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Identification of emotional schemes and their association with symptoms of anxiety and depression in Mexican adults

Identificación de esquemas emocionales y su asociación con síntomas de ansiedad y depresión en adultos mexicanos

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Besides being the product of an interpretation of reality, emotions are an object of interpretation themselves. Leahy (2002) suggests three ways to process them, on the one hand, emotions are normalized, adaptively expressed and validated or else, treated with emotional and cognitive avoidance or, otherwise interpreted in a negative way. According to Leahy, individuals have implicit theories of emotion and emotion regulation. The research literature suggests scales for emotions associated with the development of anxiety and depression, as well as the development maladaptive behavior. Nevertheless, to date, a pattern of emotional processing based on Leahy's proposed mechanisms, which can anticipate the development of depression and (or) anxiety has not been established. The objective of the present study consisted of identifying emotional schemas associated with levels of anxiety or depression as well as finding forms of emotional evaluation according to the participant´s symptomatology. Participants included 325 Mexican adults, 148 men, and 177 women, with mean age of 39 + 13.9, most of them currently living in Mexico City and with undergraduate studies. None of them had a former diagnosis of mental illness. The results suggest that the lack of ability to comprehend emotions, minimizing them, the belief that one´s emotions are unique or a sign of abnormality, as well as emotional rumination turned out as predictors of depressive and anxiety symptomatology.

Keywords: Emotional Schema Therapy; Meta emotion; Emotion regulation; Metacognition.

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Las emociones son, además del producto de la interpretación de la realidad, un objeto de interpretación por sí mismas. Leahy (2002) sugiere tres mecanismos para procesarlas, por un lado, las emociones se normalizan, expresan y validan de forma adaptativa o surge la evitación emocional y cognitiva o bien, se interpretan de forma negativa. La literatura de investigación sugiere una escala de emociones asociada al desarrollo de ansiedad y depresión, así como al desarrollo de conductas desadaptativas, pero a la fecha, no se ha establecido un patrón de procesamiento emocional basado en la propuesta de Leahy, que sea propio de cada trastorno y que pueda anticipar el desarrollo de éstos. El objetivo del presente estudio consistió en identificar esquemas emocionales que se asocian con los niveles de ansiedad o depresión de los participantes, e identificar las formas de evaluación de las emociones de acuerdo con la sintomatología. Participaron 325 personas adultas mexicanas, 148 hombres y 177 mujeres, con edad promedio de 39 + 13.9 años, la mayoría residentes de la ciudad de México y con estudios de licenciatura, ninguno de ellos contaba con diagnóstico previo de enfermedad mental. Los resultados sugieren que la incapacidad para comprender las emociones, minimizarlas, creer que las emociones propias son únicas y/o un signo de anormalidad, así como presentar "rumiación" emocional son predictores de sintomatología depresiva y ansiosa.

Palabras Clave: Terapia de Esquemas Emocionales; Meta emoción; Regulación emocional; Metacognición.

INTRODUCTION

Emotions are inherent to human beings, and they are present in everyday life, the way we interpret them affects directly our emotional state, and they also have specific functions and intentions (Leahy, 2012).

Leahy (2002) suggests three distinct paths, essential to emotional processing; a first scenario allows individuals to process emotions by normalizing, expressing and validating them adaptively. A second scenario is characterized by cognitive and emotional avoidance, resulting in maladaptive coping through a peculiar core belief that implies uncontrollability. Some examples of emotional coping include substance abuse or binge-emotional eating. Finally, a third path or scenario operates through a negative interpretation of emotions; that is, emotions are seen as threatening, incomprehensible and/or shameful and therefore, some cognitive simplification is needed, frequently leading to in rumination and negative affect (Manrique & Aguado, 2006).

According to this view, it is suggested that assisting patients to identify their emotions and consequently becoming aware of the cognitive schemes associated to those emotions is central in helping them to achieve adaptive emotional management (Leahy, 2002; Leahy, 2015).

Leahy emotional scheme therapy is based on regulation and emotional processing through the processes of meta emotion and metacognition. Its objective is to provide patients with skills to recognize, express and normalize emotions, identify their functionality and access the emotional patterns that underlie the behavior (Manrique & Aguado, 2006). According to this intervention model, if there is poor emotional regulation, depression and anxiety are more likely (Leahy, 2002, 2013). The author suggested that assisting patients to identify their emotions and consequently becoming aware of the cognitive schemes associated to those emotions is central in helping them to achieve adaptive emotional management (Leahy, 2002; Leahy, 2015). According to Flynn and Rudolph (2010), there is a process called emotional clarity, and it is defined as the ability to identify, understand and set apart own emotional experience, the lack of emotional clarity is associated with stress responses and depressive symptoms.

Under the cognitive model (Beck, 2011), emotions are directly affected by the perceptions originated in the events people experience; thus core and absolute beliefs affect the way we deal with situations, the way we interpret them and the way we feel about events. For instance, thinking about failing in a task, will generate anxiety, or thinking in advance about a potential loss, which will, in turn, generate anguish and sadness. Furthermore, Leahy (2002) mentions that the interpretation and evaluation of emotions are directly related to mental illness, in the sense that there are some specific thinking styles about emotions, that often result in problematic appraisal and failed strategies of emotional regulation. These, in turn, lead to depressive and / or anxious symptomatology, creating a vicious circle, with worry and rumination as main components (Wells, 2013).

Two key concepts, regarding this process, should be noted: meta-cognition and meta-emotion; the first one is understood as a conscious process through which information is retrieved, analyzed and applied to specific situations; such process could explain worrying and ruminating thoughts. The second process represents meta-cognitive phenomena, associated with identification, categorization, and interpretation of emotions (Gottman, 1997).

On the other hand, Pennebaker (1997) refers to emotional processing as a set of skills and operant behaviors related to self-regulation, comprehension, and analysis of the meaning of emotions. This process includes recognition and categorization of emotion, the ability to express it, emotional self-regulation

(a tendency to inhibit or intensify the emotional experience) and the development of coping skills (Leahy, 2002; Manrique & Aguado, 2006; Pennebaker, 1997).

According to this proposal, if we are unable to identify emotions and distinguish them from each other, and therefore, unable to express them adequately, the result would be lack of emotional self-regulation, either by a total expression or a total inhibition of them. In this context, the development of psychological disorders would be comprehensible and understandable (Chew, Shariff-Ghazali & Fernandez, 2014; Leahy, 2002, 2012, 2015; Sirota, Moskovchenko, Yaltonsky, Kochetkov & Yaltonskaya, 2016).

Thus, the treatment approach proposed by Emotional Schema Therapy (EST) seeks adaptive emotional processing and regulation, as well as helping patients develop proper skills to normalize/regularize their emotional experiences (Leahy, 2002, 2012; Manrique & Aguado, 2006). Thus, the aim of the present study consisted in analyze the differences between the emotional schemes, according to the levels of anxiety and depression.

METHOD

Participants

A total of 325 Mexican adults from open population and diverse zones of the country, but mostly from Mexico City participated; 148 were men and 177 women. The average age was 39, with an SD of 13.9 years. The prevailing marital status was "single" (49.5%), and most of them had BA educational level or college degree (54.8%). Finally, 39.2% mentioned having attended psychotherapy sessions sometime in their life.

Type of study

Analytical, cross-sectional, and non-randomized study.

Description of sample

Patients from a dentistry and nutrition clinic at a private university (Universidad Intercontinental) in Mexico City, and people visiting the campus or in the immediate vicinity were invited to participate in a convenience sampling.

Instruments

Participants took the validated Spanish version of the Leahy Emotional Schema Scale LESS II composed of 28 items with Likert format items. This scale measures 14 emotional schemes: 1. Invalidation, 2. Incomprehensibility, 3. Guilt, 4. Simplistic View of Emotion, 5. Devalued, 6. Loss of Control, 7. Numbness, 8. Overly Rational, 9. Duration, 10. Low Consensus, 11. Non-Acceptance of Feelings, 12. Rumination, 13. Low Expression and 14. Blame. Each schema involves two items, and the final score is obtained by the sum of these pairs divided by two. The scale has a Cronbach's alpha = 0.850 internal consistency level.

Participants also responded to Beck's depression and anxiety inventories BDI and BAI in their validated Mexican versions. The BDI has 21 Likert scale type items and a dichotomic one (yes-no) that measure depressive symptomatology over the last two weeks (internal consistency, alpha = 0.87). Categories of BDI scale are listed below: Minimum (0-9), Mild (10-16), Moderate (17-29) and Severe (30-63).

The BAI also has 21 Likert scale type items in which anxious symptomatology is enquired; BAI evaluates somatic anxiety, has internal consistency (alpha=0.83) and test-retest reliability (r=0.75). Categories of BAI scale are listed below: Minimum (0-5), Mild (6-15), Moderate (16-30) and Severe (31-63) (Jurado, Villegas, Méndez, Rodríguez, Loperena & Varela, 1998; Robles, Varela, Jurado & Páez, 2001).

A sociodemographic questionnaire was also applied to collect data on age, gender, marital status, birthplace, current residence, current activity/occupation, highest completed schooling, and monthly income. Participants were also asked if they had previously attended psychotherapy and if so, the type or approach of therapy they received.

RESULTS

Table 1 shows the median and percentiles 25 and 75 of the BDI, BAI and LESS II scales.

In general, this cohort represents what is considered "minimum" levels of depressive symptomatology, and "mild" levels of anxious symptomatology.

The highest schema scores were those for "Simplistic View of Emotion", "Overly Rational", "Rumination" and "Blame" with medians above three points each.

The proportion of cases for each symptomatology categories revealed the following results: 53.4% had "minimum" levels, 30.2% had "mild" levels, 13% had "moderate" levels, and 3.4% had "severe" levels of depression. On the other hand, 35.5% of participants showed "minimum" levels, 41.4% had "mild" levels, 15.4% showed "moderate" levels and only 7.7% had "severe" levels of anxiety, respectively.

A Kruskal-Wallis test was performed to examine differences among the schema scores concerning Beck´s scale categories and to identify emotional schemes proper to specific emotional states. Table 2 shows these results.

As shown in Table 2, scores were statistically significantly higher for the "severe" category of depressive symptomatology, in each of the 14 schemes, with scores of four to six which corresponding to the "slightly true", "somewhat true" and "very true"

Table 1.
Self report scales descriptive data

Scale/SubScale	Median	Q 25-75
BDI	9	4-14
BAI	9	4-15
LESS II		
Invalidation	2	1.5-3.5
Incomprehensibility	3	1.5-3.5
Guilt	2	1-3
Simplistic View of Emotion	5	4.5-6
Devalued	2	1.5-3
Loss of Control	3	2-4.5
Numbness	3	2.5-4
Overly Rational	4	3-5.5
Duration	3	2-3.5
Low Consensus	3	2-4
Non-Acceptance of Feelings	2	1.5-3.5
Rumination	3.5	2.5-4.8
Low Expression	2	1.5-3
Blame	3.5	2.5-4.5

BDI= Beck´s Depression Inventory, BAI= Beck´s Anxiety Inventory, LESS II= Leahy Emotional Schema Scale II – Version adapted and validated in Mexico.

Table 2.
Differences among schema scores in relation with Beck´s scale categories

	Minimum	Mild	Moderate	Severe	p
Invalidation	2 (1-3)	2 (1.5-3)	3 (2.5-4)	5 (4-5.5)	< 0.001
Incomprehensibility	2.5 (1-3.2)	3 (2.3-4)	3.5 (3-4.5)	5.5 (4-6)	< 0.001
Guilt	1.5 (1-2.5)	2 (1-3)	2.5 (1-3.6)	5.5 (3-6)	< 0.001
Simplistic View of Emotion	5 (4-5.5)	5.5 (5-6)	5.2 (4.3-6)	5 (3.5-5.5)	0.001
Devalued	2 (1-3)	2 (1.5-2.6)	2.5 (1.5-3.5)	4 (1.5-5.5)	0.007
Loss of Control	2.5 (1.5-3.5)	3.5 (2.5-4-5)	4.5 (3.5-5.5)	5.5 (4.5-6)	< 0.001
Numbness	3 (2-3.5)	3.5 (2.5-4-5)	3.5 (3-4.5)	4 (1.5-5.5)	< 0.001
Overly Rational	4 (3-5)	3.7(3-5.5)	5 (3.5-6)	5 (2.5-5.5)	0.012
Duration	2.5 (1.5-3.5)	3 (2-3.5)	3.5 (2.5-4.1)	5.5 (3-6)	< 0.001
Low Consensus	2 (1.5-3.5)	3.5 (2.5-4.5)	3.5 (3-4.5)	5 (4.5-6)	< 0.001
Non-Acceptance of Feelings	2 (1-3)	2.5 (1.5-3)	3.2 (2.5-3.5)	6 (3.5-6)	< 0.001
Rumination	3 (1.5-4)	4 (3-5)	4.7 (3.5-5.5)	5.5 (5.5-6)	< 0.001
Low Expression	2 (1.2-3)	2 (1-2.5)	2.5 (1.8-3.5)	5.5 (2.5-6)	< 0.001
Blame	3.5 (2.5-4)	3.5 (3-5)	3.2 (2.5-5)	6 (4-6)	< 0.001

Note. Kruskal Wallis test.

response options. The "Simplistic View of Emotion" was the schema that predominantly scored "somehow true" (three points) for each symptomatology level.

Table 3 shows a similar analysis for the anxiety scale BAI. Statistically significant differences for eleven emotional schemes. Non-significant values occurred for "Devalued", "Simplistic View of Emotion" and "Overly Rational". These differences point to the fact that scores were higher for the symptomatology category "severe".

DISCUSSION AND CONCLUSION

The objective of the present study was to analyze the differences between emotional schemes, according to the levels of anxiety and depression. This goal was partially achieved since no differences were found between the two disorders, but clearly both shared the same types of schemas.

In general, results show that out of the 14 dimensions or emotional schemas, the main predictors for anxiety and depression are: inability to understand the emotions of oneself and others, minimization of emotions or undermining their importance, and believing that their emotions are unique and no one has ever felt like they do. These schemas mirror abnormalities and obstruct adequate emotional regulation because they make emotional rumination or "not letting go of emotions" possible. Allowing to justify the use of cognitive techniques, common with disorders in which the main characteristic are obsessive thoughts.

A simplified view on emotions thus reflects a polarized "all or nothing" belief system, as well as thoughts on absolute emotional control that, when not met or satisfied, result in difficulties for regulating emotions, followed by rumination, and finally making others accountable for one's own emotions (Leahy, 2002; Leahy, 2015). This finding extends Well's (2013) proposal that rumination processes are the main components of anxious and depressive symptomatology.

Along the same line regarding emotional schemas identified for both anxiety and depression, Burkhouse's group (2016) indicate a strong association between schemas and depression. The findings of the present study point in the same direction.

Patients who showed high scores for depression, also obtained high scores for all schemas, which shows that the higher the individual's cognitive rigidity, the higher the symptomatology. In this sense, this paper supports the fact that the negative assessment of emotions - metacognitive process- plays an important role in maintaining symptoms of anxiety and depression.

This finding further supports Leahy's (2002) original position based on findings of positive correlations between the dimensions of the LESS, BDI and BAI instruments, and also with a study carried out with Russian participants (Sirota et al., 2016), which shows similar patterns between different cultures.

In conclusion, the knowledge of the examined schemas would enable early detection of anxiety and depression symptom-inducing thought patterns. As the severity of affective symptoms increases, it seems that emotional schemes become inflexible.

Table 3.
Differences among schema scores in relation with Beck´s scale categories, anxiety scale.

	Minimum	Mild	Moderate	Severe	p
Invalidation	2 (1-3)	2 (1.5-3)	3.5 (2.3-4.1)	3.5 (2.2-4.7)	< 0.001
Incomprehensibility	2 (1-3)	3 (2-3.5)	3.2 (2.5-4.5)	4.5 (3.5-5.5)	< 0.001
Guilt	1 (1-2)	2 (1-3)	2.5 (1.5-3)	4.5 (3-5.5)	< 0.001
Simplistic View of Emotion	5 (4-5)	5.5 (4.8-6)	5.5 (4-6)	5 (4-5.5)	0.015
Devalued	2 (1-3)	2 (1.5-3)	2 (1.5-3.5)	2.5 (1.5-4)	0.288
Loss of Control	2 (1-3)	3 (2-4.5)	4 (2.8-5)	5 (4.5-6)	< 0.001
Numbness	3 (2-3.5)	3 (2.5-4.5)	3.5 (3-4.5)	3.5 (3-7.7)	< 0.001
Overly Rational	4 (3-5)	4 (3-5)	4.2 (3-5.5)	4 (2.5-5)	0.568
Duration	2.5 (1.5-3.5)	3 (2-3)	3.5 (2.5-4.1)	4.5 (3.5-5.5)	< 0.001
Low Consensus	2 (1.5-3.5)	3.5 (2-4.5)	3.5 (2.8-4.6)	4.5 (3.5-5.5)	< 0.001
Non-Acceptance of Feelings	1.5 (1-2.5)	2 (1.5-3)	3 (2-3.5)	4 (3-5.7)	< 0.001
Rumination	3 (1.5-3.5)	3.5 (2.5-5)	4 (3.5-5.1)	5.5 (4.7-6)	< 0.001
Low Expression	2 (1-2.5)	2 (1.3-3)	2 (1.5-3.1)	3.5 (2-5.2)	< 0.001
Blame	3 (2.5-4)	3.5 (2.5-4.5)	3.5 (2.5-4.6)	4 (3.5-5.7)	< 0.001

The therapeutic goal would include, besides cognitive and behavioral aspects, emotional reeducation through which participants would learn the origins "inherent to mankind", functions, and intentions of their own emotions (Leahy, 2012). As for the relation with cognitive and behavioral aspects; the present findings are in the pursuit of avoiding emotional invalidation and promoting emotional regulation.

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Conflicts of interest

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