RESPONDING TO A CHALLENGING PERCEPTUAL-MOTOR TASK AS A FUNCTION OF LEVEL OF EXPERIENTIAL AVOIDANCE

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Participants displaying high versus low levels of experiential avoidance as assessed by the Acceptance and Action Questionnaire (Hayes, Strosahl, et al., 2004) were compared in their reactions to and performance on a challenging perceptual-motor task. Participants were offered incentives for sorting colored straws into different colored containers as quickly as possible during the simultaneous induction of unpleasant sensations (dizziness, blurred vision, disorientation) by the wearing of “drunk goggles” during task performance. High avoidant participants reported being more likely to engage in catastrophizing and to be distressed by sensations induced during the task, despite, as expected, apparently minimizing contact with such experiences by sorting significantly fewer straws than their low avoidant counterparts. The findings are related to similar research consistent with the conceptualization of experiential avoidance as a functional response class supporting diverse forms of dysfunctional behavior and human suffering.

The last decade within behavioral and cognitive approaches to therapy has seen the development of a number of second-order change strategies that share the agenda of seeking improved psychological functioning by altering the contexts that support a controlling relationship between thoughts, feelings, bodily sensations, and other related private events, on one hand, and various forms of dysfunctional behavior on the other (Hayes, 2006; Hayes, Masuda, Blissitt, Luoma, & Guerrero, 2004). This “new wave” of therapies includes, but is not necessarily limited to, dialectical behavior therapy for borderline personality disorder (Linehan, 1993), integrative behavior therapy for distressed couples (Wheeler, Christensen, & Jacobson, 2001), and mindfulness-based cognitive therapy to prevent depression relapse (Segal, Williams, & Teasdale, 2002).

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Among second-order change approaches, the one that is most explicitly based upon a behavior analytic perspective on private events, human language, and related phenomena (Hayes, Barnes-Holmes, & Roche, 2001) and also has received perhaps the most attention of late, as evidenced by the publication of a practical guidebook (Hayes & Strosahl, 2004) and a recent special issue of Behavior Therapy devoted to it (Haaga, 2004), is acceptance and commitment therapy (ACT: Hayes, Strosahl, & Wilson, 1999). A central pathogenic process that ACT seeks to weaken is that purported to support a wide array of specific forms of abnormal behavior and human suffering, more generally, is that of experiential avoidance (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Experiential avoidance is conceptualized as deliberate, conscious efforts to alter the frequency or form of selective private events; such as unwanted thoughts, emotions, memories, images, and bodily sensations; or the contexts in which they occur. For instance, individuals susceptible to motion sickness may actively limit their extent and range of traveling and use of various forms of transportation.

The emergence of ACT has not only been characterized by an accumulating body of supportive research evaluating its relative clinical efficacy (see Hayes (2004) and Hayes, Masuda, et al. (2004) for recent reviews of this literature), but as well by accompanying efforts to assess experiential avoidance through the development of the Acceptance and Action Questionnaire (AAQ; Hayes, Masuda, et al., 2004) and investigate it as a putative dysfunctional process through more basic analogue preparations. For example, two studies (Feldner, Zvolensky, Effert, & Spira, 2003; Kareevska, Forsyth, & Kelly, 2004) found that college students who scored at the extremes on the AAQ (at least one standard deviation above or below an aggregate mean) differed in their reactions to a biological challenge (i.e., inhalations of carbon-dioxide-enriched air) in a manner consistent with the conceptualized relationship between experiential avoidance and the development and maintenance of panic disorder (also see Lewit, Brown, Onslow, & Barlow, 2004). Specifically and as expected, participants who reported higher levels of experiential avoidance reacted with greater levels of anxiety compared to their low avoidant counterparts despite there being no differences between the two groups in levels of asymptomatic distress induced by the inhalations.

More recently, Zettle et al. (2005) compared high and low avoidant participants in their reactions to and efforts to cope with pain induced by the cold pressor task (Fielding & Brown, 1985). Participants reporting high levels of experiential avoidance as assessed by the AAQ were less tolerant of pain (removed their hands from cold, icy water sooner) and were more likely to indicate they were using praying/hoping and catastrophizing as central strategies during the task, but did not differ from those low in experiential avoidance in their sensitivity to pain nor in ratings of its intensity. The overall findings provided further support for conceptualizing experiential avoidance as a core pathogenic process and paralleled related research investigating the contribution of experiential avoidance to chronic pain (McCracken & Eccleston, 2003) and the promotion of acceptance-based strategies for coping with it (Dahl, Wilson, & Nilsen, 2004).

The major purpose of this study was to further evaluate the breadth or generality of experiential avoidance as a central pathogenic process and, by doing so, also indirectly to further assess the construct validity of the AAQ. Although previous research has compared the reactions of college student participants reporting high versus low levels of experiential avoidance to challenges designed to be analogues of clinical conditions (panic symptoms (Feldner et al., 2003; Kareevska et al., 2004) or acute pain (Zettle et al., 2003)), this study presented similar participants with a perceptual-motor task deliberately selected to induce unwanted experiences that less clearly mimic those seen in treatment. In particular, participants were asked to sort colored straws into various colored containers as quickly as possible despite experiencing unwanted and potentially interfering sensations (e.g., dizziness, blurred vision, and disorientation) induced while wearing "drunk goggles." The task also required that it be performed with the participant seated in a pivoting swivel chair in order to intensify further any unwanted sensations. A search of the PsychINFO database suggested the novelty of the task as it revealed no previous psychological research that had employed "drunk goggles" in this manner.

A secondary purpose of this study was more specifically to examine the relationship between experiential avoidance and behavioral persistence in a conflict situation. The current investigation is the second explicitly to do so. Gutierrez, Luciano, Rodriguez, and Fink (2004) established a value-oriented context ("the task would aid in learning about coping strategies that may help people who suffer with chronic pain" (p. 771)) in which to compare the impact of an acceptance versus control-based approach upon participant continuation of a conflict-laden task. Specifically, participants by continuing a simple matching-to-sample task could earn additional tokens towards a prize, but at the cost of receiving increasingly painful shocks. As expected, participants receiving the acceptance-based protocol displayed significantly higher levels of pain tolerance. From the perspective of ACT, various forms of human pain and suffering, in general, and even more mundane behavioral excesses (overeating) and deficits (lack of exercise), in large measure can be construed as the result of unwillingness to experience unwanted private events elicited naturally by the pursuit of certain value-directed goals and that would otherwise function as barriers for such activities. For example, an individual conflicted over a goal to lose weight for health-related reasons may have to accept feeling hungry and experiencing sore muscles as consequence of dieting and exercising, respectively.

The conflict presented to participants in the present study was established by offering monetary rewards contingent upon the number of straws sorted correctly. However, sorting straws at a faster pace ostensibly exposed participants to more intense levels of unwanted sensations. Participants who continued the task until its discontinuation,
consequently, had two options. They could choose to sort straws as quickly as possible in the face of increasing levels of discomfort in an attempt to win a financial prize, or adopt a more measured pace in order to minimize distress, but at the cost of decreasing the likelihood of winning any money. It was anticipated that participants reporting high levels of experiential avoidance as assessed by the AAQ would be more likely to adopt this latter strategy than their low avoidant counterparts. Accordingly, it was predicted that high avoidant participants would correctly sort significantly fewer straws, but not necessarily report experiencing lower levels of distress during the task as a result. In particular, because high avoidant participants have reported higher levels of subjective distress in response to other challenges (Felldner et al., 2003), it was expected that any differences between the groups in the levels of this variable would be a result of more distress being reported during the task by those scoring higher on the AAQ despite their more deliberate approach to it.

A third and final purpose of this project was to extend the examination of preferred differential coping strategies employed by low vs. high avoidant participants in responding to experiential challenges. Based upon the responses of similar groups during the coldpressor task (Zettle et al., 2005), it was expected that participants evidencing high levels of experiential avoidance would be more likely to report resorting to catastrophizing and praying/hoping in attempting to cope with unwanted sensations induced during the sorting task.

Method

Participants

Participants (N = 26) were culled from a larger sample (N = 93) of college students enrolled in psychology courses who initially responded to a recruitment announcement about the project (i.e., "drunk goggles task") and completed the AAQ as part of the process used to select final participants. The mean level of experiential avoidance for this larger sample (M = 28.97, SD = 6.03) was significantly lower than that obtained by Felldner et al. (2003) and Zettle et al. (2005) for their college student participants, suggesting that individuals high in experiential avoidance were more reluctant than those in previous similar research to even present themselves as potential participants. Also, unlike these previous studies, a significant difference was noted within the larger sample; t (91) = 2.08, p < .05; between male (N = 29; M = 30.86, SD = 6.80) and female (N = 64; M = 28.11, SD = 5.49) participants in AAQ scores. Consequently, gender-specific cutting-scores were used to select final participants consistent with the procedures of Felldner et al. and Zettle et al., male (N = 4) and female (N = 9) participants who obtained AAQ scores falling at least one standard deviation below the mean for their gender (24 or below and 22 or below, respectively) were selected as a group reporting low levels of experiential avoidance. An opposing group displaying high levels of experiential avoidance was constituted by selecting male (N = 4) and female (N = 9) participants who obtained AAQ scores falling at least one standard deviation above the mean for their gender within the larger sample (38 or above and 34 or above, respectively).

Responses to a background questionnaire indicated no differences between the two groups in ratings of visual acuity, past episodes of vertigo, motion-sickness, or other inner-ear related problems; nor in the frequency with which they reported previous impairment of their vision or motor skills due to inebriation. They also did not differ from each other in handedness (all were dextrals), height, nor in time elapsed since consumption of the last meal prior to task participation, but did so in age. Low avoidant participants (M = 27.2 years) were significantly older; t (24) = 3.34, p < .01, than their high avoidant counterparts (M = 19.9 years) and also more likely to wear glasses/contact lenses (13 of 13 vs. 7 of 13). All participants were treated in accordance with the "Ethical Principles of Psychologists and Code of Conduct" (American Psychological Association, 2002) and were screened to ensure that they were not afflicted with any current medical-related condition (e.g., vertigo) that would be exacerbated by participation in the sorting task nor color-blindness.

Questionnaires

Acceptance and Action Questionnaire (AAQ). The AAQ is a 9-item self-report measure of experiential avoidance (Hayes, Strosahl, et al., 1996). Respondents use a 7-point scale to rate "the truth . . . as it applies to you" of statements designed to evaluate aspects of psychological acceptance versus experiential avoidance (e.g., "I'm not afraid of my feelings"). Total scores range from 9-63, with higher scores reflecting greater levels of experiential avoidance. The internal consistency (Cronbach alpha = .60) and other psychometric properties of the AAQ appear to be adequate for its use in research (Hayes, Strosahl, et al.). Significant correlations between the AAQ and other purported measures of experiential avoidance such as the White Bear Suppression Inventory (Wagner & Zanakos, 1994) and Dimensions of Emotion Experience Scale (Reinstein & Putnam, 1984) may be regarded as support for its convergent and construct validity.

Coping Strategies Questionnaire (CSQ). The CSQ initially was constructed to assess seven strategies (diverting attention, reinterpreting sensations, coping self-statements, ignoring sensations, praying/hoping, cognitive reorganization, and increasing behavioral activity) used by participants in coping with chronic pain (Keefe, Crisson, Urban, & Williams, 1990). Respondents use a 0 ("never do that") to 6 ("always do that") scale to rate the degree to which they engage in 44 different activities to cope with pain. A version of the CSQ was originally adapted by Geisser, Robinson, and Pickren (1992) and recently further modified by Zettle et al. (2005) for use with the coldpressor task. Further adjustments were made to yield a 31-item version of the CSQ administered in this study that contained six subscales. Where appropriate, items were simply reworded by replacing "pain" with "sensations" (e.g., "I told myself that I could overcome the sensations") in asking participants to "indicate how much you engaged in (each) activity to
cope with distressful and unwanted sensations during the task." Five items were eliminated because their depictions of pain, if merely reworded, were judged to be undescrptive of sensations induced during the task (e.g., "I didn’t think of it as pain but rather as a dull or warm feeling").

**Task Performance Measures**

Two measures of task performance were obtained during each of the two different presentations of the task. Participants initially were provided with a sampling of the sorting task by engaging in it for 60 s. All subsequently agreed to participate in a second, longer presentation of the task for 300 s (5 min). The number of straws sorted as well as the total number sorted correctly by each participant were recorded separately during each of the two task presentations. These two measures (total number of straws sorted and total number of straws sorted correctly) were collapsed across the two presentations to yield a higher range of scores against which to evaluate the relationship between levels of experiential avoidance and task performance.

**Experiential Ratings**

Immediately after completion of the second presentation of the task, participants were asked to provide a series of ratings about their experiences with "various sensations experienced by participants during the task you have just completed." Specifically, participants used a 0-100 scale to rate separately their experiences of dizziness, blurred vision, disorientation, headache, and nausea along the following dimensions: (a) valence (positive vs. negative), (b) intensity/severity, (c) level of distress, (d) efforts to minimize distress, and (e) success in doing so.

**Procedure**

Prior to the initial presentation of the sorting task, participants read and signed a consent form containing language that mirrored that used by Gutierrez et al. (2004) to establish a "valued context" for the ostensible purpose of the project (i.e., "it is our hope that the findings from this study may be beneficial in helping us better assist individuals cope with distressing symptoms, such as blurred vision and dizziness, that may be associated with certain medical conditions"). Participants were informed that the task would be presented initially for 60 s and that the option of discontinuing their participation at any time during it (none did so).

Before the second presentation of the task, participants were explicitly asked if they would like to perform it again "but for a longer period of time." All participants opted to do so and were asked to read and sign a second consent form that informed them of the following instructions and incentives for task performance:

Although we would like you to continue the task to the best of your ability as long as possible, you may decide to discontinue your participation at any time. As an incentive to perform as well as possible on the task, we are offering a $20 prize at the end of this project for the participant who correctly sorts the most straws. In addition, you will earn one chance for each straw sorted correctly during the task towards another $20 prize to be awarded at the conclusion of the project.

During both task presentations, participants were seated in an armchair (43 cm high) in a chair (79 cm high) with a box (18 x 18 cm) of colored straws placed upon it to the participants’ right. An equal number (25) of red, yellow, blue, and green straws (13.3 cm long x 0.32 cm in diameter) were contained in the box. A series of four colored containers (10.8 cm long x 7.5 cm in diameter) were mounted on a board affixed to an easel that was angle at 90 degrees and positioned approximately 0.9 m to the left of the participants as they were seated to begin the task. The containers/cans were colored red, yellow, blue, and green in ascending order 18 cm apart, with the bottom one (red) located 33 cm above the floor.

Prior to the initial presentation of the task, an assistant demonstrated how it was to be performed. Specifically, the assistant modeled selecting a specified colored straw from the box, using the legs and feet to quickly spin in the swivel chair approximately 180 degrees to the right to be positioned in front of the easel, placing the straw in a specified colored container, and spinning in the swivel chair to the left 180 degrees to arrive back at the starting point near the box of straws to await the next instruction. Participants were snugly fitted with a modified pair of Drunk Busters Impairment Goggles (U.S. Patent 6,208,521, 2001) designed to simulate the effects of a blood alcohol level of 0.05 - 0.15 during the performance of both tasks. Opaque tape was used to cover the lenses as well as the sides and bottom of the goggles to ensure that the only vision possible occurred through a window approximately 1.3 cm wide running horizontally across the center of the lenses. The assistant, if necessary, also adjusted and the placement of the goggles by tightening the head straps and repositioning them on the faces of participants to verify that they were unable to see through the sides or bottom of the goggles.

During both task presentations, the assistant sat in a chair to the right of participants and timed the duration of the presentations (60 or 300 s) while instructing participants according to a standard sorting protocol in which colored straws had been randomly assigned to the differing colored containers (e.g., "place the red straw in the yellow container," "place the green straw in the blue container," etc.). The sorting instructions for the next straw in the protocol was not issued until participants had sorted the previous one (with the assistant noting whether this was performed correctly or not) and swiveled back to be positioned in front of the box. At the end of the time allotted for the respective presentations, the assistant instructed participants to discontinue the task, and immediately following the second presentation, asked them to provide the series of experiential ratings described earlier. Upon the completion of the ratings, participants were administered the CSQ.
Results

No participants discontinued either task prematurely prior to the expiration of time allotted for the presentations (60 vs. 300 s). Descriptive statistics for the two task performance measures and subscales of the CSQ for the two groups of participants are presented in Table 1. A series of t tests, using one-tailed tests of significance, was conducted on those variables that were expected a priori to differ between the two groups. Also reported in Table 1 are associated effect sizes (Cohen, 1977).

Table 1

<table>
<thead>
<tr>
<th>Level of Experiential Avoidance</th>
<th>Low</th>
<th>High</th>
<th>d</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Performance Measures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Straws Sorted</td>
<td>41.9 (10.8)</td>
<td>34.3 (11.1)</td>
<td>0.69</td>
<td>1.77</td>
<td>.04a</td>
</tr>
<tr>
<td>Number Sorted Correctly</td>
<td>41.2 (10.9)</td>
<td>33.4 (11.1)</td>
<td>0.71</td>
<td>1.82</td>
<td>.04a</td>
</tr>
<tr>
<td>CSQ Subscales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distracting Attention</td>
<td>7.9 (8.6)</td>
<td>10.2 (8.2)</td>
<td>0.25</td>
<td>0.64</td>
<td>.53</td>
</tr>
<tr>
<td>Ignoring Sensations</td>
<td>13.7 (6.4)</td>
<td>15.6 (6.7)</td>
<td>0.25</td>
<td>0.64</td>
<td>.53</td>
</tr>
<tr>
<td>Praying/Hoping</td>
<td>3.6 (6.0)</td>
<td>6.8 (6.7)</td>
<td>0.51</td>
<td>1.29</td>
<td>.10a</td>
</tr>
<tr>
<td>Catastrophizing</td>
<td>1.9 (3.1)</td>
<td>5.2 (10.7)</td>
<td>0.93</td>
<td>2.37</td>
<td>.01a</td>
</tr>
</tbody>
</table>

*One-tailed test of significance.

Task Performance Measures

Participants in both the low avoidant and high avoidant groups were equally skilled in correctly sorting the straws (98% vs. 97%, respectively), but differed significantly from each other on both task performance measures. As expected, low avoidant participants sorted significantly more total straws and more straws correctly than their high avoidant counterparts.

CSQ Subscales

The internal consistency of each of the six subscales of the CSQ was first evaluated before subjecting the measures to further analysis. The coefficient alphas for reinterpretation of sensations and coping self-statements (.57 and .55, respectively) were judged to be adequate and these subscales were not evaluated further. The levels of internal consistency for the four remaining subscales were acceptable and ranged from .83 (praying/hoping) to .92 (catastrophizing). As anticipated and indicated in Table 1, participants high in experiential avoidance reported engaging in catastrophizing during the task to significantly greater degree than those in the low avoidant group (e.g., "I felt I couldn’t stand it (the unwanted sensations) anymore"). High avoidant participants were also more likely to resort to praying/hoping than their low avoidant counterparts in coping with unwanted sensations, although this difference fell short of that required for statistical significance.

Experimental Ratings

No significant differences were noted between the two groups in the proportion of participants who reported experiencing unwanted sensations induced during the sorting task. However, some sensations were reported as being experienced by more participants than others. As can be seen in Table 2, all but 3 participants reported experiencing both blurred vision and disorientation during the task. Most low and high avoidant participants (7 and 9, respectively) also reported experiencing dizziness, and only Table 2

### Analysis of Experimental Ratings

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Dizziness</th>
<th>Blurred Vision</th>
<th>Disorientation</th>
<th>Headache</th>
<th>Nauseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valencea</td>
<td>Low</td>
<td>47.1 (7)</td>
<td>54.2 (12)</td>
<td>56.3 (12)</td>
<td>36.7 (2)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>76.1 (9)</td>
<td>87.2 (13)</td>
<td>79.5 (11)</td>
<td>52.5 (4)</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>16.5 (26)</td>
<td>26.5 (42.5)</td>
<td>4.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Intensity Levelb</td>
<td>Low</td>
<td>50.7 (7)</td>
<td>77.1 (12)</td>
<td>66.5 (13)</td>
<td>46.7 (3)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>71.7 (9)</td>
<td>85.2 (13)</td>
<td>77.4 (11)</td>
<td>40.6 (4)</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>18.0 (60.5)</td>
<td>59.5 (5.0)</td>
<td>4.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>15 (33)</td>
<td>0.27</td>
<td>0.72</td>
<td>20.9</td>
</tr>
<tr>
<td>Distress Levelc</td>
<td>Low</td>
<td>28.6 (7)</td>
<td>42.1 (12)</td>
<td>39.6 (13)</td>
<td>5.0 (2)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>64.4 (9)</td>
<td>72.5 (13)</td>
<td>76.5 (11)</td>
<td>42.5 (4)</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>12.0 (41.5)</td>
<td>32.5 (32.5)</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>.04</td>
<td>0.05</td>
<td>0.02</td>
<td>0.64</td>
</tr>
<tr>
<td>Distress Minimizationd</td>
<td>Low</td>
<td>58.6 (7)</td>
<td>56.2 (12)</td>
<td>65.0 (13)</td>
<td>100.0 (1)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>68.9 (9)</td>
<td>77.7 (13)</td>
<td>75.9 (11)</td>
<td>60.0 (3)</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>27.0 (48.6)</td>
<td>57.0 (57.0)</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>63</td>
<td>0.10</td>
<td>0.06</td>
<td>0.49</td>
</tr>
<tr>
<td>Minimization Successd</td>
<td>Low</td>
<td>40.7 (7)</td>
<td>50.8 (12)</td>
<td>58.8 (13)</td>
<td>0.0 (1)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>48.9 (9)</td>
<td>49.2 (12)</td>
<td>53.0 (10)</td>
<td>50.0 (3)</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>26.5 (68.0)</td>
<td>57.5 (57.5)</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>p</td>
<td>59</td>
<td>0.64</td>
<td>0.09</td>
<td>0.96</td>
</tr>
</tbody>
</table>

Note. Values represent mean ratings (0-100) for low and high avoidant groups. Parenthetical values denote number of participants out of 13 in each group who rated that sensation on the dimension specified.

aRate the degree to which you found your overall sensation to be a positive (pleasing) or negative (unpleasant) one where 0 = "very positive" and 100 = "very negative."

bRate the level of intensity/severity with which you experienced each sensation where 0 = "did not experience it at all" and 100 = "extremely intense."

cRate how distressful you found each sensation to be where 0 = "not at all distressful at all" and 100 = "extremely distressful."

dRate the degree to which you actively attempted to minimize any distress you experienced surrounding each sensation where 0 = "did not try at all" and 100 = "tried as hard as I could."

eRate the degree to which your attempts to minimize any distress you experienced surrounding each sensation were successful where 0 = "not at all successful" and 100 = completely successful."

*fTwo-tailed test of significance.
minorities in both groups (3 and 4, respectively) acknowledged task-induced headache and nausea. Also reported in Table 2 are the results of a series of Mann-Whitney tests (Siegel, 1956) conducted on the four-dimensional ratings for each of the five sensations provided ratings were offered by at least 3 participants from each group.

With the exception of high avoidant participants evaluating their experience of blurred vision as significantly more negative than their low avoidant counterparts, the only difference between the two groups occurred in their distress ratings. Specifically, as indicated in Table 2, the higher distress levels reported by high avoidant participants in reaction to dizziness, blurred vision, and disorientation exceed that required for statistical significance and fell just short in the case of headache (p = .06).

Discussion

The overall results of this study were as generally expected and parallel those of at least three other recent investigations (Feldner et al., 2003; Karekla et al., 2004; Zettle et al., 2005) that have compared the reactions of participants varying in levels of experiential avoidance as assessed by the AAQ to various challenges. In particular, participants high in experiential avoidance predictably sorted fewer total straws and fewer correctly during the task than their low avoidant counterparts. It should be noted, however, that all high avoidant participants unexpectedly opted to engage in the second, longer (300 s) presentation of the task and that, somewhat surprisingly, none discontinued their participation in it prematurely, suggesting that the lure of the monetary prizes may have overridden any inclination to escape from the task entirely. What the dropout rate among the high avoidant participants might have been had such a conflict involving incentives been absent is unclear and remains a question to be addressed by further research.

Rather than shunning the task in its entirety, high avoidant participants evidently accepted a slower pace in sorting the straws as the dominant strategy for minimizing contact with unwanted sensations induced by the task. Although we have no evidence to support our assertion, apart from our own experience while designing the task and performing it at differing speeds, it seems quite likely that a direct correlation exists between the pace of sorting during the task and the intensity of unwanted sensations induced (e.g., spinning around more quickly in the chair is associated with greater levels of dizziness). Consequently, the slower rate of straw sorting by high avoidant participants may be seen as their way of competing for the monetary prizes, while simultaneously attempting to minimize blurred vision and its related, unwanted, induced experiences.

Unfortunately, the compromise strategy adopted by the high avoidant group, compared to the higher rate of sorting by their low avoidant counterparts, failed to meet either objective. First of all, sorting significantly fewer straws precluded being awarded the $20 prize for the most straws sorted correctly and also reduced the likelihood of winning the "lottery" for the second prize. Because no participants had knowledge of how many straws had been sorted by their competitors, it seems plausible, however, that participants in the high avoidant group may have erroneously judged that their own pace of sorting was relatively rapid.

Not only was the measured sorting pace of high avoidant participants ineffective in competing for the two prizes, it also was clearly ineffective in sheltering them from unwanted sensations induced during the task. High avoidant participants, like their low avoidant counterparts, were just as likely as those low in experiential avoidance to encounter unwanted sensations during the task, but reported being more distressed by them. This finding closely corresponds to those of Feldner et al. (2003) and Zettle et al. (2005) in suggesting that the experiences of high versus low avoidant participants when presented with varied challenges (carbon dioxide inhalation, cold pressor, and the sorting task employed in this study) differ not so much in the level or intensity of sensations directly induced by the challenges themselves, but in their differing reactions to such sensations. In particular, high avoidant participants in this project, as expected, indicated that they "coped" with unwanted sensations by catastrophizing.

Based upon the findings of Zettle et al. (2005), high avoidant participants also were anticipated to report engaging in praying/hoping during the task to a significantly greater degree than the low avoidant group. Instead, both groups reported resorting to this coping strategy to a moderate but equivalent degree, perhaps in large measure because of the specific demands of the sorting task. In contrast to the cold pressor challenge in which participants sat passively until they opted to remove their hands from the cold, icy water, the sorting task demanded active participation. Consequently, the press of the task itself apparently did not afford participants the opportunity to simultaneously engage in praying/hoping, but did allow them to catastrophize.

It should perhaps be noted that the CSQ purports to assess task-specific or situational coping efforts rather than more dispositional styles. Although the discrete coping styles have been conceptually related to experiential avoidance (e.g., Zettle & Hayes, 2002), additional research is needed to investigate the degree to which situationally specific relationships between experiential avoidance and particular coping strategies may, in turn, be associated empirically with more dispositional coping styles. For example, it may be useful to determine whether context-specific coping responses such as those assessed by the CSQ are more highly correlated with experiential avoidance than measures of avoidant coping styles.

Although the overall results of this study relate closely to findings from previous research (Feldner et al., 2003; Karekla et al., 2004; Zettle et al., 2005), any cross-investigational comparisons must be tempered by the acknowledgment of significant differences between the participants in this project and those. Specifically, participants as an aggregate were less experimentally avoidant and displayed differences in AAQ scores as a function of gender and age. All of these differences were unexpected,
Particularly, those involving gender and age. Hayes, Strosahl, et al. (2004) did report a gender difference in AAQ scores among clinical (but not nonclinical) populations, albeit opposite to that obtained in this study, and consistent with other researchers (Feldner et al.; Karekla et al.; Zettle et al.), no age-related effects.

Of the two variables, age seemed to present a greater limitation on the interpretation of differences between the two participant groups than that involving gender, insofar as both groups were comprised of similar proportions of male and female participants. All but 1 of the 13 participants in the low avoidant group was of legal drinking age compared to only 4 of 13 within the high avoidant group, suggesting that the former may have had a more extensive history of experiencing the effects of alcohol intoxication than the latter that “desensitized” them to similar sensations induced by wearing the “drunk goggles.” To the extent that this was the case, age may have been a better predictor than level of experiential avoidance in predicting task performance. Responses to a pretask background questionnaire, however, detected no significant differences between the low and high avoidant groups in the proportion of participants who indicated having “been drunk to the point that your vision” and “your motor skills (i.e., balance) were affected.”

One way to view the difference in aggregate level of experiential avoidance between participants in this study and those in related investigations, as well as the significant relationships unique to this study between experiential avoidance and gender and age, are as limitations that preclude comparing findings of this project with others. Alternatively, however, we suggest that the overall findings of this study can be construed as contributing to the breadth and robustness of experiential avoidance as a putative core pathogenic process. That is, overall effects that were expected based upon the findings of previous similar research (Feldner et al., 2003; Karekla et al., 2004; Zettle et al., 2005) were obtained despite differences between participants in this study and those. Moreover, the predicted effects occurred even though the challenge participants faced, unlike those used in these previous studies, was not designed as a clinical analogue and it was presented within the context of a conflict.

To the degree to which the findings here can be meaningfully integrated with those from previous related research, they can be seen as providing further support for the construct validity of the AAQ. In particular, this is at least the fourth study to suggest that experiential avoidance as assessed by the AAQ may be conceptualized as a functional response class in which individuals exhibit a generalized tendency to either actively attempt to avoid and escape from a wide array of unwanted private events or, alternatively, to react to such experiences with a sense of detachment. Thus far, however, comparisons between low and high avoidant groups that support this interpretation have been made across differing challenges that have themselves been “nested” within differing studies. Additional research in which a series of challenges are presented to both low and high avoidant participants within the same study would seem to constitute a more stringent investigation of the extent to which experiential avoidance functions as a response class. It is our belief that such research may not only further our understanding of experiential avoidance as a central dysfunctional process contributing to subclinical levels of human suffering, but also help explicate its possible role in accounting for comorbidity among divergent forms of psychopathology (Hayes et al., 1996).

References


