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The Role of Experiential Avoidance in the Performance on a High Cognitive Demand Task

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Abstract

The aim of the study is to analyze the relation between experiential avoidance and the performance on a working-memory task. In Phase 1, 24 participants were selected according to high and low scores in the Acceptance and Action Questionnaire-II (AAQ-II), an experiential avoidance measure. Participants then responded to the White Bear Suppression Inventory (WBSI), the accepting without judgment scale of the Kentucky Inventory of Mindfulness Skills (KIMS) and the problem solving and cognitive reappraisal scales of the Coping Strategies Inventory (CSI). In Phase 2, participants followed this sequence: (a) viewed a film with neutral content (neutral film), (b) responded to a mood inventory, (c) were exposed to a working-memory task in which they had to press the space bar when recalling something about the film (thought intrusions) and, finally, (d) reported their level of concentration on the task and the perceived interference of having viewed the film. Phase 3 was identical except that a new film with highly emotional content (discomforting film) was used. Results showed that experiential avoidance and accepting without judgment scores showed the highest correlations with the experimental variables. High AAQ-II participants showed a higher level of negative emotions after viewing both films. After viewing the discomforting film, these participants showed a higher number of thought intrusions, a higher level of interference of the film and a lower level of concentration on the task. High AAQ-II participants did not improve their performance on the task, however, low AAQ-II participants did. The mediational analysis revealed that experiential avoidance scores had an effect over the working-memory task through its effect over participants' informed level of concentration. Results are discussed highlighting the role of experiential avoidance in the performance on high cognitive demand tasks while participants are experiencing discomfort.

Key words: experiential avoidance, human performance, working memory, concentration, Acceptance and Commitment Therapy.

Resumen

El objetivo del estudio es analizar la relación entre la evitación experiencial y el rendimiento en una tarea de alta demanda cognitiva. En la Fase 1, se seleccionaron 24 participantes con puntuaciones altas y bajas en el Cuestionario de Aceptación y Acción (*Acceptance and Action Questionnaire*-II, AAQ-II), una medida de evitación experiencial. Posteriormente, los participantes contestaron el *White Bear Suppression Inventory* (WBSI), la escala de Aceptación sin Juicio del *Kentucky Inventory of Mindfulness Skills* (KIMS) y las escalas de Solución de Problemas y Reevaluación Cognitiva del *Coping Strategies Inventory* (CSI). En la Fase 2,

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los participantes siguieron la siguiente secuencia: (a) vieron un video de contenido neutro (video neutro), (b) contestaron un inventario de estado de ánimo, (c) realizaron una tarea de memoria de trabajo en la que pulsaban la barra espaciadora cuando recordaban algo referido al video (intrusión de pensamientos), y (d) informaron el grado de concentración en la tarea y la interferencia percibida que les produjo ver el video previo. La Fase 3 fue idéntica, con excepción de que el video tenía contenido altamente emocional (video desagradable). Las puntuaciones en evitación experiencial y aceptación sin juicio fueron las que mostraron mayores correlaciones con las variables experimentales. Los participantes con alto AAQ-II mostraron mayor grado de emociones negativas tras ver ambos videos. Asimismo, tras el visionado del video desagradable, mostraron mayor número de intrusiones de pensamientos relacionados con los videos, mayor interferencia del video y menor grado de concentración en la tarea. Los participantes con alto AAQ-II no mejoraron su rendimiento en la tarea de memoria, mientras que sí lo hicieron los participantes con bajo AAQ-II. El análisis de mediación reveló que las puntuaciones en evitación experiencial afectaron al rendimiento a través de su efecto sobre el nivel de concentración informada por los participantes en la tarea. Se discuten los resultados resaltando la relevancia de la evitación experiencial en el rendimiento en tareas de alta demanda cognitiva, cuando los participantes están en presencia de malestar.
Palabras clave: evitación experiencial, rendimiento humano, memoria de trabajo, concentración, Terapia de Aceptación y Compromiso.

Experiential avoidance refers to a pattern of verbal regulation based on deliberate attempts to avoid and/or escape from private events such as affects, thoughts, memories and bodily sensations that are experienced as aversive (Hayes, Gifford, Follette, & Strosahl, 1996; Luciano & Hayes, 2001). This type of regulation is not problematic *per se*; it becomes problematic when it is maintained as an inflexible pattern that prevents the person from doing valued actions. This inflexible pattern is established through negative reinforcement contingencies consisting in an immediate reduction of psychological discomfort and through positive reinforcement contingencies derived by following a rule that is coherent ("being right") with the personal history established in the context that the verbal community promotes (e.g., "in order to live one must control the discomfort"). However, this pattern is only effective in the short term because, due to the verbal nature of human beings, the feared private events are extended and return in a *boomerang* effect (e.g., Wegner, 1989; see an analysis of the verbal regulation involved in destructive experiential avoidance in Törneke, Luciano, & Valdivia, 2008).

A good number of recent studies have found a direct relation between experiential avoidance and the symptoms associated with most psychological disorders, as well as, an inverse relation between experiential avoidance and health and quality of life measures (see Carrascoso & Valdivia, 2009; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Ruiz, 2010). For example, several studies have found that the degree to which people avoid pain predicts posterior negative affect and determines how they rate pain severity, its interference in daily life and its effect on physical and mental well being (e.g., Kratz, Davis, & Aqutra, 2007; Wicksell, Renöfalt, Olsson, Bond, & Melin, 2008). Similar results have been found in work settings. For instance, Bond and Flaxman (2006) found that

experiential avoidance predicted participants' performances in learning a new software, as well as their general mental health and overall work performance.

Specifically, a series of recent studies have analyzed the role of experiential avoidance in experimental tasks through the comparison of participants with high and low levels of experiential avoidance. Sloan (2004) compared the emotional reactions of participants during the viewing of pleasant, neutral and unpleasant films. Participants with a high level of experiential avoidance showed a greater emotional reaction and a higher heart rate while watching the pleasant and unpleasant films than participants with lower levels. Salters-Pedneault, Gentes, and Roemer (2007) found that participants with higher levels of experiential avoidance showed greater discomfort, negative affect and electrodermal response during the viewing of a highly emotional film. Zettle, Petersen, Hocker, and Provines (2007) showed that participants with high levels of experiential avoidance evaluated the induced sensations of a task that simulated the alcohol effects as more uncomfortable and had a worse performance on a challenging perceptual-motor task. Using a carbon dioxide-enriched air challenge, Karekla, Forsyth, and Kelly (2004) observed that participants with high experiential avoidance showed more panic symptoms. Finally, Cochrane, Barnes-Holmes, Barnes-Holmes, Stewart, and Luciano (2007) reported that participants with higher levels of experiential avoidance showed higher latency in the selection of a response that involved the posterior presentation of unpleasant images.

However, no previous experimental studies have analyzed the role of experiential avoidance in participants' performance on high cognitive demand tasks while they are experiencing discomfort. It seems that participants with a high level of experiential avoidance would most likely try to control the discomfort and, therefore, would stop attending to the relevant cues of the task (in other words, they would lose concentration on the task more easily). This decline in concentration would ultimately diminish the performance on the task. This idea has been partially tested in a series of studies that showed the performance improvement of international-level and promising young chess players (Ruiz, 2006; Ruiz & Luciano, 2009, under review). Brief protocols, based on Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999; Wilson & Luciano, 2002), were applied in order to reduce chess-players' level of experiential avoidance during competitions. The present study aims to analyze the role of experiential avoidance in the performance on a high cognitive demand task. Specifically, the current study analyzes the relationship between experiential avoidance and other coping strategies with the performance on a working-memory task in both, a neutral and a highly, emotional contexts.

Method

Participants

Participants were recruited through in-class announcements in which they were invited to participate in a psychological study. Twenty-four participants were selected, from a total of 34, that met the criteria of having a score of 5 points (half a typical

standard deviation) above or below the mean of the non clinical population in the Acceptance and Action Questionnaire (Bond *et al*., under review; see materials section). Thirteen participants had high scores in experiential avoidance (*M*= 44, *SD*= 4.98) while 11 had low scores (*M*= 23.09, *SD*= 2.17). The mean age of participants was 26.5 years (*SD*= 8.7). Seventeen were female and seven were male. Upon finishing their participation, all participants received a canteen voucher exchangeable for breakfast or a snack.

Materials and experimental setting

The experiment was run individually in a room of the Laboratory of Human Operant Behavior at Universidad de Almería. The room was equipped with a table, a chair and a laptop with an integrated webcam. The experimental tasks were presented on the laptop in a program designed with Visual Basic 6.0© in which participants were required to use the mouse and space bar.

Instruments

The following self-measures were used:

Acceptance and Action Questionnaire (AAQ-II; Bond *et al*., under review). AAQ-II is a 10-item general measure of experiential avoidance and psychological flexibility with better psychometric properties than the AAQ-I. Each item is rated on a 7-point Likert-type scale ranging from 1 (never true) to 7 (always true), with higher scores indicating greater levels of experiential avoidance. The Spanish translation of the AAQ-II has good internal consistency and a one-factor structure (Ruiz, Langer, Luciano, Cangas, & Beltrán, 2010). The mean score for the non-clinical samples is 32.23 (*SD*= 9.85) and 46.22 (*SD*= 12.21) for the clinical samples.

White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994). It is a measure of the level of thought suppression. It consists of 15 items that are responded to by using a 5-point Likert scale (1 being "extremely disagree" and 5 being "totally agree"). High scores indicate a high level of thought suppression. The Spanish translation by Fernández-Berrocal, Extremera, and Ramos (2004) was used, which has shown good psychometric properties.

Problem Solving and Cognitive Reappraisal scales of the *Coping Strategies Inventory* (CSI; Tobin, Holroyd, & Reynolds, 1984). CSI contains eight factors that evaluate the degree to which a person uses the same number of coping strategies. Only the cognitive reappraisal and problem solving factors were used in this study. Each factor consists of 5 items that are responded to by using a 5-point Likert scale (1 point indicating "never use" and 5 points being "always use"). High scores indicate a major use of these strategies when faced with different stressful situations. The Spanish adaptation by Cano, Rodríguez, and García (2007), which has demonstrated good internal consistency and convergent validity, was administered.

Accepting without Judgment scale of the *Kentucky Inventory of Mindfulness Skills* (KIMS; Baer, Gregory, & Allen, 2004). KIMS was designed to measure four mindfulness skills: observing, describing, acting with awareness, and accepting without judgment. The authors found that these abilities were differentially related to various aspects of personality, mental health, psychological symptoms and experiential avoidance. The

original inventory has a good internal consistency and factorial structure. Only the items corresponding with "accepting without judgment" were administered. This factor consists of 9 items answered by using a 5-point Likert scale (1 point being "never or almost never true" and 5 points being "very frequently or almost always true"). Higher scores indicate a higher ability in this skill.

Mood States Inventory based on Gross (1998). This inventory was used after the viewing of each film. It consists of 15 items that were presented, one by one, on the computer screen with the following headline: "While viewing the film, to what degree did you feel the following sensation?" Participants responded on a visual scale, the extreme left being "not at all" and the extreme right being "totally," for each mood state (entertainment, anger, confusion, disdain, satisfaction, shame, fear, happiness, disgust, interest, pain, relief, sadness, surprise and tension). An index of negative emotions was obtained by averaging the scores for pain, fear, sadness and tension.

Measures, Experimental Task and Films

Concentration and Interference of the film in the working-memory task. Whenever a participant finished the memory task, the following question referring to the concentration on the task appeared on the computer: "To what degree have you been concentrated during the previous task?" Afterward, another question referring to interference appeared: "To what degree has the memory of the latest film interfered with the result of the previous task?" Participants responded to a visual scale identical to the one described in the previous section.

Intrusion of Related Thoughts with the film (pressing the space bar). The number of intrusive thoughts related to the film during the working-memory task was obtained as follows. Before performing the task, participants were presented with the following instruction: "It is important that each time you remember the film you have just watched, or if the film comes to your mind, you press the space bar one time."

Working-Memory Task. At the beginning, the following instructions appeared on the screen: "In a few moments, you are going to perform a memory test in which you must try to remember the exact sequence of several figures that will appear on the screen. It is important that each time you remember the film you just have watched, or if it comes to mind, you press the space bar once. Try to concentrate on the task in order to obtain as many points as possible." The task had 10 trials. Each trial consists in the presentation of a sequence of 6 figures that were selected from a pool of 9 figures (white square, gray square, black square, white triangle, gray triangle, black triangle, white pentagon, gray pentagon and black pentagon, see Figure 1). The figures, in any of the ten trials, were presented in a pre-determined sequence. The sequence varied from one trial to another in the type and order of the six figures. Each sequence was selected to have a different degree of difficulty and the 10 sequences (or 10 trials) were the same for all participants (see Figure 1 for the specific sequence). The stimuli dimensions were 1.34cm x 1.34cm, and the time they remained on screen was 2 seconds. Each time the sixth figure appeared, the 6 figures of the sequence were shown on the bottom part of the screen. Participants were asked to select the figures in the same order that they were presented and they gained points for each figure they selected in the correct order (they received the same amount of points as the order of the figure in the sequence: + 1 point for the first figure, +2 for the second… + 6 for the sixth figure). In the case of a correct response, a message in green indicating the amount of points accumulated by the participant appeared on the screen; in the

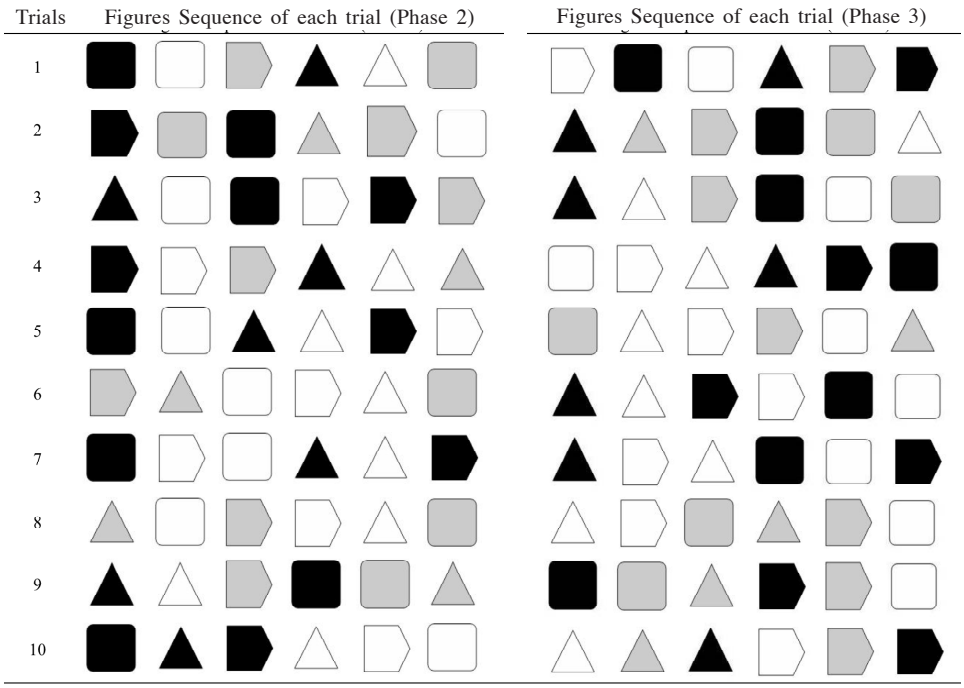

Figure 1. Trials of the working-memory task.

case of an incorrect response, a message in red appeared on the screen indicating that 3 points have been lost ("Error: -3 points"). Additionally, if participants responded correctly to the trial (i.e., selecting all 6 figures in their correct order of appearance), 4 additional points were added. That is, the participants could obtain up to 25 points in each trial. The points were accumulated (added or subtracted) in a score permanently visible during the task in the upper right of the screen. Once all 10 trials were finished, visual scales for measuring concentration and interference during the task appeared on the screen (see previous section).

Films. Two, 90-second films (available upon request to the second author) were used. The first film consisted of a scene of a desert landscape containing shrubs, whose branches showed slight movement (neutral film or NF). The second film contained highly emotional content and consisted in the visualization of the surgical amputation of a leg (discomforting film or DF).

Procedure

Figure 2 shows the three phases of the procedure. In Phase 1, participants responded to the AAQ questionnaire and those with high and low scores in experiential avoidance were selected to complete additional questionnaires in order to evaluate a number of coping strategies: accepting without judgment, suppression, problem solving and cognitive reappraisal (see the instruments section). In Phase 2, participants viewed the neutral film, answered the mood state inventory, performed the experimental task

and answered the questions about their concentration level and the level of interference that the film had have in performing the task. Phase 3 was the same as Phase 2, except that the discomforting film was presented instead of the neutral film.

Phase 1. *Selection of participants and informed consent*. First, participants who showed a medium typical standard deviation score above or below the non-clinical population mean in the AAQ-II (see criteria in materials section) were selected. These participants signed an informed consent in which they expressed their approval for voluntary participation in the study taking into account that during the experimental procedures: (a) their performance in the experimental task would be video-taped, (b) films containing potentially uncomfortable content would be presented, (c) they would be asked to complete computer tasks, and (d) they might quit to continuing in the experiment. After signing the formal consent to participate in the experiment, each participant completed the remaining coping questionnaires (see materials section) and, then, s/he proceeded to the experimental room where the experimenter indicated that, beyond this point, the computer would explain what should be done at each moment.

Phase 2. *Viewing of the neutral film and memory task*. The computer screen displayed the following text: "In a few moments, a film will appear on the computer screen. The content of the scenes may result in discomfort. Nevertheless, if at anytime during the course of the video you feel that you cannot continue due to the discomfort experienced, you may stop the video by clicking on the mouse. By doing that, your participation in the experiment would be finished." When, participants pushed "continue," the webcam was switched on and the neutral film began. Immediately after the film, the Mood State Inventory appeared on the screen and, after responding, participants were exposed to the working-memory task for the first time. Finally, participants responded to the concentration and interference questions.

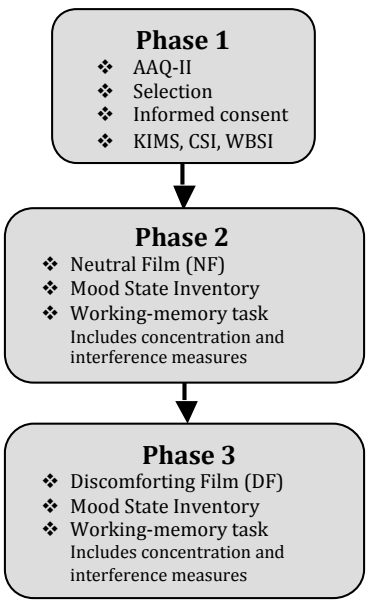

Figure 2. Overview of the procedure.

Phase 3. *Viewing of the discomforting film and memory task*. This phase was identical to Phase 2 with the exception that participants viewed the discomforting film instead of the neutral film.

Upon finishing the last part, the following message of dismissal and appreciation appeared on the screen: "Thank you very much for your collaboration." The experimenter thanked them again for their participation and offered them a canteen voucher.

Results

Experiential avoidance and accepting without judgment (measured through the AAQ-II and the KIMS respectively) were the strategies that showed the strongest correlations with the experimental variables (see Table 1). Statistically significant correlations at a $p < .05$ level are presented below. AAQ-II and the accepting without judgment scale of KIMS correlated with the negative emotions index (AAQ-II: $r = .42$; KIMS-accepting: $r = -.35$) after the viewing of the neutral film (NF). Likewise, the problem solving factor of the CSI correlated with the informed interference ($r = -.50$). Finally, AAQ-II, KIMS-acceptance and WBSI correlated with the number of intrusions (pressing the space bar) during the memory task (AAQ-II: $r = .41$; KIMS-acceptance: $r = -.34$; WSBI: $r = .42$).

After the discomforting film (DF), KIMS-acceptance negatively correlated with the negative emotions index (AAQ-II: $r = .44$; KIMS-acceptance: $r = -.52$). AAQ-II and KIMS-acceptance correlated with the points obtained in the working-memory task (AAQ-II: $r = -.40$; KIMS-acceptance: $r = .52$). The AAQ-II negatively correlated with the informed concentration on the memory task ($r = -.44$). Regarding the informed interference, AAQ-II, KIMS-acceptance and WBSI showed significant correlations (AAQ-II: $r = .62$; KIMS-acceptance: $r = -.42$; WBSI: $r = .61$). Finally, the number of space bar

Table 1. Correlations between coping strategies and experimental task after the viewing of the neutral film (NF) or the discomforting film (DF). Statistically significant correlations are highlighted.

	AAQ-II	KIMS Accepting	WBSI	CSI Reappraisal	CSI Problem Solving
NF Negative Emot.	.42*	-.35*	.32	.19	.05
NF Points task	-.05	-.02	.07	.33	.23
NF Concentration	-.30	.04	-.15	.24	.10
NF Interference	.13	-.10	.18	-.13	-.50**
NF Space bar presses	.41*	-.34*	.42*	-.17	-.11
DF Negative Emot.	.44*	-.52*	.30	-.09	-.07
DF Points task	-.40*	.52**	-.19	-.05	.17
DF Concentration	-.44*	.16	-.27	.12	.34
DF Interference	.62**	-.42*	.61**	.01	-.30
DF Space bar presses	.47**	-.44*	.51**	-.02	-.15

* One-tailed $p < .05$
** One-tailed $p < .01$

presses (thoughts intrusion) correlated with AAQ-II (r= .47), KIMS-acceptance (r= -.44) and WBSI (r= .51).

Figure 3 shows the level of negative emotions, concentration, interference, intrusion of thoughts and the points obtained in the memory task of participants with high and low scores in experiential avoidance. After viewing the neutral film, participants with high levels of experiential avoidance evaluated their mood state more negatively than the group with low experiential avoidance (Low AAQ-II: M= 1.26, SD= 1.45; High AAQ-II: M= 3.06, SD= 1.96; U= 35.0, p= .018). Both groups showed similar levels of concentration (Low AAQ-II: M= 6.18, SD=2.71; High AAQ-II: M= 5.15, SD= 3.31; U= 57.0, p= .21), informed interference (Low AAQ-II: M= 2.82, SD=3.57; High AAQ-II:

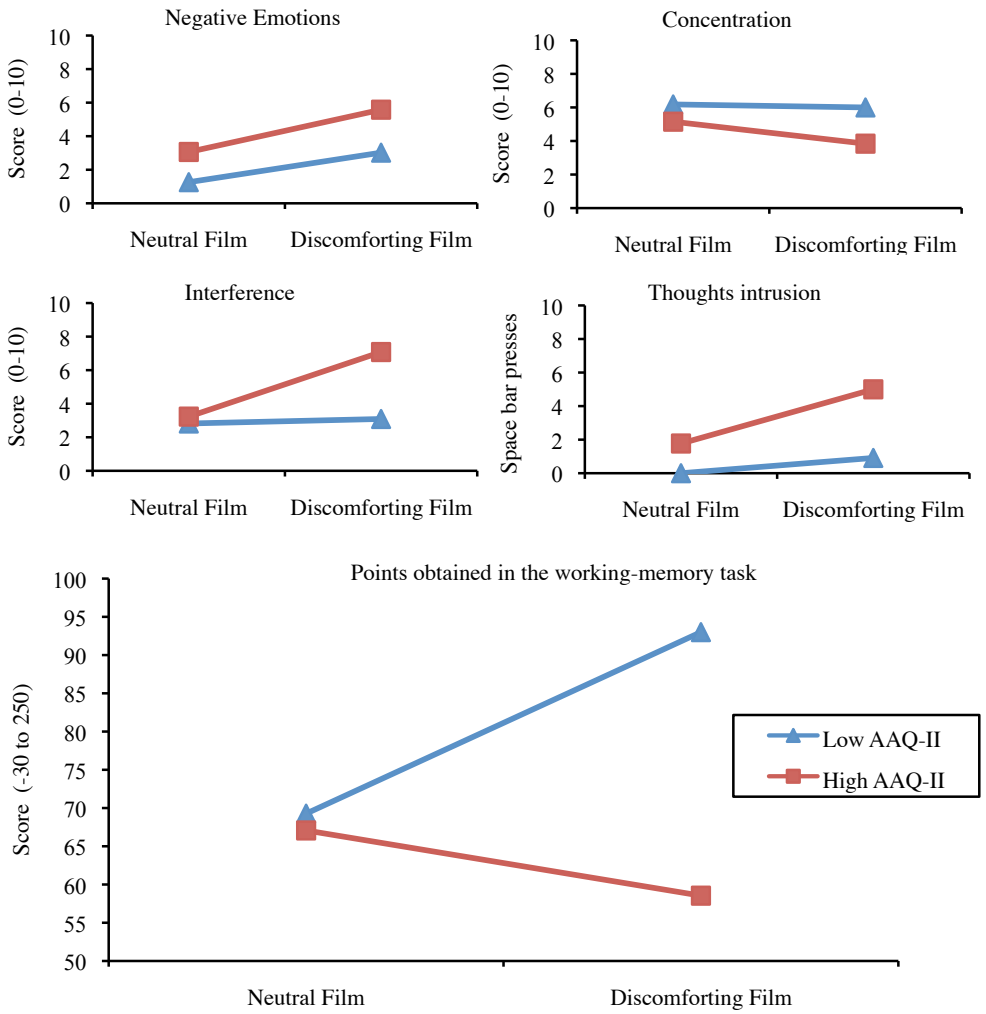

Figure 3. Negative emotions, concentration, interference, thoughts intrusion and points obtained in the working-memory task.

M= 3.23, *SD*= 3.56; *U*= 65.5, *p*= .36) and intrusion of thoughts related to the film (Low AAQ-II: *M*= .00, *SD*= .00; High AAQ-II: *M*= 1.77, *SD*= 4.15; *U*= 49.5, *p*= .10). The performance of both groups in the experimental task was similar, with no differences in the average score per trial (Low AAQ-II: *M*= 6.93, *SD*= 11.92, final average score= 69.3; High AAQ-II: *M*= 6.71, *SD*= 11.87, final average score= 67.1; *t*= 1.43, *p*= .89).

After viewing the discomforting film, the scores in negative emotions increased in both groups and the difference remained at a statistically significant level (Low AAQ-II: *M*= 3.02, *SD*= 2.17; High AAQ-II: *M*= 5.58, *SD*= 1.96; *U*= 27.0, *p*= .004). Significant differences were also found in concentration on the memory task: participants with low experiential avoidance reported a level of concentration superior to participants with a high level of experiential avoidance (Low AAQ-II: *M*= 6.00, SD = 2.28; High AAQ-II: *M*= 3.84, *SD*= 2.85; *U*= 39.5, *p*= .031). Similarly, participants with high experiential avoidance reported higher level of interference than participants with low experiential avoidance (Low AAQ-II: *M*= 3.09, *SD*= 2.77; High AAQ-II: *M*= 7.08, *SD*= 2.50; *U*= 23.0, *p*= .002) and pressed the space bar more frequently (Low AAQ-II: *M*= .91, *SD*= 1.81; High AAQ-II: *M*= 5.00, *SD*= 6.98; *U*= 36.0, *p*= .02). The group with high experiential avoidance obtained significantly worse average scores in the trials of the working-memory task than the group with low experiential avoidance (Low AAQ-II: *M*= 9.27, *SD*= 12.47, final average score= 92.7; High AAQ-II: *M*= 5.85, *SD*= 11.12, final average score 58.5; *t*= 2.24, *p*= .015).

At an intra-subject level, an increase or decrease in the performance on the working-memory task was determined by having a 25-point difference of scores in Phase 3 with respect to Phase 2. This criterion was selected because that was the amount of points participants could obtain in each trial. Figure 3 shows that 6 of 11 participants (55%) with low levels of experiential avoidance increased their performance, 3 (27%) remained at a similar level and 2 (18%) showed a decrease in performance. With respect to participants with a high level of experiential avoidance, only 2 of the 13 participants (15%) improved their performances, 5 (38%) remained the same and 6 (46%) showed a decrease in performance.

The method of mediational analysis proposed by Baron and Kenny (1986) was used for analyzing whether the level of concentration mediated the relationship between experiential avoidance and participants' performances in Phase 3. The following four conditions should be fulfilled: (a) experiential avoidance (predicting variable) should significantly predict the degree of concentration (mediator), (b) experiential avoidance should significantly predict the points obtained in the memory task of Phase 3 (dependent variable), (c) the concentration level should significantly predict the points obtained in the task, and (d) the impact of experiential avoidance on the performance in the task should be significantly reduced after controlling for concentration. Accordingly, three independent regression analyses were conducted (see Figure 4). The first showed that experiential avoidance significantly predicted the level of concentration on the task (β= -.44, *p*= .015 one-tailed). The second regression analysis indicated that experiential avoidance significantly predicted the points obtained in the memory task of Phase 3 (β= -.40, *p*= .026 one-tailed). Finally, in the third regression analysis, the levels of experiential avoidance and concentration were used as predicting variables of the number of

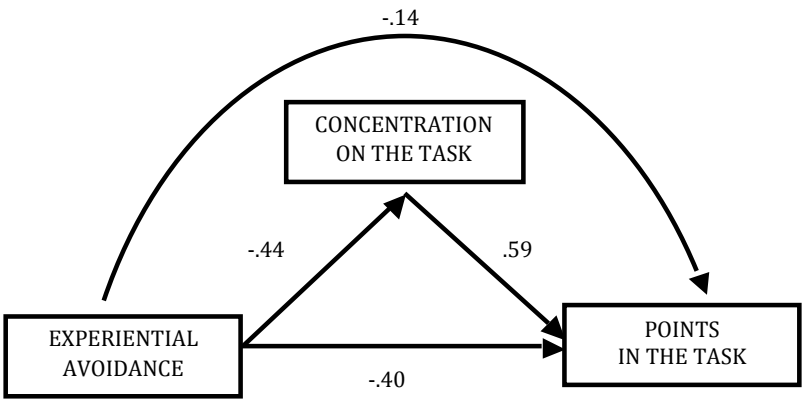

Figure 4. β values in the mediational analysis. The level of concentration on the task mediated the effect of experiential avoidance on the points obtained in the task of Phase 3.

points obtained in the task. The level of concentration significantly predicted the points obtained (β= .59, p= .002 one-tailed) while the level of experiential avoidance did not significantly predict the points obtained (β= -.14, p= .26 one-tailed). The mediational analysis suggests that the effect of experiential avoidance on the performance in the working-memory task was mediated by the level of concentration on the task.

Discussion

Experiential avoidance has been found to be related to a wide range of symptoms and psychological constructs. Consequently, experiential avoidance seems to be the verbal regulation involved in the development and maintenance of different psychological disorders. In the present study, experiential avoidance and accepting without judgment (an intimately related construct) were the coping strategies that showed the highest correlations with the experimental variables (negative emotions, informed concentration and interference, intrusion of thoughts related to the films and the performance on the working-memory task). Also, statistically significant differences were found in the main variables when we compared participants with high and low levels of experiential avoidance. Specifically, participants with high levels of experiential avoidance evaluated their mood state more negatively after the viewing of both films. After viewing the discomforting film, their level of concentration was significantly lower than the group with low levels of experiential avoidance. Likewise, the group with high experiential avoidance reported more interference and intrusion of thoughts related to the discomforting film, and they did not improve their scores in the memory task as the group with low experiential avoidance did.

The differences observed in both groups in negative emotions after the viewing of the discomforting film coincide with those observed in previous studies (e.g., Karekla *et al*., 2004; Luciano *et al*., 2010; Salters-Pedneault *et al*., 2007; Sloan, 2004; Zettle

et al., 2007), in which participants with high scores in experiential avoidance reported higher levels of anxiety and discomfort during and after the completion of different challenging tasks.

The main contribution of the present study is to demonstrate that experiential avoidance can play a relevant role in the performance on high cognitive demand tasks while participants are experiencing discomfort. Specifically, participants with high scores in experiential avoidance did not improve their performance on the memory task after the viewing of the discomforting film, as would be expected after having practiced with the first memory task. Nevertheless, we did observe this effect in participants with low levels of experiential avoidance. The conducted meditational analysis suggests that experiential avoidance has an effect over performance while the person is experiencing discomfort by decreasing one's concentration on the task. That is, while experiencing discomfort, these participants could use control-based coping strategies to try to reduce or control thoughts (e.g., suppression of thoughts and emotions, looking for positive thoughts, several methods of distraction, etc.) that are incompatible with attending to the relevant cues of the task. In other words, avoidance strategies impede the relevant stimuli of the task from having their specific function (Luciano, Rodríguez, & Gutiérrez, 2004).

The present study shows some limitations that should be mentioned. First, the sample size of the study is reduced although the differences found were statistically significant. Standard films were not used and some of the questionnaires (KIMS) did not have a validated translation into Spanish. Likewise, an evaluation of mood before the viewing of the neutral film was not completed, which could have shown if participants with high level of experiential avoidance had a more negative mood before beginning the experiment or, on the contrary, if the neutral film (with the instruction that they could observe some uncomfortable scenes) induced the differences in the mood state found after viewing this film.

The results of the present study are consistent with previous data that showed the relevance of experiential avoidance in the performance of several types of tasks. On one hand, Bond and Flaxman (2006) found that the level of experiential avoidance predicted the subsequent difficulty in learning a new software. On the other hand, evidence in the chess playing field shows that the application of protocols for accepting problematic thoughts in the valued context of chess competition, not only reduced the level of experiential avoidance of chess players during the competition, but also produced notable improvements in the chess players' performances (Ruiz, 2006; Ruiz & Luciano, 2009, under review; Luciano, Valdivia, Gutiérrez, Ruiz, & Páez, 2009). In summary, the data obtained in the present study converge with those obtained in this area of research studies and adds explicit experimental data about the negative effect of experiential avoidance during the completion of high cognitive demand tasks. Accordingly, it seems that altering the type of coping with discomfort strategy should improve the performance on this type of highly demanding tasks, for example, by learning to complete them without trying to control his or her discomfort. In addition -and interestingly- the procedure used in the current study, considered as whole, could be used as a potential experiential avoidance behavioral measure, which, in turn, could be used in evaluating processes of change or the effect of different types of protocols.

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