

The contribution of integrated relaxation for stress management among delinquent adolescent -Suggestion diagnosis and therapeutic protocol-

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Abstract:

This study aims to explore the contribution of an integrated therapeutic protocol based on integrated relaxation strategies in teaching and equipping delinquent adolescents with knowledge, skills and experience related to managing psychological stress responses. The protocol includes a series of exercises inspired by levels of muscular, respiratory and mental relaxation, using key mechanisms such as body awareness through muscle group activities, followed by mental focus on differentiating between muscle tension and relaxation to enhance imaginative activity. The study adopts a combined clinical and quasi-experimental approach, with each case being studied individually, using pre- and post-measurements and follow-up measurements spread over three different periods. The sample consists of fifteen (15) juvenile delinquents. The research instruments include semi-structured interviews, two scales developed by the researchers to assess the level of psychological stress among delinquent adolescents, and a questionnaire on the delinquent adolescent's response to stress (the diagnostic protocol). The therapeutic protocol, based on integrated relaxation techniques, is then implemented. The main finding of the study is the contribution of integrated relaxation to the management of physiological, emotional, cognitive and behavioural stress responses in delinquent adolescents.

Keywords: Psychological stress, stress responses, stress management, juvenile delinquents, integrated relaxation.

1/ Introduction / Problem Statement:

Psychological stress has been an inherent phenomenon of human existence since the beginning of time. However, it has become a characteristic of this era of social, environmental and economic complexity. Individuals from all walks of life, at different levels, experience different forms of stress on a daily basis. The intensity and nature of stress varies from person to person and from time to time, even within an individual's own experience. Stress does not discriminate between societies; it exists in all communities, regardless of their level of development. For example, Sweden, known for its high standard of living and income levels, also has high statistics on mental illness and suicide, according to the 2010 World Health Organization (WHO) report.

Although stress is not inherently positive, it can lead to real distress through prolonged and intense exposure to reactions or physical and psychological disturbances that result in impaired functioning and lack of interaction with others. This is particularly true during sensitive developmental periods, such as adolescence, when individuals experience unfamiliar situations without the necessary coping skills. They are undergoing a series of biological, psychological and social changes, all of which represent internal and external pressures that require adaptation. The danger lies not in the presence of these pressures, but in the failure to cope with them effectively.

It is clear that psychological pressures increase and diversify in certain individuals with specific circumstances and at certain stages of development, as in the case of juvenile delinquents. Juvenile delinquents also experience constant internal and environmental pressures, all of which are stressful, confining and pressurising. These pressures arise from their inability to regulate and cope with internal conflicts, particularly during one of the most critical stages of development (adolescence), while at the same time dealing with the consequences of their delinquent behaviour within the criminal justice system.

These psychological pressures on delinquent young people have significant consequences and costs, both for the individuals themselves and for society as a whole. They can lead to a wide range of

physical illnesses, mental disorders, social maladjustment, targeted aggression, conflict, fighting, anti-social behaviour, disruption of public order and even suicide. It is therefore crucial to address and treat these psychological pressures among delinquent young people by developing targeted programmes to alleviate the problem.

Based on previous research, psychologists can recognise and identify the psychological pressures experienced by juvenile offenders in correctional and rehabilitation facilities, as well as how to respond to these stressful events and manage them through various relaxation techniques. It is widely accepted by psychologists that when tension and psychological pressure dominate a person, they are unable to think clearly and their reactions become exaggerated and unnatural. To this end, it was decided to use a psychosomatic technique, specifically relaxation, considering that these pressures stem from incongruent learning. Delinquent adolescents can learn and acquire new motivations to help them overcome their disruptive behaviour. The problem is to establish a therapeutic relationship with both the adolescent and the delinquent at the same time. It is therefore more appropriate to use a psychological intervention that integrates physical action. In other words, the initiation of this therapeutic technique through suggestive language establishes a physical link, or what are known as physical exercises, leading to a transition to psychological activity by focusing on the sensations associated with these muscle exercises and various imaginative techniques.

In view of the above, the main problem of current research is as follows: Does integrative relaxation contribute to the management of psychological stress in juvenile delinquents?

Based on the problem of the study and its objectives, a set of hypotheses can be formulated as follows:

General hypothesis: Integrative relaxation contributes to the management of psychological stress in delinquent adolescents.

Specific hypotheses:

- Integrative relaxation contributes to the management of the physiological response to psychological pressure in delinquent adolescents.
- Integrative relaxation contributes to the management of the cognitive response to psychological pressure in delinquent adolescents.
- Integrative relaxation contributes to the management of the emotional response to psychological pressure in delinquent adolescents.
- Integrative relaxation contributes to the management of the behavioural response to psychological pressure in delinquent adolescents.
- The contribution of integrative relaxation to the management of responses to psychological pressure in delinquent adolescents is sustained over time.

The aims of the study are:

- To identify the level of psychological pressure in delinquent adolescents within the specialised centre by designing and constructing a scale to assess and ensure its psychometric properties.
- To understand how delinquent adolescents within the specialised centre react to psychological pressure, especially those who score high on the scale assessing the level of psychological pressure, by designing and constructing a questionnaire for this purpose and ensuring its psychometric properties.
- To determine and verify the contribution of an integrative protocol based on relaxation techniques, including physical exercises (targeting specific muscle groups) and psychological methods (mental focus, sensory description, imagery and feedback), in managing the physiological and psychological (cognitive, emotional and behavioural) responses to pressure in delinquent adolescents.

2/ Study variables and concepts:

2.1 Psychological Pressure:

As a procedural definition in this study, psychological pressure can be described as delinquent adolescents' perception of being overwhelmed by exposure to new and unfamiliar situations related to events in everyday life. They perceive these situations as a real threat to themselves, hindering their ability to achieve their goals, satisfy their needs and adapt to their demands. They therefore need to confront them and respond effectively...

The dimensions of psychological pressure in this study are the following: pressure related to the judicial judgement resulting from the case they are involved in, pressure related to the institution during their registration at the Social Integration Office and their supervision in the open environment, family pressure such as difficulties in communicating with family members, lack of support from them

and the burden of responsibility towards them. Financial pressures resulting from limited resources and skills, while social pressures manifest themselves in poor relationships with society and their environment.

2.2 Psychological Pressures:

These refer to the juvenile offender's responses to the perceived imbalance when experiencing psychological pressure. These responses are of two main types: physiological and psychological (behavioural, cognitive and emotional). They are interrelated and interconnected and cannot be separated.

The psychological responses to pressure identified in this study include: physiological responses (such as increased heart rate, nausea, shortness of breath, headaches and abdominal pain), behavioural responses (such as difficulties with time management, unhealthy habits such as insufficient sleep and behavioural disorders such as excessive exercise), cognitive responses (such as difficulties with self-monitoring, negative self-talk, irrational thoughts and false beliefs) and emotional responses (such as anger, sadness, mood swings, feelings of tension and anxiety).

2.3 Coping with psychological pressure: The process of managing pressure in this study includes the measures and integrative relaxation strategies that the delinquent adolescent learns in order to cope with or adapt to pressure in general. It aims to achieve several main objectives, including

- To help them deal with stressful life situations.
- Helping them gain physical control to avoid physiological reactions.
- Helping them develop more appropriate behavioural responses.
- Helping them change negative perceptions and beliefs, whether about themselves or their environment.
- Helping them to regulate and control their emotions.

2.4 Delinquent adolescent:

In this study, the delinquent adolescent refers to an individual in the adolescent stage, between the ages of fifteen (15) and twenty-one (21), who has engaged in deviant behaviour that violates the prevailing norms of his or her society and has caused harm to others, resulting in a judicial sentence against him or her.

2.5 Integrative relaxation:

Integrative relaxation, in this study, is a specific technique used in psychotherapy that focuses on the body through the choice of a lying position. It provides a space for expression through simple and repeatable exercises to cope with psychological pressure in young offenders. It involves a state of physical and mental calmness involving three levels of relaxation: muscular, respiratory and mental, using suggestive language implemented through a series of physical exercises (targeting individual muscle groups) and psychological techniques (mental focus, sensory description, visualisation of specific images and feedback).

3/ Previous studies:

In reviewing the previous literature, there are numerous studies and researches, especially foreign ones, that have investigated the effectiveness of relaxation in managing (either reducing or treating) various psychological and physical disorders. For example, a study conducted in France by Mothe et al. (2011) evaluated the contribution of relaxation techniques based on Jacobson's progressive muscle relaxation and hypnosis in the treatment of pain and fatigue associated with fibromyalgia. The study included a sample of 59 patients who had attended pain assessments for two years, consisting of eight sessions with an average duration of thirty (30) minutes per session. The study found that there was no statistically significant improvement when each of the three techniques was used separately: Jacobson's relaxation techniques, hypnosis combined with relaxation suggestions, and hypnosis combined with analgesia suggestions. However, there was a statistically significant improvement when the three combined psychophysical techniques were integrated with medication treatment. (Mothe et al., 2011).

Similarly, a study conducted in the United States by Walker et al. (2014) aimed to compare the effectiveness of an integrative therapeutic programme based on relaxation strategies in alleviating nervous breakdown in an experimental group of lung cancer patients, compared to a control group that did not undergo the proposed therapeutic programme but received standard care. The sample consisted of 142 adult lung cancer patients, aged 18 and over, randomly divided into two groups, a control group

and an experimental group. The treatment programme was applied to 68 patients in the experimental group who were then followed up, while the other 74 patients in the sample received standard care and did not undergo the proposed treatment programme. The main finding of this study was the effectiveness of the integrative therapeutic programme based on relaxation in alleviating moderate levels of nervous breakdown in lung cancer patients, as opposed to other levels of breakdown. This programme contributed to reducing the effects of breakdown, reducing anxiety levels and promoting independence and quality of life in this experimental group. However, it should be noted that the programme had no effect on pain and physical fatigue, i.e. physiological symptoms specific to these patients. (Walker et al, 2014).

-Through this theoretical review of previous studies, the following observations can be made:

- All previous studies discussed only one level of relaxation (muscular or respiratory) or both levels together. What distinguishes the current study is its focus on integrative relaxation, which includes all three levels: muscular, respiratory and mental. This approach is based on two basic mechanisms: hypnotic language and feedback.

- Previous studies have looked at different psychological disorders and problems, demonstrating the wide range of issues that relaxation techniques can address. All the results agreed on the effectiveness of relaxation in maintaining mental wellbeing.

- The current study is unique in that it focused on adolescent offenders, unlike previous studies that focused on specific age groups, such as children and adults, and were limited to patients with medical conditions.

- Unlike previous studies, the current study used a longitudinal design with three different follow-up periods: the first follow-up for six months, the second for twelve months and the third for eighteen months.

Therefore, the current study stands out for its novel variables - to the best of the researcher's knowledge - in the management of psychological stress in a specific group represented by delinquent adolescents, using a comprehensive and deep therapeutic technique that incorporates relaxation at all three levels. This approach facilitates a therapeutic relationship by allowing juvenile delinquents to engage with their bodies.

4/ Study methodology and tools:

The study adopted an integrated methodological approach, combining clinical and quasi-experimental methods. The aim was to investigate the contribution of integrative relaxation (independent variable) to the management of psychological stress (dependent variable) in juvenile delinquents. This was done by means of pre- and post-measurements, as well as longitudinal follow-up over three different periods: the first follow-up for six months, the second for twelve months, and the third for eighteen months.

The study used two instruments developed by the researcher: a semi-structured clinical interview and two scales. The first scale measured the level of psychological distress in the delinquent youth, while the second scale assessed the delinquent youth's response to psychological distress.

5/ Study sample:

The study sample consisted of two parts: a survey sample and a core sample. The survey sample, which was randomly selected, consisted of forty-two (42) delinquent adolescents. The purpose of selecting this sample was to standardise the diagnostic tools (the scale for assessing the level of psychological distress in delinquent juveniles and the questionnaire for assessing their response to psychological distress) in order to verify their validity. The core sample consisted of fifteen (15) juvenile delinquents.

6/ Diagnostic protocol:

6.1 Scale for Assessing the Level of Psychological Stress in Delinquent Juveniles:

The scale for assessing the level of psychological stress in delinquent juveniles was developed implicitly on the basis of the answers obtained in the survey study. It also drew on the content of several other questionnaires in the scientific literature related to the measurement of stress, tension and psychological anxiety. Examples include the Psychological Stress Scale for Students by Abdulhadi Al-Qahtani (2013). In addition, the scale was based on theoretical literature and focused on the sources of stress in the lives of juvenile delinquents.

The scale contained thirty (30) statements related to different stressful situations experienced by delinquent adolescents, which were divided into five dimensions: judicial pressure, correctional institution pressure, family pressure, financial pressure, and social pressure. Each dimension contained six (6) randomly ordered items. There were three response options for each statement: high, moderate and low, with values of 3, 2 and 1 respectively. Thus, a high score obtained by a delinquent in response to the statements of the scale indicates a higher level of stress.

The psychometric properties of the scale for assessing the level of psychological distress in juvenile delinquents are as follows:

-Validity of the scale:

The validity of the Scale for Assessing the Level of Psychological Stress in Delinquent Adolescents was calculated using the following methods:

A-Content validity:

The initial version of the scale was presented to eight (8) experts in the field to ensure its suitability for measuring the intended construct, as well as the linguistic appropriateness and alignment of its items with their respective dimensions. Expert agreement on scale items was calculated using Kendall's Coefficient of Concordance, a five-point scale. After the expert review process, modifications were made based on majority agreement and Kendall's coefficient of concordance was calculated to determine the level of agreement among the experts on the scale items. The calculated value was found to be significant with $F = 7.58$. By comparing this calculated value with the critical value at $\alpha = 0.01$ and $\alpha = 0.05$, with degrees of freedom (df) of numerator = 7 and denominator = 23, which are 3.54 and 2.44 respectively, it was found to be statistically significant. This indicates that there is substantial agreement among the experts (raters) on the scale items (Al-Darder, 2006, p. 223).

Reliability of the scale: The final version of the Scale for Assessing the Level of Psychological Stress in Delinquent Adolescents was administered to forty-two (42) delinquent adolescents. Of these, twenty-five (25) were juvenile delinquents under judicial supervision at the Observation and Guidance Centre in the open environment of the Lajane district, Setif, and seventeen (17) others attended weekly sessions at the Social Integration and Youth Follow-up Office in the same open environment of the Lajane district, Setif. It is important to note that this validation sample was not included in the core sample.

Reliability was also calculated using the following methods:

B- Internal consistency reliability:

Internal consistency reliability was assessed by calculating the correlation coefficient between the dimensions of the Scale for Assessing the Level of Psychological Stress in Delinquent Adolescents and the total score of the scale. The results are shown in the table below:

Table 01 shows the correlation coefficients between the Scale for Assessing the Level of Psychological Stress in Delinquent Juveniles and the total score of the scale:

Dimensions of the scale	Correlation Coefficient	Significance Level
Judicial Pressure	0.434**	0.000
Family Pressure	0.734**	0.000
Financial Pressure	0.796**	0.000
Institutional Pressure	0.472**	0.000
Social Pressure	0.364*	0.000

**The correlation is significant at the 0.01 level (two-tailed).

*The correlation is significant at the 0.05 level (two-tailed).

The data presented in Table 01 indicate that all correlation coefficients between the dimensions of the Scale for the Assessment of the Level of Psychological Stress in Delinquent Adolescents and the total score of the scale are statistically significant at the 0.01 level of significance (two-tailed). The correlation coefficients were as follows: 0.434, 0.734, 0.796 and 0.472 for all dimensions except the social pressure dimension, which had a Pearson correlation coefficient of 0.364 with the total scale score. This correlation coefficient is statistically significant at the 0.05 level (two-tailed). These results confirm the homogeneity and internal consistency of the scale as an indicator of construct validity in measuring the level of psychological distress in juvenile delinquents.

C. Scale validity in the first application using the comparative bisection method:

First, participants' responses were sorted in ascending order and then the top 27% of responses were compared with the bottom 27% of responses. This involved selecting 27 people from the high response group and 27 people from the low response group. The results were as follows:

Table 02 illustrates the significance of the difference between the top and bottom groups

Variable	Groups	Number	Mean	Standard Deviation	Standard Error	Homogeneity Test	t-Value	Degrees of Freedom	Significance	Mean Difference
Scale Total	Upper	08	68.37	3.33	1.17	F 0,458 SIG 0,510	10.13	14	0.00	19.12
	Lower	08	49.25	4.166	1.47					

Based on the information provided, it appears that you are referring to Table 02, which shows the mean scores for the high and low response groups on the scale as a whole. The mean score for the high response group was 68.37, while the mean score for the low response group was 49.25. In addition, the small standard deviations indicate low variability within the groups. The calculated t-value for the total scale was 10.13, with degrees of freedom (df) of 14 and a significance level of 0.00, which is less than 0.05. This indicates statistical significance, suggesting that the instrument has high discriminant validity.

-Reliability of the scale:

The calculation of the stability of the measuring scale is as follows:

A-The Cronbach's alpha values:

The reliability of the scale was assessed using Cronbach's alpha coefficient. The Cronbach's alpha values for each dimension and the total scale score are shown in the following table:

Table 03 shows the calculation of the reliability of the scale by determining the Cronbach's alpha coefficient for the dimensions and the total score of the scale.

Dimensions of the scale	Cronbach's Alpha Coefficient	Number of Statements
Judicial Pressure	0.518	06
Family Pressure	0.667	06
Financial Pressure	0.693	06
Institutional Pressure	0.652	06
Social Pressure	0.596	06
Scale Total	0.748	06

Based on the information provided, Table 03 shows that the Cronbach's alpha coefficient values for the dimensions of the Scale for Assessing the Level of Psychological Stress in Delinquent Adolescents were high, with values of 0.518, 0.667, 0.693, 0.652 and 0.596, respectively. The Cronbach's alpha coefficient for the total scale was 0.748, indicating a high reliability of the scale.

6.2 Questionnaire on the reaction of juvenile delinquents to psychological stress:

After measuring the level of psychological stress in delinquent juveniles and before implementing the relaxation-based integration programme, this questionnaire was administered to understand how delinquent juveniles respond to psychological stress. The questionnaire was developed based on the responses obtained from the survey study and the contents of various studies and researches such as Taylor (1999), Tubau (2001), Cungi (2010) and others. However, to the best of the researcher's knowledge, no measures have been found that directly and explicitly address the purpose of understanding the delinquent adolescent's response to psychological stress. The questionnaire consists of twenty-four (24) statements divided into four dimensions: physiological, behavioural, cognitive and emotional. Each item consists of six (06) systematically arranged options. Respondents are asked to select the appropriate alternative for each item using a three-point Likert scale (often, sometimes, rarely), with ratings ranging from 3 to 1 respectively. Thus, the higher the score obtained by the

juvenile delinquent in response to the statements in the questionnaire, the higher the level of reaction to the psychological stress he/she is experiencing.

The psychometric properties of the questionnaire measuring juvenile delinquents' response to psychological stress were calculated using the same procedures as those used to calculate the properties of the scale for assessing the level of psychological stress in juvenile delinquents. The results can be summarised as follows:

- In terms of the Kendall's W coefficient of agreement, there was significant statistical agreement among the raters regarding the questionnaire items.
- The correlation coefficients for the dimensions of the questionnaire and the total score of the questionnaire were statistically significant at a significance level of 0.01 (alpha). The correlation coefficients were 0.794, 0.600, 0.669 and 0.627 respectively. This confirms the internal consistency and strength of the reliability of the questionnaire as an indicator of the construct validity in measuring the response of delinquent adolescents to psychological stress.
- In the first application using a comparative method, the mean scores of the high group were higher than the mean scores of the low group. The mean score of the high group was 54.2500, while the mean score of the low group was 42.3750. With a small standard deviation value (T) of 11.343 for the total scale, with a degree of freedom of 14 and a significance level of 0.00 (which is less than 0.05), there is statistical significance. This indicates that the instrument has high discriminant validity.
- With regard to the reliability of the questionnaire, the Cronbach's alpha coefficient values for the dimensions of the questionnaire that measure the response of juvenile delinquents to psychological stress were high, with values of 0.605, 0.349, 0.618 and 0.551, respectively. The Cronbach's alpha coefficient for the total scale was 0.764, indicating a high reliability of the questionnaire.

7/ Relaxation-based Integration Protocol:

7.1 Introduction to the Integration Protocol:

An integration protocol based on relaxation techniques has been developed to deal with psychological stress in juvenile delinquents. A brief description of the protocol is given below:

The protocol is a relaxation-based integration programme designed to manage psychological stress in juvenile delinquents. It consists of a series of physical exercises (targeting individual muscle groups) and psychological techniques (such as mental focus, sensory description, imagery and feedback). The programme consists of fifteen (15) sessions, each with its own general and specific objectives, methods, level of relaxation, training content and state of non-relaxation during training. These sessions are distributed at a rate of one session per week, with varying durations ranging from 45 to 69 minutes, depending on the content of the session and the ability of the individual juvenile offender to achieve a relaxed state. Each session consists of three (03) main periods, which include the following:

Period 1: Review of the previous session and preparation for the current session.

Period 2: Training in muscular, respiratory and mental relaxation, using relaxation postures, events, sensations, mental focus, consolidating ideas through direct imagery and using suggestive language and physical exercises.

Stage 3: Verbal expression of the session itself and feedback.

The implementation of this protocol requires the expertise of the trainer and the willingness of the juvenile delinquent to accept and engage in the exercises and activities required to manage his psychological stress.

7.2 Mechanisms of the integration protocol:

The Integrative Relaxation Protocol for the management of psychological stress in juvenile delinquents is based on five (05) basic mechanisms, as follows:

1. Physical relaxation: Through techniques based on the degree of muscle relaxation, or what is known as listening to the body, activities are targeted at muscle groups. The suggestive language of the researcher and the body at the same level allow transformations and changes that lead to the construction of representations through the recall and retrieval of mental images, concepts, events and postures.

Example: When the juvenile delinquent thinks about a stressful situation, the situation itself appears in his mind.

2. Mental focus: Concentration is required throughout the relaxation session and in all programmed sessions. The focus is on the difference between tension and relaxation processes in the body and on the level of imaginative activity.

3. Imaginative activity: The body is prepared for this mental work, especially since the main goal of integration relaxation is not only physical work, but also the transition to mental activity. As long as all the muscles of the delinquent adolescent are in a state of relaxation, they can move on to the next stage, which is at the level of thinking. Mental activity allows the representation of images, the process of imagination, the emergence of tricks related to behaviour and expectations, as well as all the assumptions.

All the necessary mental activities can access what is blocked and dormant in the delinquent young person. Relaxation allows images to be formed, while assumptions provide access to thoughts and latent dreams in unconscious knowledge. (Bounes and Bonnet, 2008, pp. 6-7).

4. The massage process, *Le Massage*, is integrated into the relaxation process, particularly during the work on the facial muscles. This is because the facial muscles are delicate and difficult to work with, both during the tensing and the relaxing exercises. Therefore, it is preferable to help the delinquent young person through the massage process in order to give him more energy and vitality.

5. Finally, suggestion, *La suggestion*, refers to the act of conveying a directed idea, whether through verbal or non-verbal language (such as visions, facial expressions, gestures, directions and postures) with the aim of improving the integration process. In other words, suggestion can be seen as a relationship in which one person influences another. Bernheim emphasises that suggestion often refers to a word, sign or information used to influence others.

Freud suggests that suggestion is the primal phenomenon that cannot be completely ignored because it is the fundamental truth of an individual's psychological life. Suggestion can be generated by the individual or by others through various sensory methods, including imaginative and emotional aspects. It may be direct or indirect, immediate or delayed.

The therapist is affected by suggestion and guides the individual towards conscious and unconscious actions, causing them to lose a little of their freedom, as if they were being influenced. Suggestion is therefore inseparable from the personal experience of relaxation.

8/ Study results:

- The level of psychological stress estimated among the delinquent adolescents varied between high and moderate levels, as assessed by the Psychological Stress Level Assessment Scale for Delinquent Adolescents. However, the results of the questionnaire measuring the delinquent's response to stress were concentrated at one level (often) in the pre-protocol measurement and prior to its implementation.

- The study participants showed determination and motivation for this type of therapy. They were able to regulate the tension and relaxation processes at the muscular level, control proper and healthy deep breathing (abdominal breathing), and successfully concentrate on, understand and carry out the instructions given during the training sessions, especially those related to various forms of imagination. As a result, the level of engagement in the sessions increased with each session, becoming more precise and profound. In addition, when comparing the pre- and post-protocol measures of psychological distress, as well as the follow-up measures using the Psychological Distress Assessment Scale for Delinquent Adolescents, positive results were observed.

Therefore, it can be concluded that the overall hypothesis that 'integrative relaxation contributes to the management of psychological distress in delinquent adolescents' was met.

The study participants were able to learn and acquire the skills of muscle tension and relaxation (muscle relaxation) by working on each muscle group individually in each session (programme content). The primary purpose of muscle relaxation is to manage physiological, emotional and behavioural stress responses.

In addition, the study participants were able to train in deep breathing (respiratory relaxation), which manifested itself in two different aspects during the sessions. The first aspect involved involuntary breathing, i.e. following muscular relaxation individually for each muscle group. The second aspect was unique respiratory relaxation, usually used as a preparation for mental relaxation. The main aim of respiratory relaxation is to manage physiological and emotional stress responses.

The study participants also learned and acquired mental focus and imagery (mental relaxation). Mental focus involved improving the ability to concentrate by focusing the gaze with the eyes closed, either on the trained muscle immediately after muscle relaxation, or on the whole body (this focus preceded the imagery exercise). The focus was on the transition of the trained muscle from the tension phase to the relaxation phase, and on various suggested sensations (heaviness and lightness, warmth and coolness, and also refreshment). Mental focus was maintained throughout all therapy sessions for the trained muscle groups and the whole body in general.

Imagery exercises varied in these sessions.

Using specific images to achieve desired outcomes was part of guided imagery. After muscle relaxation, participants were reminded of spatial presence and sensory awareness, with mental focus on the body. This moved into the guided imagery stage by providing an image to expand and deepen in the mental screen.

The image could be warm at times and dynamically moving at others. The study participants engaged in and interpreted the intended mental image through a two-way dialogue (language), demonstrating their ability to activate pre-determined goals. These goals primarily involved modifying or changing physiological, emotional, cognitive and behavioural responses associated with psychological stress in general.

In contrast to mental focus, which was included in all integrative relaxation sessions, imagery was included in only six sessions. The primary aim of mental relaxation was to manage physiological, emotional, cognitive and behavioural responses.

In addition to the comparison between the pre- and post-measurements of perceived response to psychological stress using the Juvenile Delinquent Stress Response Questionnaire, it can be said that the results of the partial hypotheses were achieved in favour of the post-measurement. These hypotheses stated: "The contribution of integrative relaxation to the management of physiological, emotional, cognitive and behavioural responses to psychological stress in juvenile delinquents".

Through clinical interviews and the reapplication of my measurement tools, the ongoing contribution of Integrative Relaxation to the management of psychological stress was evident in the study participants during follow-up sessions that took place over three different periods: the first follow-up for a duration of six (6) months after completion of the Integrative Protocol, the second follow-up for twelve (12) months, and the third follow-up for eighteen (18) months.

This finding is consistent with previous studies, despite variations in the content of the relaxation training, which was limited to a single level and different sample populations, as well as the nature of the disorder. These studies include the work of Al-Mudallal (1991) in Jordan, Al-Awani (2009) in Saudi Arabia, Larson and Lochman (2011) in Western Europe, Mothe et al. (2011) in France, Al-Qarni (2012) in Saudi Arabia, Jabali (2013) in Algeria, and Walker et al. (2014) in the United States.

9/ Conclusion:

The transfer of sensations and representations at the bodily level, facilitated by a conducive training environment with specific conditions and calmness, together with a distinctive tone of voice and the selection of words, images, instructions and a series of suggestions provided by the therapist, enables the juvenile delinquent to cope with psychological stress. Therefore, psychological intervention with juvenile delinquents requires a special setting and a specific clinical approach to enable them to engage in appropriate psychological work.

Recommendations:

One of the most important recommendations that can be proposed in this study is to train and equip psychologists practicing in the psychological field, in all relevant institutions, to use relaxation techniques as an effective method of dealing with various disorders and psychological problems that affect all segments of society.

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