiner, 2009).

Finally, differences between the legal systems of various countries in defining the concept of misconduct in correctional institutions are another obstacle to intercultural studies of this phenomenon.

**6.1.1.1. A concept of misconduct in correctional institutions.** Misconduct can be interpreted in many ways within criminal behavioral psychology. It can be interpreted as a factor predicting reconviction or as an indicator of stress or feeling unwell, which is experienced by the offender at the place of imprisonment. The results of most research analyzing violations of the law at places of imprisonment are conditioned by the correctional policies, inmates' population, available data, specifics of inmates' classification into particular categories, and the concepts used to define violations of law committed by inmates at the place of imprisonment (Morris et al., 2010).

Inmate misconduct can be interpreted in various ways. It may include violations of the internal regulations of the correctional institution (e.g., noise, use of prohibited technologies) and even new violations of the law committed during imprisonment. In the USA, individuals who have violated the security regime of the correctional facility are subject to disciplinary sanctions, which can be applied to any violation of a violent (e.g., fight) or non-violent (e.g., smuggling, possession of psychotropic substances, insulting and threatening supervisors and convicts) nature. Sometimes misconduct is divided into sexual (by mutual or non-mutual consent), violent (nonsexual), drug-related and non-violent categories (Sandler et al., 2013). It is worthwhile to note that some officials can warn the convict of his misconduct and indicate the consequences for him before he is penalized. Later on they can impose penalties according to the number of warnings previously issued to the convict. Therefore, not only the definition of misconduct but also differences in imposing penalties for serious and mild misconduct can distort the data and its analysis (Arbach-Lucioni et al., 2012).

Some scholars further detail the categorization of misconduct in correctional institutions. Additional groups may relate to the possession of a weapon, possession of stolen property, smuggling, oral or physical abuse of the supervising staff, etc. (Cihan et al., 2017; Kigerl & Hamilton, 2016; Leigey & Hodge, 2013). Misconduct based upon the damage caused is classified as serious and mild. For example, the mildest level, i.e., the lightest consequences for misconduct (e.g., failure to comply with internal regulations), to the most serious misconduct when consequences are largest and the most severe (e.g., destruction of property, possession of weapons) (Cihan et al., 2017; Kigerl & Hamilton, 2016). According to Steiner and Wooldredge (2009), the concept of misconduct in a correctional institution is based upon assessments of various behaviors ranging from specific attributes of violence to general violations of rules. It is worth noting that some violations can only be recorded at the place of imprisonment. For example, at the time of an inspection, the convict may be out of place (Steiner & Wooldredge, 2009) or may trigger riots (Kigerl & Hamilton, 2016). Steiner and Wooldredge (2009) conducted an analysis of various studies investigating different offenses in institutions. They pointed out that in most cases scientific research investigates misconduct that is related to threats to staff and inmates, assaults on them, as well as the number of convictions for the above-mentioned threats, attacks, violations of security regime, etc.

Scientific studies do not comply with the unified standardized system of categorization. Typically, several types of non-violent and violent misconduct are distinguished, while cases related to the use of drugs and alcohol consumption are distinguished separately. These types of misconduct, according to the legal regulations in the applicable country, are included in the offender's case file or other official legal documents related to the offender during the supervisory process.

In Lithuania, the disciplinary process and disciplinary punishment system are based on the traditional model. Disciplinary penalties are imposed on the convicted person based on his activities that have violated the code of conduct or threatened the normal functioning of the institution (Goncharco, 2008). Penalties are granted by authorized officials, and for violating the code of conduct, penalties may be imposed on the convicts in accordance with Article 142 of the Law on the Penal Sanction Enforcement Code of the Republic of Lithuania, such as a reprimand, cleaning of the prison grounds, transfer to a disciplinary group, etc. In Lithuania, disciplinary sanctions are imposed for various types of misconduct, such as: insulting the supervisory officers, using prohibited technologies, engaging in physical violence or verbal abuse, etc. However, there is no list of officially sanctioned activities for which individuals receive disciplinary penalties, and it is likely that in different correctional institutions, convicted offenders may be penalized for

different types of misconduct, and the basis for grouping these penalties might rest upon a subjective opinion of the specialist; for example, whether the possession of a weapon will be recorded as a violent or non-violent offense.

Summing up the results of the research, it can be stated that there is little difference in the categorization of misconduct in different correctional institutions. Most misconduct is committed by a small group of offenders at the place of imprisonment. In addition, most misconduct is of non-violent nature.

We can assume that the offenses committed at the place of imprisonment are a continuation of the criminal career of the convict. However, when analyzing the variables that predict misconduct in correctional institutions, an additional groups of factors related to the imprisonment environment arise. Their role in explaining the reasons for misconduct of the offenders at correctional institutions is presented in various theories.

#### **6.1.2. Theories analyzing misconduct committed at correctional institutions.**

Criminologists have long been discussing the ways in which imprisonment affects a violator of the law, what its positive, negative consequences are, and how a subculture of a place of imprisonment and its members influence the attitude and future behavior of the offender (Morris et al., 2012). Limitation of a person's freedom is one of the biggest changes and stressors in life. In order to adapt to the new environment and lifestyle, it is necessary to have certain abilities and skills. Meanwhile, every institution that restricts a person's freedom has additional specific requirements on the behavior of supervised persons which prohibit any actions of inmates that would threaten the safety of persons at the place of imprisonment.

In order to clarify reasons that force inmates to commit misconduct and new offenses at places of imprisonment, assumptions of several theories are used (Gover, Perez, & Jennings, 2008; Morris et al., 2010). One of the most commonly mentioned theories is *Deprivation Theory*.

Deprivation Theory suggests that an offender who has entered a place of imprisonment not only brings his baggage of risk factors predicting his misconduct, but also enters a new criminogenic environment at the place of imprisonment (Kigerl & Hamilton, 2016). The imprisonment of a person severely limits his ability to meet his basic needs. Thus, the behavior of imprisoned persons and their reactions to these deprivations are the main research subject of the deprivation theoretical model (Goodstein & Wright, 1989). Some people encountering a new subculture do not know how to adjust to it. In order to adapt, they often take on other inmates' subculture and behavioral patterns, even though they contradict the prevailing order in the supervisory system (Connor & Tewksbury, 2016; Goodstein

& Wright, 1989). For example, some offenders start using psychotropic substances in order to escape from reality (Goodstein & Wright, 1989). Other offenders, after losing resources to satisfy their specific needs, start practicing alternative but unlawful, behaviors. In this case, devious behavior is the result of a more stressful environment (Steiner & Wooldredge, 2009). Accordingly, the new environment or the new experiences gained by the convict at the place of imprisonment will negatively affect his personal beliefs, values, norms, preferences, social communication, self-concept and future behavior. After an offender encounters these changes, his reintegration into public life becomes more challenging than at the beginning of his sentence (Goodstein & Wright, 1989).

Deprivation Theory mainly analyses the factors related to the environment of the place of imprisonment (e.g. level of supervision, the size of the sentence of imprisonment, etc.) and their impact on misconduct committed at the places of imprisonment (Kigerl & Hamilton, 2016; Morris et al., 2010). According to Gobeil, Blanchette and Barrett (2009), the socialization difficulties encountered by the institution of imprisonment affect all offenders despite their individual characteristics, and therefore especially restrictive administration of the correctional institution may encourage misconduct of convicts despite their different attitudes, values, and criminal past. It has been shown that inmates at institutions with a strict regime commit misconduct more often than those who are imprisoned in institutions with a lighter regime and less supervision (Arbach-Lucioni et al. 2012; Steiner, 2009). It may be that adaptation to the conditions of a strict regime may cause convicts greater stress than the requirements they face at prison with a mild regime.

Increased duration of the custodial sentence, according to Deprivation Theory, is also linked to committing violations of the law. Inmates that serve longer terms of imprisonment must feel more tense and frustrated. However, recent research has shown that convicts with a longer term of imprisonment are less likely to commit misconduct than those with a shorter term of imprisonment (Cunningham & Sorensen, 2007; Kigerl & Hamilton, 2016; Morris et al., 2010).

Seeking to explain aspects of a person's adaptation in a place of imprisonment, deprivation theory does not place enough emphasis on individual characteristics of a person (Gover et al., 2008). According to Steiner and Wooldredge (2009), when studying the effects of the prison environment on inmate misconduct, it is important to explore the individual characteristics and propensities of offenders, including their own assessments, and not to forget the diversity of their needs, psychological well-being, and other factors that may be related to adaptation to the new and stressful environment.



One of the theoretical models that extensively analyses these processes is Agnew's (2001) *General Strain Theory*. When an offender comes to a place of imprisonment (which on its own causes stress and tension), he confronts a number of events causing tensions and negative experiences (e.g., loss of freedom, limited opportunities and sources to satisfy basic needs of life, and loss of friends, family, work and autonomy). These experiences cause many emotions. Based on the General Strain Theory, such emotional discharge may become the basis for future misconduct in correctional institutions. In some cases, according to Agnew (2001), the impact of negative emotions on a person's crime may be indirect. Emotions, especially anger, can mediate between feelings of tension and law breaking behavior. In cases when, according to person's assessment, the tension he is experiencing is excessive and the possibility of reducing and controlling it is low, the person is most likely to commit a crime. Most likely the tensions will trigger a crime in cases when, according to the person's opinion, he was treated unfairly. When the tension is too high and social control is too low, then tension creates pressure or encourages behavior that violates legal norms. The results of a study by Morris et al. (2012) confirmed the assumptions of the General Strain Theory. Their study found that as the intensity of tension experienced by inmates increases, there is an increase in the amount of violent misconduct and vice versa. However, the tension or anger experienced by inmates can also be provoked by their perception of the behavior of the officials that supervise them. It has been established that when convicts feel treated unfairly by their supervisory officials or think that the behavior of officials does not meet the criteria of procedural justice, they feel more anger. Meanwhile, those who experience greater anger are more likely to commit misconduct in the correctional institution. Awareness of the wrong may damage personal identity and status as a respected group member and threaten the self-esteem of a person. This can lead to anger, which will be the driving force behind future misconduct (Beijersbergen et al. 2015).

However, not all inmates commit misconduct at places of imprisonment. Researchers face a number of questions about different behavior of inmates in places of imprisonment. One of them is whether correctional institutions cause more stress to inmates who continue committing misconduct or convict has poorer stress management skills. This question is explored by Goodstein and Wright (1989). According to these authors, many scholars who analyze the impact of imprisonment on offenders have noticed long ago that imprisonment has a negative impact on certain inmates, while others are capable of coping with stress in prison well enough. A person's response to the stress depends on the interaction of various variables of the specific situation and the personality involved (Blevins et al., 2010).

Investigating adaptation to the environment of imprisonment, researchers began to explore not only external variables affecting convict. Their attention was drawn to the internal resources of the convict himself, as well as combinations of external and internal constructs that could affect his ability to cope with stress or adversity (Goodstein & Wright, 1989).

Contrary to the Deprivation and General Strain Theory, the *Importation Theory* belongs to a group of theories that try to explain how specific personality characteristics (e.g., gender, age, education, ethnic group, marital status, etc.) and specific experiences (e.g., criminal history, belonging to a gang, etc.) may determine or affect the behavior of a particular person in a correctional institution (Connor & Tewksbury, 2016). This theory was created as an alternative to the Deprivation Theory. Based on the ideas of the Importation Theory, the peculiarities and characteristics of the prison environment do not themselves affect the specific behavior of the convicts at correctional institutions. They only accelerate the manifestation of previously formed behavioral patterns (Gobeil et al., 2009).

A person's age (Griffin & Hepburn, 2006; Morris et al., 2010; Sandler et al., 2013; Steiner & Wooldredge, 2014) and previous convictions (Drury & DeLisi, 2010) are the most common predictive characteristics of future institutional misconduct. Older prisoners are less inclined to violate the internal regulations of penal institutions than younger ones. The older the inmate is, the less inclined he is to break internal regulations of the institution (Griffin & Hepburn, 2006; Kigerl & Hamilton, 2016; Morris et al., 2010). The results of research show that the frequency of violations of the law committed at correctional institutions is higher for males than for females. Females are more likely to commit minor and non-violent offenses, while violent offenses are more linked to males (Drury & DeLisi, 2010). However, the results of some studies do not confirm the relation between gender and violent abuse (Arbach-Lucioni et al., 2012).

Persons who have committed violent crime (Drury & DeLisi, 2010; Sandler et al., 2013), and have served a custodial sentence (Drury & DeLisi, 2010), as compared to those who have not, violate the rules in places of imprisonment more often. Violation of the prison regulations may also be affected by a person's race. When comparing Hispanic, white and African American offenders, whites are less likely to commit misconduct (Griffin & Hepburn, 2013; Kigerl & Hamilton, 2016; Steiner & Wooldredge, 2014); however, some research findings do not show racial differences (Sandler et al. 2013). Individual characteristics that predict misconduct in the correctional institution also include mental health (Kigerl & Hamilton, 2016).

It has been found that offenders who have lower levels of education (Connor & Tewksbury, 2016; Leigey & Hodge, 2013; Morris et al., 2010), are unemployed

(Kigerl & Hamilton, 2016), and are unmarried (Connor & Tewksbury, 2016, Steiner & Wooldredge, 2014) commit more misconduct at correctional institutions. The problem of using psychoactive substances before or at the place of imprisonment, as a risk factor, is also attributed to the group of characteristics that predict misconduct in the institution of imprisonment (Steine & Wooldredge, 2014). Meanwhile, elder white prisoners who had jobs, young children and no mental health problems before imprisonment, were less likely to be involved in institutional misconduct. The ability of convicts to adapt to their everyday life difficulties before imprisonment predicts their better adaptation at the place of imprisonment (Kigerl & Hamilton, 2016).

In summary, Deprivation, General Strain and Importation theories provide a fairly comprehensive set of reasons for the misconduct of convicted offenders in correctional institutions. However, these models are limited to the conceptualization of the offender's transfer process from the community to the correctional institution. Meanwhile, convicts may be transferred not only from the community to the correctional institution, but also from one institution to another (Kigerl & Hamilton, 2016). Therefore, it is important to pay attention to the characteristics of different places of imprisonment, which, according to the Situational model, can play a relatively important role in analyzing the causes of misconduct at correctional institutions.

The group of risk factors distinguished by the *Situational Model* is more closely related to the characteristics of the place of imprisonment (French & Gendreau 2006; Griffin & Hepburn, 2013; Steiner & Wooldredge, 2009). It includes the architecture of the place of imprisonment, characteristics and qualifications of the staff, the way they treat convicts, institutional climate, and prison crowding (French & Gendreau 2006, Steiner & Wooldredge, 2009). The Situational Model attempts to explain the interaction between these factors. The main idea of this theoretical model is that the analysis of misconduct at the correctional institution must take into account when, where and with whom the misconduct was committed (cf. Morris et al., 2010).

The assumptions of this theory are confirmed by the results of research carried out previously. According to Steiner and Wooldredge (2009), a high number of convicts in prison leads to its crowding effect, which results in an increased numbers of reported incidents of misconduct in the correctional facility. However, this happens not only due to the discomfort experienced by convicts or deprivation of their needs. According to these authors, there might be other reasons for the growth of indicators of violations of the law. As the number of imprisoned convicts grows, the supervising staff increases their supervision. Thus, because

of the increased observation, the number of recorded misconduct can increase. The increasing number of convicts at the place of imprisonment affects participation of convicts in correction programs as well as access to similar programs, instruments or other means. These measures can help offenders to structure their activities and minimize chances of encountering situations or circumstances that would trigger new misconduct. As the number of convicts increases in the place of imprisonment, the effectiveness of communication between convicts and supervisors worsens, too. In addition, it is much more difficult to control an increased number of convicts without changing the number of staff (Steiner & Wooldredge, 2009). Other studies also confirm that prison crowding and instability of the population at the place of imprisonment predicts inmate misconduct, especially in cases where a person is relocated from a lower density prison to a high density prison (Kigerl & Hamilton, 2016). In summary, it can be assumed that high density or overcrowding at the place of imprisonment, may have an indirect effect on committing misconduct.

It was found that variations in characteristics of the structure of the detention facility has an influence on the effectiveness of direct or indirect control applied by the administration. There are three distinguished elements that influence control level at the detention facility. The first element is related to the size and diversity of the convict population. It is important to determine inmates who are at high risk of causing harm to others and isolate them in order to protect other inmates who might be harmed. The second element is related to the ability of the local administration to control the level of security at the prison. Convicts must be kept within institutions with the suitable level of regime, corresponding to the nature and level of convicts' risk. The last characteristic related to the environment of the detention facility is the qualifications of its staff, the degree of burnout, etc. Based on the results of research, these characteristics moderate the influence of individual characteristics on the misconduct committed in the institution (Griffin & Hepburn, 2013; Steiner & Wooldredge, 2009). The results of recent research show that the environment at the detention facility can influence the behavior of convicts. However, not only characteristics of the current place of detention have an effect on the convicted person. It has been determined that the characteristics of the former correctional institutions and their changes are related to misconduct of convicts. Therefore, when deciding whether to transfer a convicted person from one institution to another, or in deciding which security regime to apply to him, it is important to take into account the supervisory conditions imposed on the sentenced person previously. For example, the risk of committing serious misconduct

may increase in case of transferring a convict to conditions with a different security level (Kigerl & Hamilton, 2016).

According to Morris et al. (2010), many factors predicting misconduct at the correctional institution which are classified by the Importation and Deprivation Theories can be attributed to the constructs of the Situational Model. The integration of the latter helps to better understand the process of committing misconduct and the variables involved.

Looking from the perspective of different theoretical models, we can state that misconduct in correctional institutions involves factors of different groups, both personal and situational, which by interacting with each other may create the basis for a new violation of law.

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**6.1.3. Factors predicting misconduct in correctional institutions.** On the basis of scientific studies, a number of predictive factors for misconduct in correctional institutions were identified (Arbach-Lucioni et al., 2012; Cihan et al., 2017; Gover et al., 2008; Griffin & Hepburn, 2013; Kigerl & Hamilton, 2016; Morris et al., 2010; Steiner, 2009; Steiner & Wooldredge, 2009). Some of these factors are more easily controlled than others. In order to effectively control convicts who do not obey the system of justice, first of all it is necessary to know and understand the causes of misconduct in correctional institutions (Kigerl & Hamilton, 2016). Executors of the correctional system with a good knowledge of the basis of such behavior could distribute available resources more efficiently in trying to solve the problems of correctional institutions and individual difficulties encountered by convicts and their emerging needs (Steiner, 2009).

Taking into consideration results of the research carried out, it is possible to indicate several groups of risk factors that are related to or predictive of misconduct in correctional institutions. One of them includes the personal characteristics of the offender, i.e., the internal variables of the offender. Individual characteristics include the age of the offender, the ethnic group / race, education, and marital status.

**6.1.3.1. Individual characteristics of the offender.** Age. A person's age is the individual characteristic of the convict having the highest weight in the prediction of misconduct at a correctional institution. This factor is constantly mentioned in various scientific studies examining risk factors that predict misconduct at the place of imprisonment. The offender's age has a negative correlation with committing misconduct at correctional institutions. As a person becomes older, it is less likely that his behavior would violate the law (Cunningham & Sorensen, 2007;

Griffin & Hepburn, 2006; Morris et al., 2010). A person's age at the time of conviction also confirms this rule – the younger the offender is at the time of his last conviction, the greater is the probability of his misconduct at the correctional institution (Cihan et al., 2017; Sandler et al., 2013). A convict's age is negatively related to violence (Morris et al. 2010; Newberry & Shuker, 2012; Sandler et al., 2013) and property damage or other types of misconduct that violate security conditions at the place of imprisonment (Morris et al., 2010). It has also been established that age predicts not only the probability of general or violent misconduct of male inmates at the place of imprisonment, but also sexual misconduct (Sandler et al., 2013). It is especially important to note that the age of the imprisoned person is the most significant factor in predicting the probability of the convict's violent behavior. Elder offenders, as compared to younger ones, are least likely to commit violent offenses. Cunningham and Sorensen (2007) have established in their research that prisoners under the age of 21 were 3,5 times more likely to commit violent offenses than those convicted in the 31-35 age group. Leigey and Hodge (2013) have conducted a comparative analysis of persons who were imprisoned while still adolescents and those who were imprisoned when they were adults and found that in the first group there were more persons sentenced for violent crime. As the first were much younger at the time of imprisonment, it is natural that they were in jail for longer and their education was lower, especially given their small number of years spent in school. In comparison with the second group in the place of imprisonment, they also committed more various types of misconduct. However, Leigey and Hodge (2013) have noticed that taking into account not only the age of the convict but also the time spent in custody and the nature of the committed crime, there were no differences among the groups except for those who committed theft in imprisonment institutions. According to the authors, taking into account the results of their research, it can be assumed that the probability of misconduct depends, to a large extent, on the age of the person and the time spent on his imprisonment. However, it does not necessarily depend on whether the offender entered a place of imprisonment as a teenager or an adult. Teenagers may adapt to the prison environment over time as they learn to better conceal their offenses (Leigey & Hodge, 2013). In predicting the offense, the significance of a convict's age is also verified by the results obtained in other surveys, which show that the age effect remains irrespective of the correctional institutions' safety regime and strictness of supervision applied. Thus, age is one of the factors that predicts misconduct in an institution, regardless of the safety regime applied to that institution (Griffin & Hepburn, 2013).

Cihan et al. (2017), applying the latent trajectory modeling technique, carried out a scientific analysis of developmental patterns of inmate misconduct. The be-

havior of inmates who participated in the study was monitored and analyzed for three years. Five distinct latent classes of inmate misconduct at correctional institutions were identified. The authors also sought to determine how different developmental patterns of inmate misconduct are associated with inmate demographics and characteristics of criminal history. After an examination of 5970 inmates in the State of Oregon in the USA, five trajectories for misconduct were revealed (Cihan et al., 2017):

- *Stable limited* – a prevalent group with a near-zero misconduct count (48,6 %),
- *High early onset* – a group that commits most misconduct at the beginning of imprisonment (18,3%),
- *Low early onset* – a group that commits least misconduct at the beginning of imprisonment (18%),
- *Chronic* – a small group of inmates displaying continued high misconduct counts (10,8%),
- *Delayed onset* – the smallest group of inmates displaying delayed onset of misconduct (4,3%).

Most distinguished of all groups were those who committed continued misconduct. Compared to other groups, the total number of arrests and arrests for violent offences was highest in the “Chronic” group. Most often they were convicted of property, robbery, or assault crimes. They were held in prison institutions with the strictest regimes. Compared to other groups of inmates, persistent offenders were the youngest. According to the authors of the research, the presence of these factors is characteristic of career criminal offenders (Cihan et al., 2017).

Meanwhile, the “Stable limited” and “Delayed onset” groups showed the opposite tendencies in criminal characteristics. The authors found that the rates of misconduct of the “Stable limited” and “Delayed onset” groups declined over time. Compared to the other convicted groups, indicators of their former arrests were the lowest. However, most often they were convicted of sexual assault. In comparison with the other groups of offenders, they were rarely assigned to places of imprisonment with strict regimes that ensure maximum security. Also, the individuals assigned to these trajectories were the oldest in all groups. It is interesting that the trajectory of the “Delayed onset” was positively associated with females, while the trajectory of “High early onset” was inversely related to females. The rate of prior arrests was one of the criminal career variables which best differentiated groups of “High early onset” and “Low early onset” trajectories: the rate of prior arrest was positively associated with the “High early onset” group and had an inverse relationship with the “Low early onset” group. However, according to Cihan et al.

(2017), the offender's age is the most important variable associated with high or low levels of misconduct. Therefore, it is important for prison officials to take into account the age of convicts. Since misconduct decreases with age, younger prisoners, for example, could be more intensively supervised by officials at correctional institutions.

Although age is highlighted as one of the most significant risk factors for predicting offenses at the place of imprisonment, other individual variables related to misconduct must be addressed, too.

The role and significance of the *ethnic group / race* of the offender are mentioned frequently in the research studies that analyze the misconduct committed in correctional institutions. However, the results of the research are ambiguous. The racial composition of the prison population, especially in the USA, varies. Although differences in inmates' ethnic groups in Lithuania are not so high, with the increasing mobility of the population within the European Union, this situation is changing. Bearing in mind that the racial composition of not only inmates, but also of prison officers may affect the misconduct of corrections in the institution, an analysis of the relationship between this factor requires more attention.

This factor shows how differences between ethnic groups or cultures can manifest in an environment of restricted freedom. This assumption was confirmed by Griffin and Hepburn (2006, 2013) as well as by scientific studies of other researchers (Steiner, 2009; Steiner & Wooldredge, 2014). Hispanic and African American inmates, compared to whites, are punished more often in places of detention for threatening others. Meanwhile, younger white inmates more often inflict harm on others compared to African American and Hispanics (Griffin & Hepburn, 2006). Although other authors' research suggests that comparing white convicts sentenced to life imprisonment (imprisonment from 35 to 40 years old) with African Americans and Hispanics, Whites are less inclined to commit violent and non-violent misconduct (Morris et al., 2010). Results of longitudinal surveys also confirm that there is an increase in the number of threats of violence and assaults as a result of an increase in the number of African American and Hispanic inmates in the detention facility (Steiner, 2009).

However, the influence of the ethnic group is not confirmed by the results of all scientific studies. Research results of Sandler et al. (2013) have shown that the ethnic group of Hispanic or African American did not have a significant impact on predicting a person's misconduct in imprisonment institution.

Although most research shows that race is one of the risk factors in predicting misconduct, it is important to keep in mind that the variable of ethnic group or race cannot become a factor in planning the offender's supervision and punish-



ment. This contradicts constitutions of different countries, and the person does not have the ability to choose his own origin (cf. Morris et al., 2010). Therefore, it is necessary to pay attention to and adjust other characteristic of a dynamic type which can predict misconduct.

*Education.* Education is rarely mentioned in studies of criminal behavior analyzing the risk factors predicting misconduct in correctional institutions, (Connor & Tewksbury, 2016). Individuals with lower education are more likely to commit misconduct (Connor & Tewksbury, 2016; Leigey & Hodge, 2013; Morris et al., 2010). However, in some studies, a lower level of education is more closely related to nonviolent offenses (Steiner & Wooldredge, 2014). Persons with a higher level of education are likely to behave in a conforming way. In addition, they try to resist various temptations or opportunities to commit misconduct (Connor & Tewksbury, 2016). A situation in which an offender is unable to obtain an education or occupation that would help him to secure financial resources to cover his living costs can invoke the inmate's dissatisfaction and anger. If participation in correction programs can help a convict to be released from prison earlier, but the chances to participate are poor, the offender can feel disappointed. Therefore, participation in intervention programs, work in correctional institution, and the opportunity to learn would help to reduce tensions experienced by inmates at the place of imprisonment (Blevins et al., 2010).

Similar to level of education, another factor which has not received much attention in studies that analyze misconduct at correctional institutions is the marital status of the convicts (Connor & Tewksbury, 2016).

*Marital status.* The results of research show that imprisoned persons who are married commit less misconduct in comparison with unmarried inmates. Usually they commit nonviolent misconduct (Steiner & Wooldredge, 2014). Connor and Tewksbury (2016) conducted a study to determine the characteristics of offenders committing crimes related to the use, storage, etc., of psychoactive substances. The results of the survey showed that the above-mentioned offenses are best predicted by the marital status of the prisoners, as well as all other violations of the law committed in the institution. In comparison to unmarried inmates the convicts who are or were married (separated, widowed) belong to a group at higher risk of committing misconduct related to the use of psychotropic substances. According to the authors of this study, it may mean that individuals who have or had marital relations also had more social networks before their imprisonment, i.e., their circle of relatives, friends and acquaintances was bigger. Restrictions in the imprisonment institution prevent inmates from maintaining close contact with their relatives, which can encourage them to look for ways to reduce their tension. This can en-

courage convicts to start using psychoactive substances. Such individuals will automatically violate the rules of the detention facility and commit new institutional misconduct. Another possible explanation is that married couples have larger social networks, and thus it is easier for such inmates to get psychotropic substances with the help of their relatives or acquaintances (Connor & Tewksbury, 2016). In order to better understand assumptions of the use of psychoactive substances and their role in the process of misconduct, it is worthwhile to carry out a broader analysis of this phenomenon.

*Problems with the use of psychoactive substances.* It is prohibited to use alcohol or other psychoactive substances for inmates in a place of imprisonment. The basis for this ban is very important. Activities related to the use of psychoactive substances can lead to violence in prison, health problems, and significant financial losses to the system itself. However, this does not mean that psychoactive substances are not consumed at the place of imprisonment and there are no problems related to it. Persons who consume or distribute psychoactive substances during imprisonment belong to a high-risk group. It is likely that such persons will continue carrying out similar activities when they are freed. Therefore, there is a high probability that such persons will return to the place of imprisonment again. Detection of persons belonging to this group is important not only in order to reduce the repeated misconduct of these persons, but also in order to solve security problems at the place of imprisonment and inmates' health and financial problems. One of the assumptions of why inmates use psychoactive substances or engage in activities related to the use of such substances is described by the Deprivation Theory. Individuals engage in these activities because they cannot find other ways to cope with the stress experienced during imprisonment and oppose the officials who, in the opinion of inmates, seek to humiliate them and do not implement justice. It should be noted that in general inmates who commit misconduct mostly related to psychoactive substances commit more misconduct in comparison with other prisoners (Connor & Tewksbury, 2016).

Cuomo, Sarchiapone, Giannantonio, Mancini and Roy (2008) compared prisoners who use psychoactive substances to prisoners without substance abuse and found that prisoners with substance abuse had more juvenile convictions, more violent behaviors during detention, and a history of one or more suicide attempts. They also had higher scores for psychoticism and neuroticism, higher impulsivity levels, increased hostility, and higher scores on subscales for childhood trauma and suicidal ideation. Meanwhile, they had worse resilience compared to prisoners without substance abuse. Thus, prisoners with addiction to psychoactive substances have more legal and psychiatric problems. It is likely that these difficulties are the

result of high impulsiveness, aggressiveness, poor ability to resist temptations and high suicide risk (Cuomo et al. 2008), which makes it difficult to decide whether the use of psychoactive substances is a risk factor for predicting misconduct in a correctional institution or a specific strategy for coping with the characteristics of those who are struggling to reduce the tension in the place of imprisonment.

*Anger.* Offenders at a place of imprisonment face daily stress and anxiety causing irritation (Blevins et al., 2010). Stressors may be the limitation of autonomy, unsafe environment, loss of relations with relatives, etc. Based on the Deprivation Theory, an inmate who commits misconduct does not satisfy his needs. Thus, feeling dissatisfaction, he seeks some other means to satisfy his needs (Goodstein & Wright, 1989). In the long run, dissatisfaction may intensify and the person will begin to feel even more negative emotions. According to the General Strain Theory, a person's feelings of anger or other negative emotions that cause tension can lead to new misconduct at a correctional institution (Agnew, 2001). According to other authors, anger is one of the factors that should be included in the list of predictions of violent misconduct (Komarovskaya et al., 2007). Anger experienced by a person can affect the ability to clearly evaluate a situation or problem and justify his or her criminal behavior (Blevins et al., 2010). According to Mills and Kroner (2003), it may be that anger arising during an interpersonal conflict affects a person's decision to violate the conditions of the security regime of the correctional institution. Such behavior at the place of imprisonment may occur through violations of rules, demonstrations of disrespect, or breach of conditional release bonds when the offender lives under conditional freedom. DeLisi and his colleagues (2010) have found that anger experienced by inmates is a significant predictor of sexual harassment, attacks on personnel, and aggressive misconduct. However, the results of some studies do not confirm correlations of anger and criminal behavior at correctional institutions (Mills & Kroner, 2003).

Blevins et al. (2010) reviewed the Deprivation, Importation, General Strain and Coping theories, that investigate the causes of criminal behavior in places of detention. They stress that not all convicts may feel anger. Long-term deprivation of the needs of a person may cause a feeling of helplessness and depression. Emotional difficulties such as depression or anxiety can be caused by victimization at the place of imprisonment. It may be that some individuals behave aggressively in order to avoid victimization. This would explain the high levels of misconduct in places of imprisonment with higher levels of strict control (Blevins et al., 2010).

Persons with emotional difficulties who fail to manage their negative emotions are characterized by violations of the security regime and violence. However, based on the results of scientific studies, it can be argued that dimensions of an-

tisocial behavior are more related to misconduct at correctional institutions than emotional difficulties experienced by inmates.

*Psychopathy.* Andrews and Bonta (2010) argue that a person's favorable attitude toward criminal behavior is a predictive factor of a person's violence. Individuals with such an attitude emphasize the meaningfulness and benefits of criminal activity, rationalize and justify behavior that violates legal norms, and reduce or deny responsibility for their actions and consequences of their actions (Andrews & Bonta, 2010). Individuals with an attitude that supports violent behavior commit misconduct because violence to them is an acceptable form of behavior (Skopp et al., 2007). The results of the research confirm that an attitude supportive of abusive behavior predicts both female and male misconduct (Gudjonsson et al., 2011). The results of the Walters (2015) study showed that criminal thinking along with static risk factors such as a convict's age or the length of his sentence predicts the ability of the prisoner to adapt to the local environment of the prison and the risk of new misconduct at the correctional institution. Thus, criminal thinking performs the role of effective mediator between individual static risk factors and institutional misconduct. According to the Importation and Deprivation theories, an inmate's criminal thinking may be the cause of the institutional misconduct or the consequence of adapting to the place of imprisonment.

Cleckley's (1941) clinical psychopathy construct is closely related to criminal thinking and behavioral factors. This construct includes disorders in emotional (e.g., empathy, fault, lack of mercy), interpersonal (e.g., egocentricity, manipulativeness, inability to maintain long-term close interpersonal relationships) and behavioral spheres (e.g., impulsivity, violations of social norms). Psychopathy is defined by constant deviant behavior, accompanied by a lack of emotional experiences and by the manipulative nature of interpersonal relationships. Among the many models of psychopathy, the most popular and highly valued model is considered to be the Hare (2003) psychopathy model, in which criminal behavior is one of the essential psychopathic factors. The latter construct of psychopathy consists of four factors: interpersonal, emotional, lifestyle, and antisocial behavior. Alternative psychopathic models also emphasize the emotional and interpersonal factors of behavior, but they treat criminal behavior as only one of the possible outcomes of psychopathy (Cooke, Michie, Hart, & Clark, 2004).

The psychopathic construct is distinguished as one of the best predictors of violence and misconduct at the correctional institution. It is also significant in analyzing the behavior of inmates at the place of detention (Thomson et al., 2016). The results of the research show that the clinical construct of psychopathy is related to the early beginning of a criminal career in a representative sample of male and fe-

male offenders. Offenders with psychopathic features, both women and men, have more custodial sentences. Roberts and Coid (2007), who analyzed psychopathy and criminal behavior characteristics among prisoners in all prisons in England and Wales, found that psychopathy was associated with violent but non-sexual misconduct. The affective deficiency factor of psychopathy was associated with violent and acquisitive offending in men. The sample of female offenders has confirmed the peculiarities of the male group. The history of past violence, emotional issues (e.g., coldness, childishness, callousness), and the features of psychopathy that define antisocial behavior predict the recurrence of violent and especially cruel offenses. The features of psychopathy, which define the history of past violence, emotional issues (coldness, callousness) and antisocial behavior, predict repetitive predatory violent crimes. Meanwhile, the traits of psychopathy related to antisocial behavior and impulsiveness are the best predictors of non-violent offenses. It is possible that both women and men who are characterized by cold-bloodedness, lack of empathy, do not have understanding of the stress experienced by others and no fear of the negative consequences of their actions. In addition, male and female inmates who commit violent offences, unlike non-violent inmates, are distinguished not only by impulsiveness, inability to control impulses and antisocial behavior. They are also more dominant, cruel and do not experience compassion. In general, in assessing the role of psychopathy and impulsiveness in predicting misconduct in correctional institutions, there are more similarities than differences in male and female samples (Thomson et al., 2016). Although some studies suggest that psychopathy is not related to a criminal offense of a sexual nature (Roberts & Coid, 2007), the psychopathic construct itself significantly predicts misconduct in correctional institutions committed by inmates who are sentenced for sexual offenses (Vollum et al., 2002). However, according to Roberts and Coid (2007), there is still debate going on as to whether psychopathic behavior is the consequence of anomalous personality traits or one of the symptoms of psychopathy.

As practice shows, antisocial behaviors or traits of psychopathy diagnosed for an individual turns out to be sufficient grounds for a judge to apply the most severe punishment. However, the results of some studies do not support the link between disorders of antisocial behavior and misconduct in a correctional institution. Therefore, in the legal environment, the assertion that the latter disorder identifies convicts as those who belong to the above-mentioned risk group which commits misconduct in the correctional institution does not have a significant scientific basis (Edens et al., 2015). Nevertheless, scientific analysis of the individual features of this disorder leads to a different conclusion.

*Personality traits.* Over the last decade, the psychological characteristics of personality have become a major focus in the study of antisocial, criminal or delinquent behavioral forms. According to Andrews and Bonta (2010), personality reflects a certain type of person's thinking, feelings, and behavior. Personality traits such as aggressiveness, impulsiveness, risk tolerance, dishonesty, and negative emotions are associated with crime. According to the Importation Theory, the personality traits related to a person's criminal activity in freedom will affect their criminal behavior at the correctional institution. However, it is unclear which personality traits, described in the scientific literature are associated with criminal behavior and which are related to institutional misconduct.

Schenk and Fremouw (2012) have conducted an overview of over 500 research studies which examine individual characteristics that predict misconduct at correctional institutions. It has been pointed out that personality traits such as aggressiveness, negative emotions, depressive mood, mental health disorders, antisocial thinking, self-esteem, and the features of the clinical psychopathy construct that have already been introduced are associated with violent offences in the places of detention (Schenk & Fremouw, 2010).

It has been determined that symptoms of Antisocial personality significantly predict institutional misconduct. Antisocial behavior best predicts general misconduct and the risk of repeated conviction (Edens et al. 2015, Newberry & Shuker, 2012). The aggression of prisoners is linked to their history of violence and detention (Diamond & Magaletta, 2006). Falk and his colleagues (2017) compared male and female inmates with data representing the general Swedish population and came to the conclusion that estimates of inmates' aggression were higher. It should be noted that most of the respondents of the survey were last convicted of non-violent crimes. However, aggression can include several levels: emotional (e.g., anger), cognitive (e.g., hostility), and behavioral (e.g., antisocial behavior) (Coccaro et al., 1997, et al., Falk et al., 2017).

A person's impulsiveness is also associated with various psychopathological or inappropriate, un-adaptive forms of behavior (Komarovskaya et al., 2007; Whiteside & Lynam, 2001), criminal behavior (Jones & Lynam, 2009) and the risk of antisocial and aggressive behavior (Falk et al., 2017). Individuals with poor self-regulation and self-control skills fall under criminal influence. This factor is a diagnostic criterion for limiting antisocial personality disorders (Komarovskaya et al., 2007; Whiteside & Lynam, 2001) or psychopathy (Whiteside & Lynam, 2001). It is confirmed not only by the results of research carried out in the sample of women, but also in imprisoned women (Jones & Lynam, 2009; Komarovskaya et al., 2007). Whiteside and Lynam (2001) carried out an overview of the concept of

impulsiveness of different authors. They distinguished and identified four different dimensions of personality in previous studies, and they related them to the concept of impulsiveness:

- The first dimension is related to the person's tendency to experience strong impulses and impulsive actions, especially under conditions of a negative effect. A negative emotional state encourages a person to act impulsively.
- The lack of premeditation, which refers to the lack of thinking and reflecting on the consequences of an act before engaging in that act, is related to the second dimension. This dimension is thought to be most related to antisocial disorder and psychopathy.
- The third, lack of perseverance dimension, is associated with the self-discipline and self-control. Perseverance refers to an individual's ability to remain focused on a task that may be boring or difficult and the individual's ability to complete projects and to work under conditions that require resistance to distracting stimuli.
- Sensation seeking, is the fourth and final dimension of personality. This dimension incorporates a tendency to enjoy and pursue activities that are exciting and an openness to trying new experiences that may even be dangerous; for example, abuse of psychoactive substances. According to the authors, the lack of perseverance and stimulation dimensions are most closely related to criminal behavior.

Only a few scientific studies have focused on analysis of the relationship between impulsivity and antisocial behavior among female inmates. In general, women are less impulsive than men. This trend is also confirmed by the population of female and male inmates. It could be that lower levels of impulsivity among female inmates are related to lower rates of their violent behavior. Nonetheless, violent offences and aggression in detention institutions are related to impulsivity in female inmates. The poor skills of women to concentrate on tasks, cognitive instability, and poor self-control significantly correlate with violent behavior at the place of detention, although there is no such relationship with the spontaneity dimension. This contradicts the assumption that violence among women, compared to violence among men, is due to reactive or impulsive behavior. However, it should be noted that younger female inmates have more impulsivity than older ones. Younger people are more likely to exhibit impulsive and stimulating behavior than older people. The results of the research also show that impulsivity is a better predictor of violent misconduct than age (Komarovskaya et al., 2007). Bearing in mind that age is one of the most significant predictive factors, the role of

impulsivity in the sample of female inmates could make a significant contribution to planning their care and rehabilitation.

Based on such psychological characteristics as personality traits and psychopathology, offenders are grouped into categories and their subtypes are distinguished. Claes and his colleagues (2014) have identified two personality subtypes based on the Five Factor model dimensions. The first type of personality is emotionally stable with good social skills, and this distinguishes the risk group of antisocial and criminal behavior. According to the author, this type is, by definition, close to primary psychopaths. This type includes well-adapted individuals. Inmates, assigned to the second subtype received high score on Neuroticism, and low scores on Conscientiousness (reflecting lack of constraint) and Agreeableness (consistent with the high scores on indirect aggression and paranoia) and the remaining personality traits. It's an aggressive, under-controlled personality type, close to the features of secondary psychopathy. The comparison of these two personality subtypes by applying the MMPI-2 scales has shown that under-controlled inmates scored higher on Aggression, Expression of Emotions, and Depressive Reactions. Individuals within this group as compared to the first group committed more sexual offenses and reported higher levels of drug abuse. The second type of inmates showed more psychopathology and more impulse-control problems. Persons of the first type are more active in solving their problems, and therefore adapt better and feel less stress compared with under-controlled prisoners (Claes et al., 2014), thus it could mean that they commit institutional misconduct more often. Other research which attempted to distinguish prisoners' subtypes based on the features of convicts' personality disorders and psychopathology confirmed that offenders could be divided into better and less self-controlled individuals. Sellbom (2014) in his study on offender classification has used the MMPI-2-RF Restructured Clinical (RC) scales to elaborate on a variety of latent traits and by using an advanced statistical technique he identified 5 classes of offenders: Emotionally Stable, Antisocial / Disinhibited, Egocentric / Aggressive, Internalizing and Psychoticism.

The Emotionally Stable class was above average on indexes of externalizing and antisocial behavior (AGGR-r, MEC). As compared to the general population of offenders, they were characterized by an absence of negative emotionality and thought dysfunction. Compared to other offender classes, they scored the highest on measures of fearless-dominance psychopathy traits. This offender profile is similar to primary psychopathy and the group labelled as emotionally stable. Meanwhile, the Egocentric / Aggressive class is similar to the antisocial personality model, characterised by emotional dysfunction (BXD, RC4, JCP, SUB, DISC-r). Members of the Antisocial / Disinhibited class along with members of the Egocen-



tric / Aggressive class have possessed more expressive features of the first group but with added psychoticism and aggression. Members of the Antisocial / Disinhibited class were more impulsive and more antisocial than members of the first group, and they were less likely to have emotional dysfunction. Meanwhile, members of the Egocentric / Aggressive class were more empathic in comparison with the first group. Compared with other groups, they were more focused on themselves, more aggressive and cruel, as well as paranoid and unpredictable. The Internalizing and Psychoticism classes were clearly the high-pathology groups. The Psychoticism class showed mean profiles that reflected very high levels of thought disorder, especially thought dysfunction and manic symptomatology. The Internalizing class, on the other hand, appeared most prone to emotional dysfunction, including low-positive emotionality, introversion, and high negative emotionality. These offenders scored the lowest on traits that are most characteristic of psychopathy, including fearlessness, social potency, egocentricity, and cold-heartedness. Both of these classes had a greater relative proportion of women (Sellbom, 2014).

Taking into account the results of previous studies, it can be assumed that the characteristics of individuals who belong to the stable and primary psychopathic groups, may distinguish those with lower rates of institutional misconduct as compared to those characterised with poor impulse control and psychopathological difficulties.

*6.1.3.2. Characteristics of the criminal history of the offender.* Another group of risk factors includes variables concerning the history of criminal behavior, including previous convictions and the length of sentences. The results confirm that convicts with the longest criminal history, which means they are sentenced for serious crimes, are most likely to commit institutional misconduct (Cihan et al., 2017).

*Earlier convictions for violent crime.* There is still an open debate going on in the scientific world whether conviction for violent crimes is a predictive factor of institutional misconduct. According to researchers from the last decade, persons who have committed violent crimes are more inclined to commit institutional misconduct as compared to the rest of convicts (Griffin & Hepburn, 2006).

The results of a study carried out by Cunningham and Sorensen (2007) confirmed that the last conviction for a violent offence is a significant predictor of institutional misconduct. However, the relationship of this variable with institutional misconduct is negative. Those sentenced to prison for having committed a violent offense were found to be less likely to be sanctioned for violent acts in prison than those with nonviolent conviction offenses. Griffin and Hepburn (2013) have found

that this risk factor only predicts violent institutional misconduct in places of detention with high levels of environmental control. While, at the same time, this variable did not have a significant impact on places of detention with low levels of environmental control. Other research findings also cast doubt on the positive relationship of conviction for violent offence with institutional misconduct. Morris et al. (2010) have found that previous convictions for violent offences do not always predict violent misconduct. Having carried out a comparative analysis of inmates sentenced to life imprisonment and other inmates, they established that inmates sentenced to life imprisonment are less prone to commit serious or violent misconduct. Even if such a person has committed any kind of institutional misconduct, it did not repeat again. The offender was not interested in further violation of the safety regime. According to the Deprivation Theory's assumptions, bigger punishment increases a person's deprivation from resources, and therefore the risk of misconduct increases. However, received data did not confirm these assumptions. According to the authors, violent misconduct leads to even more severe punishments. Thus, by committing violent misconduct, inmates would harm themselves even more. Such inmates will spend most of their remaining life behind bars, so they may strive to maintain all possible privileges and freedoms. In this case, the cost of misconduct may be much higher than its benefits (Morris et al., 2010). According to other authors, this abundance of controversial research results may be related to the differences in sample sizes, the definitions of different variables, or the choice of different selection criteria. For example, in some studies previous convictions include convictions for violent and non-violent offences, while in other studies only violent offences (Arbach-Lucioni et al., 2012).

*Previous custodial sentence.* Although research which analyzes the impact of former imprisonment has contradictory results, the majority of studies confirm the positive relationship between previous imprisonment and various types – both violent and non-violent – of institutional misconduct (Cunningham & Sorensen, 2007; Griffin & Hepburn, 2006; Steiner & Wooldredge, 2014). However, previous custodial sentence among inmates sentenced to life imprisonment (from 35 to 40 years old) was negatively related to violence, accountability, security, smuggling, and abuse of psychotropic substance. Still, according to some authors, this effect may indicate that inmates who have been sentenced previously already know how to adapt to the environment of the correctional institution or are capable of concealing their misconduct (Morris et al., 2010).

*Previous misconduct in correctional institution.* Violent behavior in freedom does not necessarily predict violent behavior at the place of imprisonment, while previous violent acts and misconduct at the place of imprisonment are one of the

most important indicators for predicting violent institutional misconduct. Male inmates who have records of violent offenses committed in correctional institutions are twice as likely to commit violent misconduct (Cunningham & Sorensen, 2007). Similar results were obtained in other studies. Earlier misconduct predicted repeated institutional misconduct in samples of females (Drury & DeLisi, 2010; Gobeil et al., 2009) and male (Drury & DeLisi, 2010). Therefore, it can be assumed that inmates with a history of misconduct are not affected by the measures taken for their offenses. They do not adapt to the regime established at the place of imprisonment despite their repeated imprisonment (Drury & DeLisi, 2010).

*Belonging to gang.* Belonging to gang is another risk factor that can predict violent and nonviolent misconduct at the place of imprisonment. A study conducted by Griffin and Hepburn (2013) found that belonging to a gang was a factor that significantly predicted violent misconduct, irrespective of the control level of the prison, be it a prison of high / strict control or low control. This factor also had one of the most prognostic values in predicting non-violent misconduct committed at institutions with low-level control (Griffin & Hepburn, 2013). In exclusive groups, in the case of inmates sentenced to life imprisonment, belonging to a gang predicted sexual misconduct and misconduct related to contraband and abuse of psychoactive substance. However, belonging to the gang was negatively related to violent, property-related, and security-related misconduct (Morris et al., 2010). However, the findings of some studies contradict these results and show that persons who have served a sentence of imprisonment and / or belonged to prison gangs or were suspected of belonging to such gangs, are more likely to be violent in correctional institutions as compared to others that do not possess these characteristics (Cunningham & Sorensen, 2007).

Offenders in the place of imprisonment may have identical risk factors which affect their misconduct, but each one is an individual case. In order for corrective programs to reduce their unwanted behavior, they should, as far as possible, be adapted at an individual level. According to Steiner (2009), the analysis of individual risk factors and the information accumulated about them is important in developing risk assessment tools, tools for classification and grouping of convicts, action strategies and solutions for difficult inmates. However, these insights do not provide information on which strategies need to be developed at correctional institutions (e.g., disciplinary procedures) or at a national level (e.g., the ratio of prisoners and supervisors to ensure effective supervision of prisoners) (Steiner, 2009). Also, factors such as belonging to a prison gang or history of violent institutional misconduct will not be recorded until the sentenced person is imprisoned (Cunningham & Sorensen, 2007).

Thus, in order to obtain a complete picture of the formation of institutional misconduct, it is necessary to make an overview of the factors, mainly the external ones, assigned to the third group and related to the prison environment.

*6.1.3.3. Contextual risk factors.* Risk factors assigned to the third group (e.g. security regime, the number of prisoners exceeding institutional capacity / prison crowding) cannot be regulated by inmates. These are only a few factors out of many which create tension experienced daily by inmates. Inmates, incapable of adapting or overcoming these negative experiences will more likely respond in a violent way or will violate the conditions of the institutional regime (Blevins et al., 2010). However, these risk factors are influenced by the decisions of the persons authorized by the legal system. This means that by changing solutions, these systems can be modified. Changes in the environment of the correctional institution may be subject to changes at an individual level.

*The length / duration of the custodial sentence.* It has been established that indicators of institutional misconduct committed by inmates who are sentenced to longer imprisonment compared to inmates with smaller punishment are lower. To test this, Morris and his colleagues (2010) investigated persons who were sentenced to prison for a duration of 35 and 40 years. Findings from this study showed that individuals who were sentenced to longer prison terms were less likely to commit serious or violent misconduct. The results confirm the significance of length of the custodial sentence in predicting institutional misconduct (Morris et al., 2010). Cunningham and Sorensen (2007), in their study of factors that predict violent institutional misconduct, confirmed the results of the above-mentioned research. A negative link between the duration of the custodial sentence and violent institutional misconduct was found. Prisoners who were sentenced to a duration between 1 and 5 years were inclined to commit twice as many violent offenses than those who had been sentenced to more than 20 years of imprisonment.

*Surveillance level / security level.* According to Griffin and Hepburn (2013), the terms of the prison environment and the personal characteristics of prisoners are important factors in predicting misconduct, but none of them is as important as the surveillance level or security level. Gobeil et al. (2009) carried out a study of female prisoners in Canada, and based on two samples of data, they found no relationship between security placement and misbehavior of female inmates. However, the results of the study conducted by Griffin and Hepburn (2013) did not confirm the results of previous studies. Authors have found that the characteristics of the inmate population such as age, ethnic group, the number of previous convictions, or belonging to a gang were significant predictors of non-violent misconduct at

places of detention with a low security level; however, in institutions with a strict security level / high level of control, non-violent misconduct was related to the offender's race / ethnic group. In this study, security level had a significant direct effect on the level of inmate misconduct, accounting for nearly 30% of the observed variation in the level of violent misconduct and 11% of the observed variation in nonviolent misconduct. Steiner's (2009) longitudinal survey also showed that inmates in prisons with the highest levels of security were committing more violent misconduct than inmates kept under the minimum security regime. Other studies also confirm these results.

Arbach-Lucioni et al. (2012), who carried out an analysis of the predictors of violent misconduct at correctional institution, found that the higher the security level, the higher the rate of misconduct: 12 out of 13 inmates (92%) in the most restrictive regime (close custody) showed potential or actual violent behavior during follow-up. In contrast, the opposite was found in an analysis of 989 convicted prisoners in the ordinary regime. Despite the fact that the ordinary regime is much less restrictive than close custody, only 19% of the 989 inmates in the ordinary regime showed potential or actual violent behavior. Inmates in the ordinary regime have time for personal matters, education or occupational training, work, and cultural and therapeutic activities. The far higher frequency and prevalence of actual violent infractions at the close custody level suggest that the transfer of inmates from the ordinary regime to close custody, which is mostly attributed to violent behavior in prison, is one of the risk factors that predicts new inmate misconduct. Usually it is expected that that the close-custody environment encourages rule violations, but these assumptions are not supported by the results of this study. However, there is no single explanation to these findings. The results could have been influenced by lower staff tolerance, a more punitive milieu, or (over)crowding of inmates with a higher propensity to violence (Arbach-Lucioni et al., 2012). According to other authors, people who experience more severe restrictions on autonomy feel more dissatisfied and tense. In the mild regime, individuals are less stressed, have more positive attitudes, and may lead to lower levels of institutional offences that violate rules of the regime (Blevins et al., 2010).

As it is quite difficult, especially in the place of detention, to influence the individual characteristics of the offender which have effect on his misconduct, one of the ways to reduce the possibility of institutional misconduct is to control the characteristics of the local environment of imprisonment which are related to misconduct. Therefore, emphasizing the importance of the inmate's personal characteristics, one should keep in mind the influence that the security level at the institution has on misconduct (Griffin & Hepburn, 2013). Nevertheless, according

to some authors, it should not be forgotten that the official level of the institution's security regime in research is defined in accordance with the fulfilment of formal control requirements. Meanwhile, the quality of control may depend on the number of supervisors, their qualifications and the quality of corrective measures provided (Steiner, 2009).

Some authors attribute to external factors things like the excessive number of convicts, which causes a prison crowding effect, or the frequency of the distribution of the gender and race / ethnic groups of the prisoners and the supervising personnel. The higher the difference in this frequency when comparing these groups, the greater the risk of the institutional misconduct and vice versa. However, staff qualifications, advanced staff management and administration can reduce the effect of this factor on the behavior of convicts (Steiner, 2009).

There are more factors affecting the increase in the number of violent institutional misconduct. It has been established that the state's level of unemployment, which serves as a base to evaluate fiscal pressure on citizens and the number of violent crimes, is also related to violent institutional misconduct (Steiner, 2009). Therefore, both the static factors of the imprisonment institution and the dynamic processes are both important in understanding the differences in frequency of institutional misconduct in different correctional institutions. On the other hand, additional studies are needed to determine whether stress, suffered by people in the country due to unemployment, is related to the lower allocation of financial resources for the supervision of the convicts at correctional institutions or whether this is due to the general dissatisfaction of members of the public.

In summary, we can state that analysis of correctional institutions needs should be carried out at various levels in order to determine the causes of the misconduct and to eliminate it, starting with individual factors, moving to interpersonal factors that involve communication with other inmates and supervising officers, considering variables related to the environment of the institution and ending with the processes taking place in the society. When planning an inmate's sentence and supervision, it is necessary to remember that changes in the environment of the place of detention may affect the manifestation of an inmate's individual characteristics. Therefore, the dynamics of the internal processes at the correctional institutions are also important to address in future research.

*6.1.3.4. Risk factors predicting male and female misconduct at the correctional institution.* Despite the increase in women's crime rates in recent years (Komarovskaya et al., 2007), the factors that influence female institutional misconduct are usually determined according to the results of male studies (Gover

et al., 2008). According to Skopp et al. (2007), although female criminal behavior indicators has grown faster than that of males over the past few decades, there is still little awareness of the causes and consequences of the antisocial behavior of female inmates.

The needs, activities, and care of female inmates vary in places of imprisonment, and it may be that the predictive factors for institutional misconduct can also be different when comparing females and males (Steiner & Wooldredge, 2014). Therefore, in order to determine which of the predictive factors for violent and non-violent male misconduct may be applied to female inmates, the analysis must include the characteristics of personality, demography and criminal history (Thomson et al., 2016).

Some risk factors that predict the misconduct of male offenders are also characteristic of female prisoners. Female prisoners that commit institutional misconduct are characterized by a history of violent offences. Features and behavior of antisocial personality are the best predictors of common and violent institutional female misconduct in samples of females. Such females are characterized by a certain personality pathology (e.g., more expressive features of antisocial and borderline personality disorder) and traumatic experience (Skopp et al., 2007).

Steiner and Wooldredge (2014) conducted a comparative analysis of 570 female prisoners and 5059 male prisoners at 46 correctional homes in Ohio and Kentucky, revealing significant differences in the risk factors that predict institutional misconduct. According to the authors, it can be argued that the personal characteristics of men and women (e.g., age) and experiences gained during imprisonment (e.g., participation in learning / work programs) are in fact different. However, in assessing the contribution of these variables to predicting violent or non-violent offenses, there were no significant differences between men and women in the sample with some exceptions. Female prisoners assigned to a group with a higher level of supervision also belonged to a group of higher-risk violent institutional misconduct. In the case of men, a group with higher-risk violent institutional misconduct included males who were younger, had a history of imprisonment, and, just like females, were assigned to a group with a higher level of supervision. When analyzing the experiences of imprisonment, it was found that men who had more time to work and less time to rest at the correctional institutions were less likely to commit violent offenses and served their sentences in a shorter time. Meanwhile, in the women's group, there was not a single association between violent institutional misconduct and their imprisonment experiences. In assessing non-violent offenders, it was found that both younger women and younger men were at the higher risk of non-violent offences. In the case of male prisoners, those

who were younger, black, unmarried, using psychoactive substances, had a history of previous detention and were assigned to a group with a higher level of supervision, belonged to a higher risk group. The only experience of imprisonment that had an influence upon nonviolent offenses in the female group was the length of time used for rest. The longer time women used to rest, the more likely they were to commit non-violent offenses. In the male group, as in the case of violent offences, individuals who spent more time working, performing various tasks to promote employment, participating in various training / professional programs, and having completed a longer sentence, belonged to a group with a lower probability to commit non-violent institutional offences. In order to better understand the predictive factors of institutional misconduct in the women's sample, the survey should have included not only the predictors of male misconduct, but also those factors that are the basis of the formation of women's criminal behavior, i.e., previous violence, traumatic experiences, and mental health problems (Steiner & Wooldredge, 2014).

Study results of Drury and DeLisi (2010) confirmed the similarity of male and female prisoners with respect to the above mentioned criteria. These authors, having analyzed 1005 Arizona prisoners' data, found that convicted women and men who had committed violent and non-violent offences during previous detention, also committed violent and non-violent offences during subsequent imprisonment. According to these authors, previous misconduct in correctional institutions is one of the most important risk factors predicting future violent and non-violent institutional misconduct. According to the authors, males and females who have a richer / wider history of institutional misconduct during previous periods of imprisonment, create a serious threat to institutional security and to the obedience of other inmates. Thus, women and men who commit violent and other offenses during imprisonment have, as a rule, already committed violations during previous imprisonment and had a longer history of imprisonment, i.e., higher custodial sentences.

It should be noted that some scientists contradict this homogeneity in relation to gender. Contrary to the results of previous surveys, the results of the survey by Gover et al. (2008) found the opposite attitude towards gender. The results of the study showed that the predictive factors in institutional misconduct differ between men and women in prison. The male sample showed a positive correlation between history of previous imprisonment and incidents of institutional misconduct. Meanwhile, in the group of women, history of previous imprisonment reduced the average of their institutional misconduct (Gover et al., 2008). Other studies found that women who had a history of violent behavior were less involved with activities



that violated the order of the institution than those who did not have such a history (Drury & DeLisi, 2010).

Gover et al. (2008) made unexpected conclusions. According to the authors, the more staff of the correctional institution who take care of their supervised prisoners, the better prisoners adapt to the environment of the detention institution. However, in the case of female prisoners, this tendency has not been established. Contrary to the expected results, the more female prisoners perceived their supervising staff as caring and concerned about them, the more likely they were to commit violations. One of the assumptions made by the authors in an attempt to explain the results of the study was that women, compared to men, are more inclined to establish friendly relationships with their supervisors, especially if they can identify themselves as mothers in these relationships. Such close relationships can compromise the authority of supervising officials, which is why women are more likely to break the rules of the institution.

According to some authors, women who have previously served a sentence of imprisonment adapt better to the order at the place of imprisonment. In addition, the behavior of officials with male and female inmates might be different, thus differences in their supervision can be the reason for the above mentioned differences in male and female inmates' behavior. The duration of imprisonment, in the sample of both women and men had an influence on institutional misconduct. As the duration of imprisonment increases, the number of offenses increases. However, when comparing male and female prisoners, the effect of the duration of imprisonment is more pronounced in the women's sample. It has also been established that in the conditions of a strict regime, the number of violations increases. Institutional misconduct by male inmates is significantly predicted by the nature of the crime for which they were convicted, while the female sample did not confirm this criterion. Men convicted of non-violent and violent crime, compared to prisoners convicted of offenses related to the use of psychotropic substances, are less likely to commit institutional misconduct. Self-control is also one of the factors which in the male sample, unlike females, predicts serious misconduct. It was also found that work at the prison was one of the positive factors. Thanks to it, convicted men have better adapted to the place of detention. Also working prisoners commit less misconduct as compared to unemployed prisoners. However, these tendencies are typical for men only. Some factors that do not predict male misconduct make a significant prediction of women's misconduct. The main and most important variables that had a significant impact on the women's sample were age, race and education. Older women better adapt to imprisonment than younger ones. This can be affected by a longer experience at the correctional institution

and so on. Misconduct can also be a behavior that was shaped by culture. White female inmates commit less misconduct than females of other races. Also, female inmates with higher education as compared to those with lower education commit less misconduct (Gover et al., 2008).

Although there is a lot of similarity between factors that predict male and female institutional misconduct, there are differences, too. Correctional programs must be developed taking into account the gender disparities analyzed above. Their application must also be carried out in light of these gender differences. For example, it makes sense to keep imprisoned men engaged during imprisonment, reduce marginalization, help them better adapt to the new environment, and increase their employment, while women will be more effective in applying their professional development programs or other educational programs.

**6.1.4. *The role of criminal risk assessment in prediction of misconduct at correctional institutions.*** The analysis of the risk factors that predict institutional misconduct is only an early start in work with a sentenced person. It can help to deepen knowledge about offenders and difficulties of adaptation experienced by them at the place of imprisonment (Drury & DeLisi, 2010). According to Walters (2015), it is important to measure the risk of potential institutional misconduct for several reasons. First, it can be of assistance in classifying inmates and appointing them to the appropriate prison with the right level of security based on more risk factors than just static risk factors such as criminal history. If additional factors can be identified and validated, the efficacy of existing prison classification systems could be enhanced. Second, accurate prediction can lead to improved prevention. Reducing the number of disciplinary problems in an institution makes the correctional environment safer for both inmates and staff, and thus lowers the incentive for future misconduct. Third, accurate prediction may benefit post-prison adjustment. Inmates, who feel safe are less likely to adopt criminal attitudes and behaviors and are more likely to take advantage of rehabilitation programs, which, in turn, helps to improve their chances of making a positive transition back into society (Walters, 2015). However, when working with convicts, it is very important to predict who will commit an offence, who will be a threat to others and so on. (Drury & DeLisi, 2010). This situation is further aggravated by the fact that there are not many studies that analyze risk assessment tools that can help determine the probability of mentioned misconduct, and most of these available studies were conducted with those persons supervised by the legal system who have mental disorders (Sandler et al., 2013).

The main objective of forensic psychology is to classify individual cases and predict behavior. To achieve these objectives, there is a lot of effort made, decisions are taken on specific supervised persons, and the effectiveness of the administration of the criminal justice system is increased. Soon after an individual comes into contact with the court, assessment of risk is pertinent; receiving bail, sentencing, security ratings, prison placement, level of treatment, release decisions, and level of supervision are some of the decision points at which an assessment of risk is made. Many of these decisions are made informally with little or no systematic strategy (Kroner & Mills, 2001). For the past few decades, various strategies in the form of risk assessment instruments have been developed for the risk assessment of offenders. The structural parts of the instrument and its main purpose illustrate the possibilities of using the instrument. One of the most common goals of modern risk instruments is to assess the likelihood of an offender to be convicted in the near future and to identify corrective measures that need to be applied according to the specific problems that influence the person's criminal behavior. Research findings show that instruments that assess reconviction and risk of harm also predict violent and non-violent misconduct (Walters, 2015). Kroner and Mills (2001) have studied 97 male offenders sentenced to between 2 and 6 years for various violent offenses (excluding sexual offenses) and evaluated 5 risk prediction instruments – the Psychopathy Checklist–Revised, Level of Service Inventory–Revised, HCR-20, Violence Risk Appraisal Guide, and the Lifestyle Criminality Screening – and their accuracy in predicting institutional misconduct. All instruments predicted misconduct at the correctional institutions and after release (under the supervision of probation officers) (Kroner & Mills, 2001). Assessments of risk instruments predict repeated imprisonment of not only for male prisoners but also for female. Gobeil et al. (2009), investigating the impact of surveillance on female prisoners in correctional institutions in Canada, also found that the level of risk associated with convicted prisoners was related to their institutional misconduct, although the influence of the levels of surveillance had not been established. This has reaffirmed the influence of personality traits and individual factors on behavior that violates legal norms (Gobeil et al., 2009).

In the planning of the offender's sentence and supervision, and in assessing the risk of his repeated conviction, lately, most of the risk assessment is based on the evaluation of the offender's risk. For this purpose, specific instruments for assessing the risk of harm are used. However, their use in assessing the risk of institutional misconduct is still a new practice. Sandler et al. (2013) sought to ascertain whether the Static-99 tool, used to predict offences of a sexual nature, could be used in the prediction of non-violent, violent, psychotropic, and sexual miscon-

duct at correctional institutions. The results show that the Static-99 overall risk score is one of the most important factors in predicting sexual misconduct at the place of imprisonment.

The precise identification of offenders who are likely to commit sexual offences at the institution can considerably help to manage the risks associated with this behavior and to cope with problems like sexual harassment and to ensure the security of the prisoners as well as the safety of the staff (Sandler et al. 2013). However, some studies suggest that certain instruments used to assess the risk of repeated conviction or institutional misconduct are not successful in predicting institutional violence (e.g., the VRAG is only half as successful) as they were in predicting violent recidivism (Campbell, French, & Quinsey, 1993) (cf. Walters, 2015). This suggests that static risk factors may not be as good at predicting institutional adjustment as they are at predicting recidivism and thus, in order to achieve optimal predictability, they may need to be supplemented by more dynamic risk factors such as antisocial attitudes and criminal thinking (Walters, 2015).

In summary, we can conclude that instruments used to measure the static and dynamic risk factors of inmates, should also be suitable for the evaluation of institutional misconduct. Nevertheless, these assumptions should be confirmed by the analysis of results received in a study of convicts at institutions of imprisonment.

**6.1.5. The aim and hypotheses of the research.** The following research hypotheses were formulated based on the analysis of prison inmate misconduct studies. In order to test these research hypotheses, a comparative analysis of characteristics of misbehaving inmates and no misconduct perpetrated inmates was carried out. Due to the insufficient number of misbehaving female inmates, the following hypotheses were formulated solely for the male sample:

1. Males who commit prison misconduct, in comparison to those who do not, should tend to be younger and have a greater number of convictions.
2. Males who commit prison misconduct, in comparison to those who do not, should tend to be less educated, to be married, have been sentenced to prison more times, and should tend to violate obligations imposed by their sentences more often.
3. Males who commit prison misconduct, in comparison to those who do not, should tend to have higher OASys scores in the assessment sections of Offending information, Education, Training and Employment, Drug Misuse, Alcohol Misuse, Emotional Wellbeing, Thinking and Behavior, and Attitudes. Simultaneously, misbehaving inmates should have higher total scores of reoffending risk as measured by the OASys.

4. Males who commit prison misconduct, in comparison to those who do not, should tend to receive sentences for a longer term of imprisonment.
5. Males who commit prison misconduct, in comparison to those who do not, should tend to have higher (+) or lower (-) scores on the following MMPI-2 scales which assess personality traits and psychopathology: Clinical Scales of Depression (D +), Psychopathy (Pd +), Antisocial Behavior (RC4 +) and Hypomanic Activation (RC9 +). The following Content Scales should stand out: Depression (DEP +), Anger (ANG +), Antisocial Practices (ASP +) and Family problems (FAM +). These Supplementary Scales should stand out as well: Anxiety (A +), MacAndrew Alcoholism Scale-Revised (MAC-R +), Social Responsibility (Re-), and Personality Psychopathology Five Aggressiveness (AGGR +), Disconstraint (DISC +), and Negative Emotionality / Neuroticism (NEGE +).

In summary, the aim of this study was to analyze the characteristics of convicts who have committed prison misconduct. For this purpose, a comparison of demographic, OASys and MMPI-2 characteristics of misbehaved and well-behaved inmates was conducted.

## 6.2. Methodology

*Participants.* Out of the total population of 7296 male and female offenders serving prison sentences in 12 Lithuanian penitentiaries, a randomly selected sample of 351 males and 50 females were invited to participate in the study. Of these, 82% of males ( $n = 287$ ) and 94% of females ( $n = 47$ ) agreed to participate in this study and fill out the questionnaires. One year later, information was gathered about their prison misconduct. Supervising officers indicated whether the inmates were penalized after assessment of their misconduct. For the cases where penalties were imposed, officers provided information on the number of penalties and the nature of the inmates' acts of misconduct. The acts of misconduct were divided between these categories: violation of internal order, use of prohibited communication devices, substance-abuse-related misconduct, and verbal or physical aggression-related misconduct. Persons who did not receive a penalty and who were released from the prison less than 365 days after the assessment due to various reasons (e.g., parole, termination of the prison sentence, etc.) were excluded from the analysis.

Data on 211 subjects (191 males and 20 females) was received. It was found that 53% ( $n = 112$ ) of the research subjects received no penalties, and 47% ( $n = 99$ ) of the participants were given one or more penalties for their acts of misconduct.

In total, the subjects received 338 penalties ( $M = 1.6$ ,  $SD = 2.73$ ,  $Min = 1$ ,  $Max = 16$ ) (see Table 13).

**Table 13. Distribution of penalties for misconduct committed at the correctional institution.**

Type of misconduct	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Breach of internal order	249	0	16	1.18	2.35
Use of forbidden communication devices	13	0	3	0.06	0.31
Abuse of psychoactive substance	61	0	6	0.29	0.70
Verbal Aggression	10	0	2	0.05	0.23
Physical Aggression	5	0	1	0.02	0.15
Total	338	0	16	1.60	2.73

Most of the acts of misconduct were non-violent in nature. Of these, 249 were violations of internal order, 61 were related to substance abuse, and 13 were related to the use of prohibited communication devices. There were 15 penalties for violent acts of misconduct that involved verbal and physical aggression. These were received by 6% ( $n = 13$ ) of all the sample of convicts, of which 5 were punished for physical aggression and 10 for verbal aggression. The data obtained confirms the results of previous studies. Arbach-Lucioni et al. (2012) found that in Spain, the majority of acts of prison misconduct were committed by only a small group of convicts. Their study found that half of the violent offenses in correctional institutions were committed by only 2% ( $n = 28$ ) of the total convict sample. These findings of the research deny the myth that severe offences in prisons are routine, especially when it comes to minimum or medium security correctional institutions, as opposed to high security prisons.

Given the small size of the female sample ( $n = 20$ , of which only seven committed prison infractions), inclusion of their data in the joint sample of misbehaved and no misconduct committed inmates might have distorted the analysis and interpretation of the results, thus only the male sample data were used in this section of the study.

The average age of 191 men sampled for the follow-up calculation of scores was  $M = 36.28$  ( $SD = 1.4$ ), 21.9%. The number of completed years of secondary education was  $M = 10.4$  ( $SD = 1.6$ ), the number of convictions  $M = 5.3$  ( $SD = 4.2$ ), the number of violent offences  $M = 1.6$  ( $SD = 1, 5$ ), age at first conviction  $M = 21.45$  ( $SD = 8.0$ ), and age at first contact with the police  $M = 18.5$  ( $SD = 7.3$ ).

For the calculation of this part of results, a sample of 138 males was selected with an average age of  $M = 36.42$  ( $SD = 11.2$ ), 22.1% were officially married, the number of completed secondary school years was  $M = 10.5$  ( $SD = 1.6$ ), the num-

ber of convictions  $M = 5.4$  ( $SD = 4.5$ ), the number of violent offences  $M = 1.6$  ( $SD = 1.6$ ), the age at first conviction  $M = 21.6$  ( $SD = 8.4$ ), and the age of first arrest,  $M = 18.4$  ( $SD = 7.5$ ).

*Assessment methods.* The following data collection methods were used: socio-demographic questionnaire, the OASys and the MMPI-2 (see Chapter 3 for description of methods from the first-stage of the study).

The OASys scale consistency data are presented in Appendix 8. Scales with Cronbach's alpha internal consistency reliability coefficients of less than 0.5 show insufficient internal scale consistency (Vaitkevičius and Saudargienė, 2006). Therefore these data were not included in further analysis. The male sample did not include the Emotional Wellbeing ( $\alpha = 0.47$ ) scale estimates, and the female sample did not include the Lifestyle and Associates ( $\alpha = 0.38$ ) scale estimates (see Appendix 8).

To ensure the reliability of analysis (which included MMPI-2 assessment data), only valid MMPI-2 protocols were selected for further analysis. The procedure of protocol rejection was based on differential values of validity scales traditionally recommended in similar studies by other authors (Black et al., 2004; Butcher et al., 2013; Graham, 2012; Wise, 2009): Unanswered Items  $N \geq 30$ , L (Lie)  $\geq 80$  T, K (Correction)  $\geq 80$  T, VRIN (Variable Response Inconsistency)  $\geq 80$  T, TRIN (True Response Inconsistency)  $\geq 80$  T, F (Infrequency)  $\geq 100$  T, Fb (Back F)  $\geq 100$  T and Fp (Infrequency-Psychopathology)  $\geq 100$  T. It should be noted that the MMPI-2 scales were calculated only if all the items on each scale were answered. With at least one uncalculated validity scale, it was chosen not to use the protocol in follow-up analysis. It is likely that a part of valid protocols was rejected in this way, but this ensured the analysis did not use invalid protocols. Based on the validity scale values chosen, 28% of male protocols ( $n = 53$ ) were rejected, and 138 protocols in which none of the validity scales exceeded the differential value or had no unanswered items, were used for further investigation of male prison inmates. As was already mentioned, in MMPI-2 studies, the percentage of invalid protocols varies between 15% and 40% (Black et al., 2004; Megargee et al., 1999; Wright et al., 1997). Also, given the fact that a miniscule part of the study protocols was rejected due to the lack of validity of the validity scales, we can assume that participants filled out the questionnaire with sufficient diligence.

*Research procedure.* A random sample of 401 participants (351 males and 50 females) who were serving prison sentences in twelve penitentiaries of Lithuania was recruited (see Chapter 3 for a description of the procedure of the first stage of the study). One year later, in September-October 2016, information was collected about the study participants' behavior at the penitentiaries. Supervising officers

indicated whether the offenders were penalized for prison misconduct following the assessment.

*Statistical analysis methods.* The SPSS 24.0 software package was used for statistical calculations. The student t test (for a normal distribution of data or a large sample) was used for intergroup comparisons. In assessing the homogeneity of groups, the chi-square ( $\chi^2$ ) test was used. Effect sizes were calculated for normally distributed data, taking into account the standard deviations of the samples being compared. Interpretation of effect sizes was based on values recommended by Cohen (1992):  $d \geq 0.20$  – small effect size,  $d \geq 0.50$  – medium effect size,  $d \geq 0.80$  – large effect size.

### 6.3. Results

In order to test the hypotheses raised in this study and to reveal the characteristics of misbehaving prison inmates related to their criminal history, psychological characteristics, and place of imprisonment, a comparison of the above characteristics was made between misconduct perpetrated and no misconduct perpetrated prison inmates.

Table 14 conveys the statistics of the following variables: age and criminal history, comparing the number of misbehaving and no-misconduct perpetrated inmates. It is evident, that the age of the misbehavers ( $p < .001$ ), the age at first conviction ( $p = .036$ ), and the age at first contact with the police ( $p = .010$ ) differ statistically significantly when compared to those who had no misconduct. Prisoners with misconduct were younger than those with no history of misconduct. The former were also younger at their first contact with the police. The variable of convicts' age had the largest statistically significant effect size ( $d = 0.58$ ). The variable of "age at first conviction" and "age at first contact with the police" were marked by a small effect size. No statistically significant differences were detected when comparing the number of convictions and the number of violent offences among prisoners.

From the results presented in Table 15 it is evident that, when comparing committers of prison misconduct and no-misconduct inmate groups, no statistically significant differences were detected concerning the variables of education, marital status, number of previous prison sentences, or the failure to fulfill their probation / parole / licence / bail or community obligations.



**Table 14. Comparison of age and number of convictions in misbehaving and no misconduct perpetrated samples of male inmates.**

	Misconduct group	No-misconduct group	<i>t</i>	<i>p</i>	<i>d</i>
	<i>N</i> =99	<i>N</i> =92			
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )			
<b>Age</b>	<b>39.26 (12.43)</b>	33.07 (9.25)	3.85	<b>.000</b>	<b>0.58</b>
<b>Age at first conviction</b>	<b>22.65 (8.51)</b>	20.21 (7.33)	2.10	<b>.036</b>	<b>0.31</b>
<b>Age at first contact with police</b>	<b>19.97 (7.95)</b>	17.18 (6.41)	2.59	<b>.010</b>	<b>0.39</b>
Number of convictions	5.06 (4.03)	5.57 (4.38)	-0.81	.414	-0.11
Number of violent crimes	1.62 (1.40)	1.61 (1.69)	0.04	.965	0.01

Note. Figures marked in bold indicate a statistically significant difference.

**Table 15. The distribution of socio-demographic and criminal history characteristics in the samples of misbehaving and no misconduct perpetrated male inmates.**

Respondent during research	Misconduct group	No-misconduct group	$\chi^2$	<i>p</i>
	( <i>n</i> = 99) %	( <i>n</i> =92) %		
No education	25 50%	25 50%	0.03	.847
Educated	64 51%	60 49%		
Unmarried	73 50%	73 50%	1.71	.679
Married	22 54%	19 46%		
No previous custodial sentences aged under 21 years	44 60%	29 40%	3.55	.059
Previous custodial sentences aged under 21 years	37 45%	45 55%		
No previous custodial sentences aged 21 years or over	25 50%	25 50%	0.34	.615
Previous custodial sentences aged 21 years or over	67 54%	55 46%		
Any breaches of probation / parole / licence / bail or community based sentence	53 58%	38 42%	2.44	.118
No breaches of probation / parole / licence / bail or community based sentence	39 46%	45 54%		

Table 16 presents the results of the comparison of groups of correctional institutions for assessing the individual risk factors of convicted on the OASys scales. Statistically significant differences in the number of convicted groups differed between Education, Training and Employability ( $p = .003$ ), Thinking and Behavior ( $p = .031$ ), and Attitudes ( $p = .001$ ) scales estimates. Men who have committed misconduct were more marked by education, training and work-related problems, criminal thinking and behavior (low impact size), and criminal attitudes (average effect size). There were no statistically significant differences in the comparison of scales of Offending Information, Drug Misuse and Alcohol Misuse.

**Table 16. A comparison of the OASys scales estimates for two samples of male inmates: those who committed prison misconduct and those who did not.**

OASys sections	Misconduct group N=99	No-misconduct group N=92	t	p	d
	M (SD)	M (SD)			
Offending Information	7.82 (4.54)	9.22 (4.61)	-1.81	.072	-0.26
<b>Education, Training, and Employability</b>	2.79 (2.32)	<b>3.86 (2.35)</b>	-3.03	<b>.003</b>	<b>-0.46</b>
Drug Misuse	0.59 (1.35)	0.93 (1.98)	-1.34	.181	-0.22
Alcohol Misuse	1.80 (1.66)	2.08 (1.74)	-1.07	.282	-0.16
<b>Thinking and Behavior</b>	7.75 (3.92)	<b>9.08 (4.21)</b>	-2.17	<b>.031</b>	<b>-0.32</b>
<b>Attitudes</b>	1.37 (1.48)	<b>2.20 (1.81)</b>	-3.28	<b>.001</b>	<b>-0.52</b>

Note. Figures marked in bold indicate a statistically significant difference.

The largest difference was observed in the comparison of OASys General Re-offending Risk estimates ( $d = 0.69$ ) (see Table 17).

**Table 17. A comparison of OASys General Reoffending Risk estimates for two samples of male inmates: those who committed prison misconduct and those who did not.**

Risk of re-offending score	Misconduct group N=99	No-misconduct group N=92	t	p	d
	M (SD)	M (SD)			
<b>Risk of re-offending score</b>	42.07 (22.04)	<b>57.93 (23.74)</b>	-4.58	<b>.000</b>	<b>-0.69</b>

Note. Figures marked in bold indicate a statistically significant difference.

Table 18 shows a comparison of the lengths of prison sentences for samples of male inmates who committed prison misconduct and those who did not. No statistically significant differences were observed while comparing two samples of male inmates: those who committed prison misconduct and those who did not.

**Table 18. A comparison of lengths of prison sentences for the two samples of male inmates: those who committed prison misconduct and those who did not.**

	Misconduct group N=99	No-misconduct group N=92	<i>t</i>	<i>p</i>	<i>d</i>
	<i>M (SD)</i>	<i>M (SD)</i>			
Sentence length (in months)	77.38 (87.38)	63.82 (70.46)	1.14	.253	0.17

**Table 19. Comparison of the MMPI-2 Clinical, Restructured Clinical and Personality Psychopathology Five scale estimates in the two samples of male inmates: those who committed prison misconduct and those who did not.**

Scale	Misconduct group N=68	No-misconduct group N=70	<i>t</i>	<i>p</i>	<i>d</i>
	<i>M (SD)</i>	<i>M (SD)</i>			
D	51.30 (7.14)	49.99 (9.48)	0.73	.465	0.15
Pd	55.37 (8.22)	58.24 (8.84)	-1.52	.131	-0.31
RC4	53.55 (8.51)	56.10 (8.62)	-1.33	.184	-0.27
RC9	49.97 (9.00)	52.73 (11.62)	-1.12	.267	-0.35
DEP	51.71 (10.43)	54.59 (10.82)	-1.22	.224	-0.25
ANG	48.90 (9.37)	51.91 (11.82)	-1.34	.184	-0.19
ASP	53.03 (10.27)	56.86 (11.13)	-1.63	.105	-0.33
FAM	49.57 (9.14)	50.57 (9.00)	-0.49	.622	-0.10
A	52.46 (10.25)	54.88 (12.07)	-0.96	.336	-0.20
<b>MAC-R</b>	54.36 (9.11)	59.25 (9.93)	-2.30	<b>.023</b>	<b>-0.48</b>
<b>AGGR</b>	47.49 (10.02)	53.10 (10.30)	-2.47	<b>.015</b>	<b>-0.51</b>
PSYCH	54.24 (10.02)	54.79 (11.01)	-0.23	.817	-0.04
DISC	53.26 (8.90)	55.35 (9.20)	-1.04	.299	-0.21
NEGE	52.43 (8.86)	53.78 (10.03)	-0.64	.523	-0.13

Note. *M* – mean. *SD* – standard deviation. *d* – Cohen *d*. D – Depression; Pd – Psychopathic Deviate; RC4 – Antisocial Behavior; RC9 – Hypomanic Activation; DEP – Depression; ANG – Anger; ASP – Antisocial Practices; FAM – Family Problems; A – Anxiety Scale; MAC-R – MacAndrew Alcoholism Scale Revised; AGGR – Aggressiveness; PSYC – Psychoticism; DISC – Disconstraint; NEGE – Negative Emotionality/ Neuroticism. Figures marked in bold indicate a statistically significant difference between MMPI-2 scales.

For testing the last hypothesis in this study, a comparison of the MMPI-2 scales was performed. Table 19 presents the results of the MMPI-2 scales in two samples of male inmates: those who committed prison misconduct and those who did not. There were no statistically significant differences between the Clinical (D, Pd), Restructured Clinical (RC4, RC9) and Content Scales (DEP, ANG, ASP, FAM). In the case of Complementary and Psychopathology scales, statistically significant differences were found only in the MacAndrew Alcoholism Scale-Revised (MAC-R +) ( $p = .023$ ) and Aggressiveness (AGGR +) ( $p = 0,015$ ) scales. Clearly, the MacAndrew Alcoholism Scale-Revised effect size was close to medium ( $d = 0.48$ ), while the effect size for the Aggressiveness scale was medium ( $d = 0.51$ ).

Summarizing the results obtained, it can be said that most of the hypotheses were either not confirmed or only partially confirmed. Males who were sentenced to imprisonment and were committing misconduct at correctional institutions, compared to those who did not, differed by their younger age, more severe problems of education and employability, a stronger expression of criminal behavior, thinking and pro-criminal attitudes. They stood out most prominently by their increased general reoffending risk. Inmates engaging in prison misconduct pose a greater risk of repeated conviction. The MMPI-2 scores obtained in this study provide ample grounds for the conclusion that aggressiveness and alcohol abuse is more common among inmates committing prison misconduct than among those who do not commit such acts.

## 6.4. Discussion

During the comparative analysis, static and dynamic risk factors that separate male inmates who commit institutional misconduct from those who do not were identified. The results obtained make it possible to assert that certain specific characteristics of convicted offenders in correctional institutions analyzed in scientific studies are also manifested in the group of Lithuanian male law violators. When deciding on the sentenced men's participation in correctional programs or in order to ensure the control of the convicts in correctional institutions, characteristics of inmates who misconduct and difficulties experienced by them should be taken into account.

It is necessary for the supervising officers to pay attention to the offender's age. The results of our research have confirmed that age is the strongest and most consistent predictor of prison misconduct, as evidenced by many studies. The results

of the study confirmed the statement by Cihan et al. (2017) that age is the most important variable associated with high or low levels of institutional misconduct. As the age of a convict increases, his behavior that violates institutional standards decreases (Griffin & Hepburn, 2006; Kigerl & Hamilton, 2016; Morris et al., 2010; Sandler et al., 2013; Steiner & Wooldredge, 2014). Additionally, age is one of the risk factors that, irrespective of the level of prison regime, predicts misconduct in the correctional institution (Griffin & Hepburn, 2013). A person's age at the time of his first conviction and his encounter with police are factors that separate inmates who commit institutional misconduct from those who do not. Therefore, it is important for officials who plan the execution of a custodial sentence and supervision of convicts to identify young people who are facing the legal system. The latter should be subject to more intensive care (Cihan et al., 2017).

The results of studies confirm, that persons who have committed violent crime (Drury & DeLisi, 2010; Sandler et al., 2013), and have executed a custodial sentence (Drury & DeLisi, 2010), as compared to those who did not, violate the rules in places of imprisonment more often. However, a comparison of the groups conducted in our study did not reveal that information about previous offenses, previous convictions, violations of supervisory regimes and court obligations, the number of violent crimes, or previous custodial sentences is related to inmates' misconduct at correctional institutions. According to Griffin and Hepburn (2013), previous violent institutional misconduct predicts such violent behavior only in places of detention with high levels of environmental control. While, at the same time, this variable did not have a significant impact on places of detention with low levels of environmental control. In Lithuania, the strictest regime and highest level of supervision of inmates is applied in prisons. However, most participants of our researched were sentenced to correctional institutions. This could have affected the results. In this case, our research data confirms the results of a study by Morris et al. (2010) that showed that previous convictions of a violent nature do not always predict violent misconduct at the place of detention.

Nevertheless, most of the information on the criminal history of convicts and socio-demographic variables were collected through a demographic questionnaire, which was filled out by the participants. It is likely that in order to create a more favorable image of themselves, the participants could have distorted information and reduced or hidden the number of crimes committed.

Misreporting may have influenced the fact that there were no differences found among the groups of convicts when comparing their education and marital status. When, at the same time, different authors point out that offenders who have poorer education (Connor & Tewksbury, 2016; Leigey & Hodge, 2013; Morris et

al., 2010), are unemployed (Kigerl & Hamilton, 2016), and are unmarried (Connor & Tewksbury, 2016 ; Steiner & Wooldredge, 2014) commit more misconduct at institutions of detention.

The principle of the grouping of offenders could also have effected the results obtained. In this study, a comparison of the characteristics of inmates who had and had not committed institutional misconduct was carried out. Due to the small amount of violent misconduct or misconduct related to the use of psychoactive substance, there was no detailed categorization of groups. Convicted persons were not divided into subgroups related to violent, non-violent or drug-related misconduct. It may be that a social risk factor of misconduct as the lack of education is more closely related only to non-violent misconduct (Steiner & Wooldredge, 2014) and risk factor as marital status to non-violent and the use/storage of psychoactive substance related misconduct (Connor & Tewksbury, 2016). Consequently, the inclusion of violent offenders into the sample of all other offenders could have distorted the results.

However, in our study, it was found that men who serve a custodial sentence and commit institutional misconduct, compared with those who do not, were distinguished by their problems with education, employment and learning. Higher education is likely to be associated with better coping skills, self-regulation, and the ability to withstand various temptations (Connor & Tewksbury, 2016). Therefore, it is possible that poorer skills lead to more educational or employment problems. There are not many studies that analyze the role of education in institutional misconduct (Connor & Tewksbury, 2016). This suggests that when analyzing education, one should pay attention to the problems experienced by the inmate that are related to education, employment or learning. The lack of education and vocational training does not allow the provision of financial resources to meet their needs, which can be disturbing and cause tension for the convict. Therefore, given a chance to participate in interventional programs, to work in correctional institution, and to learn would help to reduce tensions experienced by inmates at the place of imprisonment (Blevins et al., 2010). According to the General Strain theory, when inmates experience less stress, they adapt better to the requirements of the place of imprisonment and comply with regulative rules.

According to Walters (2015), criminal thinking performs the role of effective mediator between individual static risk factors and institutional misconduct. Such thinking along with static risk factors such as a convict's age or the length of his sentence predicts the ability of prisoners to adapt to the local environment of the prison and the risk of new misconduct at the correctional institution. The results of our study confirmed that criminal mentality, behavior and pro-criminal provi-

sions distinguish inmates who commit institutional misconduct. According to the Importation and Deprivation theories, an inmate's criminal thinking may be the cause of the institutional misconduct or the consequence of adapting to the place of imprisonment (Schenk & Fremouw, 2010; Walters, 2015). However, the assumption, based on Walters' (2015) idea that the size of custodial sentence is related to the institutional misconduct, was not confirmed in our study, even though other recent studies have shown that convicts with a longer term of imprisonment are less likely to commit misconduct than those with a shorter term of imprisonment (Cunningham & Sorensen, 2007; Kigerl & Hamilton, 2016; Morris et al., 2010). Our study looked at the entire length of custodial sentence fixed by a court decision. In future research, the length of a served sentence should be evaluated instead, since offenders who stay longer at the correctional institution adapt better to existing conditions.

It should be noted that the analysis of the characteristics of risk factors distinguished by the Situational Model theory was quite poor in this research. The length of custodial sentence is only one of the risk factors of the Situational Model. The study did not take into account the characteristics of the prison staff, the way they treat convicts, prison crowding, the possibilities for sentenced prisoners to participate in correctional programs, the security regime of the correctional facility, etc. High density at the place of imprisonment may have an effect on the communication between inmates and supervising staff and on the effectiveness of control by staff. Prison crowding and instability of the population at the place of imprisonment predict inmate misconduct, especially in cases where a person is relocated from a lower density prison to a high density prison (Kigerl & Hamilton, 2016). In order to better understand the process of law violation, the analysis of the latter risk factors and their impact on the behavior of inmates should be carried out in the future. This is especially true taking into account the fact that the number of imprisoned persons is high in Lithuania and supervising staff have a great workload.

According to the Deprivation theory, long-term deprivation of the needs of a person may cause a feeling of helplessness and depression. Emotional difficulties such as depression or anxiety can be caused by victimization at the place of imprisonment. It may be that some individuals, even while experiencing emotional difficulties, behave aggressively in order to avoid victimization (Blevins et al., 2010) and tend to violate rules of the regime. Our research findings did not confirm that offenders who commit institutional misconduct experience more emotional difficulties than offenders who do not. Groups also did not differ in difficulties related to the use of psychoactive substances, which was evaluated with the OASys risk as-

assessment tool. Although when measuring with the MMPI-2 scales, the comparison of personality characteristics, according to the MacAndrew Alcoholism Scale-Revised (MAC-R) scale scores, had a significant difference in the groups of convicts, and the effect size was close to the average. It is likely that the problem of alcohol consumption is being concealed by the convicts, which is why officers who use the OASys for risk assessment should pay more attention to the problems of convicts related to alcohol consumption. An assessment based on the MMPI-2 would help to create a better picture of the difficulties faced by the convict. Persons who during their imprisonment use or distribute psychoactive substances or otherwise engage in such activities belong to a group of a high risk. The identification of persons who belong to this group is important not only in order to reduce the repeated conviction of these persons, but also in addressing the issues of security at the place of imprisonment, the health of convicts, and the reduction of financial problems. According to the Deprivation theory, people use psychoactive substances to cope with the stress experienced during imprisonment and to reduce their willingness to oppose officials (Connor & Tewksbury, 2016). Since prisoners with addiction to psychoactive substances have more legal and psychiatric problems, it is likely that these difficulties are the result of high impulsiveness, aggressiveness, poor ability to resist the temptations and high suicide risk (Cuomo et al. 2008). However, the groups compared in the study, given many personal and psychopathological characteristics, do not differ. Only 2 statistically significant differences out of 14 were identified. However, it is worth pointing out that the results of this research confirm the relationship between the misconduct, alcoholism and aggression of male offender (Steiner & Wooldredge, 2014). However, it is still difficult to decide whether alcohol consumption is a predictive risk factor or a strategy used at the institutions of imprisonment to reduce the tension and cope with persons who have specific characteristics.

When planning a punishment and supervision of an offender and assessing the risk of his repeated conviction, the risk assessment of the offender is usually used. Although there are instruments that only measure institutional misconduct, general or violent risk assessment tools can also be effectively applied to make this prediction (Kroner & Mills, 2001). In our study, we have compared the risk of the offender assessed with the OASys. The results showed that in this study, the groups were most distinguished by the risk assessments of their re-offending. Those who committed misconduct were marked by higher scores. Based on the results obtained, we can assume that the OASys can be used to assess the probability of institutional misconduct.



## 6.5. Summary

The results obtained from this research mainly confirm the assumptions of the Deprivation and Importation theories. This shows that individual characteristics of male inmates are related to misconduct in correctional institutions. Based on the data obtained, we can assert that the experience of the convict, which includes the convicted person's attitudes, thinking, behavior, personality traits and addictions, is related to new institutional misconduct.

To sum up, we can conclude that, despite the shortcomings of this study, its contribution to analyzing the causes of misconduct in correctional institutions is significant not only nationally but also internationally, especially considering the lack of research in this area in the context of the former Soviet bloc countries.

Our research shows that younger age, problems of education, work, training, alcohol consumption, criminal thinking and behavior, and pro-criminal provisions are related to the misconduct of inmates in various correctional institutions with different levels of regime across Lithuania. However, the behavior of inmates is also affected by the prison's environment, which is much more complex than just the institutional characteristics listed and analyzed within this study. Therefore, further research is needed to more deeply analyze the latter phenomenon.

# 7

## SUMMARY OF THE STUDY AND GUIDELINES FOR FUTURE RESEARCH

First of all, the strengths of the study are discussed. One of them is that the random sampling applied in the first phase of the study covered a fairly large percentage of individuals sentenced to imprisonment, both male and female. Also, the fact that this study was partly longitudinal has made it possible to assess the relationship between the personality characteristics of the sentenced person and his subsequent behavior in the correctional institution, which is undoubtedly of great practical significance in relation to the differentiation of convicts and the prediction of institutional misconduct. The results obtained provide the preconditions for making reasonable conclusions about the characteristics of the prison population, including inmates who were sentenced for violent crimes. During the second phase, the convenience sampling technique was used, which covered more evaluated characteristics of selected subjects who were both males and females, sentenced for their last violent crime. In addition, the study used different evaluation tools based on different principles (i.e., questionnaires and methodologies based on the structured professional judgment), and such a comprehensive assessment of the convicts revealed additional opportunities for the use of psychological assessment tools that were not often used in daily practice. The relationship between the characteristics of personality and the risk of violent behavior confirmed the theoretical links between personality factors and violence. Established links also highlighted the expertise and professionalism of risk assessment professionals.

As far as research limitations are concerned, they are at the base of sampling principles - voluntary participation in both stages of the study could have distorted the results in a sense that non-cooperating participants, who most likely were most criminalized convicts, were not included in the study. In this case, the assessed characteristics of convicts could be much closer to the rate of the population at large than they really are among the incarcerated. Another important limitation of this study is the lack of consideration of situational characteristics that predict the offender's misconduct in correctional institutions. Personality characteristics are just one of the possible causes that can lead to misbehavior. However, whether misconduct is going to occur depends also on other changing circumstances, dynamic factors that may lead to problematic behavior (e.g., changes in family circumstances). In future research, it would be useful to add more dynamic factors

that predict institutional misconduct. Also, another underestimated factor, which is not directly related to the personality characteristics of the convict, is the peculiarities of the regime at the correctional institution itself. In different types of correctional facilities, a prisoner's freedom is restricted in different ways (e.g., when comparing regimes of prison and correctional institution), and this also affects the manifestation of various violations. Misconduct at places of imprisonment, including violence, is the result of not only individual or demographic but also the environmental factors surrounding the person. In future research, it is necessary to pay more attention to the analysis of characteristics of the place of imprisonment, such as conditions of the safety regime, population density, qualification of supervising officials, etc. Also, our study did not cover other factors theoretically related to misconduct, such as the length of the prison sentence, the length of time spent in the institution, the remaining length of imprisonment, the prospects of parole, etc. These factors are important because convicts in different periods of imprisonment have different adaptation mechanisms (Arbach-Lucioni et al., 2012). Therefore, in following studies, the analysis of committed offenses must include time criteria. However, it is not possible to include all factors in one study, and this research was focused on the analysis of personal characteristics.

Another limitation of the study is related to the problematic nature of the criteria used for selecting a group of persons who have committed violent crime. In both phases of the study, individuals were assigned to this group on the basis of their last crime. The use of this selection criterion has ensured that at least one person who committed violent crime got into this group. However, such a classification does not ensure the purity of the excluded groups: it may be that convicts who were assigned to the violent crime group do not show predominance of violent behavior since their last crime does not coincide with their typical pattern of criminal behavior. Or it is possible that the last crime committed by an exceptionally violent person was non-violent and he was assigned to a group of non-violent offenders. Such selection of the group, consisting of persons who committed violent crimes, albeit reduced the likelihood of the first type of error (i.e., identifying a person as violent when in general he was non-violent), but increased the likelihood of the second type of error (i.e., identifying a person as non-violent when in general he was violent).

# 8

## RECOMMENDATIONS TO THE SUPERVISORY AUTHORITIES AND PRACTITIONERS

Recent amendments to the Penal Enforcement Code and enacted Probation Act in Lithuania have created more conditions for individualizing the correction process, with particular attention to the criminogenic needs of the sentenced person and the risk of reconviction. Accordingly, in Lithuania's correctional system, the world's most well-known and most advanced instruments of criminal risk assessment, such as OASys, HCR-20, SVR-20, PCL:SV, have been adapted and put into practice. The use of these instruments has enabled specialists to carry out a scientifically based risk assessment, which is essential for the effective planning of the sentenced person's penalty and the management of criminal behavior risk in the future. The precise risk assessment is based on the relevant qualification of the evaluator, the competence to carry out that assessment, and therefore the Lithuanian correctional system focuses on ensuring and improving the qualifications of the evaluators. It should also be noted that attention has been devoted to scientific research of the reliability and validity of risk assessment tools. However, along with positive and regulatory innovations related to the validation of instruments for risk assessment of criminal behavior which allow for more effective results of the convict's social rehabilitation, there are several problems or issues to be discussed, mainly related to the application of the instruments and the use of their results in making decisions on the sentenced person's penalty. First of all, attention is drawn to the fact that in Lithuania, the general criminal risk assessment is more regulated and therefore more frequently applied, and the specific criminal risk assessment is less applicable. Consequently, the specific risk assessment is not emphasized in the social inquiry reports, and therefore the parole commissions and the courts are not able to take into account such assessment. It would seem that the education of judges and members of the probation commissions on the peculiarities of risk assessment could help in making decisions and recommendations to the court. It is obvious that further research into criminal risk assessment tools, as well as cooperation between scientists and practitioners, would encourage more efficient use of these instruments in practice.

The population of convicts by its nature is not homogeneous (e.g., different types of convictions, personal and other characteristics), therefore it is important

to assess individual characteristics of convicts with the help of suitable evaluation instruments prior to the application of sanctions. It is particularly important to establish the risk to the society arising from different types of offenders when forming the supervision of convicts, since putting limits on a person or transferring him to a place of imprisonment often determines his further criminal career path rather than terminates it (Orrick & Morris, 2017). Risk assessment instruments used in Lithuania differentiate offenders sufficiently. For example, in the course of this study, significant differences were detected while comparing the OASys risk scores of inmates who committed institutional misconduct against inmates who did not, and therefore a risk assessment based on the evaluations of this instrument can be a valid basis in deciding on the level of supervision of the sentenced person. A higher risk assessment based on the OASs indicates a need for the higher supervision of a convict. However, it should be noted that it is common practice in Lithuanian correctional institutions to use a shorter version of OASys used for initial assessment, and its use reduces the reliability of the results on criminogenic needs and the risk of reconviction.

It should be emphasized that the list of instruments used by professionals is not static or finite. In Lithuania, various psychological assessment instruments are being adapted and implemented, as well as methods of working with convicts. One of the newly adapted instruments for personal evaluation is the MMPI-2, the most widely studied and most commonly used standardized tool in the world, including the court settings. The fact that the MMPI-2 was adapted and standardized in Lithuania back in 2013 allowed us to begin exploring the possibilities of applying it to the group of offenders. Based on our research results, several findings related to the results obtained with the MMPI-2 can be presented which would be informative for practitioners who evaluate convicts. The results obtained in this study show that individual MMPI-2 scales can explain the significant part of the variance of the risk factor of repeated conviction. In the male sample, the RC4 scale score explains up to 18% ( $r = .42$ ), and in female sample up to 52% ( $r = .72$ ) of the OASys score variance on reconviction. Similarly, the analysis of the MMPI-2 scales for the purpose of risk assessment for violent behavior revealed that different MMPI-2 scales (mainly describing behavioral problems) are significantly related to the risk of violent behavior.

The research data suggests that it is useful to use various psychological assessment tools to assess the convicts. The risk assessment evaluated by specialists is limited due to the time available for evaluation, availability of information resources, qualification level, etc. Meanwhile, self-report questionnaires are useful in assessing the behavioral, emotional and thinking characteristics of a convict,

especially if they have validity scales that measure the participant's attitude towards the evaluation. The MMPI-2 provides information about the convicted person, regardless of the external sources of information that determine the convict's assessment, thus providing an additional refinement to the assessment of the convict. An illustrative example can be provided by the assessment of the problems associated with alcohol consumption. In the absence of evidence that could confirm the existence of such problems (e.g., there was no registered alcohol offense), but with the assumptions about it, the MMPI-2 can provide information enabling a deeper insight into the use of psychoactive substances and then provide for appropriate interventions.

The assessment of convicts is a time consuming process, thus it is important to assign a rational number of assessments to the person who conducts assessments in order to maintain a high quality of the psychological assessment of the convicts. Some of the evaluation tools used in the study are mandatory and used routinely in the Lithuanian correctional system. This is especially true of the OASys, based on which the correctional plan for convicts is prepared or a social inquiry report is formulated. In this case, it is particularly important to ensure the quality and reliability of the evaluations carried out. It is desirable that the data of widely used evaluation tools be stored in a database. Based on the accumulated data, it would be possible to analyze characteristics of the instrument itself and its development over time and the quality of the assessment. It should also be mentioned that the evaluation tools must be continuously reviewed and standards presented in the numeric expressions must be updated, and without analysis of the data collected, it is not possible to do so. Each assessment instrument requires a certain qualifications and preparation of its user. Regardless of the specifics of the work, psychologists must observe all the necessary ethical principles: professional competence, responsibility, and respect for human rights and dignity. It is clear that these high professional standards pose a considerable challenge for professionals, especially those working with specific and/or more vulnerable groups of clients. Clearly, psychologists working with convicts are no exception. It is argued that professionals who carry out a risk assessment but who are not interested in innovations of this area, research findings and trends in a way behave unethically (Mills et al., 2011). The meaning of assessment on convicted persons would be highlighted by the widening of the psycho-corrective measures palette. When selecting corrective programs, it is necessary to take into account the psychological characteristics of each person, as well as the mental health of convicts. Taking into account the fact that such persons belong to a group of higher risk individuals who commit misconduct or violent crime, they should be placed under high supervision and receive ap-

propriate treatment at the place of imprisonment. Our research results show that evaluation instruments already used in Lithuania can differentiate convicts well according to certain characteristics, and at the same time make it possible to select appropriate interventions or corrective programs based on the results obtained. A more accurate assessment and naming of problems faced by convicted prisoners makes it possible to apply more specific interventions that could be more effective when compared to general interventions. This is also confirmed by the results of extensive research carried out abroad.

To conclude, the authors would like to express their hope that this study and its results will benefit the practitioners who are working in the correctional system in their various activities. Again, the authors would like to thank them for the difficult but very meaningful work they do.

## REFERENCES

- Aaltonen, M., Kivivuori, J., & Martikainen, P. (2011). Social determinants of crime in a welfare state: do they still matter? *Acta Sociologica*, *54*(2), 161–181. doi: 10.1177/0001699311402228
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency*, *38*(4), 319–361. doi: 10.1177/0022427801038004001
- Allen, J. J., Anderson, C. A., & Bushman, B. J. (2018). The General Aggression Model. *Current Opinion in Psychology*, *19*, 75–80. doi: 10.1016/j.copsyc.2017.03.034
- Anderson, C. A., Berkowitz, L., Donnerstein, E., Huesmann, L. R., Johnson, J. D., Linz, D., Malamuth, N. M., & Wartella, E. (2003). The influence of media violence on youth. *Psychological Science in the Public Interest*, *4*(3), 81–110. doi: 10.1111/j.1529-1006.2003.pspi\_1433.x
- Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, *53*(1), 27–51. doi: 10.1146/annurev.psych.53.100901.135231
- Anderson, C. A., & Huesmann, L. R. (2003). Human aggression: A social-cognitive view. In M. A. Hogg & J. Cooper (Eds.), *The handbook of social psychology* (pp. 296–323). Thousand Oaks, CA: Sage Publications, Inc.
- Andrews, D. A., & Bonta, J. (1995). *The Level of Service Inventory -Revised*. Toronto, Ontario, Canada: Multi-Health Systems.
- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conduct (5th ed.)*. New Providence, NJ: LexisNexis Matthew Bender.
- Andrews, D. A., Bonta, J., & Wormith, S. (2011). The Risk-Need-Responsivity (RNR) Model: Does adding the Good Lives Model contribute to effective crime prevention? *Criminal Justice and Behavior*, *38*(7), 735–755. doi: 10.1177/0093854811406356
- Andrikienė, L., Laurinaitis, E., & Milašiūnas, R. (2004). *Psichoanalitinė psichoterapija*. Vilnius: Vaistų žinios.
- Apfelbeck, B., & Goymann, W. (2011). Ignoring the challenge? Male black redstarts (*Phoenicurus ochruros*) do not increase testosterone levels during territorial conflicts but they do so in response to gonadotropin-releasing hormone. *Proceedings of the Royal Society B: Biological Sciences*, *278*(1722), 3233–3242. doi: 10.1098/rspb.2011.0098



- Arbach-Lucioni, K., Martinez-Garcia, M., & Andres-Pueyo, A. (2012). Risk factors for violent behavior in prison inmates: A cross-cultural contribution. *Criminal Justice and Behavior*, 39(9), 1219–1239. doi: 10.1177/0093854812445875
- Archer, E., Hagan, L. D., Mason, J., Handel, R., & Archer, R. P. (2012). MMPI-2-RF characteristics of custody evaluation litigants. *Assessment*, 19(1), 14–20. doi: 10.1177/107319110397469
- Archer, R. P., Buffington-Vollum, J. K., Stredny, R. V., & Handel, R. W. (2006). A survey of psychological test use patterns among forensic psychologists. *Journal of Personality Assessment*, 87(1), 84–94. doi: 10.1207/s15327752jpa8701\_07
- Ardolf, B. R., Denney, R. L., & Houston, C. M. (2007). Base rates of negative response bias and malingered neurocognitive dysfunction among criminal defendants referred for neuropsychological evaluation. *Clinical Neuropsychologist*, 21(6), 899–916. doi: 10.1080/13825580600966391
- Baltrušas, M., Bagdonas, A., Kairys, A., Liniauskaitė, A., & Pakalniškienė, V. (2013). Rehabilitacijos procese dalyvaujančių nuo narkotikų priklausomų žmonių asmenybės ir psichologinės gerovės ypatumai. *Sveikatos mokslai*, 23(6), 94–107. doi:10.5200/smhs.2013.139
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (2009). *Socialiniai minties ir veiksmo pagrindai: Socialinė kognityvi teorija* (iš anglų kalbos vertė R. Bliumas). Vilnius: Vilniaus universiteto Specialiosios psichologijos laboratorija.
- Barbaree, H. E., Langton, C. M., Blanchard, R., & Cantor, J. M. (2009). Aging versus stable enduring traits as explanatory constructs in sex offender recidivism: partitioning actuarial prediction into conceptually meaningful components. *International Association for Correctional and Forensic Psychology*, 36(5), 443–465. doi: 10.1177/0093854809332283
- Barbaree, H. E., Langton, C. M., & Peacock, E. J. (2006). Different actuarial risk measures produce different risk rankings for sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, 18(4), 423–440. doi: 10.1177/107906320601800408
- Barbaree, H. E., Seto, M. C., Langton, C. M., & Peacock, E. J. (2001). Evaluating the predictive accuracy of six risk assessment instruments for adult sex offenders. *Criminal Justice and Behavior*, 28(4), 490–521. doi: 10.1177/009385480102800406
- Barnao, M., Ward, T., & Robertson, P. (2016). The Good Lives Model: A new paradigm for forensic mental health. *Psychiatry, Psychology and Law*, 23(2), 288–301. doi: 10.1080/13218719.2015.1054923
- Baron, R. A., & Richardson, D. R. (2004). *Human aggression* (Perspectives in Social Psychology) (2nd ed.). New York: Springer Science & Business Media.
- Bartlett, C. P., & Anderson, C. A. (2012). Direct and indirect relations between the Big 5 personality traits and aggressive and violent behavior. *Personality and Individual Differences*, 52(8), 870–875. doi: 10.1016/j.paid.2012.01.029

- Bartosh, D. L., Garby, T., Lewis, D., & Gray, S. (2003). Differences in the predictive validity of actuarial risk assessments in relation to sex offender type. *International Journal of Offender Therapy and Comparative Criminology*, 47(4), 422–438. doi: 10.1177/0306624X03253850
- Baskin, D., & Sommers, I. (2014). Exposure to community violence and trajectories of violent offending. *Youth Violence and Juvenile Justice*, 12(4), 367–385. doi: 10.1177/1541204013506920
- Basoglu, C., Oner, O., Ates, A., Algul, A., Bez, Y., Cetin, M., Herken, H., Erdal, M. E., & Munir, K. M. (2011). Synaptosomal-associated protein 25 gene polymorphisms and antisocial personality disorder: Association with temperament and psychopathy. *The Canadian Journal of Psychiatry*, 56(6), 341–347. doi: 10.1177/070674371105600605
- Bateman, A., & Fonagy, P. (2006). *Mentalization-based treatment for borderline personality disorder: A practical guide*. Oxford: Oxford University Press.
- Beijersbergen, K. A., Dirkzwager, A. J. E., Eichelsheim, V. I., Van der Laan, P. H., & Nieuwebeerta, P. (2015). Procedural justice, anger, and prisoners' misconduct. *Criminal Justice and Behavior*, 42(2), 196–218. doi: 10.1177/0093854814550710
- Belsky, J., & Pluess, M. (2009). Beyond diathesis stress: Differential susceptibility to environmental influences. *Psychological Bulletin*, 135(6), 885–908. doi: 10.1037/a0017376
- Ben-Porath, Y. S., & Graham, J. R. (1995). Scientific bases of forensic applications of the MMPI-2. In Y. S. Ben-Porath, J. R. Graham, G. C. N. Hall, R. D. Hirshman, & M. S. Zaragoza (Eds.), *Forensic Applications of the MMPI-2* (pp. 1–17). Thousand Oaks: SAGE Publications, Inc. doi: 10.4135/9781452243771
- Ben-Porath, Y. S., Shondrick, D. D., & Stafford, K. P. (1995). MMPI-2 and race in a forensic diagnostic sample. *Criminal Justice and Behavior*, 22(1), 19–32. doi: 10.1177/0093854895022001002
- Ben-Porath, Y. S., & Tellegen, A. (2008). *MMPI-2-RF: Manual for administration, scoring and interpretation*. Minneapolis, MN: University of Minnesota Press.
- Bensimon, M., Einat, T., & Gilboa, A. (2015). The impact of relaxing music on prisoners' levels of anxiety and anger. *International Journal of Offender Therapy and Comparative Criminology*, 59(4), 406–423. doi: 10.1177/0306624X13511587
- Berkowitz, L. (1989). Frustration – aggression hypothesis: Examination and reformulation. *Psychological Bulletin*, 106(1), 59–73. doi: 10.1037/0033-2909.106.1.59
- Bettencourt, B. A., Talley, A., Benjamin, A. J., & Valentine, J. (2006). Personality and aggressive behavior under provoking and neutral conditions: A meta-analytic review. *Psychological Bulletin*, 132(5), 751–777. doi: 10.1037/0033-2909.132.5.751
- Bikelis, S. (2012). Baudžiamosios politikos tendencijos Europoje. G. Sakalauskas (red.), *Baudžiamoji politika Lietuvoje: tendencijos ir lyginamieji aspektai* (p. 44–83). Vilnius: Teisės institutas.

- Bjerk, D. J. (2007). Measuring the relationship between youth criminal participation and household economic resources. *Journal of Quantitative Criminology*, 23, 23–39. doi: 10.1007/s10940-006-9017-8
- Black, M. S., Forbey, J. D., Ben-Porath, Y. S., Graham, J. R., McNulty, J. L., Anderson, S. V., & Burlew, A. K. (2004). Using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) to detect psychological distress and dysfunction in a state correctional setting. *Criminal Justice and Behavior*, 31(6), 734–751. doi: 10.1177/0093854804268756
- Blair, C., & Raver, C. C. (2012). Child Development in the context of adversity: Experiential canalization of brain and behavior. *The American Psychologist*, 67(4), 309–318. doi: 10.1037/a0027493
- Blevins, K. R., Listwan, S. J., Cullen, F. T., & Jonson, C. L. (2010). A general strain theory of prison violence and misconduct: An integrated model of inmate behavior. *Journal of Contemporary Criminal Justice*, 26(2), 148–166. doi: 10.1177/1043986209359369
- Boduszek, D., Debowska, A., & Willmott, D. (2017). Latent profile analysis of psychopathic traits among homicide, general violent, property and white-collar offenders. *Journal of Criminal Justice*, 51, 17–23. doi: 10.1016/j.jcrimjus.2017.06.001
- Boer, D. P., & Hart, S. D. (2009). Sex offender risk assessment: Research, evaluation, “best-practice” recommendations and future directions. In J. L. Ireland, C. A. Ireland, & P. Birch (Eds.), *Violent and sexual offenders: Assessment, treatment, and management* (pp. 27–42). Cullompton, UK: Willan.
- Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). *Manual for the Sexual Violence Risk – 20: Professional guidelines for assessing risk of sexual violence*. Vancouver: The Mental Health, Law, & Policy Institute.
- Bogg, T., & Finn, P. R. (2010). A self-regulatory model of behavioral disinhibition in late adolescence: Integrating personality traits, externalizing psychopathology, and cognitive capacity. *Journal of Personality*, 78(2), 441–470. doi: 10.1111/j.1467-6494.2010.00622.x
- Boscan, D. C., Penn, N. E., Velasquez, R. J., Savino, A. V., Maness, P., Guzman, M., & Reimann, J. (2002). MMPI-2 performance of Mexican male university students and prison inmates. *Journal of Clinical Psychology*, 58(4), 465–470.
- Botelho, M., & Gonçalves, R. A. (2016). Why do people kill? A critical review of the literature on factors associated with homicide. *Aggression and Violent Behavior*, 26, 9–15. doi: 10.1016/j.avb.2015.11.001
- Bouffard, L. A., & Zedaker, S. B. (2016). Are domestic violence offenders specialists? Answers from multiple analytic approaches. *Journal of Research in Crime and Delinquency*, 53(6), 788–813. doi: 10.1177/0022427816656897
- Bow, J. N., Gould, J. W., Flens, J. R., & Greenhut, D. (2006). Testing in child custody evaluations—selection, usage, and Daubert admissibility: A survey of psychologists. *Journal of Forensic Psychology Practice*, 6(2), 17–38. doi: 10.1300/J158v06n02\_02

- Brad, C. A., Coupland, R. B. A., & Olver, M. E. (2014). An examination of mental health, hostility, and typology in homicide offenders. *Homicide Studies, 18*(4), 323–341. doi: 10.1177/1088767914521416
- Broadhurst, R., Maller, R., Maller, M., & Bouhours, B. (2017). The recidivism of homicide offenders in Western Australia. *Australian & New Zealand Journal of Criminology, 1*–17. doi:10.1177/0004865817722393
- Browne, K. D., & Hamilton-Giachritsis, C. (2005). The influence of violent media on children and adolescents: A public-health approach. *The Lancet, 365*(9460), 702–710. doi: 10.1016/S0140-6736(05)17952-5
- Buffington-Vollum, J., Edens, J. F., Johnson, D. W., & Johnson, J. K. (2002). Psychopathy as a predictor of institutional misbehavior among sex offenders: A prospective replication. *Criminal Justice and Behavior, 29*(5), 497–511. doi: 10.1177/009385402236730
- Bullock, K. (2011). The construction and interpretation of risk management technologies in contemporary probation practice. *The British Journal of Criminology, 51*(1), 120–135. Retrieved from <http://www.jstor.org/stable/23640340>
- Bureau of Justice Statistics (2016). *Prisoners in 2015*. Retrieved from [https://www.bjs.gov/content/pub/pdf/p15\\_sum.pdf](https://www.bjs.gov/content/pub/pdf/p15_sum.pdf)
- Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public: Scientific facts versus media misinformation. *American Psychologist, 56*, 477–489.
- Buss, A. H. (1961). *The psychology of aggression*. New York: Wiley.
- Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology, 63*(3), 452–459. doi: 10.1037/0022-3514.63.3.452
- Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., Dahlstrom, W. G., & Kaemmer, B. (2001). *MMPI-2 (Minnesota Multiphasic Personality Inventory-2): Manual for administration, scoring, and interpretation (Rev. ed.)*. Minneapolis: University of Minnesota Press.
- Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, A., Dahlstrom, W. G., & Kaemmer, B. (2013). *MMPI-2TM: Minesotos daugiafazis asmenybės aprašas-2TM: administravimo, skaičiavimo ir interpretavimo vadovas*. Vilnius: Vilniaus universiteto leidykla.
- Campbell, M. A., French, S., & Gendreau, P. (2009). The prediction of violence in adult offenders: A meta-analytic comparison of instruments and methods of assessment. *Criminal Justice and Behavior, 36*(6), 567–590. doi: 10.1177/0093854809333610
- Campbell, M.A., Schmidt, F., & Wershler, J. (2016). Juvenile risk assessment: Best practice in adolescent risk assessment. In R. J. R. Levesque (Ed.). *Encyclopedia of Adolescence* (2nd ed.) (pp. 1–21). Switzerland: Springer International Publishing. doi: 10.1007/978-3-319-32132-5\_127-2
- Čėsniėnė, I. (2007). Nepilnamečių pakartotinio nusikalstamumo rizikos vertinimas. I. Čėsnaitytė ir kt., *Nepilnamečių justicija Lietuvoje: teorija ir praktika (metodinis leidinys)* (p. 170–185). Vilnius: NPLC.

- Čėsniėnė, I. (2010). Violence risk assessment in two forensic samples using the HCR-20 in Lithuania. *European Psychiatry*, 25, Supl. 1, p. 751. doi: 10.1016/S0924-9338(10)70745-8
- Čėsniėnė, I., & Klimukiėnė, V. (2014). Smurtinio elgesio rizikos vertinimas: HCR-20 prognostinis validumas už smurtinius nusikaltimus teistų asmenų imtyje. *Kriminologijos studijos*, 2, 138–154. doi: 10.15388/CrimLithuan.2014.2.5091
- Chambers, J., Ward, T., Eccleston, L., & Brown, M. (2009). The pathways model of assault: A qualitative analysis of the assault offender and offense. *Journal of Interpersonal Violence*, 24(9), 1423–1449. doi: 10.1177/0886260508323668
- Cihan, A., Davidson, M., & Sorensen, J. (2017). Analyzing the heterogeneous nature of inmate behavior: Trajectories of prison misconduct. *The Prison Journal*, 97(4), 431–450. doi:10.1177/0032885517711420
- Claes, L., Tavernier, G., Roose, A., Bijttebier, P., Smith, S. F., & Lilienfeld, S. O. (2014). Dimensions in male prisoners: implications for psychopathy and criminal Offending. *International Journal of Offender Therapy and Comparative Criminology*, 58(1), 41–58. doi:10.1177/0306624X12462013
- Cleckley, H. (1941). *The mask of sanity*. St. Louis: C.V. Mosby.
- Cloninger, C. R., & Svrakic, D. M. (2009). Personality disorders. In B. J. Sadock, V. A. Sadock, & P. Ruiz (Eds.), *Kaplan & Sadock's comprehensive textbook of psychiatry* (9th ed.) (pp. 2197–2241). New York (NY): Lippincott Williams & Wilkins.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159. doi: 10.1037/0033-2909.112.1.155
- Coker, T. R., Elliott, M. N., Schwebel, D. C., Windle, M., Toomey, S. L., Tortolero, S. R., Hertz, M. F., Peskin, M. F., & Schuster, M. A. (2015). Media violence exposure and physical aggression in fifth-grade children. *Academic Pediatrics*, 15(1), 82–88. doi: 10.1016/j.acap.2014.09.008
- Colman, A. M. (2015). *A dictionary of psychology – Oxford reference* (4th ed.). Oxford University Press. doi: 10.1093/acref/9780199657681.001.0001
- Connor, D. P., & Tewksbury, R. (2016). Inmates and prison involvement with drugs: Examining drug-related misconduct during incarceration. *Journal of Contemporary Criminal Justice*, 32(4), 426–445. doi:10.1177/1043986216672770
- Conroy, M. A., & Murrie, D. C. (2007). *Forensic assessment of violence risk: A guide for risk assessment and risk management*. Hoboken (N.J.): John Wiley.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. (2004). Reconstructing psychopathy: clarifying the significance of antisocial and socially deviant behaviour in the diagnosis of psychopathic personality disorder. *Journal of Personality Disorders*, 18(4), 337–357. doi:10.1521/pedi.18.4.337.40347
- Cope, L. M., Ermer, E., Gaudet, L. M., Steele, V. R., Eckhardt, A. L., Arbabshirani, M. R., Caldwell, M. F., Calhoun, V. D., & Kiehl, K. A. (2014). Abnormal brain structure

- in youth who commit homicide. *NeuroImage: Clinical*, 4, 800–807. doi: 10.1016/j.nicl.2014.05.002
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology*, 64(4), 783–790. doi: 10.1037/0022-006X.64.4.783
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115(1), 74–101. doi: 10.1037/0033-2909.115.1.74
- Culhane, S. E., Hildebrand, M. M., Walker, S., & Gray, M. J. (2014). MMPI-2 characteristics of male serial murderers. *Applied Psychology in Criminal Justice*, 10(1), 21–45.
- Cunningham, M. D., & Sorensen, J. R. (2007). Predictive factors for violent misconduct in close custody. *The Prison Journal*, 87(2), 241–253. doi:10.1177/0032885507303752
- Cuomo, C., Sarchiapone, M., Giannantonio, M., Mancini, M., & Roy, A. (2008). Aggression, impulsivity, personality traits, and childhood trauma of prisoners with substance abuse and addiction. *The American Journal of Drug and Alcohol Abuse*, 34, 339–345. doi:10.1080/00952990802010884
- Dâmboeanu, C., & Nieuwebeerta, P. (2016). Importation and deprivation correlates of misconduct among Romanian inmates. *European Journal of Criminology*, 13(3), 332–351. doi:10.1177/1477370815617191
- DeLisi, M., Caudill, J. W., Trulson, C. R., Marquart, J. W., Vaughn, M. G., & Beaver, K. M. (2010). Angry inmates are violent inmates: a poisson regression approach to youthful offenders. *Journal of Forensic Psychology Practice*, 10(5), 419–439. doi:10.1080/15228932.2010.489861
- DeMatteo, D., Batastini, A., Foster, E., & Hunt, E. (2010). Individualizing risk assessment: Balancing idiographic and nomothetic data. *Journal of Forensic Psychology Practice*, 10(4), 360–371. doi: 10.1080/15228932.2010.481244
- Dennen, J. M. G. V. D. (2005). Theories of aggression: Aggression as learned behaviour. *Default Journal*. Retrieved from <http://www.rug.nl/research/portal/files/2941167/A-LEARN.pdf>
- Denson, T. F., DeWall, C. N., & Finkel, E. J. (2012). Self-control and aggression. *Current Directions in Psychological Science*, 21(1), 20–25. doi: 10.1177/0963721411429451
- de Vogel, V., de Ruiter, C., van Beek, D., & Mead, G. (2004). Predictive validity of the SVR-20 and Static-99 in a Dutch sample of treated sex offenders. *Law and Human Behavior*, 28(3), 235–251. doi: 10.1023/B:LAHU.0000029137.41974.eb
- Diamond, P. M., & Magaletta, P. R. (2006). The short-form Buss-Perry Aggression questionnaire (BPAQ-SF) a validation study with federal offenders. *Assessment*, 13(3), 227–240. doi:10.1177/1073191106287666

- Dill, K. E., Anderson, C. A., Anderson, K. B., & Deuser, W. E. (1997). Effects of aggressive personality on social expectations and social perceptions. *Journal of Research in Personality*, 31, 272–292. doi:10.1006/jrpe.1997.2183
- Dodge, K. A. (1990). Social information processing bases of aggressive behavior in children. *Personality and Social Psychology Bulletin*, 16(1), 8–22. doi: 10.1177/0146167290161002
- Douglas, K. S., Hart, S. D., Groscup, J. L., & Litwack, T. R. (2014a). Assessing violence risk. In I. Weiner & R. K. Otto (Eds.), *The handbook of forensic psychology* (4th edition) (pp. 385–442). Hoboken, NJ, USA: John Wiley & Sons, Inc.
- Douglas, K. S., Hart, S. D., Webster, C. D., Belfrage, H., Guy, L. S., & Wilson, C. M. (2014b). Historical-Clinical-Risk Management-20, Version 3 (HCR-20<sup>V3</sup>): Development and overview. *The International Journal of Forensic Mental Health*, 13(2), 93–108. doi: 10.1080/14999013.2014.906519
- Douglas, K. S., Strand, S., Belfrage, H., Fransson, G., & Levander, S. (2005). Reliability and validity evaluation of the Psychopathy Checklist: Screening Version (PCL:SV) in Swedish correctional and forensic psychiatric samples. *Assessment*, 12(2), 145–161. doi: 10.1177/1073191105275455
- Draine, J., Salzer, M. S., Culhane, D. P., & Hadley, T. R. (2002). Role of social disadvantage in crime, joblessness, and homelessness among persons with serious mental illness. *Psychiatric Services*, 53(5), 565–573. doi: 10.1176/appi.ps.53.5.565
- Drury, A. J., & DeLisi, M. (2010). The past is prologue: prior adjustment to prison and institutional misconduct. *The Prison Journal*, 90(3), 331–352. doi:10.1177/0032885510375676
- Duckworth, R. A., & Sockman, K. W. (2012). Proximate mechanisms of behavioural inflexibility: Implications for the evolution of personality traits. *Functional Ecology*, 26(3), 559–566. doi:10.1111/j.1365-2435.2012.01966.x
- Duntley, J. (2012). *Encyclopedia of Human Behavior (Second Edition)* (pp. 334–341). San Diego, USA: Elsevier.
- Edens, J. F., Kelley, S. E., Lilienfeld, S. O., Skeem, J. L., & Douglas, K. S. (2015). DSM-5 antisocial personality disorder: Predictive validity in a prison sample. *Law and Human Behavior*, 39(2), 123–129. doi:10.1037/lhb0000105
- Elbogen, E. B., & Johnson, S. C. (2009). The intricate link between violence and mental disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry*, 66(2), 152–161. doi: 10.1001/archgenpsychiatry.2008.537
- Ellis, B. J., Boyce, W. T., Belsky, J., Bakermans-Kranenburg, M. J., & van Ijzendoorn, M. H. (2011). Differential susceptibility to the environment: An evolutionary-neurodevelopmental theory. *Development and Psychopathology*, 23(1), 7–28. doi: 10.1017/s0954579410000611
- Englander, E. K. (2003). *Understanding violence* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

- Epperson, D. L., Kaul, J. D., Huot, S., Goldman, R., & Alexander, W. (2003). *Minnesota Sex Offender Screening Tool-Revised (MnSOST-R) technical paper: Development, validation, and recommended risk level cut scores*. St. Paul: Minnesota Department of Corrections.
- Erickson, S. J., Feldman, S. S., & Steiner, H. (1996). Defense mechanisms and adjustment in normal adolescents. *American Journal of Psychiatry*, *153*(6), 826–828. doi: 10.1176/ajp.153.6.826
- Ermer, E., Cope, L. M., Nyalakanti, P. K., Calhoun, V. D., & Kiehl, K. A. (2012). Aberrant paralimbic gray matter in criminal psychopathy. *Journal of Abnormal Psychology*, *121*(3), 649–658. doi: 10.1037/a0026371
- Eurostat (2017). *Crime and criminal justice statistics*. Retrieved from [http://ec.europa.eu/eurostat/statistics-explained/index.php/Crime\\_and\\_criminal\\_justice\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Crime_and_criminal_justice_statistics)
- Eysenck, H. J. (1984). The comparative approach in personality study. *Behavioral and Brain Sciences*, *7*, 440–441.
- Eysenck, H. J. (1998). Personality and crime. In T. Millon, E. Simonsen, M. Birket-Smith, & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 40–49). New York: The Guilford Press.
- Fagan, J., & Wexler, S. (1987). Family origins of violent delinquents. *Criminology*, *25*(3), 643–670. doi: 10.1111/j.1745-9125.1987.tb00814.x
- Fairchild, G., van Goozen S. H. M., Strollery, S. J., Goodyer, I. M. (2008). Fear conditioning and affective modulation of the startle reflex in male adolescents with early-onset or adolescence-onset conduct disorder and healthy control subjects. *Biological Psychiatry*, *63*(3), 279–285. doi: 10.1016/j.biopsych.2007.06.019
- Fairchild, G., Passamonti, L., Hurford, G., Hagan, C. C., von dem Hagen, E. A. H., van Goozen, S. H. M., Goodyer, I. M., & Calder, A. J. (2011). Brain structure abnormalities in early-onset and adolescent-onset conduct disorder. *American Journal of Psychiatry*, *168*(6), 624–633. doi: 10.1176/appi.ajp.2010.10081184
- Falk, Ö., Sfindla, A., Brändström, S., Anckarsäter, H., Nilsson, T., & Kerekes, N. (2017). Personality and trait aggression profiles of male and female prison inmates. *Psychiatry Research*, *250*, 302–309. doi: 10.1016/j.psychres.2016.12.018
- Farrington, D. P., Coid J. W., & Murray, J. (2009). Family factors in the intergenerational transmission of offending. *Criminal Behaviour and Mental Health*, *19*(2), 109–124. doi:10.1002/cbm.717
- Fazel, S., Bains, P., & Doll, H. (2006). Substance abuse and dependence in prisoners: A systematic review. *Addiction*, *101*(2), 181–191. doi: 10.1111/j.1360-0443.2006.01316.x
- Fazel, S., Singh, J. P., Doll, H., & Grann, M. (2012). Use of risk assessment instruments to predict violence and antisocial behaviour in 73 samples involving 24 827 people: Systematic review and meta-analysis. *The BMJ*, *345*, e4692. doi: 10.1136/bmj.e4692



- Finkel, E. J., & Hall, A. N. (2018). The I<sup>3</sup> Model: A metatheoretical framework for understanding aggression. *Current Opinion in Psychology*, 19, 125–130. doi: 10.1016/j.copsyc.2017.03.013
- Flores-Mendoza, C. E. F., Alvarenga, M. A. S., Herrero, Ó., & Abad, F. J. (2005). Factor structure and behavioural correlates of the Psychopathy Checklist-Revised [PCL-R] in Brazilian prisoner sample. *Personality and Individual Differences*, 45, 584–590. doi:10.1016/j.paid.2008.06.016
- Fonagy, P. (1999). Attachment, the development of the self, and its pathology in personality disorders. In J. Derksen, C. Maffei & H. Groen (Eds.), *Treatment of personality disorders* (p. 53–68). New York: Kluwer Academic/Plenum.
- Fonagy, P. (2004). Early life trauma and the psychogenesis and prevention of violence. *Annals of the New York Academy of Sciences*, 1036, 181–200. doi: 10.1196/annals.1330.012
- Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization, and the development of self*. New York: Other Press.
- Forbey, J. D., & Ben-Porath, Y. S. (2002). Use of the MMPI-2 in the Treatment of Offenders. *International Journal of Offender Therapy and Comparative Criminology*, 46(3), 308–318. doi: 10.1177/0306624X02463005
- French, S. A., & Gendreau, P. (2006). Reducing prison misconducts: what works! *Criminal Justice and Behavior*, 33(2), 185–218. doi:10.1177/0093854805284406
- Gao, Y., Raine, A., Venables, P. H., Dawson, M. E., & Mednick, S. A. (2010). Association of poor childhood fear conditioning and adult crime. *American Journal of Psychiatry*, 167(1), 56–60. doi: 10.1176/appi.ajp.2009.09040499
- Gao, Y., Tuvblad, C., Schell, A., Baker, L., & Raine, A. (2015). Skin conductance fear conditioning impairments and aggression: A longitudinal study. *Psychophysiology*, 52(2), 288–295. doi: 10.1111/psyp.12322
- Garcia-Mansilla, A., Rosenfeld, B., & Nicholls, T. L. (2009). Risk assessment: Are current methods applicable to women? *International Journal of Forensic Mental Health*, 8(1), 50–61. doi: 10.1080/14999010903014747
- Giancola, P. R. (2002). Alcohol-related aggression in men and women: The influence of dispositional aggressivity. *Journal of Studies on Alcohol*, 63(6), 696–708. doi: 10.15288/jsa.2002.63.696
- Gilbert, F., Daffern, M., & Anderson, C. A. (2017). The General Aggression Model and its application to violent offender assessment and treatment. *The Wiley Handbook of Violence and Aggression* 1(37), 1–13. doi: 10.1002/9781119057574.whbva037
- Gilligan, J. (2002). *Smurto prevencija (iš anglų kalbos vertė Michail Cvelich)*. Vilnius: Eugrimas.
- Gobeil, R., Blanchette, K., & Barrett, M. R. (2009). The impact of security placement on female offenders' institutional behavior. *Crime & Delinquency*, 59(8), 1211–1233. doi:10.1177/001128708330102

- Gončarko, A. (2008). Draisminis procesas Lietuvos, Prancūzijos, Kanados pataisos įstaigose. *Jurispudencija: mokslo darbai*, 2(104), 101–108.
- Gontovsky, S. T. (2005). Neurobiological bases and neuropsychological correlates of aggression and violence. In J. P. Morgan (Ed.), *Psychology of aggression* (pp. 101–116). Hauppauge, NY: Nova Science Publishers.
- Goodstein, L., & Wright, K. N. (1989). Inmate adjustment to prison. In L. Goodstein & D. L. MacKenzie (Eds.), *The American prison: Issues in research and policy* (pp. 229–251). New York, NY: Plenum.
- Gover, A. R., Perez, D. M., & Jennings, W. G. (2008). Gender differences in factors contributing to institutional misconduct. *The Prison Journal*, 88(3), 378–403. doi:10.1177/0032885508322453
- Goussinsky, R., Michael, K., & Yassour-Borochowitz, D. (2017). Article relationship dynamics and intimate partner violence among Israeli college students: the moderating effect of communication problems. *Journal of Interpersonal Violence*, 1–22. doi: 10.1177/0886260517724833.
- Graham, J. R. (2012). *MMPI-2: Assessing personality and psychopathology* (5th ed.). New York: Oxford University Press.
- Graham, J. R., Ben-Porath, Y. S., & Stafford, K. P. (1995). Forensic Applications of the MMPI-2: Current Status and Future Directions. In Y. S. Ben-Porath, J. R. Graham, G. C. N. Hall, R. D. Hirshman, & M. S. Zaragoza (Eds.), *Forensic applications of the MMPI-2* (pp. 253–271). Thousand Oaks: SAGE Publications, Inc. doi: 10.4135/9781452243771
- Grant, B. F., Chou, S. P., Goldstein, R. B., Huang, B., Stinson, F. S., Saha, T. D., Smith, S. M., Dawson, D. A., Pulay, A. J., Pickering, R. P., & Ruan, W. J. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 69(4), 533–545.
- Grant, B. F., Stinson, F. S., Dawson, D. A., Chou, F. S., Ruan, W. J., & Pickering, R. P. (2004). Co-occurrence of 12-month alcohol and drug use disorders and personality disorders in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Archives of General Psychiatry*, 61(4), 361–368. doi: 10.1001/archpsyc.61.4.361
- Grant, K. E., Compas, B. E., Stuhlmacher, A. F., Thurm, A. E., McMahon, S. D., & Halpert, J. A. (2003). Stressors and child and adolescent psychopathology: Moving from markers to mechanisms of risk. *Psychological Bulletin*, 129(3), 447–466. doi: 10.1037/0033-2909.129.3.447
- Griffin, M. L., & Hepburn, J. R. (2013). Inmate misconduct and the institutional capacity for control. *Criminal Justice and Behavior*, 3, 270–288. doi:10.1177/0093854812457920
- Griffin, M. L., & Hepburn, J. R. (2006). The effect of gang affiliation on violent misconduct among inmates during the early years of confinement. *Criminal Justice and Behavior*, 33(4), 419–466. doi:10.1177/0093854806288038

- Grover, B. L. (2011). The utility of MMPI-2 scores with a correctional population & convicted sex offenders. *Psychology*, 2(6), 638–642. doi:10.4236/psych.2011.26098
- Gudjonsson, G., Sigurdsson, J. F., Skaptadottir, S. L., & Helgadóttir, Þ. (2011). The relationship of violent attitudes with self-reported offending and antisocial personality traits. *The Journal of Forensic Psychiatry & Psychology*, 22(3), 371–380. doi:10.1080/14789949.2011.562913
- Guy, L. S., & Douglas, K. S. (2015). Major mental disorders and violence. In C. A. Pietz & C. A. Mattson (Eds.), *Violent offenders: Understanding and assessment* (pp. 77–98). New York: Oxford University Press.
- Hall, H. V. (2007). Violence prediction and risk analysis. In H. V. Hall (Ed.), *Forensic psychology and neuropsychology for criminal and civil cases* (pp. 207–235). Boca Raton, FL: CRC Press.
- Hanson, R. K. (2000). *Risk assessment (ATSA informational packages No1)*. Beaverton, OR: Association for the Treatment of Sexual Abusers.
- Hanson, R. K. (1997). *The development of a brief actuarial risk scale for sexual offense recidivism 1997-04*. Ottawa, Ontario: Solicitor General of Canada. Retrieved from <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/dvlpmnt-brf-ctrl/index-en.aspx>
- Hanson, R. K. (2009). The psychological assessment of risk for crime and violence. *Canadian Psychology*, 50(3), 172–182. doi: 10.1037/a0015726
- Hanson, R. K., & Morton-Bourgon, K. E. (2009). The accuracy of recidivism risk assessments for sexual offenders: A meta-analysis of 118 prediction studies. *Psychological Assessment*, 21(1), 1–21. doi: 10.1037/a0014421
- Hanson, R. K., & Thornton, D. (2000). Improving risk assessments for sex offenders: A comparison of three actuarial scales. *Law and Human Behavior*, 24(1), 119–136. doi: 10.1023/A:1005482921333
- Harding, C. (2006). Making sense of aggression, destructiveness and violence. In C. Harding (Ed.), *Aggression and destructiveness: Psychoanalytic perspectives* ( p. 3–22). London, UK: Routledge.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist – Revised (2nd ed.)*. Toronto: Multi-Health Systems.
- Harkness, A. R., McNulty, J. L., Finn, J. A., Reynolds, S. M., Shields, S. M., & Arbisi, P. (2013). The MMPI–2–RF Personality Psychopathology Five (PSY–5–RF) Scales: Development and validity research. *Journal of Personality Assessment*, 96(2), 140–150. doi: 10.1080/00223891.2013.823439
- Harris, A. J. R., & Hanson, R. K. (2010). Clinical, actuarial and dynamic risk assessment of sexual offenders: Why do things keep changing? *Journal of Sexual Aggression*, 16(3), 296–310. doi: 10.1080/13552600.2010.494772
- Harris, A. J. R., Phenix, A., Hanson, R. K., & Thornton, D. (2003). *Static-99 coding rules: Revised 2003*. Ottawa, ON: Solicitor General Canada.

- Harris, G. T., Rice, M. E., & Camilleri, J. A. (2004). Applying a forensic actuarial assessment (the Violence Risk Appraisal Guide) to nonforensic patients. *Journal of Interpersonal Violence, 19*(9), 1063–1074. doi: 10.1177/0886260504268004
- Hart, S. D., Cox, D. N., & Hare, R. D. (1995). *Manual for the Psychopathy Checklist: Screening Version*. Toronto: Multi Health Systems, Inc.
- Hart, S. D., Cox, D. N., & Hare, R. D. (2009). Hare PCL: SV. *Psichopatijos klausimynas: atrankos versija* (moksl. red. A. Laurinavičius ir I. Čėsniėnė). Klaipėda: S. Jokužio leidykla-spaustuvė.
- Hastings, M. E., Krishnan, S., Tangney, J. P., & Stuewig, J. (2011). Predictive and incremental validity of the Violence Risk Appraisal Guide scores with male and female jail inmates. *Psychological Assessment, 23*(1), 174–183. doi: 10.1037/a0021290
- Hecht, L. K., Berg, J. M., Lilienfeld, S. O., & Latzman, R. D. (2016). Parsing the heterogeneity of psychopathy and aggression: Differential associations across dimensions and gender. *Personality Disorders: Theory, Research, and Treatment, 7*(1), 2–14. doi: 10.1037/per0000128
- Heilbrun, K. (2009). *Evaluation for risk of violence in adults*. New York: Oxford University Press.
- Heilbrun, K., Grisso, T., & Goldstein, A. (2009). *The foundations of forensic mental health assessment*. New York: Oxford University Press.
- Heilbrun, K., & Heilbrun, A. B. (1995). Risk Assessment With the MMPI-2 in Forensic Evaluations. In Y. S. Ben-Porath, J. R. Graham, G. C. N. Hall, R. D. Hirshman, & M. S. Zaragoza (Eds.), *Forensic Applications of the MMPI-2* (Vols. 1–2, pp. 160–178). Thousand Oaks: SAGE Publications, Inc. doi: 10.4135/9781452243771
- Helmus, L., Hanson, R. K., Thornton, D., Babchishin, K. M., & Harris, A. J. R. (2012). Absolute recidivism rates predicted by Static-99R and Static-2002R sex offender risk assessment tools vary across samples: A meta-analysis. *Criminal Justice and Behavior, 39*(9), 1148–1171. doi: 10.1177/0093854812443648
- Hemphill, J. F., Hare, R. D., & Wong S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology, 3*(1), 139–170. doi: 10.1111/j.2044-8333.1998.tb00355.x
- Hertzman, C., & Boyce, T. (2010). How experience gets under the skin to create gradients in developmental health. *Annual Review of Public Health, 31*, 329–347. doi: 10.1146/annurev.publhealth.012809.103538
- Hilton, N. Z., Harris, G. T., Popham, & Lang, C. (2010). Risk assessment among incarcerated male domestic violence offenders. *Criminal Justice and Behavior, 37*(8), 815–832. doi: 10.1177/0093854810368937
- Home Office (2002). *Offender Assessment System: OASys Manual V2*. London, UK: Home Office.
- Howard, P. (2009). *Improving the prediction of re-offending using the offender assessment system*. Ministry of Justice research summary 02/09. London: Ministry of Justice.

- Howard, P., Clark, D., & Garnham, N. (2006). An evaluation of the Offender Assessment System (OASys) in three pilots 1999–2001. London: National Offender Management Service.
- Howard, P. D., & Dixon, L. (2013). Identifying change in the likelihood of violent recidivism: Causal dynamic risk factors in the OASys violence predictor. *Law and Human Behavior, 37*(3), 163–174. doi: 10.1037/lhb0000012
- Howard, P. D., & Dixon, L. (2012). The construction and validation of the OASys violence predictor: Advancing violence risk assessment in the English and Welsh correctional services. *Criminal Justice and Behavior, 39*(3), 287–307. doi: 10.1177/0093854811431239
- Huesmann, L. R. (1998). The role of social information processing and cognitive schema in the acquisition and maintenance of habitual aggressive behavior. In R. G. Geen & E. Donnerstein (Eds.), *Human aggression: Theories, research, and implications for social policy* (pp. 73–109). doi: 10.1016/B978-012278805-5/50005-5
- Huesmann, L. R., Moise-Titus, J., Podolski, C. L., & Eron, L. D. (2003). Longitudinal relations between children's exposure to TV violence and their aggressive and violent behavior in young adulthood: 1977-1992. *Developmental Psychology, 39*(2), 201–221. doi: 10.1037/0012-1649.39.2.201
- Huesmann, L. R., & Taylor, L. D. (2006). The role of media violence in violent behavior. *Annual Review of Public Health, 27*(1), 393–415. doi: 10.1146/annurev.publhealth.26.021304.144640
- Hurducas, C. C., Singh, J. P., de Ruiter, C., & Petrila, J. (2014). Violence risk assessment tools: A systematic review of surveys. *International Journal of Forensic Mental Health, 13*(3), 181–192. doi: 10.1080/14999013.2014.942923
- Hyatt-Williams, A. (1998). *Cruelty, violence and murder: Understanding the criminal mind*. London, UK: Karnac Books.
- Jaffee, S. R., Strait, L. B., & Odgers, C. L. (2012). From correlates to causes: Can quasi-experimental studies and statistical innovations bring us closer to identifying the causes of antisocial behavior? *Psychological Bulletin, 138*(2), 272–295. doi: 10.1037/a0026020
- James, D. J., & Glaze, L. E. (2006). *Bureau of Justice Statistics special report: Mental health problems of prison and jail inmates* [NCJ 213600]. Washington, DC: US Department of Justice. Retrieved from <https://www.bjs.gov/index.cfm?iid=789&ty=pbdetail>
- Johnson, R., Gilchrist, E., Beech, A. R., Weston, S., Takriti, R., & Freeman, R. (2006). A psychometric typology of U.K. domestic violence offenders. *Journal of Interpersonal Violence, 21*(10), 1270–1285. doi:10.1177/0886260506291655
- Jones, D. N., & Figueredo, A. J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality, 27*(6), 521–531. doi: 10.1002/per.1893
- Jones, S., & Lynam, D. R. (2009). In the eye of the impulsive beholder: The interaction between impulsivity and perceived informal social control on offending. *Criminal Justice and Behavior, 36*(3), 307–321. doi:10.1177/0093854808328653

- Jones, S. E., Miller, J. D., & Lynam, D. R. (2011). Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice*, 39(4), 329–337.
- Jung, S., Ledi, D., & Daniels, M. K. (2013). Evaluating the concurrent validity of the HCR-20 scales. *Journal of Risk Research*, 2013, 16(6), 697–711. doi: 10.1080/13669877.2012.726247
- Junginger, J., Claypoole, K., Laygo, R., & Crisanti, A. (2006). Effects of serious mental illness and substance abuse on criminal offenses. *Psychiatric Services*, 57(6), 879–882. doi: 10.1176/ps.2006.57.6.879
- Kassinove, H., & Tafrate, R. (2006). Anger related disorders: Basic issues, models, and diagnostic considerations. In E. Feindler (Ed.), *Comparative treatments of anger disorders* (pp. 1–27). New York, NY: Springer.
- Kigerl, A., & Hamilton, Z. (2016). The impact of transfers between prisons on inmate misconduct: testing importation, deprivation, and transfer theory models. *The Prison Journal*, 96(2), 232–257. doi: 10.1177/0032885515618466
- King, B. (2012). Psychological theories of violence. *Journal of Human Behavior in the Social Environment*, 22(5), 553–571. doi: 10.1080/10911359.2011.598742
- Komarovskaya, I., Booker Loper A., & Warren, J. (2007). The role of impulsivity in antisocial and violent behavior and personality disorders among incarcerated women. *Criminal Justice and Behavior*, 34(11), 1499–1515. doi: 10.1177/0093854807306354
- Konecni, V. J. (1975). Annoyance, type and duration of postannoyance activity, and aggression: The “cathartic effect”. *Journal of Experimental Psychology: General*, 104(1), 76–102. doi: 10.1037/0096-3445.104.1.76
- Kreis, M. K. F., Schwannauer, M., & Gillings, K. (2014). Relational risk factors for reoffending in women: A systematic review. *The International Journal of Forensic Mental Health*, 13(4), 381–393. doi: 10.1080/14999013.2014.962713
- Kroner, D. G., & Mills, J. F. (2001). The accuracy of five risk appraisal instruments in predicting institutional misconduct and new convictions. *Criminal Justice and Behavior*, 28(4), 471–489. doi:10.1177/009385480102800405
- Kroner, C., Stadtland, C., Eidt, M., & Nedopil, N. (2007). The validity of the Violence Risk Appraisal Guide (VRAG) in predicting criminal recidivism. *Criminal Behaviour and Mental Health*, 17(2), 89–100. doi:10.1002/cbm.644 10.1002/cbm.644
- Kropp, P. R., & Gibas A. (2010). The Spousal Assault Risk Assessment Guide (SARA). In R. K. Otto & K. D. Douglas (Eds.), *Handbook of violence risk assessment* (pp. 227–250). New York: Taylor & Francis Group.
- Kropp, P. R., Hart, S. D., & Belfrage, H. (2005). *Brief spousal assault form for the evaluation of risk (B-SAFER): User manual*. Toronto: ProActive ReSolutions Inc., 2005.
- Kropp, P. R., Hart, S. D., Webster, C. D., & Eaves, D. (1999). *Manual for the Spousal Assault Risk Assessment (SARA) Guide* (3rd ed.). Toronto, Canada: Multi-Health Systems.
- Krueger, R. F., Hicks, B., Patrick, C. J., Carlson, S., Iacono, W. G., & McGue, M. (2002). Etiologic connections among substance dependence, antisocial behavior, and person-

- ality: Modeling the externalizing spectrum. *Journal of Abnormal Psychology*, 111(3), 411–424. doi:10.1037/0021-843X.111.3.411
- Krueger, R. F., Markon, K. E., Patrick, C. J., Benning, S. D., & Kramer, M. D. (2007). Linking antisocial behavior, substance use, and personality: An integrative quantitative model of the adult externalizing spectrum. *Journal of Abnormal Psychology*, 116(4), 645–666. doi: 10.1037/0021-843X.116.4.645
- Lancaster, E., & Lumb, J. (2006). The assessment of risk in the national probation service of England and Wales. *Journal of Social Work*, 6(3), 275–291. doi: 10.1177/1468017306071176
- Lang, R. A., Holden, R., Langevin, R., Pugh, G. M., & Wu, R. (1987). Personality and criminality in violent offenders. *Journal of Interpersonal Violence*, 2(2), 179–195. Retrieved from <http://journals.sagepub.com/doi/pdf>
- Langton, C. M., Barbaree, H. E., Seto, M. C., Peacock, E. J., Harkins, L., & Hansen, K. T. (2007). Actuarial assessment of risk for reoffense among adult sex offenders: Evaluating the predictive accuracy of the Static-2002 and five other instruments. *Criminal Justice and Behavior* 34(1), 37–59. doi: 10.1177/0093854806291157
- Latalova, K., Kamaradova, D., & Prasko, J. (2014). Violent victimization of adult patients with severe mental illness: a systematic review. *Neuropsychiatric Disease and Treatment*, 10, 1925–1939. doi: 10.2147/NDT.S68321
- Laurinavičius, A., & Žukauskienė, R. (2009). Pakartotinio smurto prieš sutuoktinę / partnerę rizikos įvertinimo galimybės taikant B-SAFER metodiką. *Socialinis darbas*, 8, 103–111.
- Laurinavičius, A., Žukauskienė, R., & Čėsniienė, I. (2011). Psichopatijos klausimyno atrankos versijos (PCL:SV) psichometriniai rodikliai Lietuvos nuteistųjų imtyje. *Socialinis darbas*, 10, 138–146.
- Leigey, M. E., & Hodge, J. P. (2013). And then they behaved: examining the institutional misconduct of adult inmates who were incarcerated as juveniles. *The Prison Journal*, 93(3), 272–290. doi:10.1177/0032885513490270
- Lewis, C. F. (2010). Childhood antecedents of adult violent offending in a group of female felons. *Behavioral Sciences and the Law*, 28, 224–234. doi:10.1002/bsl.929
- Lietuvių kalbos žodynas (2017). Retrieved from <http://www.lkz.lt/>
- Litwak, T. R., Kirschner, S. M., & Wack, R. C. (1993). The assessment of dangerousness and predictions of violence: Recent research and future prospects. *Psychiatric Quarterly*, 64(3), 245–273.
- Litwack, T. R., & Schlesinger, L. B. (1987). Assessing and predicting violence: Research, law, and applications. In I. B. Weiner & A. K. Hess (Eds.), *Handbook of forensic psychology* (pp. 205–257). New York, NY: Wiley.
- Liu, Y. Y., Yang, M., Ramsay, M., Li, X. S., & Coid, J. (2011). A comparison of logistic regression, classification and regression tree, and neural networks models in predicting violent re-offending. *Journal of Quantitative Criminology*, 27(4), 547–573.

- Looman, J., & Abracen, J. (2013). The risk need responsivity model of offender rehabilitation: Is there really a need for a paradigm shift? *International Journal of Behavioral Consultation and Therapy*, 8(3–4), 30–36. doi: 10.1037/h0100980
- Lorber, M. F. (2004). Psychophysiology of aggression, psychopathy, and conduct problems. A meta-analysis. *Psychological Bulletin*, 130(4), 531–552. doi: 10.1037/0033-2909.130.4.531
- Louw, D. A., Strydom, C. C., & Esterhuysen, K. G. F. (2005). Prediction of violent behavior: professionals' appraisal. *Criminal Justice*, 5(4), 379–406. doi: 10.1177/1466802505057717
- Mackevičius, T., & Rakštelis, M. (2010). Laisvės apribojimo baudmės realizacija. *Jurisprudencija*, 4, 261–277.
- Mackonienė, R., & Žukauskienė, R. (2010). Asmenų, padariusių turtinius ir smurtinius nusikaltimus, asmenybės bruožų palyginimas. *Socialinis darbas*, 9(1), 141–149.
- Malevski, H., ir Valentukonis, G. (2014). Pataisos įstaigų veiklos reformavimas valstybės baudžiamosios politikos kontekste. *Ekonomika ir vadyba: aktualijos ir perspektyvos*, 1, 116–124.
- Mandeville-Norden, R., & Beech, A. R. (2006). Risk assessment of sex offenders: The current position in the UK. *Child Abuse Review*, 15(4), 257–272. doi: 10.1002/car.944
- Mann, R., & Beech, A. R. (2003). Cognitive distortions, schemas and implicit theories. In T. Ward, D. R. Laws, & S. M. Hudson (Eds.), *Sexual deviance: Issues and controversies* (pp. 135–153). London, UK: Sage.
- Mathers, C., Fat, D. M. & Boerma, J. T. (2008). The global burden of disease: 2004 update. World Health Organization, Geneva. Retrieved from [http://www.who.int/healthinfo/global\\_burden\\_disease/GBD\\_report\\_2004update\\_full.pdf](http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf)
- Mattson, C. A., & Pietz, C. A. (2015). Substance abuse and violence. In C. A. Pietz & C. A. Mattson (Eds.), *Violent offenders: Understanding and assessment* (pp. 50–76). New York: Oxford University Press.
- Mattson, C., Powers, B., Halfaker, D., Akesson, S., & Ben-Porath, Y. (2013). Predicting drug court treatment completion using the MMPI-2-RF. *Psychological Assessment*, 24(4), 937–943. doi: 10.1037/a0028267
- McAnulty, R. D., McAnulty, D. P., Sipp, J. E., Demakis, G. J., & Heggestad, E. D. (2014). Predictive Validity of the MMPI-2 Among Female Offenders in a Residential Treatment Program. *Journal of Personality Assessment*, 96(6), 604–609. doi: 10.1080/00223891.2014.880061
- McCrae, R. R., & Costa, P. T. Jr. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509–516. doi: 10.1037/0003-066X.52.5.509
- McEvoy, J., While, G. M., Jones, S. M., & Wapstra, E. (2015). Examining the role of testosterone in mediating short-term aggressive responses to social stimuli in a lizard. *PLOS ONE*, 10(4), e0125015. doi: 10.1371/journal.pone.0125015
- McGuire, J. (2004). *Understanding psychology and crime: Perspectives on theory and action*. Maidenhead, Berkshire, England: Open University Press.



- McLoyd, V. C. (2011). How money matters for children's socioemotional adjustment: Family processes and parental investment. In G. Carlo, L. J. Crockett, & M. A. Carranza (Eds.), *Health disparities in youth and families: Research and applications* (Vol. 57, pp. 33–72). New York: Springer.
- McWilliams, N. (2014). *Psichoanalitinė psichodiagnostika. Asmenybės struktūros samprata klinikiniame procese*. Vilnius: Vaistų žinios.
- Megargee, E. I., & Carbonell, J. L. (1995). Use of the MMPI-2 in Correctional Settings. In *In Y. S. Ben-Porath, J. R. Graham, G. C. N. Hall, R. D. Hirshman, & M. S. Zaragoza (Eds.), Forensic Applications of the MMPI-2* (pp. 127–159). Thousand Oaks: SAGE Publications, Inc. doi: 10.4135/9781452243771
- Megargee, E. I., Mercer, S. J., & Carbonell, J. L. (1999). MMPI-2 with male and female state and federal prison inmates. *Psychological Assessment, 11*(2), 177. doi: 10.1037/1040-3590.11.2.177
- Mela, M., Audu, M., Tesfaye, M., & Gurmu, S. (2014). A developing world perspective on homicide and personality disorder. *Medicine, Science and the Law, 54*(3), 132–138. doi: 10.1177/0025802413499911
- Meloy, R. J. (1997). *Violent attachments* (2nd ed.). Northvale, NJ: Aronson.
- Melton, G. B., Petrila, J., Poythress, N. G., & Slobogin, C. (2007). *Psychological evaluations for the courts: A handbook for mental health professionals and lawyers*. New York: The Guilford Press.
- Mikutavičienė, I., & Guščinskienė, J. (2012). Socialinė psichikos negalią turinčių asmenų sveikatos dimensija: socialinės politikos atspindžiai. *Sveikatos mokslai, 22*(1), 39–48.
- Miller, L. (2013). Psychological evaluations in the criminal justice system: Basic principles and best practices. *Aggression and Violent Behavior, 18*(1), 83–91. doi: 10.1016/j.avb.2012.10.005
- Mills, J. F. (2017). Violence risk assessment: A brief review, current issues, and future directions. *Canadian Psychology / Psychologie canadienne, 58*(1), 40–49. doi: 10.1037/cap0000100
- Mills, J. F., & Kroner, D. G. (2003). Anger as a predictor of institutional misconduct and recidivism in a sample of violent offenders. *Journal of Interpersonal Violence, 18*(3), 282–294. doi:10.1177/0886260502250085
- Mills, J. F., Kroner, D. G., & Morgan, R. D. (2011). *The clinician's guide to violence risk assessment*. New York, NY: Guilford.
- Mitrauskas, M., & Čėsniėnė, I. (2011). The construct validity of the SVR-20 in Lithuanian sex offenders' sample. *The 11th European Conference on Psychological Assessment* (Abstracts) (p. 152). Retrieved from <http://www.ecpa11.lu.lv/files/Mitrauskas.pdf>
- Moffitt, T. E. (2006). Life-course-persistent versus adolescence-limited antisocial behavior. In: D. Cicchetti & D. J. Cohen (Eds.), *Handbook of developmental psychopathology* (pp. 570–598). Hoboken, NJ: Wiley.

- Mokros, A., Hare, R. D., Neumann, C. S., Santtila, P., Habermeyer, E., & Nitschke, J. (2015). Variants of psychopathy in adult male offenders: A latent profile analysis. *Journal of Abnormal Psychology, 124*(2), 372–386. doi: 10.1037/abn0000042
- Monahan, J. (2007). Clinical and actuarial predictions of violence. In D. Faigman, D. Kaye, M. Saks, J. Sanders, & E. Cheng (Eds.), *Modern scientific evidence: The law and science of expert testimony* (pp. 122–147). St. Paul, MN: West Publishing.
- Monahan, J. (1981). *Predicting violent behavior: An assessment of clinical techniques*. Beverly Hills, CA: Sage Publications.
- Monahan, K. C., Steinberg, L., Cauffman, E., & Mulvey, E. P. (2009). Trajectories of antisocial behavior and psychosocial maturity from adolescence to young adulthood. *Developmental Psychology, 45*(6), 1654–1668. doi: 10.1037/a0015862
- Monahan, J., Steadman, H. J., Silver, E., Appelbaum, P., Robbins, P. C., Mulvey, E. P., & Banks, S. (2001). *Rethinking risk assessment: The MacArthur Study of mental disorder and violence risk*. New York, NY: Oxford University Press.
- Moore, R. (2007). *Adult perceptions of their underlying problems: Findings from the OASys self-assessment questionnaire*. Home Office Findings 284. London: Home Office.
- Morley, R. H. (2015). Violent criminality and self-compassion. *Aggression and Violent Behavior, 24*, 226–240. doi: 10.1016/j.avb.2015.05.017
- Morris, R. G., Carriaga, M. L., Diamond, B., Piquero, N. L., & Piquero, A. R. (2012). Does prison strain lead to prison misbehavior? An application of general strain theory to inmate misconduct. *Journal of Criminal Justice, 40*, 194–201. doi: 10.1016/j.jcrimjus.2011.12.001
- Morris, R. G., Longmire, D. R., Buffington-Vollum, J., & Vollum, S. (2010). Institutional misconduct and differential parole eligibility among capital inmates. *Criminal Justice and Behavior, 37*(4), 417–438. doi:10.1177/0093854810361672
- Morton, S. (2009). *Can OASys deliver consistent assessments of offenders? Results from the inter-rater reliability study*. Ministry of Justice Research Summary 1/09. London: Ministry of Justice.
- Mulder, E., Brand, E., Bullens, R., & Van Marle, H. (2010). A classification of risk factors in serious juvenile offenders and the relation between patterns of risk factors and recidivism. *Criminal Behaviour and Mental Health, 20*, 23–38. doi:10.1002/cbm.754
- Navickas, V., ir Vaičiulienė, A. (2010). *Žmogaus raidos psichologija*. Vilnius: Versus Aureus.
- Naudts, K., & Hodgins, S. (2006). Neurobiological correlates of violent behavior among persons with schizophrenia. *Schizophrenia Bulletin, 32*(3), 562–572. doi: 10.1093/schbul/sbj036
- Newberry, M., & Shuker, R. (2012). Personality assessment inventory (pai) profiles of offenders and their relationship to institutional misconduct and risk of reconviction. *Journal of Personality Assessment, 94*(6), 586–592. doi:10.1080/00223891.2012.669220

- Newman, J. P., Curtin, J. J., Bertsch, J. D., & Baskin-Sommers, A. R. (2010). Attention moderates the fearlessness of psychopathic offenders. *Biological Psychiatry*, *67*(1), 66–70. doi: 10.1016/j.biopsych.2009.07.035
- Nguyen, T.-V., McCracken, J. T., Albaugh, M. D., Botteron, K. N., Hudziak, J. J., & Ducharme, S. (2016). A testosterone-related structural brain phenotype predicts aggressive behavior from childhood to adulthood. *Psychoneuroendocrinology*, *63*, 109–118. doi: 10.1016/j.psyneuen.2015.09.021
- Nofziger, S., & Kurtz, D. (2005). Violent lives: A lifestyle model linking exposure to violence to juvenile violent offending. *Journal Of Research In Crime And Delinquency*, *42*(1), 3–26. doi: 10.1177/0022427803262061
- Ogilvie, C. A., Newman, E., Todd, L., & Peck, D. (2014). Attachment & violent offending: A meta-analysis. *Aggression and Violent Behavior*, *19*(4), 322–339. doi: 10.1016/j.avb.2014.04.007
- O'Malley, P. (2008). Experiments in risk and criminal justice. *Theoretical Criminology*, *12*(4), 451–469. doi: 10.1177/1362480608097152
- Ortiz, J., & Raine, A. (2004). Heart rate level and antisocial behavior in children and adolescents: A meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, *4*(2), 154–162. doi: 10.1097/00004583-200402000-00010
- Palermo, G. B. (2015). Transculturalism and risk factors for violent behavior. *International Journal of Offender Therapy and Comparative Criminology*, *59*(1), 3–4. doi: 10.1177/0306624X14558904
- Pardini, D. A., Raine, A., Erickson, K., & Loeber, R. (2014). Lower amygdala volume in men is associated with childhood aggression, early psychopathic traits, and future violence. *Biological Psychiatry*, *75*(1), 73–80. doi: 10.1016/j.biopsych.2013.04.003
- Patrick, C. J. (2008). Psychophysiological correlates of aggression and violence: An integrative review. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *363*(1503), 2543–2555. doi: 10.1098/rstb.2008.0028
- Patrick, C. J., Curtin, J. J., & Tellegen, A. (2002). Development and validation of a brief form of the Multidimensional Personality Questionnaire. *Psychological Assessment*, *14*(2), 150–163. doi: 10.1037/1040-3590.14.2.150
- Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science*, *23*(6), 421–426. doi: 10.1177/0963721414547737
- Paulhus, D. L., Curtis, S. R., & Jones, D. N. (2018). Aggression as a trait: The Dark Tetrad alternative. *Current Opinion in Psychology*, *19*, 88–92. doi: 10.1016/j.copsyc.2017.04.007
- Penney, S. R., McMaster, R., & Wilkie, T. (2014). Multirater reliability of the Historical, Clinical, and Risk Management-20. *Assessment*, *21*(1), 15–27. doi: 10.1177/1073191113514107
- Persson, M., Belfrage, H., & Kristiansson, M. (2017). Violent victimization and health service utilization in a forensic psychiatric context: A comparison between offenders with mental disorders and matched controls. *BMC Psychiatry*, *17*, 91. doi: 10.1186/s12888-017-1251-0

- Piquero, A. R. (2007). Taking stock of developmental trajectories on criminal activity over the life course. In A. M. Liberman (Ed.), *The long view of crime: A synthesis of longitudinal research* (pp. 23–78). New York: Springer.
- Philipse, M. W. G. (2005). *Predicting criminal recidivism: Empirical studies and clinical practice in forensic psychiatry*. Thesis Radboud Universiteit Nijmegen. Netherlands: Febodruk, Enschede. Retrieved from <http://hdl.handle.net/2066/26944>
- Pocius, A. (2007). Šeimoms ir mokyklos įtaka nuteistųjų iki gyvos galvos už nužudymus asmenų nusikalstamo elgesio formavimuisi. *Jurisprudencija*, 10(100), 52–59.
- Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C.A. (2006). *Violent offenders: Appraising and managing risk* (2nd. ed.). Washington: American Psychological Association.
- Raine, A. (2013). *The psychopathology of crime: Criminal behavior as a clinical disorder*. London: Elsevier.
- Rao, V., Rosenberg, P., Bertrand, M., Salehinia, S., Spiro, J., Vaishnavi, S., Miles, Q. S. (2009). Aggression after traumatic brain injury: Prevalence and correlates. *The Journal of Neuropsychiatry and Clinical Neurosciences*, 21(4), 420–429. doi: 10.1176/appi.neuropsych.21.4.420
- Reid, S. (2017). Developmental pathways to serial homicide: a critical review of the biological literature. *Aggression and Violent Behavior*, 35, 52–61. doi: 10.1016/j.avb.2017.06.003
- Rettenberger, M., Boer, D. P., & Eher, R. (2011). The predictive accuracy of risk factors in the Sexual Violence Risk–20 (SVR-20). *Criminal Justice and Behavior*, 38(10), 1009–1027. doi: 10.1177/0093854811416908
- Rettenberger, M., & Eher, R. (2007). Predicting reoffense in sexual offender subtypes: A prospective validation study of the German version of the Sexual Offender Risk Appraisal Guide (SORAG). *Sex Offender Treatment*, 2, 1–12. Retrieved from <http://www.sexual-offender-treatment.org/index.php?id=62>
- Richard-Devantoy, S., Bouyer-Richard, A., Annweiler, C., Gourevitch, R., Jollant, F., Olie, J., Bourdel, M., Lhuillier, J., & Beauchet, O. (2016). Major mental disorders, gender, and criminological circumstances of homicide. *Journal of Forensic and Legal Medicine*, 39, 117–124. doi: 10.1016/j.jflm.2016.01.014
- Richards, T. N., Jennings, W. G., Tomsich, E. A., & Gover, A. R. (2013). A longitudinal examination of offending and specialization among a sample of massachusetts domestic violence offenders. *Journal of Interpersonal Violence* 28(3), 643–663. doi: 10.1177/0886260512455519
- Richardson, L. E., Huebner, B., & Valentine, D. C. (2006). *Sex offender risk assessment*. University of Missouri – Columbia: Institute of Public Policy. Retrieved from <https://www.mosac.mo.gov/file.jsp?id=45355>
- Rhee, S. H., & Waldman, I. D. (2002). Genetic and environmental influences on antisocial behavior: A meta-analysis of twin and adoption studies. *Psychological Bulletin*, 128(3), 490–529. doi: 10.1037//0033-2909.128.3.490

- Roberts, A. D. L., & Coid, J. W. (2007). Psychopathy and offending behaviour: Findings from the national survey of prisoners in England and Wales. *The Journal of Forensic Psychiatry & Psychology*, *18*(1), 23–43. doi: 10.1080/14789940601012698
- Rothmund, Y., Ziegler, S., Hermann, C., Gruesser, S. M., Foell, J., Patrick, C. J., Flor, H. (2012). Fear conditioning in psychopaths: Event-related potentials and peripheral measures. *Biological Psychology*, *90*(1), 50–59. doi: 10.1016/j.biopsycho.2012.02.011
- Royston, R. (2006). Destructiveness: Revenge, dysfunction or consitutional evil?. In C. Harding (Ed.), *Aggression and destructiveness: Psychoanalytic perspectives* (pp. 23–37). London, UK: Routledge.
- Russell, M. A., & Odgers, C. L. (2015) Antisocial behavior among children in poverty understanding environmental effects in daily life. In C. A. Pietz & C. A. Mattson (Eds.), *Violent offenders: Understanding and assessment* (pp. 20–49). New York: Oxford University Press.
- Sakalauskas, G. (2012). Baudžiamosios politikos įgyvendinimo indikatoriai Lietuvoje. G. Sakalauskas (red.), *Baudžiamoji politika Lietuvoje: tendencijos ir lyginamieji aspektai* (p. 139–167). Vilnius: Teisės institutas.
- Sakalauskas, G. (2014). Ką liudija didėjantis baudžiamasis represyvumas Lietuvoje? *Kriminologijos studijos*, *2*, 95–136. doi: 10.15388/CrimLithuan.2014.2.5090
- Sampson, R. J., & Laub, J. H. (2003). Life-course desisters? Trajectories of crime among delinquent boys followed to age 70. *Criminology*, *41*, 301–339.
- Sandler, J. C., Freeman, N., Farrell, P., & Seto, M. C. (2013). Predicting institutional sexual misconduct by adult male sex offenders. *Criminal Justice and Behavior*, *40*(10), 1131–1148. doi: 10.1177/0093854813485574
- Saoût, V., Gambart, G., Leguay, D., Ferrapie, A. L., Launay, C., Richard, I. (2011). Aggressive behavior after traumatic brain injury. *Annals of Physical and Rehabilitation Medicine*, *54*(4), 259–269, doi: 10.1016/j.rehab.2011.04.003
- Scarpa, A., & Raine, A. (2007). Biosocial bases of violence. In D. J. Flannery, A. T. Vazsonyi, & I. D. Waldman (Eds.), *The Cambridge handbook of violent behavior and aggression* (pp. 151–169). doi: 10.1017/CBO9780511816840.008
- Schenk, A. M., & Fremouw, W. J. (2012). Individual characteristics related to prison violence: a critical review of the literature. *Aggression and Violent Behavior*, *17*, 430–442. doi: 10.1016/j.avb.2012.05.005
- Schettler Heto, M. (2015). Psychological perspectives of violence. In C. A. Pietz & C. A. Mattson (Eds.), *Violent offenders: Understanding and assessment* (pp. 3–18). New York: Oxford University Press.
- Scott, R. L., Flowers, J. V., Bulness, A., Olmsted, E., & Carbajal-Madrid, P. (2009). English-speaking and Spanish-speaking domestic violence perpetrators: An MMPI-2 assessment. *Journal of Interpersonal Violence*, *24*(11), 1859–1874. doi: 10.1177/0886260508325487

- Séguin, J. R. (2004). Neurocognitive elements of antisocial behavior: Relevance of an orbitofrontal cortex account. *Brain and Cognition*, 55(1), 185–197. doi: 10.1016/S0278-2626(03)00273-2
- Sellbom, M. (2014). A factor mixture model approach to elaborating on offender mental health classification with the MMPI–2–RF. *Journal of Personality Assessment*, 96(3), 293–305. doi: 10.1080/00223891.2013.843538
- Sellbom, M., & Anderson, J. L. (2013). The Minnesota Multiphasic Personality Inventory-2. In R. P. Archer & E. M. A. Wheeler (Eds.), *Forensic uses of clinical assessment instruments* (2nd ed., pp. 21–62). New York [N.Y.]: Routledge.
- Sellbom, M., Ben-Porath, Y. S., Baum, L. J., Erez, E., & Gregory, C. (2008). Empirical correlates of the MMPI-2 Restructured Clinical (RC) Scales in a batterers' interventions program. *Journal of Personality Assessment*, 90(2), 129–135. doi: 10.1080/00223890701845153
- Sellbom, M., Ben-Porath, Y. S., Lilienfeld, S. O., Patrick, C. J., & Graham, J. R. (2005). Assessing psychopathic personality traits with the MMPI-2. *Journal of Personality Assessment*, 85, 334–343. doi: 10.1207/s15327752jpa8503\_10
- Sellbom, M., Ben-Porath, Y. S., & Stafford, K. P. (2007). A comparison of measures of psychopathic deviance in a forensic setting. *Psychological Assessment*, 19, 430–436. doi: 10.1037/1040-3590.19.4.430
- Shaw, J., Minoudis, P., & Craissati, J. (2012). A comparison of the standardised assessment of personality – abbreviated scale and the offender assessment system personality disorder screen in a probation community sample. *The Journal of Forensic Psychiatry & Psychology*, 23(2), 156–167. doi: 10.1080/14789949.2012.655763
- Shoham, S. G., & Seis, M. (2012). *A primer in the psychology of crime*. New York: Harrow and Heston Publishers.
- Silver, E. (2006). Understanding the relationship between mental disorder and violence: The need for a criminological perspective. *Law and Human Behavior*, 30(6), 685–706. doi: 10.1007/s10979-006-9018-z
- Silver, E., Piquero, A. R., Jennings, W. G., Piquero, N. L., & Leiber, M. (2011). Assessing the violent offending and violent victimization overlap among discharged psychiatric patients. *Law and Human Behavior*, 35(1), 49–59. doi: 10.1007/s10979-009-9206-8
- Silver, E., Felson, R. B., & Vaneseltine, M. (2008). The relationship between mental health problems and violence among criminal offenders. *Criminal Justice and Behavior*, 35(4), 405–426. doi: 10.1177/0093854807312851
- Simon, L. M. J. (1997). Do criminal offenders specialize in crime types? *Applied & Preventive Psychology*, 6, 35–53. doi: 10.1016/S0962-1849(05)80064-2
- Singh, J. P., Desmarais, S. L., Hurducas, C., Arbach-Lucioni, K., Condemarin, C., Dean, K., Doyle, M., Folino, J. O., Godoy-Cervera, V., Grann, M.; Ho, R. M. Y., Large, M. M., Nielsen, L. H., Pham, T. H., Rebocho, M. F., Reeves, K. A., Rettenberger, M., de Ruiter, C., Seewald, K., & Otto, R. K. (2014). International perspectives on the practical appli-

- cation of violence risk assessment: A global survey of 44 countries. *The International Journal of Forensic Mental Health*, 13(3), 193–206. doi: 10.1080/14999013.2014.922141
- Singh, J. P., Grann, M., & Fazel, S. (2011). A comparative study of violence risk assessment tools: A systematic review and metaregression analysis of 68 studies involving 25,980 participants. *Clinical Psychology Review*, 31(3), 499–513. doi: 10.1016/j.cpr.2010.11.009
- Sjöstedt, G., & Långström, N. (2001). Actuarial assessment of sex offender recidivism risk: A cross-validation of the RRASOR and the Static-99 in Sweden. *Law and Human Behavior*, 25(6), 629–645. doi: 10.1023/A:1012758307983
- Sjöstedt, G., & Långström, N. (2002). Assessment of risk for criminal recidivism among rapists: A comparison of four different measures. *Psychology, Crime & Law*, 8(1), 25–40. doi: 10.1080/10683160208401807
- Skopp, N. A., Edens, J. F., & Ruiz, M. A. (2007). Risk factors for institutional misconduct among incarcerated women: An examination of the criterion-related validity of the personality assessment inventory. *Journal of Personality Assessment*, 88(1), 106–117. doi: 10.1080/00223890709336841
- Slotter, E. B., & Finkel, E. J. (2011). I<sup>3</sup> theory: Instigating, impelling, and inhibiting factors in aggression. In P. R. Shaver & M. Mikulincer (Eds.), *Human aggression and violence: Causes, manifestations, and consequences* (pp. 35–52). Washington, DC: American Psychological Association.
- Slotter, E. B., Finkel, E. J., DeWall, C. N., Pond, R. S., Jr., Lambert, N. M., Bodenhausen, G. V., & Fincham, F. D. (2012). Putting the brakes on aggression toward a romantic partner: The inhibitory influence of relationship commitment. *Journal of Personality and Social Psychology*, 102(2), 291–305. doi: 10.1037/a0024915
- Stalans, L. J. (2004). Adult sex offenders on community supervision: A review of recent assessment strategies and treatment. *Criminal Justice and Behavior*, 31(5), 564–608. doi: 10.1177/0093854804267093
- Stalans, L. J., Yarnold, P. R., Seng, M., Olson, D. E., & Repp, M. (2004). Identifying three types of violent offenders and predicting violent recidivism while on probation: A classification tree analysis. *Law and Human Behavior*, 28(3), 253–271. doi: 10.1177/0093854810363794
- Steiner, B. (2009). Assessing static and dynamic influences on inmate violence levels. *Crime & Delinquency*, 55(1), 134–161. doi: 10.1177/003288509334804
- Steiner, B., & Wooldredge, J. (2014). Sex differences in the predictors of prisoner misconduct. *Criminal Justice and Behavior*, 41(4), 433–452. doi: 10.1177/0093854813504404
- Steiner, B., & Wooldredge, J. (2009). Rethinking the link between institutional crowding and inmate misconduct. *Prison Journal*, 89(2), 205–233. doi: 10.1177/003288509334804
- Strub, D. S., Douglas, K. S., & Nicholls, T. L. (2014). The validity of version 3 of the HCR-20 Violence Risk Assessment Scheme amongst offenders and civil psychiatric patients. *International Journal of Forensic Mental Health*, 13(2), 148–159. doi: 10.1080/14999013.2014.911785

- Swartz, M. S., Swanson, J. W., Hiday, V. A., Borum, R., Wagner, H. R., & Burns, B. J. (1998). Violence and severe mental illness: The effects of substance abuse and nonadherence to medication. *American Journal of Psychiatry*, *155*(2), 226–231.
- Szilágyi, P. (2017). Personality type of homicide offenders based on psychiatrist expert reviews. *European Psychiatry*, *41*, 594. doi: 10.1016/j.eurpsy.2017.01.908
- Tapscott, J. L., Hancock, M., & Hoaken, P. N. S. (2012). Severity and frequency of reactive and instrumental violent offending: Divergent validity of subtypes of violence in an adult forensic sample. *Criminal Justice and Behavior*, *39*(2), 202–219. doi: 10.1177/0093854811429647
- Tarescavage, A. M., Cappo, B. M., & Ben-Porath, Y. S. (2016). Assessment of sex offenders with the Minnesota Multiphasic Personality / Inventory–2–Restructured Form. *Sexual Abuse*. doi: 10.1177/1079063216667921
- Tarescavage, A. M., Luna-Jones, L., & Ben-Porath, Y. S. (2014). Minnesota Multiphasic Personality Inventory–2–Restructured Form (MMPI-2-RF) predictors of violating probation after felonious crimes. *Psychological Assessment*, *26*(4), 1375–1380. doi: 10.1037/pas0000022
- Tateno, A., Jorge, R. E., & Robinson, R. G. (2003). Clinical correlates of aggressive behavior after traumatic brain injury. *Journal of Neuropsychiatry and Clinical Neurosciences*, *15*(2), 155–160. doi: 10.1176/jnp.15.2.155
- Taubner, S., White, L.O., Zimmermann, J., Fonagy, P., & Nolte, T. (2013). Attachment-related mentalization moderates the relationship between psychopathic traits and proactive aggression in adolescence. *Journal of Abnormal Child Psychology*, *41*(6), 929–938. doi: 10.1007/s10802-013-9736-x
- Taubner, S., Wiswede, D., Nolte, T., & Roth, G. (2010). Mentalisierung und externalisierende Verhaltensstörungen in der Adoleszenz [Mentalization and externalizing behavioral disturbances during adolescence]. *Psychotherapeut*, *55*(4), 312–320. doi: 10.1007/s00278-010-0753-8
- Teasdale, B., Silver, E., & Monahan, J. (2006). Gender, threat/control-override delusions and violence. *Law and Human Behavior*, *30*(6), 649–658. doi: 10.1007/s10979-006-9044-x
- Tellegen, A., Ben-Porath, Y. S., McNulty, J. L., Arbisi, P. A., Graham, J. R., & Kaemmer, B. (2003). *The MMPI-2 Restructured Clinical (RC) Scales: Development, validation, and interpretation*. Minneapolis: MN: University of Minnesota Press.
- The International Centre for Prison Studies (2017). *The World Prison Brief (WPB): Lithuania*. Retrieved from <http://www.prisonstudies.org/country/lithuania>
- Theobald, D., & Farrington, D. P. (2012). Child and adolescent predictors of male intimate partner violence. *Journal of Child Psychology and Psychiatry*, *53*(12), 1242–1249. doi: 10.1111/j.1469-7610.2012.02577.x
- The World Health Organization (2013). *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual*



- violence. Retrieved from [http://apps.who.int/iris/bitstream/10665/85239/1/9789241564625\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/85239/1/9789241564625_eng.pdf?ua=1)
- The World Health Organization (2016). *Global plan of action to strengthen the role of the health system within a national multisectoral response to address interpersonal violence, in particular against women and girls, and against children*. Retrieved from <http://apps.who.int/iris/bitstream/10665/252276/1/9789241511537-eng.pdf?ua=1>
- The World Health Organization (2002). *World report on violence and health*. Retrieved from [http://apps.who.int/iris/bitstream/10665/42495/1/9241545615\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/42495/1/9241545615_eng.pdf)
- Thomson, N. D., Towl, G. J., & Centifanti, L. C. M. (2016). The habitual female offender inside: How psychopathic traits predict chronic prison violence. *Law and Human Behavior, 40*(3), 257–269. doi:10.1037/lhb0000178
- Tremblay, P. F., & Belchevski, M. (2004). Did the instigator intend to provoke? A key moderator in the relation between trait aggression and aggressive behavior. *Aggressive Behavior, 30*(5), 409–424. doi:10.1002/ab.20027
- Tremblay, R. E., Nagin, D. S., Seguin, J. R., Zoccolillo, M., Zelazo, P. D., Boivin, M., Pérusse, D., & Japel, C. (2004). Physical aggression during early childhood: Trajectories and predictors. *Pediatrics, 114*(1), e43–e50.
- Ustinavičiūtė, L. (2012). *Lietuvos teisės pažeidėjų rizikos veiksnių, susijusių su pakartotiniu nusikalstamumu, analizė (daktaro disertacija)*. Vilnius: Mykolo Romerio universitetas.
- Ustinavičiūtė, L., Laurinavičius, A., & Žukauskienė, R. (2009). Lietuvos nuteistųjų pakartotinio nusikalstamumo veiksniai: OASys metodikos diskriminantinio validumo analizė. *Socialinių mokslų studijos, 4*(4), 339–356.
- Ustinavičiūtė, L., Laurinavičius, A., Žukauskienė, R., & Bandzevičienė, R. (2010). Kriminogeninių rizikos veiksnių palyginimas skirtingose Lietuvos teisės pažeidėjų grupėse. *Socialinių mokslų studijos, 4*(8), 39–56.
- Vaitkevičius, R., & Saudargienė, A. (2006). *Statistika su SPSS psichologiniuose tyrimuose*. Kaunas: VDU leidykla.
- Valickas, G. (1997). *Psichologinės asocialaus elgesio ištakos (monografija)*. Vilnius: Lietuvos teisės akademija.
- Vaughan, L., & Giovanello, K. (2010). Executive function in daily life: Age-related influences of executive processes on instrumental activities of daily living. *Psychology and Aging, 25*(2), 343–355. doi: 10.1037/a0017729
- Verdejo-Garcia, A., Lawrence, A. J., & Clark, L. (2008). Impulsivity as a vulnerability marker for substance-use disorders: Review of findings from high-risk research, problem gamblers and genetic association studies. *Neuroscience and Biobehavioral Reviews, 32*(4), 777–810. doi: 10.1016/j.neubiorev.2007.11.003
- Walker, J. S., & Bright, J. A. (2009). False inflated self-esteem and violence: A systematic review and cognitive model. *The Journal of Forensic Psychiatry & Psychology, 20*(1), 1–32. doi: 10.1080/14789940701656808

- Walters, G. D. (2015). Criminal thinking as a predictor of prison misconduct and mediator of the static risk-infractions relationship. *The Prison Journal*, 95(3), 353–369. doi: 10.1177/0032885515587468
- Warburton, W. A., & Anderson, C. A. (2015). Social psychology of aggression. In J. Wright & J. Berry (Eds.), *International encyclopedia of the social & behavioral sciences* (2nd ed.) (pp. 373–380). Oxford, UK: Elsevier. doi: 10.1016/B978-0-08-097086-8.24002-6
- Ward, T. (2000). Sexual offenders' cognitive distortions as implicit theories. *Aggression and Violent Behavior*, 5(5), 491–507. doi: 10.1016/S1359-1789(98)00036-6
- Ward, T., Mesler, J., & Yates, P. M. (2007). Reconstructing the Risk–Need–Responsivity model: A theoretical elaboration and evaluation. *Aggression and Violent Behavior*, 12(2), 208–228. doi: 10.1016/j.avb.2006.07.001
- Ward, T., Rose, C., & Willis, G. M. (2012). Offender rehabilitation: Good Lives, desistance and risk reduction. In G. Davies & A. Beech (Eds.), *Forensic psychology: Crime, justice, law, interventions* (2nd ed.) (pp. 407–424). Oxford, UK: Wiley Blackwell.
- Webster, C. D., Douglas, K. S., Eaves, D. & Hart, S. D. (1997). *HCR-20: Assessing risk for violence, version 2*. Burnaby, Canada: Mental Health, Law, & Policy Institute, Simon Fraser University.
- Webster, C. D., Douglas, K. S., Eave, D., & Hart, S. D. (2007). *HCR-20 Smurto rizikos įvertinimas* (vertė R. Barkauskienė). Vilnius: Justitia.
- Webster, C. D., Haque, Q. H., & Hucker, S. J. (2014). *Violence risk-assessment and management: Advances through structured professional judgement and sequential redirections* (2nd ed.). Chichester, West Sussex, UK: Wiley Blackwell. doi: 10.1002/9781118485545
- Whiteside, S. P., & Lynam, D. R. (2001). The five factor model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and Individual Differences*, 30, 669–689. doi:10.1016/S0191-8869(00)00064-7
- Winnicott, D. W. (2009). Žaidimas ir realybė (iš anglų kalbos vertė Milda Morkytė). Vilnius: Vaga.
- Wise, E. A. (2009). Selected MMPI-2 scores of forensic offenders in a community setting. *Journal of Forensic Psychology Practice*, 9(4), 299–309. doi: 10.1080/15228930902936048
- Wright, P., Nussbaum, D., Lynett, E., & Buis, T. (1997). Forensic MMPI-2 profiles: Normative limitations impose interpretive restrictions with both males and females. *American Journal of Forensic Psychology*, 15, 19–38.
- Wygant, D. B., Sellbom, M., Graham, J. R., & Schenk, P. W. (2006). Incremental validity of the MMPI-2 PSY-5 scales in assessing self-reported personality disorder criteria. *Assessment*, 13(2), 178–186. doi: 10.1177/1073191106286987
- Yakeley, J., & Meloy, J. R. (2012). Understanding violence: Does psychoanalytic thinking matter? *Aggression and Violent Behavior*, 17(3), 229–239. doi: 10.1016/j.avb.2012.02.006

- Yang, S., Mulvey, E. P., Loughran, T. A., & Hanusa, B. H. (2012). Psychiatric symptoms and alcohol use in community violence by persons with a psychotic disorder or depression. *Psychiatric Services*, 63(3), 262–269. doi:10.1176/appi.ps.201100354
- Yang, M., Wong, S. C. P., & Coid, J. (2010). The efficacy of violence prediction: A meta-analytic comparison of nine risk assessment tools. *Psychological Bulletin*, 136(5), 740–767. doi: 10.1037/a0020473
- Zamble, E., & Quinsey, V. L. (2001). *The criminal recidivism process*. Cambridge, UK: Cambridge University Press.
- Žmogaus teisių stebėjimo institutas (2012). *Sulaikymo ir suėmimo reglamentavimas ir taikymas Lietuvoje*. Retrieved from <http://hrmi.lt/sulaikymo-ir-suemimo-reglamentavimas-ir-taikymas-lietuvoje-2012/>
- Žukauskienė, R., & Laurinavičius, A. (2009). *Ataskaita apie SARA ir B-SAFER metodikų adaptavimo eigą ir rezultatus*. Kalėjimų departamentas prie Lietuvos Respublikos teisingumo ministerijos. Vilnius.
- Žukauskienė, R., Laurinavičius, A., & Čėsniėnė, I. (2010). Testing factorial structure and validity of the PCL:SV in Lithuanian prison population. *Journal of Psychopathology & Behavioral Assessment*, 32(3), 363–372. doi: 10.1007/s10862-009-9176-7
- Žukauskienė R., Laurinavičius A., & Singh J. P. (2014). Violence risk assessment in Lithuania. *Journal of Psychiatry*, 17(4), 2–6. doi: 10.4172/Psychiatry.1000127

### Legislation:

- Kalėjimų departamento prie Lietuvos Respublikos teisingumo ministerijos direktoriaus įsakymas dėl nusikalstamo elgesio rizikos vertinimo metodikų ir elgesio pataisos programų aprobavimo Lietuvos bausmių vykdymo sistemoje tvarkos aprašo patvirtinimo ir adaptuotų nusikalstamo elgesio rizikos vertinimo metodikų ir elgesio pataisos programų aprobavimo. 2012 m. birželio 25 d. Nr. V-211.
- Kalėjimų departamento prie Lietuvos Respublikos teisingumo ministerijos mokymo centro pažyma apie dalyvavimą mokymuose. 2015 m. liepos 14 d. Nr. S-502.
- Lietuvos Respublikos apsaugos nuo smurto artimoje aplinkoje įstatymas. 2011 m. gegužės 26 d. Nr. XI-1425.
- Lietuvos Respublikos baudžiamasis kodeksas. Valstybės žinios, 2000-10-25, Nr. 89-2741.
- Lietuvos Respublikos bausmių vykdymo kodeksas. 2002 m. birželio 27 d. Nr. IX-994.
- Lietuvos Respublikos bausmių vykdymo kodekso pakeitimo įstatymas. 2015 m. birželio 23 d. Nr. XII-1818.
- Lietuvos Respublikos probacijos įstatymas. 2011 m. gruodžio 22 d. Nr. XI-1860.
- Lietuvos Respublikos teisingumo ministro įsakymas „Dėl socialinio tyrimo išvados formos ir socialinio tyrimo išvados rengimo metodinių rekomendacijų patvirtinimo“. 2012 m. birželio 14 d. Nr. 1R-159.

- Lietuvos Respublikos teisingumo ministro įsakymas dėl teisingumo ministro 2012 m. birželio 14 d. įsakymo Nr. 1R-159 „Dėl socialinio tyrimo išvados formos ir socialinio tyrimo išvados rengimo metodinių rekomendacijų patvirtinimo“ pakeitimo. 2015 m. rugpjūčio 20 d. Nr. 1R-229.
- Lietuvos Respublikos vaiko teisių apsaugos pagrindų įstatymo Nr. I-1234 2, 6, 10, 49, 56, 57 straipsnių pakeitimo ir įstatymo pildymo 2<sup>1</sup> straipsniu įstatymas. 2017 m. vasario 14 d. Nr. XIII-204.
- The Council of Europe Convention on preventing and combating violence against women and domestic violence (Istanbul Convention) [Europos Tarybos konvencija dėl smurto prieš moteris ir smurto šeimoje prevencijos ir kovos su juo (Konvencija Nr. 210), pateikta pasirašyti 2011 m. gegužės 11 d. Stambule].

## APPENDICES

### APPENDIX 1. Characteristics of MMPI-2 validity scales in male and female offenders' samples

Validity scale	Exclusion criterion	<i>M (SD)</i>		% of Invalid Protocols	
		Male ( <i>n</i> = 265)	Female ( <i>n</i> = 46)	Male ( <i>n</i> = 265)	Female ( <i>n</i> = 46)
VRIN	≥ 80	48,77 (9,56)	49,25 (9,82)	0,38	0
TRIN	≥ 80	47,26 (10,78)	49,83 (10,88)	0,38	0
F	≥ 100	48,69 (8,85)	50,06 (8,60)	10,19	15,22
Fb	≥ 100	52,58 (11,28)	52,43 (10,10)	5,28	8,70
Fp	≥ 100	50,77 (9,25)	53,87 (7,68)	3,77	6,52
L	≥ 80	52,90 (12,07)	53,29 (10,34)	5,28	2,17
K	≥ 80	50,29 (11,28)	48,06 (10,21)	4,53	4,35
S	≥ 80	49,23 (11,02)	48,50 (10,71)	6,42	10,87

Note: VRIN – Variable Response Inconsistency scale, TRIN – True Response Inconsistency scale, F – Infrequency scale, Fb – Back F, Fp – Infrequency–Psychopathology, L – Lie, K – Correction, S – Superlative Self-Presentation. Validity scales were calculated after exclusion of protocols characterized by Cannot Say ≥ 30. If validity scale had missings, it was not calculated, and the protocol was included into invalid protocol group.

**APPENDIX 2. HCR-20, OASys, PCL:SV scales' descriptive statistics and internal consistency reliability estimates in male and female violent offender samples**

Scale	Male					Female				
	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M (SD)</i>	<i>α</i>	<i>Min</i>	<i>Max</i>	<i>M (SD)</i>	<i>α</i>	
<b>HCR</b>	1	0	2	1.12 (0.68)	-	0	2	0.36 (0.53)	-	
<b>PCL:SV</b>										
Total	12	3	24	12.12 (3.91)	0.68	0	16	5.08 (3.80)	0.82	
Part 1	6	0	12	4.80 (2.58)	0.66	0	8	1.84 (2.16)	0.77	
Part 2	6	3	12	7.33 (2.23)	0.52	0	8	3.24 (1.96)	0.62	
F1	3	0	6	1.99 (1.51)	0.59	0	4	0.78 (1.22)	0.78	
F2	3	0	6	2.82 (1.67)	0.66	0	5	1.06 (1.33)	0.67	
F3	3	0	6	3.07 (1.49)	0.52	0	4	1.06 (1.15)	0.55	
F4	3	1	6	4.28 (1.29)	0.23	0	5	2.18 (1.16)	0.34	
<b>OASys</b>										
Offending information	10	1	18	9.87 (3.54)	0.60	0	12	2.40 (2.69)	0.70	
Accommodation	2	0	4	0.75 (1.21)	0.70	0	4	0.84 (1.52)	0.90	
Education, training, and employability	6	0	8	3.44 (2.05)	0.39	0	8	3.47 (1.94)	0.51	
Financial management and income	3	0	5	2.01 (1.43)	0.56	0	6	1.58 (1.26)	0.59	
Relationships	2	0	4	1.10 (1.25)	0.60	0	3	0.83 (0.97)	-0.01	
Lifestyle and associates	2	0	4	1.94 (1.20)	0.65	0	4	0.88 (0.98)	0.14	
Drug misuse	4	0	6	0.63 (1.42)	0.64	0	0	0.00 (0.00)	-	
Alcohol misuse	3	0	6	2.87 (1.81)	0.64	0	6	2.73 (1.48)	0.42	
Emotional well-being	3	0	5	1.40 (1.45)	0.46	0	12	1.06 (1.32)	0.45	
Thinking and behavior	10	2	19	9.42 (3.71)	0.81	0	4	4.27 (2.59)	0.68	
Attitudes	4	0	8	2.16 (1.51)	0.49	0	8	0.64 (0.90)	0.24	

*Note.* *N* – number of scale items; *Min* – the lowest value of scale; *Max* – the largest value of scale; *M* – mean; *SD* – standard deviation; *α* – scales' internal consistency reliability estimates (Cronbach's alpha). Part 1 – PCL:SV Interpersonal/Affective Factor; Part 2 – PCL:SV Lifestyle/Antisocial Factor; Factor 1 – PCL:SV Interpersonal; Factor 2 – PCL:SV Affective; Factor 3 – PCL:SV Lifestyle; Factor 4 – PCL:SV Antisocial.

**APPENDIX 3. Comparison of age and criminal history characteristics between groups of offenders convicted for different violent crimes**

Scale	Male				Female					
	Mean rank			$\chi^2$	<i>p</i>	Mean rank			$\chi^2$	<i>p</i>
	H	DV	O			H	DV	O		
<i>n</i> =34	<i>n</i> =33	<i>n</i> =43		<i>n</i> =23	<i>n</i> =10	<i>n</i> =12				
Age	58.27	54.94	48.69	1.90	.388	21.48	21.00	23.75	0.33	.846
Number of convictions	49.58	52.13	53.69	0.34	.843	23.15	23.28	20.67	0.55	.760
Number of violent crimes	49.85	49.90	57.50	1.69	.430	22.41	24.90	22.54	0.04	.635

Note. H – homicide group, DV – domestic violence group, O – other violent crime group.  $\chi^2$  – Kruskal–Wallis test value.

**APPENDIX 4. Comparison of OASys scales' estimates between groups of offenders convicted for different violent crimes**

Scale	Male					Female				
	Mean rank			$\chi^2$	<i>p</i>	Mean rank			$\chi^2$	<i>p</i>
	H	DV	O			H	DV	O		
	<i>n</i> =34	<i>n</i> =33	<i>n</i> =43	<i>n</i> =23	<i>n</i> =10	<i>n</i> =12				
Offending information	50.10	42.75	43.14	1.37	.504	22.46	20.31	22.25	1.92	.909
Accommodation	43.07	51.35	47.04	1.60	.449	22.41	27.10	20.71	2.45	.294
Education, training, and employability	45.61	45.33	48.85	0.37	.832	21.43	26.50	23.08	1.08	.582
Drug misuse	45.87	41.33	50.96	4.06	.131	21.50	21.50	21.50	0.00	1.00
Alcohol misuse	44.17	47.38	47.44	0.29	.867	21.36	26.55	21.21	1.36	.506
Emotional well-being	44.87	48.77	47.36	0.30	.860	22.89	20.70	25.12	0.73	.695
Thinking and behavior	42.84	49.21	44.95	0.77	.680	21.76	22.10	26.12	0.95	.623
Attitudes	50.98	44.40	45.93	0.94	.627	22.59	23.35	23.50	0.07	.968

Note. H – homicide group, DV – domestic violence group, O – other violent crime group.  $\chi^2$  – Kruskal-Wallis test value.



**APPENDIX 5. Comparison of MMPI-2 clinical, restructured, and personality psychopathology five scales' estimates between groups of offenders convicted for different violent crimes**

Scale	Male				Female					
	Mean rank			$\chi^2$	<i>p</i>	Mean rank			$\chi^2$	<i>p</i>
	H	DV	O			H	DV	O		
<i>n</i> =14	<i>n</i> =19	<i>n</i> =19	<i>n</i> =15	<i>n</i> =6	<i>n</i> =6					
Hs	26.64	30.59	20.11	4.79	.091	13.27	9.90	17.08	2.46	.292
D	22.25	27.56	20.53	2.38	.304	12.46	11.25	16.60	1.64	.441
Hy	26.11	28.00	19.68	3.29	.193	11.60	12.80	17.40	2.36	.307
Pd	25.32	24.09	22.75	0.27	.876	10.09	8.88	12.70	1.06	.588
Mf	27.29	20.38	17.82	4.11	.128	11.71	12.90	9.60	0.68	.711
Pa	25.12	25.97	21.18	1.17	.558	<b>9.97</b>	<b>15.50</b>	<b>20.67</b>	<b>8.87</b>	<b>.012</b>
Pt	26	24.16	23.53	0.24	.885	11.35	10.00	13.10	0.53	.768
Sc	25.64	24.67	23.31	0.21	.900	11.87	12.30	17.10	1.96	.376
Ma	24.69	22.94	26.76	0.63	.731	14.43	13.92	13.00	0.14	.931
Si	26.23	22.47	15.58	5.08	.079	12.12	7.80	13.70	2.32	.313
RCd	26.42	25.24	25.11	0.07	.965	11.04	10.90	13.75	0.60	.742
<b>RC1</b>	<b>27.36</b>	<b>30.00</b>	<b>17.76</b>	<b>7.02</b>	<b>.030</b>	12.30	12.10	17.67	2.34	.311
RC2	32.96	25.74	20.86	5.34	.069	11.46	15.83	13.50	1.51	.469
RC3	25.27	22.67	27.14	0.91	.635	14.33	11.33	13.60	0.69	.709
RC4	25.32	21.50	22.50	0.69	.710	12.77	11.08	13.50	0.36	.834
RC6	22.82	25.00	28.08	1.08	.584	12.10	12.80	17.58	2.30	.317
RC7	26.46	23.87	26.53	0.39	.825	13.57	13.08	13.80	0.03	.987
RC8	25.04	28.13	24.50	0.65	.723	12.96	14.42	13.83	0.17	.919
RC9	26.00	21.36	26.72	1.44	.479	13.68	15.67	10.92	1.18	.553
AGGR	21.88	21.79	30.47	4.25	.120	13.65	9.92	12.60	1.17	.558
PSYC	24.32	23.19	27.47	0.84	.658	13.75	12.17	11.90	0.34	.844
DISC	25.11	20.65	25.23	1.23	.540	11.88	11.70	10.40	0.19	.909
NEGE	28.42	24.45	24.50	0.71	.702	11.14	11.88	14.50	0.91	.635
INTR	28.54	25.15	20.53	2.59	.274	12.43	12.92	19.00	3.12	.210

Note. H – homicide group, DV – domestic violence group, O – other violent crime group.  $\chi^2$  - Kruskal – Wallis test value.. Hs – Hypochondriasis; D – Depression; Hy – Hysteria; Pd – Psychopathic Deviate; Mf – Masculinity-Femininity; Pa – Paranoia; Pt – Psychasthenia; Sc – Schizophrenia; Ma – Hypomania; Si – Social Introversion; RCd – Demoralization; RC1 – Somatic Complaints; RC2 – Low Positive Emotions; RC3 – Cynicism; RC4 – Antisocial behavior; RC6 – Ideas of Persecution; RC7 – Dysfunctional Negative Emotions; RC8 – Aberrant Experiences; RC9 – Hypomanic activation; AGGR – Aggressiveness; PSYC – Psychoticism; DISC – Disconstrain; NEGE – Negative emotionality / Neuroticism; INTR – Introversion / Low Positive Emotionality. Figures marked in bold indicate a statistically significant difference between MMPI-2 scales.

**APPENDIX 6. Comparison of MMPI-2 content and supplemental scales' estimates between groups of offenders convicted for different violent crimes**

Scale	Male					Female				
	Mean rank			$\chi^2$	p	Mean rank			$\chi^2$	p
	H	DV	O			H	DV	O		
n=14	n=19	n=19	n=15	n=6	n=6					
ANX	26.46	25.14	25.11	0.09	.958	12.93	11.75	17.30	1.649	.439
FRS	20.86	30.22	25.79	3.17	.205	13.17	14.67	15.42	0.40	.818
OBS	28.25	24.63	27.28	0.51	.776	11.12	12.60	13.70	0.58	.749
DEP	28.31	26.61	23.82	0.76	.685	11.31	11.75	16.50	2.04	.360
HEA	26.21	30.06	20.89	3.62	.164	11.93	9.40	17.20	3.30	.192
BIZ	21.46	27.68	26.38	1.58	.454	13.39	13.08	14.17	0.07	.967
ANG	29.43	22.21	27.33	2.14	.342	15.77	13.67	9.92	2.39	.303
CYN	26.38	22.72	26.28	0.73	.695	14.13	13.17	12.00	0.31	.855
ASP	24.54	19.56	26.41	2.27	.321	14.93	10.75	10.30	2.22	.329
TPA	25.25	23.61	28.82	1.19	.551	15.13	13.92	11.25	1.04	.594
LSE	26.25	24.64	24.35	0.15	.926	11.75	13.92	15.40	1.03	.596
SOD	29.93	25.74	24.74	1.03	.598	11.73	12.42	16.33	1.68	.432
FAM	28.14	24.39	25.95	0.51	.777	13.65	16.50	10.58	1.66	.436
WRK	23.27	24.47	25.47	0.18	.912	13.32	10.58	15.00	1.05	.593
TRT	27.19	25.86	24.00	0.39	.823	11.92	11.25	13.38	0.24	.886
A	25.69	23.45	26.21	0.38	.828	11.04	13.40	10.50	0.57	.751
R	27.88	22.65	19.72	2.68	.262	10.96	10.92	18.40	4.43	.109
Es	22.25	20.66	26.20	1.45	.484	12.38	14.17	11.08	0.58	.747
Do	26.75	21.08	23.36	1.43	.490	13.12	12.00	9.75	1.00	.605
Re	26.75	24.32	25.79	0.24	.888	10.14	11.40	10.38	0.16	.923
Mt	26.61	25.74	23.06	0.56	.757	13.86	12.58	13.58	0.12	.943
PK	26.14	25.17	23.88	0.20	.906	13.47	12.60	14.33	0.14	.932
MDS	31.36	23.89	25.53	2.11	.349	13.21	13.75	13.92	0.05	.978
Ho	25.12	20.59	25.00	1.15	.562	12.39	12.25	12.92	0.03	.986
O-H	23.96	26.15	23.33	0.38	.825	11.25	11.30	17.20	2.90	.234
MAC-R	22.31	23.86	25.53	0.40	.818	11.83	11.17	13.40	0.32	.852
AAS	23.61	22.36	27.69	1.34	.513	12.93	15.83	14.83	0.67	.715
APS	21.38	23.53	29.08	2.51	.285	11.87	15.40	7.00	2.91	.233
GM	20.15	21.27	26.71	2.24	.326	10.12	11.08	14.33	1.11	.573
GF	22.00	25.59	22.53	0.67	.716	11.83	11.17	13.40	0.32	.644

Note. H – homicide group, DV – domestic violence group, O – other violent crime group.  $\chi^2$  – Kruskal – Wallis test value. ANX – Anxiety; FRS – Fears; OBS – Obsessiveness; DEP – Depression; HEA – Health Concerns; BIZ – Bizarre Mentation; ANG – Anger; CYN – Cynicism; ASP – Antisocial Practices; TPA – Type A Behavior; LSE – Low Self Esteem; SOD – Social Discomfort; FAM – Family Problems; WRK – Work Interference; TRT – Negative Treatment Indicators; A – Anxiety Scale; R – Repression Scale; Es – Ego Strength Scale; Do – Dominance Scale; Re – Social Responsibility; Mt – College Maladjustment; PK – Post-Traumatic Stress Disorder; MDS – Marital Distress Scale; Ho – Hostility; O-H – Over-Controlled Hostility Scale; MAC-R – MacAndrew Alcoholism Scale Revised; AAS – Addictions Acknowledgement Scale; APS – Addictions Potential Scale; GM – Gender Role - Masculine; GF – Gender Role – Feminine.

**APPENDIX 7. Comparison of OASys, HCR-20 scales' estimates between groups of offenders convicted for different violent crimes**

Scale	Male					Female				
	Mean rank			$\chi^2$	<i>p</i>	Mean rank			$\chi^2$	<i>p</i>
	H	DV	O			H	DV	O		
	<i>n</i> =34	<i>n</i> =33	<i>n</i> =43			<i>n</i> =23	<i>n</i> =10	<i>n</i> =12		
<b>OASys</b>										
OASys score	43.00	46.91	40.90	0.85	.654	17.29	21.64	21.75	1.51	.471
<b>HCR-20</b>										
HCR-20 score	46.48	46.17	45.58	0.02	.990	24.02	22.10	21.79	0.31	.857

Note. H – homicide group, DV – domestic violence group, O – other violent crime group.  $\chi^2$  – Kruskal–Wallis test value.

**APPENDIX 8. OASys scales' descriptive statistics and internal consistency reliability estimates in misconduct and non-misconduct male offender groups**

Scale	Misconduct group N=99					No - misconduct group N=92				
	N	Min	Max	M (SD)	$\alpha$	Min	Max	M (SD)	$\alpha$	
<b>OASys</b>										
Offending information	10	1	18	7.82 (4.54)	0.77	1	18	8.25 (4.56)	0.77	
Accommodation	2	0	4	0.93 (1.39)	0.76	0	4	1.27 (1.66)	0.89	
Education, training, and employability	6	0	10	2.79 (2.32)	0.56	0	9	3.47 (2.13)	0.50	
Financial management and income	3	0	6	2.19 (1.53)	0.59	0	6	2.33 (1.63)	0.58	
Relationships	2	0	4	0.89 (1.21)	0.67	0	4	0.58 (0.96)	0.51	
Lifestyle and associates	2	0	4	1.56 (1.25)	0.55	0	4	2.14 (1.14)	0.38	
Drug misuse	4	0	6	0.59 (1.35)	0.64	0	8	0.30 (1.06)	0.84	
Alcohol misuse	3	0	6	1.80 (1.67)	0.52	0	6	2.00 (1.65)	0.50	
Emotional well-being	3	0	6	1.30 (1.39)	0.47	0	6	1.05 (1.41)	0.63	
Thinking and behavior	10	0	19	7.75 (3.92)	0.83	2	19	9.38 (4.48)	0.83	
Attitudes	4	0	7	1.37 (1.48)	0.57	0	8	2.02 (1.55)	0.60	
OASys total score	49	2	103	42.07 (22.04)	0.84	12	113	57.93 (23.74)	0.89	

Note. N – number of scale items; Min – the lowest value of scale; Max – the largest value of scale; M – mean; SD – standard deviation;  $\alpha$  – scales' internal consistency reliability estimates (Cronbach's alpha)

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Assessment

Monograph

Translated by Vytautas Navickas, Antanas Voznikaitis, Olga Suprun (Vilnius University)

Proofreading by Brett Bolstad (Portland State University)

Cover designer Audronė Uzielaitė

Layout Vida Vaidakavičienė

13.6 author's sheets.

Published by Vilnius University Publishing House

Universiteto Str. 3, LT-01513 Vilnius, Lithuania