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DEPARTMENT OF CLINICAL PSYCHOLOGY AND PSYCHOTHERAPY

Ph.D. DISSERTATION SUMMARY

**COGNITIVE AND EMOTIONAL VULNERABILITY OF
ADULT OFFENDERS**

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Notes. _____

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CHAPTER I

THEORETICAL BACKGROUND

I.1. Introduction and the research problem

In the current macro-economic and social context, it can be seen that the violence has grown, establishing a general state of panic and contributing to the injury and death of a considerable number of people. The World Health Organization (WHO, 2002) classified the violence as being one of the most important causes of death at the global level, after the fatal chronic diseases.

Apart from the level of economic development of a country, the violence manifests in different degrees of intensity, from genocide, terrorist attacks, armed conflicts, to violence in schools, violence in family, the street violence and even with mediatic messages, that instigate by default to violence. All these kinds of manifestations have as common denominator the intention of causing material and human damages and of harming people.

The violent crime is a problem for each and every society at the same time because of the degree of social danger it is being created and because of the direct and indirect material and human costs that are involved. The death and the injury of a person as a result of violence rises the costs at the social level, costs that are being reflected in the health system, in the legal system, in the labour productivity, and both at the family and individual level.

I.2. The relevance of the research

This research approached the criminal violence in order to identify the cognitive and emotional mechanisms that are behind the antisocial behaviour and mediate the influence of the external conditions on criminal behaviour.

Among the emotional causes of the violent behaviour, anger is considered to be one of the most important predictive factors (Novaco, 2007). The purpose of the studies in this field was to establish the role of the anger in violence, but the contradictory findings did not allow to establish a definite conclusion. As Hutchings, Gannon, & Gilchrist (2010) remarked, most researches who wanted to establish the predicting factors of violence used subjects from general population, making difficult the applicability of the developed models on violent incarcerated population. The literature regarding the sexual offenses is wide, being noted the implicit theories (Ward, 2000) were the base for the unfolding studies which established the presence of different kinds of cognitive distortions that determine and maintain the sexual

offenses. Another area of extensive research aimed the intimate violence, being explored both the role of anger in manifesting the violence on the intimate partner, and the types of beliefs involved (e.g. Clements & Holtzworth-Munroe, 2008; Norlander & Eckhardt, 2005).

It was found a small amount of rational emotive and behavioral studies (REBT) which aimed to identify the specific irrational beliefs of violent offenders. One of the first empirical studies designed from the REBT perspective identified a low association between the irrational beliefs and anger in the violent population (Ford, 1991). Two recently studies identified specific types of irrational cognitions related to anger in offender population (Jones & Trower, 2004; Shanahan, Jones, & Thomas-Peter, 2010).

The findings of the emotional and cognitive causes in violence have as the main purpose to develop effective preventing programs for crime prevention and attenuation. The meta-analytic studies showed that the majority of the programs ran in the criminal population are of cognitive-behavioral nature. These have proved to be effective in reducing the risk of recidivism in the offenders' population with moderate to high risk of recidivism (e.g. Beck & Fernandez, 1998; Lipsey, Chapman & Landenberger, 2001; McGuire, 2008b). Most of the programs are multidimensional developed, and run on the long terms, and the cognitive dimension aims to identify and modify the inferential cognitions. These features rises problems of material and human costs involved, and also of establishing the domains which had had greater therapeutic impact on participants. Debidin and Dryden (2010) have underlined the need of REBT studies to identify the emotional problems on the criminal population, and the need of studies to prove the effectiveness and efficacy of REBT programs on this population.

I.3. The state of art in the literature

I.3.1. Definition of concepts

In the professional literature the use of terms **violence** and **aggression** is not divided, these terms being conceptual confused and used interchangeably from the linguistic point of view. The violence necessarily includes the physical component in its manifestation on the victim, while aggression is not always made a reference also to a physical harm on the victim. It is considered that aggression has a phylogenetic component that refers to the survival instinct, being different in this way of the deliberate act of violence. In this work we analysed and summarized both the researches that focused on the violence study and on the study of aggression towards other people.

The extensive literature regarding **aggression** favored the multiple perspectives on this topic. Most authors underline, in defining aggression, the role of intentionality in human action committed with aggression, aspect valid also for empirical approach of violence. Therefore, the aggression is a motric open behavior, carried out with the intention of harming a person or an object, being convinced that something bad will result from this behavior (Anderson & Bushman, 2002; DiGiuseppe & Tafrate, 2007). Aggression can not be considered an unidimensional phenomenon, reason for which a series of classifications were developed to capture its various displays. Among the most known and important dihotomisation we mention physical and verbal aggression, active-passive, and direct-indirect aggression (Berkowitz, 1994). The theory of social information processing of Crick and Dodge (1996) has made the distinction between proactive and reactive aggression. Some other authors have talked about instrumental and affective (hostile) aggression, (Berkowitz, 2003; Feshbach, 1997) or impulsive and premeditate aggression (Barratt, 1998). Berkowitz (2003) has considered that *instrumental aggression* does not refer only to harm a target, but also to retrieve the harmed self-esteem, gain the others approvals, have money benefits or to remove an unpleasant state of affair. On the other hand, the affective aggression is headed towards harming the target, making the target suffer.

One of the aims in the study of human aggression has been to address the emotional dimension, being considered that the **anger** is the main emotion involved in this phenomenon. The anger issue was approached from many perspectives. The most known definition of anger remains the one given by Spielberger in 1983, which divides it in anger state and anger trait (DiGiuseppe & Tafrate, 2007). Anger state is defined as a subjective and psycho-biological experience, conditioned by a certain situation, which can vary in time and depend on situations, in intensity, from a moderate state of irritation to intense anger and rage. Anger trait comes out as a response to a large variety of situations that seem ordinary (e.g., an order that does not come in time, the bus that is being late) or as a way to react on situations of competition, rejection, injustice, on everyday occurrences. The definitions that came out later underline the multidimensionality of anger as an emotional state generated by cognitions and accompanied by physiological and behavioral reactions (Deffenbacher, 1993; DiGiuseppe & Tafrate, 2007; Kassinove & Tafrate, 2002; Novaco, 1975).

Hostility is considered to be the cognitive dimension that accompanies the anger and facilitates the manifestation of violent behavior. Kassinove and Tafrate (2002) have defined hostility as a set of central and surface attitudes, which predispose people to intolerance and negative interpretations of simple and neutral situations.

I.3.2. Aggression theories

Aggression theories offered explanations about the cognitive processes involved in the development and manifestation of aggressive behavior. One of the fundamental theory of aggression is represented by the *frustration-aggression hypothesis* formulated by Dollard, Doob, Miller, Mowrer and Sears in 1939 (Power & Dalgleish, 1997). According to this theory the frustrations are obstacles in achieving some satisfactions, that produce hostile aggression and the need of harming somebody. The hypothesis has been extended later by Berkowitz (1990, 1994, 2003), who has expressed his opinions through the *neo-associative cognitive theory*. His addendas were made in order to emphasize the role of negative affect that comes between the frustration of the goal and the aggressive outcome. When the unpleasant, aversive event that blocks the goal's attainment, generates an unpleasant affective state, it increases the likelihood of aggression or of the antisocial behavior through the activation of the anger-aggression associative network. *General aggression model* developed by Anderson (1989) explained the aggression as being the effect of the interaction between many personal, situational, social, and psychological factors. It develops as a result of the different learning episodes the individual is exposed to and that enhances the aggressive or violent behavior. Anger appears as a mediator between the mentioned factors and aggression, but not as a necessary condition. The influence that they have on aggression can also have an impact on anger which once activated may influences the aggression. The model was used to explain the way that the video games and mediatic information can determine violence. Dodge and Crick (1990) have proposed the *theory of social information processing* that explained the formation of aggressive behavior in social interaction situations. The theory of social information processing underlines the process through which people perceive stimuli, the attributions and inferences about these stimuli, the generated solutions, and the action decisions to respond to these problems. The *script theory* (Huessman, 1988) is based on the learning theories that explains the aggression through the development of early cognitive schemas about aggression, that favors the assimilation of new aggressive behaviors that later will form aggressive scripts, easily accessed in ambiguous social situations.

I.3.3. Anger theories

Appraisal theory developed by Lazarus (1991) argued that a person becomes angry when he or she appraises a negative event directly related with the self, considering the self in the same time able to face the challenge. The core themes of anger is the violation of the self-concept and the self-esteem threat. These appear when the individual tries to preserve or to

develop and protect his self-esteem and social image. The *neo-associative model* of anger (Bekowitz, 1990) showed that the associative networks contains links of specific emotions with specific thoughts and behavioural and physiological reactions, and the activation of any of these behaviors leads to the activation of the other parts. Therefore in the aversive situations the individual feels a negative affective state which automatically triggers emotional, physiological and behavioral reactions interpreted as being related to aggression and anger. The Averill's (1991) *socio-cognitive theory* considers that anger is based on emotional schemes, being a specific individual experience related with societal context.

The cognitive theory of Novaco (2007) had a major contribution in explaining the anger. Anger is seen as a subjective experience, activated in the threat conditions of perceiving the negative intention and when there is a motivation for approaching or attacking; it is associated with selective attention towards provocation situations. The theory emphasizes the role of cognitive processes in generating anger, sustaining that the exacerbated orientation towards the perception of danger and interpretation of situations favors the anger and aggression outcomes. Novaco shows also that these phenomenons are not always in a cause-effect relation as long as the violence and aggression have survival functions and the anger has the function to mobilize and stimulate the behavior in difficult situations.

From the cognitive-behavioural theories point of view different types of cognitions involved in anger were identified. Ellis (1994a) has described the types of irrational cognitions like demandingness, low frustration tolerance and global self and others' evaluation involved in anger, while Beck (1999) sustained the role of the negative global self evaluation. The *episodic model of anger* developed by Kassiove and Tafrate (2002) was based on REBT theory. There are 5 components included in the anger expression: stimuli, evaluations, emotional experiences, expression patterns and outcomes. The theory of effectance motives developed by DiGiuseppe and Tafrate (2007), showed that anger is a trigger of the action motivation on the aversive environment in order to control it. The cognitive processes trigger the dysfunctional anger which increases the desire for harm and revenge, favoring the aggressive behavior.

I.3.4. Cognitive and emotional predictors in offending behaviour

The results of the studies have established that specific types of irrational cognitions, like demandingness and other-downing (David et. al 2002; Harrington, 2005, 2006), LFT (David et. al 2002; Harrington, 2005, 2006; Martin & Dahlen, 2005), self-downing (Jones & Trower; Shanahan et al., 2010) were associated with anger and aggressive behaviour.

In the literature there have been identified types of cognitive distortions that were involved along with anger in the general violent offending behavior. The most important among these are external negative attribution (Batancourt & Blair, 1992), hostile attribution of others' intentions (e.g. Barriga, Landau, Stinson, Liao, & Gibbs, 2000; Butler & Maruna, 2009), others' blaming, minimizing, negative labelling and negative assumptions about others (Chambers, Eccleston, Day, Ward & Howells, 2008), hostility, suspiciousness, claim, revenge (Milner & Webster, 2005), responsibility denying (Butler & Maruna, 2009).

There are studies that identified a connection between anger and aggression (Cornell, Peterson & Richards, 1999; Sukhodolsky & Ruchkin, 2004; Novaco & Taylor, 2004) and studies which questioned this relation (Mills & Kroner, 2003; Loza & Loza – Fanous, 1999; Wood & Newton, 2003).

The cognitive distortions involved in the triggering and preservation of sexual offenses were identified through the implicit theories (Ward, 2000). The most important cognitive distortions are considered to be the following: the denial of charges for their acts; denial of guilt; minimizing the seriousness and gravity of the behavior during the commission of abuse; guilt attribution (alcohol, drugs, inadequate behavior, personal emotional problems, childhood abuse); "self-serving" thinking (lack of empathy, distortions of the victim suffering), rationalization of the offense planning; immediate gratification (adapting their behavior to the internal model, lack of considering the longterm consequences) (Ward, Hudson & Marshall, 1995).

The results of the studies have showed that anger (e.g. Dye & Eckhardt, 2000; Lafontaine & Lussier, 2005; Norlander & Eckhardt, 2005) and cognitive distortions like hostility (Norlander & Eckhardt, 2005; Parrot & Zeichner, 2003), minimizing, denial and guilt attribution of the crime to external factors (Henning, Jones & Holdford, 2005), and also the irrational cognitions (de ex., Dye și Eckhardt, 2000; Eckhardt & Jamison, 2002) were determinant factors of intimate partner violence.

I.3.5. The rational - emotive and behavioural theory and offending behavior

According to REBT our emotional states and behaviours (C) are mediated by the interpretations we made (B) on the situations we encounter (A). The processing from the cognitive level appears under the form of rational and irrational cognitions. Irrational cognitions represent negative, rigid and extreme evaluations that people make about themselves or about events and that determine the negative dysfunctional emotions that appear under the form of various disorders. Rational cognitions are the expression of the

preference and desires that we have in an adaptive way towards the events and they lead to adaptive and functional emotional and behavioural consequences. The clients that are included in the REBT therapy are thought to actively dispute (D) their irrational cognitions and acquire a new more efficient life philosophy (E), which contains functional cognitive, emotional and behavioural consequences. The studies of induction of emotional distress have proved the causal role of rational and irrational cognitions in the negative functional and dysfunctional emotions (e.g. Cramer, 2005a, 2005b). David et al. (2002) have underlined the specific irrational cognitions of the fundamental negative dysfunctional emotions with role in the clinical practice of emotional disorders.

The literature is provided with a small number of rigorous studies that use specific REBT methods. As Debidin & Dyden (2010) observed it is necessary to develop studies that can prove the necessity of interventions in emotional disorders and irrational cognitions in the offenders population and studies of REBT effectiveness in changing the criminal behavior.

I.3.6. Prevention of the recidivism risk of offenders

Definition and evaluation of the recidivism risk

Recidivism risk's determination refers to determining the expectation that a person who committed a crime in the past, will commit another crime after a period of time in the conditions of a previous interaction with the legal system (punishment as a type of intervention for rehabilitation). The legal system considers the punishment as a form of re-education, but the results proved that the detention punishment is not the most efficient form of stopping the crime (McGuire, 2008b). One of the alternative found for detention has been the supervision in the community (probation). At the beginning the main purpose was that of reducing the costs of detention and the over crowded prisons, maintaining the idea of punishment, but through strict supervision in community and the compliance of the criminal with the rules imposed by the Court under the form of measures and obligations. Even in these conditions it was not registered a reduction in the recidivism rate, because the conditions of probation were broken and the number of crimes had increased. It was noticed that the intervention programs are those with high effect on reducing the recidivism risk and not the punishment and the required rules. The implementation of the programs is based on identification of the criminogenic needs, meaning the problems that could make the individual to commit new offenses, and also on determining the recidivism risk. The efforts of the researchers were focused on developing and implementing the intervention programs that

should be effective in decreasing the recidivism risk. It was agreed that these should be organized according to four essential principles, the meta-analytic studies proving that the programs that respect them have effect on reducing the recidivism risk (Andrews & Dowden, 2006). Bonta and Andrews (2007) enumerate these essential principles (RNR) for elaborating an intervention program:

1. risk principle – adjustment of a treatment according to the level of identified risk
2. need principle – the treatment should aim the criminogenic needs identified and associated with recidivism
3. responsivity principle – the way in which the offenders respond to the treatment they receive and the way they understand it
4. professional discretion – the involvement of the professional in the treatment, the flexibility and innovation when it is necessary

The results of the studies reached the conclusion that it is better to be included in the programs offenders with medium to high recidivism, taking into account the fact that those with a small risk have a low probability of committing offenses again, even without participating to programs (Andrews & Dowden, 2006; Palmer, McGuire, Hatcher, Hounsome, Bilby & Hollin, 2008).

Hollin (1999) made a comprehensive analysis of the meta-analytical studies of the treatments applied on offenders, and he concluded that therapeutical interventions prove to be superior comparing to the control groups in which they did not intervene, but not all kinds of interventions have the same positive effect upon recidivism reduction. The effectiveness criteria are: to address the medium to high risk offenders, to be structured as multidimensional behavioural interventions, to contain a cognitive dimension, to generate responsivity; to have integrity.

Types of cognitive-behavioural intervention programs

The most important intervention programs applied on the offenders' population are based on the cognitive behavioral theory. The results of several meta-analytical studies showed that these are the most efficient in preventing crimes and reducing the recidivism risk. (Lipsey, Chapman, & Landenberger, 2001; Lipsey, Landenberger, & Wilson, 2007).

The intervention programs are multidimensional structured, being complex and of long term application. The cognitive dimension targets the identification and modification of inferential cognitions held by offenders, and the emotional dimension targets the reduction and control of anger. It is supposed that the offenders are deficient in their interpersonal skills

and that is why most of the rehabilitation programs include solving problem and social skills trainings.

Intervention programs for social skills improvement

The cognitive behavioural programs that focused on improving social skills considered effective in changing the offending behavior, in terms of reintegration in the society and of reducing offenses or the gravity of the next offenses (Bourke & van Hasselt, 2001; Polaschek & Dixon, 2001).

Intervention programs specific for sexual abusers

Ward, Gannon and Yates (2008) recall the superiority of the interventions that follow the cognitive behavioral model in reducing the number of crimes both in general criminal population and most in the sexual abusers population. The programs are conceived in such a way that they aim the interruption of the individual tendency to commit sexual abuses. The subjects must learn to identify risk situations which could generate behaviors that precede the sexual abuse, and to obtain skills which allow them to cope with each step from the criminal cycle described above, in the paper.

The results of a meta-analytic study elaborated by Reitzel and Carbonell (2006), regarding the effectiveness of psychological interventions for sexual abusers showed that the rate for sexual recidivism for the sample of studies with intervention is 7.37%, comparing with those from the control group which is 18.93%. The studies that contained an experimental group comparing with a control group had an effect size of 0.41, and an effect size of 0.44 for those without a control group. The authors concluded that the sexual recidivism is smaller than the non-sexual one (from 20.40% to 28.51%) at young abusers. The recidivism is lower for youth than for adult abusers included in treatment.

Anger management programs

Anger is considered a criminogenic need in the violent offenders population, and the rehabilitation programs applied in the forensic institutions aimed during the time the work with this need. Knowing the contradictory opinions regarding the role of anger in the violent behavior, some researchers were reluctant in asserting that the anger management programs are the most indicated to be used with violent offenders (Serin, Gobeil, & Preston, 2008; Watt & Howells, 1999). The results of a study showed some insignificant effects of an anger management program, excepting the didactic component which had a low but significant

effect (Howells, Day, Williamson, Bubner, Jauncey, Parker et al., 2005).

One of the problems of the intervention programs would be the length which can last to several years, and also the complexity of their structure. These features imply a series of material and human costs for their implementation in optimal conditions in order to gain the program's integrity, but they question the truthful responsiveness of the program's participants. Another limit that should be considered is that it can not be accurately determined which one of the program's dimensions proves to be more effective in reducing the recidivism risk.

One meta-analysis on the use of REBT for offenders population (Debidin & Dryden, 2010), remarks the lack of studies to establish the REBT interventions' effectiveness and efficacy in offenders' population.

CHAPTER II

OBJECTIVES AND GENERAL METHODOLOGY OF THE RESEARCH

The present research aims to explain from a psychological perspective, the cognitive and emotional factors involved in violent crimes, based on the principles of cognitive-behavioral theory that assert that emotions and human behaviors that are being mediated by the cognitive processing. This idea is illustrated by the ABC(DE) model form rational emotive and behavioural therapy initiated by Albert Ellis in 1962, who sustains that emotional distress that people apprehend in various negative life events, is the effect of irrational cognitions. If they are the ones who generate dysfunctional negative emotions, than rational cognitions are responsible for the functional negative emotions. In order to produce a change of the dysfunctional negative emotions, the irrational cognitions have to be disputed with the purpose to gain a set of rational cognitions which should have a positive influence on the emotional, cognitive and behavioral responses to difficult life situations.

The first step of the research was to investigate the empirical results from the literature regarding the emotional and cognitive mechanisms involved in violence, noticing the limited approach of this phenomenon from the REBT perspective. In First study we used the meta-analysis procedure for achieving a quantitative synthesis of the results of relevant studies in the current literature, regarding the intensity of the relation between anger and violent offending behavior, and cognitive distortions and violent offending behavior.

In Second study we looked for the types of irrational cognitions and dysfunctional negative emotions that can discriminate between violent offenders and general population. We used a novel method, the receiver-operating characteristics (ROC) analysis, which underlines the discriminative value of irrational cognitions and negative emotions between the three categories of the analyzed populations. In the first stage it was used the unifactorial analysis of variance (ANOVA) in order to see if there were significant differences between the three categories of subjects included in the study (violent, nonviolent and non-offenders) for the psychometrically evaluated emotions and cognitions. Where it was noticed the existence of some significant differences, we started the actual analysis of the discriminative value of the scale using the ROC curves analysis, targeting the sensitivity and specificity of the scale, and the cut-off point for separating between the categories. Also, where we have identified many types of cognitions that discriminates best between categories we moved on to the comparison of discriminative values, comparing the described areas by the ROC curves corresponding to these cognitions. The same procedure was used in the case of emotions.

The Third study focused on demonstrating the causal role of irrational and rational cognitions in the expression of dysfunctional and functional negative emotions in offender population. It has been used the experimental and bifactorial design in which the intervention (rational/irrational vs neutral condition) and the membership to one of the violent/nonviolent categories were considered to be independent variables. The dependent variables are the specific irrational cognitions for anger assessed with Angry Cognition Scale (ACS), the dimensions of low frustration tolerance assessed with Frustration - Discomfort Scale (FDS) and anger assessed with Novaco Anger Scale (NAS) and Provocation Inventory (PI).

The Forth study is a randomized clinical study which aimed to examine the effectiveness of a REBT program through the changes made at cognitive and emotional level in the violent offenders` population. The study`s design is unifactorial with repeated measures and the independent variables are the types of intervention (REBT, placebo) and the assessment times (pretest, posttest, follow-up), and the dependent variables are irrational cognitions and anger, assessed with the above mentioned measurements.

CHAPTER III

ORIGINAL STUDIES

III.1. Study 1: The relationship of anger and cognitive distortions with violence in violent offenders` population: A meta-analytic review¹

Introduction

Even anger is considered one of the determining factors of violent behavior the studies` results being inconsistent regarding this relation. Some of the researchers concluded that the role of anger in recidivism has been exaggerated and there were no differences between violent and nonviolent offenders for anger (Loza & Loza-Fanous, 1999; Mills & Kroner, 2003; Wood & Newton, 2003), while others had found out that anger has been a predictor of violence (Cornell, Peterson & Richards, 1999; Maresee & Frick, 2007; Novaco & Taylor, 2004). The researches also focused on identifying the types of cognitive distortions that mediates aggressive/violent behaviour, establishing various specific inferences in violence. The present meta-analysis aimed to quantitatively examine the relevant studies regarding the relation of anger and cognitive distortions with violent behavior in violent offenders` population. Also, it was analyzed the moderating effect of the type of used measurements (self-report vs. observational measurements of behaviour) for violence assessment.

Method

Procedure

Literature search

Empirical studies were systematically collected using three strategies: 1) computerized database searches of PsycINFO, Medline using the following keywords only in English language: *anger, cognitions, cognitive distorsions, irrational beliefs, criminal attitude, offenders, violence, aggression*; 2) the reference sections of previously reviewed articles were

¹ This study was was submitted for publication (BDI): Chereji, S. V., Pinte, S., & David, D. (in press). The relationship of anger and cognitive distortions with violence in violent offenders` population: A meta-analytic review. *The European Journal of Psychology Applied to Legal Context*.

The authors contributed:

Chereji, S.: study design, qualitative and quantitative analysis of data, manuscript writing

Pinte, S.: quantitative analysis of data

David, D.: qualitative and quantitative analysis of data, guidance for manuscript writing

searched for related studies; 3) authors in the field had been asked to provide any related articles that were not available in the searched databases. Overall, 285 studies were selected, among them 133 studies were relevant for the aimed meta-analysis.

Criteria for inclusion

In order to identify a relevant sample of studies for the present meta-analysis, the following selection criteria were applied for each study:

- To be published in peer-review journals
- To offer statistical information that allow the calculation of the relationship intensity between: anger and violence or aggression, and cognitive distortions and aggression or violence
- The selected subjects are incarcerated offenders for violent/nonviolent offences
- Psychometric assessment of anger and cognitive distortions constructs

Coding of studies

The following variables were coded on each study:

Anger and cognitive distortions in violent offenders' population

- Participants selection procedures
- Demographic data
- The assessment of the target constructs
- Number of participants
- Cognitive distortions related with violence
- Anger related with violence
- Violence/aggression measurements

The coding procedure determined the exclusion of 114 studies due to the statistical results that didn't offer relevant information that allowed the calculation of the effect sizes for the relationship between the targeted constructs, or the samples were not formed by offender subjects. Therefore, the data set contained a total of 19 coded studies reporting on various correlations and statistical values other than r , that were converted into d for the relationship between cognitive distortions and violence, and anger and violence. From the overall number of 19 studies we were able to identify 9 studies that contained statistical values for anger and violence/aggression, and 14 studies with statistical values for cognitive distortions and violence.

Results

The analysis for *relation between anger and violence* showed a large size effect, $d=0.86$, 95% CI [0.82; 0.90]. The Z statistic used to test if the population average effect is different from 0, proved a significant difference ($Z=21.50$, $p<.01$). The results showed a significant heterogeneity of the observed effect sizes ($Q_T=106.08$, $p<.01$). Consequently, further moderating analysis was considered appropriate.

The results of the moderating analysis for observational behaviour measurements indicated a low to moderate effect size ($d=0.38$, CI 95% [0.22, 0.54]) but statistically significant ($Z=4.75$, $p<.01$). The effect size obtained for the self-reported measurements selected from 3 studies ($n=1564$) was high ($d=1.07$, CI 95% [0.98, 1.16]) and also statistically significant ($Z=21.40$, $p<.01$).

The analysis for *relation between cognitive distortions and violence* indicated a large effect size, $d=0.82$, 95% CI [0.75; 0.89]. The Z statistic used to test if the population average effect is different from 0, proved a significant difference ($Z=21.57$, $p<.01$). The results showed a significant heterogeneity of the observed effect sizes ($Q_T=120.13$, $p<.01$).

The results of the moderating analysis for the observational behavioural measurements indicated a moderate effect size ($d=0.69$, 95% CI [0.58, 0.80]), significantly different from 0 value ($Z=15.5$, $p<.01$). The effect size obtained for the self-reported measurements selected from 5 studies ($n=1710$) was high ($d=0.90$, 95% CI [0.81, 0.99]), and also statistically significant ($Z=18.10$, $p<.01$). The results showed that the type of violence measurements divided into self-reported vs. behavioral ratings (violence index, prior incarcerations for violence, staff rating of violence etc.) had not influence on the cognition-violence relationship ($Q_B=0.12$, $p>.05$).

Discussion

The results indicated a high intensity in anger-violence relation that confirms the presence of anger in violent behaviour. The results indicated a large effect size for cognitive distortions-violence relation that strengthen the role of cognitive mechanisms involved in violent acts.

The results of moderating analysis showed that the relation between cognitive distortions and violence had not been influenced by the type of the used measurements in violence assessment. As for the anger-violence relation, the results find out that the type of measurements for violence assessment is a significant moderator. We can observe that the obtained effect size when violence is self-reported is significantly higher than the one obtained

with the observational method. Therefore we can assume that the offenders rated the intensity of anger in accordance with the unfolded violent behaviour.

III. 2. Study 2: Analysis of discriminative value of cognitions and emotions between violent offenders and general population^{2, 3}

To allow for the various researches` results and for the ascertainment that many of the extreme violent acts do not involve anger state, one should not make any certain statements regarding the role of anger in violent, assuming there are other emotions that accompany the violence. Observing both the reduced number of studies that unfolded the specific cognitive content of violence in inmate population and that the most studies regarding emotions and cognitive distortions used non-offender samples, the purpose of the present study was to find out the types of emotions and irrational cognitions that are able to discriminate best between violent offenders and non-offenders.

Method

Subiecții

The participants were 210 male adults, incarcerated in the Oradea Penitentiary for committing violent crimes (N = 90) and non - violent crimes (N = 90). There were excluded 10 violent subjects and 13 nonviolent subjects because of the incomplete ratings. The average age of the participants in the violent group was 33.05 years (SD = 10.43). In the nonviolent

² Data from this study have been analysed and presented at IAC Conference from Warwick University, Counselling and the challenge of social transformations: promoting human dignity across the lifespan, 22-26 iulie 2009. Title of the paper: *Exploring the cognitive and emotional vulnerability in violence*, authors Chereji, S., Decsei-Radu, A., Trip, S., & Bora, C.

Co-authors have contributed to qualitative analysis of the results and abstract structuring

³ Part of this study was published (BDI): Chereji, S.V., Pintea, S. & Szamoskozi, S. (2011). Discriminative value analysis of emotions among violent offenders` population and the general population". *Erdelyi Pszichologiai Szemle, 1*,

The authors contributed:

S.V. Chereji: manuscript writing, research design, collection and data analysis

S. Pintea: research design, quantitative analysis of data

Ș. Szamoskozi: research design, supervision for the manuscript writing

group the average age was 32.93 (SD = 9.54). The subjects in the control group (N=30) were men with an average age of 34.96 (SD=11.83).

Measurements

Cognitions were assessed with:

General Attitudes and Beliefs Scale (GABS, Lindner, Kirkby, Wertheim & Birch, 1999)

Angry Cognitions Scale (ACS, Martin & Dahlen, 2007)

Frustration-Discomfort Scale (FDS, Harrington, 2005)

Emotions were assessed with:

Novaco Anger Scale (NAS, Novaco, 1994)

Provocation Inventory (PI, 1994)

State-Trait Anger Expression Inventory (STAXI, Spielberger, 1996)

Profilul Distresului Afectiv (PDA, Opriş & Macavei, 2005)

Procedure

The participants (N=210) had been organized in groups of maximum 10 persons and assessed with the above measurements.

Results

It was used MedCalc programme for data analysis. The results of discriminative value analysis showed that *self-downing scale* from GABS discriminates best between violent offenders and general population ($F(2, 185)=4.85, p<.01$). The results showed that the area under the ROC curve for self-downing scale is $AUC=0.683$, significantly higher than for a random test, ($AUC=0.5$), $Z=3.38$ at $p<.01$, that means a reduced accuracy of the scale. It is worth mentioning here that Streiner & Cairney (2007) established that the accuracy of a test with AUC between 0.50 and 0.70 is reduced, an area between 0.70 and 0.90 is moderate, and the area over 0.90 indicate a high accuracy. Test accuracy refers to ability of a test to classify the subjects in relevant clinical categories (Pintea & Moldovan, 2009). Other terms used in the presentation of these results are: *sensitivity* (true positives) is the probability that the result of a test to be positive when a disorder is present (in this case is about the legal category of violence); *specificity* (true negatives) is the probability that the result of a test to be negative when the disorder (in this case violence category) is not present. The cut-off point where self-downing scale discriminates best between violent offenders and non-offenders is higher than

11, with a sensitivity of 41.56% at 95% CI [30.4; 53.4] and a specificity of 90% at 95% CI [73.4; 97.8].

Entitlement subscale from FDS was identified as a discriminator ($F(3,184)=2.91$, $p=.05$). It discriminates better than a random test ($Z=2.88$, $p<.01$), but the area under ROC curve showed a reduced accuracy (AUC=0.67) of the test in discriminating the 2 populations. The cut-off point is higher or equal to 20 with a sensitivity of 62.34% at 95% CI [50.6; 73.1] and a specificity of 70%, 95% CI [50.6; 85.2].

The ANOVA results for the 3 groups regarding each scale included in ACS showed no significant differences, therefore there are no significant discriminators a reason not implement the discriminative value analysis.

It had been found that categories of somatic tension from the arousal subscale, $F(2, 185)=7.17$, $p<.01$, and suspiciousness from cognitive subscale $F(2,185)=6.72$, $p<.01$, included in NAS, were significant discriminators.

The *suspiciousness* category has a better performance than a random test ($Z=3.83$ $p<.01$). The area under the ROC curve (AUC=0.701) has indicated a reduced accuracy of the category in discriminating between the two populations. The cut-off point where the suspiciousness discriminates best is higher or equal to 8 with a sensitivity of 55.84%, 95% CI [44.1; 67.2] and a specificity of 80%, 95% CI [61.4; 92.2].

Somatic tension category from NAS has a significant discriminative performance ($Z=4.27$, $p<.01$), but is a reduced one because it hardly exceeds the superior limits (AUC=0.71). The cut-off point if equal to 7 with a sensitivity of 45.45% at 95% CI [34.2; 57.2] and a specificity of 90% at 95% CI [73.4; 97.8].

The subscales from PI identified as significant discriminators are: disrespect, $F(2, 185)=14.54$, $p<.01$, unfairness, $F(2,185)=6.72$, $p<.01$, and frustration, $F(2,185)=3.27$, $p=.04$.

Disrespect subscale discriminates between the 2 groups ($Z=4.82$, $p<.01$), with an area under the ROC curve of 0.738, which indicates a moderate accuracy. The maximum accuracy of the subscale is at the cut-off point higher or equal to 12 with a sensitivity of 50.65% at 95% CI [39.0; 62.2] and a specificity of 86.67%, 95% CI [69.3; 96.2].

Unfairness subscale significantly discriminates better than a random test ($Z=3.46$, $p<.01$), with an area under the ROC curve equal to 0.705, which means a moderate accuracy. The cut-off point where the test has the maximum accuracy is higher or equal to 12 with a sensitivity of 64.94% at 95% CI [53.2; 75.5] and a specificity of 73.33%, 95% CI [54.1; 87.7].

There were no significant differences between the 3 groups for none of the STAXI subscales, therefore no discriminative value analysis had been implemented.

ANOVA showed significant differences between the 3 groups for both dysfunctional, $F(2,185)=8.63$, $p<.01$, and functional sadness/depression scale $F(2,185)=10.36$, $p<.01$, for positive emotions scale $F(2,185)=3.43$, $p<0.03$, and overall distress $F(2,185)=9.49$, $p<.01$, measured with PAD.

The *sadness/depression functional* scale has the area under the ROC curve equal to 0.769, which is significant higher than the area for a random test (AUC=0.5), $Z=5.77$ at $p<.01$, and it indicates a moderate accuracy. The cut-off point that discriminates best between the 2 sample is higher than 8 with a sensitivity of 97.33%, 95% CI [90.7; 99.6] and a specificity of 50%, 95% CI [31.3; 68.7].

The *sadness/depression dysfunctional* scale indicates a significant area under the ROC curve ($Z=6.32$, $p<.01$), with a moderate accuracy (AUC=0.784). The cut-off point where the accuracy is maximum is higher than 10 with a sensitivity of 85.33% at 95% CI [75.3; 92.4]. and a specificity of 66.67%, 95% CI [47.2; 82.7].

The area of the *positive emotions scale* is AUC=0.641, significantly higher than a random test (AUC=0.5), $Z=2.27$ at $p<.05$, with a low accuracy in discriminating between the 2 samples. The cut-off point where it discriminates best is higher or equal to 33, with a sensitivity of 41.33%, 95% CI [30.1; 53.3] and a specificity of 96.67%, 95% CI [82.7; 99.4].

The *global distress* scale significantly discriminates better than a random test ($Z=5.34$, $p<.01$), and the area under the ROC indicates a moderate accuracy. The cut-off point where the accuracy is maximum is higher than 81, with a sensitivity of 68%, 95% CI [76.2; 78.3] and sensibility of 76.67%, 95% CI [57.7; 90.0].

Discussion

The results showed that only irrational cognitions of self-downing and entitlement had been found to be significant discriminators between violent offenders and non-offenders, even the discrimination seems to be reduced as indicated by the AUC value. The results for the self-downing identified in violent offenders sustain Beck's (1999) theory about the tendency of individuals with high levels of anger to project their own image on the others. Entitlement cognition had a higher level for general population, meaning that inmates could become tolerant to frustration because of the need to find copying mechanisms for the frustrating detention environment.

The results showed that suspiciousness, a category of the cognitive scale from NAS, and somatic tension, a category of the arousal scale from NAS discriminates between violent offenders and non-offenders. This proves that the emotion of anger can discriminate in these cases. Violent individuals can become angrier in provocative situations when perceiving disrespect unlike the general population that experiences anger when perceiving unfairness in provocative situations.

Among the scales measured with PAD, sadness/depression functional and dysfunctional scales, positive emotions and global distress scales discriminated best between offenders and non-offenders. The superiority of sadness/depression dysfunctional emotions in discriminating between the two samples is justified by the emotional vulnerability increased in the detention environment where they tend to express more depressive symptoms than anger state. The moderate discriminative level of global distress and sadness/depression emotions indicates the presence of specific causal irrational beliefs for those emotions. According to REBT these beliefs are demandingness, self-downing and catastrophising.

III.3. Study 3: The effect of irrational, rational cognitions and neutral statements on irrational beliefs and anger, in offender population

Introduction

Cognitive behavioral theories state that human dysfunctional emotions and behaviours are the consequences of erroneous cognitive processing. According to REBT theory cognitive process contains irrational and rational beliefs with a causal role in emotional distress, generating dysfunctional negative emotions and functional negative emotions. REBT studies of emotional distress induction proved the causal role of evaluative cognitions in emotionality (Cramer, 2005; Cramer și Fong, 1991; Cramer & Kupshik, 1993). The aim of the present study was to investigate the causal role of irrational and rational cognitions in violent and nonviolent offenders. It had been hypothesized that: the participants from the irrational intervention would increase or maintain the irrationality and the dysfunctional anger in posttest; the participants from the rational condition would decrease irrationality and dysfunctional anger; the participants from neutral condition would not register any changes in irrational cognitions and anger in posttest.

Method

Participants

The participants were 121 men, adults, inmates in Oradea Penitentiary for committing violent offences (N = 40) and non-violent offences (N = 39). The average age of the participants in the violent group was 31.4 years (SD = 10.05). In the non-violent group the average age was 31.7 (SD = 9.0). Participants were randomized in three intervention conditions: irrational condition (N=22) from violent group, (N=20) from nonviolent group; rational condition (N=20) from violent group, (N=20) non-violent group; neutral condition (N=20) violent group, (N=19) nonviolent group.

Measurements

Irrational cognitions were assessed with:

Angry Cognitions Scale (ACS, Martin & Dahlen, 2007)

Frustration-Discomfort Scale (FDS, Harrington, 2005)

Emotions were assessed with:

Novaco Anger Scale (NAS, Novaco, 1994)

Provocation Inventory (PI, 1994)

Anger provoking scenario had been differently conceived for each group according to the general pattern of the committed offences which have been identified during the interviews conducted by the experimenter with the violent and non-violent offenders.

Irrational, rational cognitions and neutral statements. Irrational and rational cognitions were developed based on the irrational and rational cognitions from REBT (demandingness, low frustration tolerance, self/other downing, and the rational alternatives of preferences, frustration tolerance, unconditional self/other acceptance).

Procedure

Subjects had signed a written consent for participating to the study and fulfilled the pretest evaluation. They have read the anger provoking scenario (a conflict situation for violent offenders and a stressful situation for nonviolent offenders) with the indication to imagine themselves as much as possible in the presented situation. Afterwards they had been assigned to rational and irrational cognitions, and neutral statements and were asked to read

loudly the statements according to the condition assigned, for about 5 minutes. In the end they were included in the follow-up assessment.

Results

a) The effect of rational intervention on irrational cognitions and anger

The results showed significant pretest-posttest differences in the neutral intervention condition, for the total score of cognitions measured with ACS, $F(1, 38)=0.55$, $p=0.582$, but there had been significant differences in the rational condition, $F(1, 39)=16.6$, $p<.01$, $d=0.42$. There were not significant pre intervention differences between the groups, $F(1, 78)=1.39$, $p=0.168$, but only post intervention differences, for the rational condition, $F(1, 78)=8.17$, $p=0.005$, $d=0.64$. The intervention effect differentially displays for the violent/nonviolent categories, $F(1, 38)=5.21$, $p=0.028$, for violent offenders, $d=0.17$, and for nonviolent offenders, $d=0.85$.

The total score for FDS did not modify for the neutral group, $F(1, 38)=0.00$, $p=0.989$, besides for the rational group, $F(1, 38)=16.72$, $p<.01$, $d=0.68$. There were no significant pretest differences between the two groups, $F(1, 78)=0.40$, $p=0.523$, but only posttest differences, $F(1, 78)=11.08$, $p=0.001$, $d=0.74$, with changes produced in the experimental group. It had been found a significant effect between offenders categories (violent/nonviolent) and intervention, $F(1, 38)=4.67$, $p=0.037$, for violent offenders, $d=0.31$, and for nonviolent, $d=1.14$.

The results indicated no significant pretest and posttest differences for the total score of NAS in the neutral group, $F(1, 38)=0.07$, $p=0.788$, while in the experimental group there had been found significant differences, $F(1, 39)=35.28$, $p<.01$, $d=0.45$. The moderating analysis showed that the membership in one of the violent/nonviolent categories do not moderate the intervention effect on the anger emotion, $F(1, 79)=2.04$, $p=0.161$.

In the neutral group there were not found significant pretest-posttest differences for the total score of PI, $F(1, 38)=0.10$, $p=0.744$, while in the rational group there could be seen a reduction of anger level in the provoking situations, $F(1, 39)=91.20$, $p<.001$, $d=0.80$. There are no significant pretest differences between the groups, $F(1, 78)=1.21$, $p=0.274$, but in posttest the differences are significant, $F(1, 78)=16.97$, $p=0.01$, $d=0.92$. The intervention effect is not moderated by the offender category, $F(1, 38)=0.92$, $p=0.342$.

b) The effect of irrational intervention on irrational cognitions and anger

The results have showed that the irrational condition do not modify the pretest-posttest results for none of the outcome variables: the ACS total score $F(1, 41)=3.33, p=0.075$; the FDS total score $F(1, 38)= 0.01, p=0.989$; the NAS total score $F(1, 41)= 0.41, p=0.522$, and the PI total score $F(1, 41)= 0.09, p=0.761$. There were not found any significant pretest and posttest differences between the irrational condition and neutral condition except the total score for FDS where significant posttest differences have emerged, $F(1, 80)= 4.11, p=0.04$.

Discussion

The results for the effect of rational condition on angry cognitions measured with ACS, have showed a significant effect of this type of intervention on their reduction from pretest to posttest phase, relative to the neutral condition (no intervention). The rational condition has brought changes in LFT beliefs, with a significant decrease of the total score for the FDS` dimensions (entitlement, emotional intolerance, discomfort intolerance and achievement. These results confirm the presence of LFT irrational cognition in offending behaviour.

The irrational condition had a decrease effect on the FDS score a results possibly due to some external factors from detention environment or to the deliberate items` coding to indicate positive changes after the received intervention.

The rational condition significantly reduced the anger emotion. The result means on the one hand the attenuation of anger, indicated by the decrease in the total score of NAS (with its three scales: cognitive, behavioural and arousal, $d=0.45$), and on the other hand the attenuation of the anger intensity and generality in provocative (PI), comparative to neutral condition ($d=0.80$). Therefore it has been confirmed the hypothesis that rational statements rehearsals decreases the emotional distress.

The analysis for the irrational condition effect on anger showed no significant changes in none of the two scale used for anger assesment. Therefore, irrational statements induction maintained the level of dysfunctional emotionality as it has been stated by REBT theory.

The moderation analysis had showed that the membership in one of the violent/nonviolent categories did not moderate the rational and irrational condition effect either on irrational cognitions or in anger. The two intervention conditions are effective regardless of offending category.

The short term intervention modifies the irrational beliefs, but it has not an imediately effect on the emotional level. One of the study`s limits is that we do not know the depth and stability of the cognitive changes produced by the short term rational intervention, hence we

recommend the follow-up evaluation. The study certifies that tackling the irrational cognitions within the psychological interventions is an essential component in the elaboration of the intervention's strategies for anger management and aggressive behavior's change.

III.4. Study 4: Efficacy and effectiveness study for a rational-emotive and behavioural intervention for violent offenders

Introduction

The meta-analytic studies demonstrated the effectiveness of the cognitive-behavioural programs for offenders for the recidivism risk decrease (Lipsey, Chapman, & Landenberger, 2001; McGuire, 2008b). The most effective techniques were also identified (e.g. interpersonal skills training, structured individual counselling, family interventions). Anger management programs for violent offenders applied in forensic institutions, had been questioned because of the uncertain conclusions regarding the role of anger in violence (Serin, Gobeil & Preston, 2008; Watt & Howells, 1999). The results showed that the stronger effect sizes had been obtained by didactic component of anger management programs (Howells, Day, Williamson, Bubner, Jauncey, Parker et al., 2005). In a recent qualitative meta-analysis on the REBT work with offenders, Debidin & Dryden (2010) signaled the need for studies to establish the effectiveness and efficacy REBT interventions for offending behaviour changing. We hypothesized that: 1) REBT intervention is effective in decreasing irrational cognitions of violent offenders; 2) REBT intervention is effective in decreasing anger of violent offenders.

Method

Participants

Participants were violent inmates, men, adults (N=62) from Oradea, Bistrița, Arad și Poarta Albă Penitentiaries with incidence reports for misconduct during detention and disciplinary punishments, no previous cognitive-behavioural programs attendance. The mean average for age was 30.96 ($SD=7.02$). They were randomized in three groups: experimental (N=22), control (N=20), and placebo (N=20).

Measurements

Irrational cognitions were assessed with:

- *General Attitudes and Beliefs Scale* (GABS, Lindner, Kirkby, Wertheim & Birch, 1999)

- *Angry Cognitions Scale* (ACS, Martin & Dahlen, 2007)
- *Frustration-Discomfort Scale* (FDS, Harrington, 2005)

Anger was assessed with :

- *Novaco Anger Scale* (NAS, Novaco, 1994)
- *Provocation Inventory* (PI, Novaco, 1994)
- *State-Trait Anger Expression Inventory* (STAXI, Spielberger, 1996)

The REBT intervention has been developed and adapted from a REBT program intervention elaborated by Dryden (2002). The program for social skills training and problem solving was adapted from the activities retrieved in "Thinking for a Change" (Bush, Glick, & Taymans, 1997) program.

*Procedure*⁴

Participants (N=62) have been pre-tested. The experimental group (N=22) was included in the REBT intervention focused on cognitive restructuring, social skills training and problem solving. The placebo group (N=20) was included in educational, leisure programs (sports, occupational therapy, supportive interventions). The control group (N=20) was a non treatment group. After the experimental program all the participants were included in post-test phase, and after one month from the experimental program in the follow-up evaluation. After the quantitative analysis I have decided to exclude the control group because of the contrainuitive results.

Results

The results showed that REBT had had a significant effect for decreasing *self-downing* cognition from pre to post-test, $F(2, 20)=3.68$, $p=0.040$, $d=0.75$, while placebo group did not significantly modify this cognition, $F(2, 18)=0.14$, $p=0.863$. There was no significant difference between the 2 groups in pretest, ($t(40)=0.51$, $p=0.608$), a slightly significant difference in posttest, $t(40)=1.90$, $p=0.065$, $d=0.95$, and significant difference in follow-up, $t(40)=2.61$, $p=0.014$, $d=0.98$.

LFT from FDS did not significantly modify neither for REBT group, $F(2, 20)=1.93$, $p=0.166$, nor for placebo group, $F(2, 18)=1.96$, $p=0.158$.

⁴ The present study was conducted as a randomized clinical trial, but because of the obtained counter-intuitive results we decided to give up to the control group and take into account as a comparison group the placebo group.

The total score of ACS did not significantly modify between the three moments of measurement both for REBT group, $F(2, 20)=0.31, p=0.733$ and for placebo group, $F(2, 18)=0.55, p=0.582$.

ANOVA withingroup analysis indicated the lack of a significant change of the total score of NAS between the three moments both in the REBT group, $F(2, 20)=2.37, p=0.115$, and placebo group $F(2, 18)=0.61, p=0.545$.

Unifactorial ANOVA indicated that anger in situations of perceived disrespect (PI) significantly decreased in REBT group, $F(2, 20)=6.25, p=0.007, d=0.51$ in posttest and $d=0.63$ in follow-up, while placebo group did not modify the performance of this variable, $F(2, 18)=0.64, p=0.534$.

Anger in situations of perceived unfairness decreases significantly in the REBT group, $F(2, 20)=7.46, p=0.003, d=0.10$ in posttest, and $d=0.85$ in follow-up. The placebo group's performance did not register significant changes, $F(2, 18)=0.21, p=0.810$.

The results revealed a significant change from pretest to follow-up both for REBT group, ($F(2, 20)=5.09, p=0.014$) and placebo group ($F(2, 18)=20.36, p<0.01$).

Anger control out scale from STAXI was significantly modified in the REBT group, $F(2, 20)=8.07, p=0.002, d=0.31$ in posttest, and $d=0.87$ in follow-up, while in placebo group it has not significantly modified the performance, $F(2, 18)=0.31, p=0.733$.

Anger control in scale significantly increased between the three moments, $F(2, 20)=3.75, p=0.038, d=0.12$ in posttest and $d=0.72$ in follow-up. The scale was not significantly modified in the placebo group, $F(2, 18)=1.30, p=0.286$.

Discussion

The REBT intervention had a significant impact on decreasing self-downing cognition, aspect that proved its primordially in violent individuals (Jones & Trower, 2004; Shanahan, Jones, J., & Thomas-Peter, 2010), and also their ability to access this cognition. The increase in the LFT cognition in the experimental group is due to the difficulty for the violent subjects to conceptual process the rational alternative and accept this cognition. The absence of changes can be the effect of the strong irrational cognitions and the situation specificity that can activate them. The results indicated that REBT did not have a significant effect on the anger state assessed with NAS in none of the three moments. REBT changed the anger intensity and generality because changes in the way to perceive provoking situations were produced. The REBT participants increased the internal and external control to avoid anger expression in front of other people, and reduce the level of internal anger. Some opinions

mentioned the tendency of aggressive and angry people to control the anger expression (Deffenbacher, 1993; Kassirer & Tafrate, 2002; Martin & Dahlen, 2005; Novaco, 1975).

The present study is the first one to establish the effectiveness and efficacy of REBT intervention in changing the irrational cognitions and dysfunctional negative emotions in violent offender population.

CHAPTER IV

GENERAL CONCLUSIONS AND DISCUSSIONS

The aim of the thesis was to analyse and comprehend the cognitive and emotional mechanisms involved in violent offenses. After observing the defective state of art, the undertaking process was focused on the identification of causal irrational cognitions in emotionality and offending behaviour from a rational emotive and behavioural prospect. This gap was also signaled in a qualitative meta-analysis of REBT offending research by Debidin and Dryden (2010). They suggested the need for empirical studies to identify irrational cognitions of offending population, hence to empirically demonstrate the effectiveness of REBT therapy in offending behaviour modification.

Theoretical contributions

The obtained results from the thesis` studies show the predisposing cognitive and emotional factors in offending behaviour. There has been found out the prevalence of the irrational cognition *self-downing* in violent offending behaviour and that dysfunctional negative *anger* in conflictual and stressful situations is mediated by irrational cognitions in general offending behaviour. Anger can be activated in interpersonal conflictual and stressful situations when the cognitive mediating processes are dysfunctional. For the emotional vulnerability perspective it has been found that the cognitive areas of *suspiciousness* and *disrespectful treatment* involved in anger expression are prevalent in offending behaviour. The identification of *depression* as a primary emotional factor among violent inmates is an aspect that needs to be considered in future empirical studies and also in clinical practice with the inmates. The research also demonstrated the effectiveness of an REBT programme that incorporates cognitive restructuring in specific irrational cognitions along with the use of social skills development and problem solving techniques.

Methodological contributions

One of the thesis` methodological contributions refers to the usage in Study 1 of a novel statistic method of receiver-operating characteristics (ROC) analysis for the identification of irrational cognitions and negative emotions in offending violence. The Study 3 has been developed as an experimental study demonstrating in vitro condition the causal influence of the irrational and rational cognitions in emotions in violent and nonviolent inmates samples. The anger induction through the exposure to a interpersonal provoking situation for violent sample and to a stressful situation for nonviolent sample had contributed to the increase of the study`s ecological validity. Another contribution was brought through out the development of the first randomized clinical trial study for an REBT programme in an offending population, a need signaled also by Dryden and Debidin (2011).

Practical contributions

The thesis` results advanced the usage of REBT tenets in clinical practice within penitentiaries, and also the need for future empirical study of the violence issue from the REBT perspective. The results showed that anger and cognitive distortions are strongly related with offending behaviour and this finding needs to be carefully explored by the therapists and workers from the forensic institutions, and by the researchers in the offending behaviour area.

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