Psychological Flexibility from the Perspective of Acceptance and Commitment Therapy as a Protective Factor Against Post-Traumatic Stress Disorder in a Sample of Women Affected by Domestic Violence

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Study summary:

The aim of the current study was to investigate whether the context of psychological flexibility, from the perspective of Acceptance and Commitment Therapy (ACT), acts as a protective factor against Post-Traumatic Stress Disorder (PTSD) in a sample of 10 women affected by domestic violence.

To achieve our research aim, we used a clinical approach. To verify the results, we administered the PCLS test, which measures PTSD symptoms, and developed a psychological flexibility scale from the perspective of Acceptance and Commitment Therapy.

The results indicated a high level of post-traumatic stress disorder symptoms and a corresponding decrease in psychological flexibility, indicating psychological rigidity. This was confirmed by clinical analysis of 9 out of 10 cases who had experienced violence in their family environment. These individuals showed symptoms of re-experiencing through integration contexts, experiential avoidance, and rumination about the past and future fears. They also showed symptoms of avoidance and related experiential avoidance contexts, lack of value clarity, and lack of commitment to action. Finally, they displayed symptoms of hyperarousal resulting from lack of present-moment awareness and fusion with false and negative thoughts.

Keywords: Post-traumatic stress disorder, acceptance and commitment therapy, psychological flexibility

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1- Problem statement:

Violence is a practice and a reality experienced by Algerian women, and its prevalence has increased significantly in recent years. In many cases, it is silenced because of its impact on family structures and social norms, especially when this violence occurs in the domestic sphere. Domestic violence is violence perpetrated against women either by their fathers, who may believe that restricting their freedom will prevent them from deviating and protect their honour, or by their brothers, with the occasional complicity of their mothers, who support their sons and remain silent when he controls and abuses his sister, arguing that he has the right to do so and that he knows what is best for her and that she must put up with it. It can also be violence perpetrated by husbands who believe that it is their right and an expression of their love and possessiveness, considering their wives as their exclusive property who should accept everything they do without objection.

The violence experienced by women within the family fulfils all the criteria of a traumatic event, as it threatens their psychological and physical well-being, especially when it is repeated and prolonged, starting from childhood. This leads to the development of psychological trauma, or complex trauma, characterised by an emotional response of panic and painful anxiety due to the individual's perception of the threat posed by the traumatic event they have experienced. One of its characteristics is the self-perception of hopelessness and helplessness due to the inability to confront or escape the situation (Saeed, 2015, p. 49).

The traumatic event has such an impact that it instils fear and a sense of helplessness in the women, making them constantly anxious and ready to face their own death. We can therefore predict the presence of post-traumatic stress disorder (PTSD), which deeply affects their personality and causes constant suffering that prevents them from living their lives.

In addition to the classic symptoms of PTSD (re-experiencing, avoidance, hyperarousal), there may be other symptoms resulting from complex traumas, such as internalising disorders (depression, anxiety, dissociation) or externalising disorders related to behavioural disturbances. The repeated traumatic situations to which children are exposed, particularly in cases of domestic violence, can lead to impairments in areas of development that go beyond PTSD. Individuals respond with other symptoms, including dissociative disorders, attachment disorders, depression, identity disorders, alexithymia and learning difficultie. (Saeed A. K., 2023, pp. 7-12)

However, there are some people who experience traumatic violence but do not develop mental disorders. This has been confirmed by several epidemiological studies which suggest that some people who experience traumatic events may not develop PTSD. For example, according to Brillon (2005), 90% of people experience traumatic events in their lifetime, but only 5% develop PTSD. According to Rouillon (2008), only 8% develop the disorder (Naima, 2015, p. 35)

This allows us to point to the existence of certain personalities that have positive characteristics or psychological contexts that prevent them from developing this disorder.

In this regard, researchers such as Werner (1981), Rutter (1993), Seligman, Kobasa and Susan C. refer to the resilience factor, which acts as a protective factor against the development of the disorder. According to them, this quality is called psychological toughness, and from the perspective of Acceptance and Commitment Therapy, this positive quality is called psychological flexibility.

According to Christophe (2018), psychological flexibility is considered a core characteristic of human personality in acceptance and commitment therapy. It refers to an individual's ability to be fully engaged in the present moment and open to their internal experiences, while also having the capacity to adapt or change behaviour based on context and in line with their values. Psychological flexibility often acts as a protective factor for women who have experienced abuse, reducing the risk of developing mental disorders such as post-traumatic stress disorder and depression.

In this context, the World Health Organization (2020) implemented an Acceptance and Commitment Therapy programme for a group of abused women from South Sudan in a refugee camp in Uganda. These women had experienced severe traumatic events, including gender-based violence, the horrors of war and ongoing life pressures. The results of the study showed a significant reduction in both post-traumatic stress disorder and depression.

Psychological flexibility also offers individuals the opportunity to develop a different and more beneficial relationship with the thoughts, emotions and bodily sensations resulting from the traumatic event. This is achieved through six core psychological processes: acceptance, cognitive defusion, flexible attention to the present moment, self-as-context, values clarification and committed action. On the other hand, some abused women may experience post-traumatic stress disorder due to the dominance of psychological rigidity over psychological flexibility. When individuals rely excessively on rigid psychological processes, the disorder develops and certain pathological symptoms associated with these processes may occur:

First, in the context of experimental avoidance associated with post-traumatic stress disorder (PTSD), it is used in two ways. First, individuals who have experienced a traumatic event may be unwilling to engage with their internal experiences (such as emotions, thoughts and painful memories) and the associated physiological sensations that represent a threat. In response, threat response systems are activated through the autonomic nervous system, leading to symptoms such as excessive sweating, muscle tension and increased heart rate. Second, these individuals may attempt to change the frequency or form of recollection of the traumatic event. Over time, this avoidance extends to external factors, leading them to avoid people, places, social situations and

things. As a result, avoidance restricts their behaviour and prevents them from acting in accordance with their values. Avoidance has a negative impact on them in the short term and plays an important role in consolidating and structuring PTSD, as confirmed by Orsillo and Batten's 2004 study.

In addition, other symptoms of PTSD may be related to the experimental avoidance described by Westrup and Walser. Many people with PTSD go to great lengths to avoid these painful memories and work hard to get rid of them. They may also report attempts to avoid sleep or use medication to avoid unpleasant nightmares or flashbacks. Avoidance also leads to symptoms of excessive emotional reactivity, exaggerated startle response, irritability, difficulty concentrating or sleeping, and emotions associated with escape (fear, anxiety, panic) or confrontation (frustration, anger). Some people may experience dissociative symptoms, such as detachment from self and from reality, because their bodies cannot tolerate the intense emotions.

People who exhibit psychological flexibility allow their thoughts to come and go freely at the appropriate time.

They disengage from thoughts that engage them in a struggle with their inner experiences and maintain enough flexibility to choose whether those thoughts influence their behaviour.They also observe their thought processes without trying to change or control them. (Boukfa, 2020, pp. 39-40)

A person who experiences traumatic events related to domestic violence may or may not develop post-traumatic stress disorder (PTSD) depending on their level of psychological flexibility. Psychological flexibility allows individuals, particularly battered women, to develop a different and more beneficial relationship with the thoughts, emotions and physical sensations resulting from the traumatic event. This is achieved through six core psychological processes: acceptance, cognitive defusion, present moment awareness, self-as-context, values clarification and committed action. Psychological flexibility can therefore play a protective role against the development of post-traumatic stress disorder, even when women are exposed to domestic violence. It should be noted, however, that such events cannot be avoided as they are a part of our lives. However, we can help individuals to prevent and overcome the disorder by promoting psychological flexibility.

On the basis of the information and previous studies highlighting the role of psychological flexibility as a protective factor against post-traumatic stress disorder in women affected by domestic violence, the following questions can be posed:

* Does exposure to domestic violence lead to the development of PTSD?

* What is the level of psychological flexibility among women who are victims of domestic violence?

* is psychological flexibility a protective factor against the development of PTSD?

2- Research hypotheses:

1. Most individuals in the sample will have high levels of PTSD.

2. Most individuals in the sample will exhibit low levels of psychological flexibility.

3. Psychological flexibility is considered to be a protective factor against the development of PTSD.

3- Conceptualisation:

Post-traumatic stress disorder (PTSD):

Post-traumatic stress disorder falls under the category of trauma and stress-related disorders according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). It is a disorder that results from the development of psychological trauma following exposure to a shocking event involving the potential for actual or threatened death. This leads to significant psychological distress and negative effects on various aspects of the individual's personal, social and occupational life. It is characterised by three main symptoms: re-experiencing, avoidance and hyperarousal. To confirm the diagnosis, these symptoms must persist for more than one month. In this study, the severity of symptoms is measured by scores given by participants. The clinically significant range for the total score indicating the presence of the disorder is between 44 and 60 on the pSLS test. Clinically significant ranges for re-experiencing symptoms are between 15 and 25, avoidance symptoms are between 21 and 35, and hyperarousal symptoms are between 15 and 25.

- **Domestic violence:**

Domestic violence falls into the category of major traumatic events that cause an emotional response known as psychological shock. It manifests itself in three forms: verbal, physical and sexual.

- **Psychological flexibility:**

Psychological flexibility refers to the ability to engage with and be open to our personal experiences in the present moment, while recognising how to continue or change according to the context, in the service of one's values. According to the model of psychological flexibility proposed by Professor Hayes, it encompasses six core processes: acceptance, cognitive defusion, self-as-context, present-moment awareness, values clarification and committed action. In this study, psychological flexibility is measured using a scale and the total score obtained by participants falls within a range. Low levels of psychological flexibility range from 83 to 166, while high levels range from 167 to 249.

4- Research Aims:

- To identify the challenges faced by women who are victims of domestic violence and the factors that contribute to the development of post-traumatic stress disorder (PTSD).

- To determine the level of psychological flexibility among women who are victims of domestic violence.

- To confirm the structure of post-traumatic stress disorder in women who are victims of domestic violence.

- To develop a test to measure the level of psychological flexibility.

5- Importance of the study:

The importance of this study lies in highlighting the effectiveness of psychological flexibility, from the perspective of acceptance and commitment therapy, in preventing post-traumatic stress disorder in a sample of women exposed to domestic violence.

6- Survey study:

The survey study is considered as the first step on which the field study is based. It is of great importance as it helps us to become familiar with various aspects of the subject and to identify any shortcomings. We have dedicated the survey study to the development of a scale to measure psychological flexibility specific to Acceptance and Commitment Therapy. The steps in the development of the psychological flexibility scale are as follows:

- Aim of the scale: The aim of this scale is to determine the level of psychological flexibility in a sample of individuals from Algerian society.

- Target ability or characteristic to be measured: The target ability to be measured in this scale is psychological flexibility from the perspective of acceptance and commitment therapy.

- Procedural definition of psychological flexibility: Psychological flexibility is the ability to engage with and be open to our personal experiences in the present moment, while recognising how to continue or change according to the context, in the service of one's values.

- Identify the dimensions of psychological flexibility: The dimensions of psychological flexibility are: openness layer (acceptance, cognitive defusion), awareness layer (present moment awareness, self-as-context) and commitment layer (committed action, values).

- Formulation of scale items.

- Formulation of scale instructions.

- Scale refinement: The Psychological Flexibility Scale consists of 38 positive and negative items distributed across six dimensions, with three alternatives for each item (always, sometimes, never).

- Ensuring the psychometric properties of the scale: After presenting the scale to a group of experts for linguistic refinement and to determine the extent to which each item represents the intended variable, the following results were obtained: The scale is reliable because all its dimensions are internally consistent and agree with the total scale value (0.64).

The value of Cronbach's alpha coefficient was 0.701, which indicates a high reliability of the Psychological Flexibility Scale, since all the values were positive and there was consistency and correlation between the items.

7- Study method:

Since our study is based on investigating whether the context of psychological flexibility from the perspective of Acceptance and Commitment Therapy (ACT) acts as a protective factor against the development of post-traumatic stress disorder in ten women who are victims of domestic violence, a clinical case study approach is appropriate for this purpose. We will conceptualise each case individually using functional analysis and case formulation according to the perspective of Acceptance and Commitment Therapy, focusing on the three layers (openness, awareness, commitment), in addition to presenting the results of the Posttraumatic Checklist Scale (PCLS) and the level of psychological flexibility.

8- Study sample:

We selected a purposive sample of 10 women who had experienced trauma as a result of domestic violence. Eight cases were recruited from the Forensic Medicine Department and two cases were recruited from the University Mental Health Support Centre. Before participating in the study, the participants received an explanation of the study and gave their informed consent. The following criteria were used to select the sample:

- Exposure to domestic violence.

- No previous psychological treatment.

- No history of mental illness.

- Willingness to participate in the field study and to cooperate with the researcher.

Based on these criteria, 16 women were interviewed during the assessment phase prior to the clinical interviews. Thirteen of them agreed to participate in the field study, but only 10 met the sample criteria and were included in the study. The main characteristics of this group are described below:

Individuals	Age	Occupational Status	Educational Level	Marital Status	Perpetrator	Years of Abuse
1	31	Unemployed	University	Married	Father then husband	1 year
2	21	Unemployed	University	Single	Father	Since childhood until age 21
3	29	Municipality Employee	University	Married	Husband	5 years
4	47	Unemployed	Primary School	Married	Husband's brother	11 years
5	32	Employee in an institution	University	Married	Brother	10 years
6	42	Hairdresser	High School	Married	Brother and husband	3 years
7	34	Employee in the health sector	High School	Married	Husband	6 years
8	36	Unemployed	University	Married	Husband	10 years

9	61	Unemployed	Primary School	Married	Husband and husband's mother	40 years
10	21	Unemployed	Middle School	Single	Father and fiancé	Since childhood until age 21

Table 1 - Distribution of sample participants by age, level of education, marital status, employment status, perpetrator and years of abuse.

Table 1 shows some characteristics of our research group, which consisted of ten cases. Their ages ranged from 21 to 61 years. Five of them had a university education, two had a secondary education, one had an intermediate education and two had a primary education. In terms of marital status, two were unmarried and eight were married. Six of them were employed, one worked as a hairdresser, two worked in administration and one worked in the health sector.

In terms of the nature of the relationship with the perpetrator, all participants had a family relationship with the perpetrator, as they had all experienced domestic violence. The first case involved violence by both the father and the husband, the second case violence by the father, the third case violence by the husband, the fourth case violence by the husband's brother, the fifth case violence by a brother, the sixth case violence by both the brother and the husband, the seventh and eighth cases violence by the husband, the ninth case violence by the husband and the husband's mother and the tenth case violence by the father and the fiancé.

The duration of the traumatic experience ranged from one year to forty years among the participants.

9- Study instruments:

In order to test the validity and reliability of the hypotheses of the current research, we tried to select appropriate instruments.The purpose of using these instruments was to collect sufficient

information and data and to confirm the diagnosis of Post Traumatic Stress Disorder (PTSD) in the research cases.The instruments used were: an interview guide consisting of general and specific information about PTSD, the Posttraumatic Checklist Scale (PCLS) to assess PTSD, and the Psychological Flexibility Scale from the perspective of Acceptance and Commitment Therapy.

10- Clinical case presentation:

Case Study:

We have chosen a representative case from our study to present.

1-1 Case presentation:

Participant (N) is a 31-year-old married woman who currently lives with her husband and their young daughter in a central state. She has completed her education and holds a Bachelor's degree in Economics, but is currently a housewife. (N) comes from a family with a deceased father and a living mother, and is the second of three sisters.

At the age of 29, (N) was forced into marriage under considerable pressure from her mother. However, her married life was filled with violence, problems and stress. She stated that she experienced violence from her husband from the very first day, with frequent occurrences and mostly for trivial and unknown reasons. (N) reported experiencing various forms of verbal, sexual and physical violence, including threats, insults, intimidation, severe beatings, forced participation in deviant sexual acts and kicking. Describing her experiences, she said: "When he got angry, he would enter the house and start shouting at me, and then he would start hitting me with his fists or kicks. He even tried to kill me.

Each time her husband assaulted her, she felt humiliated, degraded and helpless. The severity of the physical violence prevented her from seeking medical treatment, as it caused serious injuries. However, what shocked her most, according to her testimony, was being subjected to physical violence during her pregnancy and postpartum period. She said: "I was shocked when he hit me while I was pregnant. I was completely frozen, I couldn't even react". She remained in a state of shock and disbelief for a long time after the incident.

In terms of pre-traumatic factors, (N) revealed that she grew up in a family full of conflict. Her mother was in constant conflict with her father, whom she described as harsh. Her mother was also physically abused in front of her children and (N) herself was verbally and physically abused by her father. This violence continued until her parents divorced. After the divorce, (N)moved with her mother to her grandmother's house.Since then, she has felt a lack of stability and the family's financial difficulties.Her mother is unemployed and her father used to bear all the expenses and financial responsibilities. All these factors have had a negative impact on her mental wellbeing.

Regarding the psychological assessment of (N) following her traumatic experiences, symptoms of post-traumatic stress disorder (PTSD) have begun to manifest. During the interview, she mentioned experiencing several psychological symptoms, including decreased attention and concentration, exaggerated startle response to the slightest stimuli, nightmares, insomnia, diffuse body aches, increased breathlessness, avoidance of anything related to violence or her husband, and she stated that when she sees her husband, she experiences the same emotions and sensations she felt during the moments of violence, as if she was reliving the same abusive experience. Furthermore, (N) does not like to relive past experiences and negative emotions, so she tries to distract herself through inflexible behaviour. She spends most of her time distracting herself to avoid distressing thoughts and memories, saying: 'Sometimes I take sleeping pills to escape from thinking about my painful memories'. She also spends a lot of time worrying about the future and her behaviour and actions are often inappropriate to her current situation. She spends most of her time scrolling through her phone, speaks less and rarely engages in her usual daily activities. She always expects the worst and finds it difficult to feel at ease. Fear and anxiety often overwhelm her and she tends to isolate herself and avoid contact with others, even her own family. When she has to interact with others, she has great difficulty and shows symptoms of confusion and trembling.

1-2 the results of the PCLS scale:

Levels of post-traumatic stress disorder	Results for the first condition
31 There is clinically satisfactory clinical significance.	/
60-44 There is clinically satisfactory clinical significance.	84

Table 2 shows the results of the PCLS test for the representative case. The table shows that the participant scored 84 out of a total of 85 points, indicating a clinically significant and high pathological score. This reflects the transformation of the psychological trauma experienced by (N) as a result of domestic and marital violence into post-traumatic stress disorder. By quantitatively analysing the severity of these three symptoms in post-traumatic stress disorder, we find that:

Symptoms of disorder	Clinical significance	Results of the case
Re-experience	5: 14 No significance	/
	25: 15 Significant	21

Avoidance	20: 8 No significance	/
	21: 35 Significant	40
Hyperarousal	14: 5 No significance	/
	25: 15 Significant	23

Table 3 shows the results of the PCLS subscales for the representative case. From Table 3 it can be seen that the first dimension of the test, intrusion, obtained a clinically significant and pathological score of 21. This symptom manifests itself as visual images of the traumatic and violent events experienced by the individual intruding into her consciousness. She experiences the images of physical and verbal violence inflicted on her in every situation. In addition, she experiences physical sensations throughout her body, feeling the same pain and physical sensations she felt during the moments of abuse, such as facial pain, back burns, and intense pressure in her head. She also suffers from distressing and nightmarish dreams related to the incident, which prevent her from sleeping and cause her to wake up in a frightened and shaking state. It is clear that any mention of the abusive incident causes her distress, particularly in the form of physical reactions such as increased heart rate and difficulty breathing.

In addition, as shown in Table 3, the avoidance symptom also reached a clinically significant and pathological score of 40. The severity of her re-experiencing symptoms leads her to use defence mechanisms to avoid psychological distress. Consequently, she avoids everything related to domestic violence, including situations, conversations, smells and even small details associated with the traumatic event. Finally, the symptom of arousal, which also has clinical significance and pathological value, received a score of 23. This symptom manifests itself in difficulties in falling and staying asleep, inability to concentrate and fear of the event repeating itself, which keeps them constantly on edge.

1-3 Presentation of the results of the Psychological Flexibility Scale:

Degree of psychological flexibility	**Results for the first condition**
165-83 ↓ Low psychological flexibility	148

249-166 ↑ High psychological flexibility	/

Table 4 shows the results of the Psychological Flexibility Scale specific to Acceptance and Commitment Therapy for the representative case. The results of the Psychological Flexibility Scale indicate a low level of psychological flexibility. This was determined on the basis of the obtained score of 148 points. According to the scale, as psychological flexibility decreases, the severity of psychological rigidity in the individual increases.

Dimensions of psychological flexibility	***Criteria of dimensions***	***Obtained result***
Experiential Avoidance	48-24 ↓ Low psychological flexibility 72-49 ↑ High psychological flexibility	34
Acceptance	46-23 ↓ Low psychological flexibility 4769- ↑ High psychological flexibility	45
Present Moment Awareness	36-18 ↓ Low psychological flexibility 54-37 ↑ High psychological flexibility	34
Self as Context	36-18 ↓ Low psychological flexibility 54-37 ↑ High psychological flexibility	34
Clear Values	36-18 ↓ Low psychological flexibility 54-37 ↑ High psychological flexibility	35

Committed Action	36-18 ↓ Low psychological flexibility 54-37 ↑ High psychological flexibility	35

Table 5 presents the results of the sub-dimensions of the Psychological Flexibility Scale. It illustrates the six contexts of psychological flexibility for Case (N). In the first dimension, which aims to measure the context of 'cognitive fusion defusion', a low score of 34 points was obtained. This confirms Case's fusion with erroneous self-related thoughts and past events. In the second dimension, which focuses on the context of 'acceptance', a score of 45 points was obtained, indicating a low level of psychological flexibility. There is a disorder in the acceptance context, with excessive use of the avoidance context. Case (N) avoids all situations, emotions and thoughts related to the traumatic event.

On the third dimension, which measures the context of "being present", the case scored 34 points. This explains the case's detachment from the present moment, constant rumination on past events, and anxiety about the future. In relation to the fourth dimension, which focuses on the context of 'self as context', the case scored 34 points, indicating a lack of self-awareness of internal and external psychological phenomena and cognitive self-control.

In the fifth dimension, which relates to the context of 'values', the case scored 35 points, indicating a lack of clarity in personal values. Therefore, most of the case's behaviours stem from avoidance and fusion rather than from values. In the sixth and final dimension, 'Commitment', the case scored 35 points, indicating a lack of commitment to behaviours that align with personal values and bring fulfilment.

It is clear from the above that most of the contexts mentioned reflect a low level of psychological flexibility, indicating a disturbance in the context of psychological flexibility and the case's reliance on the six contexts associated with psychological rigidity.The disorder is observed in almost all six contexts of psychological flexibility.

1-4 Summary of the representative case:

Based on our presentation of the results of the first case, we can conclude that case (N)has been exposed to violent and traumatic events since childhood, which has negatively affected her psychological well-being. This has made her vulnerable to the development of psychological disorders, as evidenced by symptoms of post-traumatic stress disorder. The three main symptoms were re-experiencing, avoidance and hyperarousal.

According to the Acceptance and Commitment Therapy (ACT) perspective outlined in Table 4, we observed a decrease in psychological flexibility in its three components: openness, awareness and commitment. The case is in a state of suffering where psychological rigidity dominates over psychological flexibility. This is evident in the conceptualisation of the case according to ACT therapy, as shown in the following table:

Layer of openness	**Layer of consciousness:**	**Layer of Commitment:**
Control of the avoidance context over acceptance: The individual resisted and fought against thoughts and emotions related to the traumatic event (domestic and spousal violence), as expressed by saying: "I don't want to think about what happened to me because if I do, I get sick again". - Control of the integration context through avoidance of the experience: The individual viewed her thoughts as realities to be adhered to and embodied in her behaviour, as seen in her statement, "I must not argue with my husband so as not to be abused."	Control of past and future anxiety context over present moment awareness: The individual has spent a lot of time thinking, has lost contact with the present moment and is easily distracted, as evidenced by her statement "I don't know what's going on and I don't know what I'm doing, I spend the night not sleeping, worrying about what's going to happen". - The individual is emotionally self-controlled and sees herself as deserving the violence because of her mistakes and behaviour, as expressed in her statement: "I am aggressive, impulsive, sometimes I deserve it".	The values were clear, but fear and anxiety prevented her from engaging in behaviours consistent with her values, as she expressed, "I can change myself and my life for the better, but I'm afraid to try. - Commitment is lacking due to intrusive thoughts and emotions, as she said: "I cannot make decisions about myself or act as I want to without recourse to my husband and his family. I end up living with them".

Table 6: Conceptualisation of the representative case according to Acceptance and Commitment Therapy

From Table 6 we can deduce that the 'openness' component of case (N)is impaired, indicating a dysfunction. The case is closed to their past experiences, fused with the traumatic events they have experienced. They perceive their thoughts as facts or commands to be obeyed, lacking the

inclination or willingness to accept and adapt to new and different thoughts and experiences. Consequently, they resort to avoidance in order to escape painful and traumatic life experiences, using mechanisms that conceal feelings of pain, tension and anxiety rather than being open to them and dealing with them directly.

The 'awareness' component is also impaired. The case is unaware of the details of the external and internal world, including senses, thoughts, emotions and current experiences. They are dominated by the context of dwelling on the past and worrying about the future, lacking awareness of what they are feeling and thinking in the present moment. As a result, their level of internal and external awareness is significantly reduced, leading to a lack of self-awareness. This is evident in the table, as the case is fused with self-related thoughts coloured by anxiety and sadness.

With regard to the 'commitment' component, there is a lack of clarity of values and a failure to commit to actions that are consistent with personal values. The case is unable to identify their values and move towards what is important and beneficial to them individually. Instead, they constantly rely on their spouse and in-laws. They also try to control the thoughts and emotions that result from domestic violence. Most of their values are based on fusion and avoidance. As a result, they are unwilling to engage in activities that bring vitality and happiness to their lives.

11- Statistical presentation:

We present these statistical results in order to confirm the hypotheses put forward, and the results are as follows:

Presenting the results in the light of the first hypothesis:

The first hypothesis of this study was "Most participants will have high levels of PTSD". To test the validity of this hypothesis, a statistical significance test (T-test) was conducted on the single sample to determine the level of PTSD symptoms among the abused women. After statistical analysis, the following results were obtained, as shown in the table below:

The overall questionnaire	Sample size	Theoretical mean	Mean	Standard deviation	Degrees of freedom	T-value	Significance level	Decision
The total score	10	34	67.40	21.88	9	9.73	0.000	significant at $\alpha = 0.01$)

Table 7 illustrates the level of PTSD symptoms among battered women.

Based on the results presented in Table 7 and considering the mean score of the study sample on the questionnaire as a whole, which was 67.40, it is higher than the theoretical average of 34. In addition, the mean score falls within the moderate range (58-71). Therefore, the level of PTSD symptoms among battered women is considered moderate. This is further supported by the calculated "t" value, which was 9.73. This positive and statistically significant value at an alpha level of 0.01 indicates that the hypothesis of the study that "Most participants have high levels of PTSD" is confirmed. The confidence level for this result is 99%, with a 1% chance of error.

Present the results in terms of the second hypothesis:

The eighth hypothesis of this study was "Most participants will have low levels of flexibility". In order to check the validity of this hypothesis, a statistical significance test (T-test) was carried out on the single sample to determine the level of psychological flexibility among the abused women. After the statistical analysis, the following results were obtained, as shown in the table below:

The overall questionnaire	Sample size	Theoretical mean	Mean	Standard deviation	Degrees of freedom	T-value	Significance level	Decision
The total score	10	83	144.60	23.26	9	19.657	0.000	significant at α = 0.01)

Table 8 illustrates the level of psychological flexibility among abused women.

Based on the results presented in Table 8 and considering the mean score of the study sample on the questionnaire as a whole, which was 144.60, it is higher than the theoretical average of 83. In addition, the mean score is in the low range (138-193). Therefore, the level of psychological flexibility among abused women is considered to be low. This is further supported by the calculated t-value, which was 19.657. This positive and statistically significant value at an alpha level of 0.01 indicates that the study's hypothesis that "Most participants have a low level of flexibility" is confirmed. The confidence level of this result is 99%, with a 1% chance of error.

Presentation of results in relation to the third hypothesis:

With regard to the third hypothesis, which states that psychological flexibility acts as a protective factor against the development of PTSD in abused women, it was intended to use path analysis to

statistically explore this hypothesis. However, due to the small sample size, it was not possible to carry out this analysis. Therefore, we relied on clinical case analysis.

12- Discussion and analysis of the results in the light of the research hypotheses:

Based on the results of the content analysis of each interview, the results of the PCLS test and the results of the Psychological Flexibility Scale, several findings were made in relation to the following hypotheses:

- Most individuals in the sample have high levels of PTSD.

- Most individuals in the sample have low levels of psychological flexibility.

- Psychological flexibility is a protective factor against the development of PTSD.

The first hypothesis, that most people in the sample would have high levels of post-traumatic stress disorder (PTSD), was confirmed. This is indicated by the results of the PCLS test, where nine out of ten participants show clinically significant levels of PTSD. These results confirm that the psychological trauma experienced by these individuals as a result of domestic violence has been transformed into chronic PTSD.

The structure of this disorder in the research participants can be attributed to the nature of the traumatic event. The ten cases in this study were repeatedly and daily subjected to various forms of verbal, physical and sexual abuse by their family environment, which was supposed to be a source of safety and stability. This is particularly evident in cases (1, 2, 4, 5, 6, 10) who experienced violence during childhood, a vulnerable period in human development when constant care and attention are essential to fulfil social and psychological needs such as love, affection, belonging, independence, play, security and stability. Deprivation of these needs acts as a predisposing factor to vulnerability, in addition to the precipitating factor of the current traumatic event.

Ongoing exposure to domestic violence can lead to the development of various mental health disorders, as confirmed by the 1999 study by Mouton et al. which found that domestic violence affects women's health both mentally and physically, making them vulnerable to mental health disorders. Another study by Kathleen et al. in 2004 examined whether different types of violence, such as physical, sexual and psychological abuse perpetrated against women by their partners, increased the risk of developing symptoms of post-traumatic stress disorder. The results of the study showed that the more types of violence a woman was exposed to, the greater the symptoms of post-traumatic stress disorder.

In this regard, a study conducted by Mota Carvalho & Ribeiro in 2014 examined the consequences of intimate partner violence on female victims, particularly in relation to post-traumatic stress disorder (PTSD). The study aimed to analyse the relationship between intimate partner violence

and PTSD. The study was conducted in Portugal on a sample of 63 women who had experienced intimate partner violence and had been diagnosed with PTSD, indicating that the violence was considered a traumatic event.

Another study, conducted by Tawus Hashim in 2020, also showed the impact of psychological care received by women who are victims of domestic violence and who have experienced trauma as a result of the violence perpetrated against them by their partners. This care had a significant impact on their psychological, emotional and behavioural well-being. The study was conducted in Tizi Ouzou, Algeria, with 10 women who had experienced abuse. Cognitive-behavioural techniques were used to diagnose the psychological disorders of the abused women, using the post-traumatic stress disorder checklist. The study found that women who had experienced intimate partner violence exhibited symptoms of post-traumatic stress disorder, such as re-experiencing symptoms (recurring memories, distressing dreams), avoidance symptoms (avoiding memories), and hyperarousal and intrusive symptoms (physiological reactions). The study also revealed the presence of post-traumatic stress disorder in the lives of abused women and the success of cognitive-behavioural therapy techniques.

The second hypothesis, that most people in the sample would have low levels of psychological flexibility, was also confirmed.

We observed a significant decrease in the level of psychological flexibility in nine out of ten cases (1-2-3-4-5-6-7-8-10).The majority of the sample showed a range of psychological flexibility scores between 108 and 148, according to the results of the Psychological Flexibility Scale. When psychological flexibility is low, abused women tend to use maladaptive coping strategies, including experiential avoidance, cognitive fusion, self-as-context, non-committed action, and unclear values.These strategies contribute significantly to the structure of the disorder and its pathological symptoms, leading to symptoms such as re-experiencing, hyperarousal, dissociation, avoidance and constant arousal.This causes considerable suffering for these women.According to research by Schnurr et al in 2002, these symptoms can affect physical health and, according to Allen and Bloom in 1994, quality of life.

As indicated by the results of the clinical analysis, one case, specifically case 4, did not show an elevated level of post-traumatic stress disorder (PTSD) symptoms. However, we observed the presence of clinical indicators of depression symptoms. This confirms that the psychological reactions resulting from complex psychological trauma, especially those experienced during childhood, are not limited to PTSD. When individuals repeatedly experience complex psychological trauma, especially in cases of violence, their psychological flexibility decreases, making them more susceptible to various psychological disorders beyond PTSD, including behavioural disorders, dissociation, depression, and more. In this regard, a study conducted by Kathryn et al. in 2020 aimed to diagnose depression using childhood trauma questionnaires in

relation to studying the behavioural consequences of maltreatment (emotional abuse, physical abuse, sexual abuse) on a group of adults during their developmental stage. The study found a correlation between childhood maltreatment, which constitutes psychological trauma for children, and an increased risk of developing depression in adulthood.

In addition, through the clinical analysis, we also noted one case out of ten that did not show symptoms of PTSD, but had a high level of psychological flexibility.

This suggests that an abused woman, even one who has experienced violence and multiple traumatic experiences, may benefit from a context of psychological flexibility.This context acts as a protective factor, reducing the likelihood of developing disorders.The six contexts of psychological flexibility (acceptance, present moment awareness, self-as-context, cognitive defusion, values clarification, committed action) all operate in individuals who do not develop PTSD in a way that allows them to adapt to traumatic events.Through acceptance, individuals accept and open up to difficult thoughts and emotions arising from the traumatic event, rather than trying to suppress or get rid of them.

The individual learns how to deal with difficult emotions in a healthy and constructive way, which helps to free them from heavy and harmful reactions. In the context of cognitive defusion, individuals change the unwanted functions of thoughts and specific events rather than trying to change their form, frequency or situational sensitivity. People who do not develop post-traumatic stress disorder (PTSD) manage thoughts by observing them and creating contexts in which their unhelpful functions are reduced. This reduces the attachment to negative and harmful thoughts and beliefs, allowing individuals to free themselves from their negative effects. Similarly, abused women who do not develop PTSD have the ability to fully experience the present moment. They focus their attention and awareness entirely on what is happening in the present, without clinging to the past or worrying about the future. This allows them to let go of excessive thinking about the traumatic event and to be aware of their feelings and thoughts about the event in the present moment. As a result, their behaviour becomes more flexible, their actions more in line with their held values, and the risk of fusion with negative self-descriptions decreases. Through self-as-context, they gain the ability to step back and observe their internal experience of emotions and thoughts related to the event without compromising their personal descriptions. In addition, when the value context is clear for this group of individuals, all their behaviours are directed towards what is beneficial to them. They can better understand their personal behaviours, beliefs and interactions with others. They can deal effectively with contradictions and life's challenges. This context also prepares individuals to deal with traumatic experiences in a general sense. The value context contributes to building personal identity, shaping behaviour and making decisions.

"In order to engage in behaviours that are consistent with values and bring individual satisfaction, it is necessary to activate the context of engaged action. This is evident in people who do not

develop PTSD, because although they experience violence as a traumatic experience for them, they always have the ability to find new behaviours that make them feel good and are in line with their values. They are willing to engage in actions that are consistent with these values, regardless of the traumatic events they have experienced. It is true that committed action may require patience, strength and sacrifice. Individuals may face challenges and difficult situations in trying to hold on to their values in the face of traumatic experiences. However, committed action reflects integrity, determination and the ability to act in a way that is consistent with one's values.

Therefore, the context of psychological flexibility, through its six dimensions, is considered to be a protective factor against PTSD, contributing significantly to overcoming traumatic experiences. This was confirmed by a study conducted by Wilson & Drozdek in 2004, where psychological flexibility was seen as a tremendous capacity that enables individuals to self-heal from acute stress and psychological trauma. The case study (Z) demonstrated an increase in her level of psychological flexibility, despite severe suffering and exposure to domestic violence for ten years. However, thanks to her capacity for psychological flexibility, she was able to cope and face the challenges each time by mobilising her strength and psychological balance.

It is well known that people with higher levels of psychological flexibility are better able to overcome and cope with traumatic experiences. This has been confirmed in studies by Folkman & Moskowitz in 2000 and Fredrickson et al. in 2003. Individuals with psychological flexibility show optimal performance in the face of shocks, extreme stress and negative life experiences.

Furthermore, the six processes of acceptance and commitment therapy all aim to develop this capacity, helping individuals to cope with difficult emotions and symptoms associated with post-traumatic stress disorder (PTSD).

In this regard, a 2019 study by Wharton et al showed that acceptance and commitment therapy is suitable for treating trauma in order to increase psychological flexibility.

The therapy was applied to a group of diagnosed combat veterans with PTSD, and the results of the study showed a decrease in symptoms of the disorder, as well as an increase in vigilance and psychological flexibility.It can therefore be concluded that the hypothesis that psychological flexibility is a protective factor against the development of PTSD was supported.

13- General conclusion:

The aim of this study was to identify the distress experienced by women who are victims of domestic violence and the factors that contribute to the development of post-traumatic stress disorder (PTSD). In addition, we aimed to determine whether the context of psychological flexibility, from the perspective of Acceptance and Commitment Therapy (ACT), serves as a protective factor against the development of the disorder.

Due to the nature of our study, which focused on examining the role of psychological flexibility as a protective factor against the structure of PTSD, we adopted a clinical case study approach as it was deemed appropriate for this purpose. Each case was individually conceptualised and analysed using functional analysis and case formulation according to the perspective of ACT.

The results of the study revealed the following:

1. There were three main categories of battered women:

a. The first category showed high levels of PTSD symptoms and low psychological flexibility. These individuals showed rigidity in dealing with thoughts and emotions related to the traumatic event, leading them to lose connection with the present moment and live in the past trauma. They also showed a strong fixation on negative thoughts about the event and about themselves, which contributed to the development of PTSD symptoms.

b. The second category was represented by case (S), who showed low levels of flexibility and did not meet the clinical criteria for PTSD. However, we observed rigid behaviours aimed at avoiding pain and intense suffering resulting from complex traumas experienced during childhood and adulthood. This led to the development of another disorder, accompanied by depressive symptoms during the clinical interview.

c. The third category was represented by case (Z) who, despite forty years of violence, did not experience any psychological disorders. This was attributed to her psychological flexibility, which acted as a protective factor and allowed her to avoid developing the disorder, as confirmed by the clinical analysis.

In conclusion, psychological flexibility can be considered a protective factor against the development of post-traumatic stress disorder (PTSD).

All six processes of psychological flexibility (acceptance, present moment awareness, self-as-context, cognitive defusion, values clarification, and committed action) contribute to maintaining psychological balance and preventing pathological symptoms related to severe traumatic events. This is supported by our study.

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