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Brief research report

Validation of an interpretation bias assessment for body dissatisfaction

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ABSTRACT

Currently, research on interpretation bias and body dissatisfaction is limited. The few experimental paradigms that have been used to explore this phenomenon utilized a method that may not accurately capture the nature of interpretation bias as explained by cognitive theory. The present study investigated the reliability and validity of a novel computerized assessment of interpretation bias (WSAP) for body dissatisfaction, which may more accurately reflect the cognitive processing involved in such bias by implementing the Word Sentence Association Paradigm (WSAP), a previously established method of measuring interpretation bias in other clinical populations. Undergraduate females ($n = 214$) completed the WSAP and other measures. Results indicate initial support for the WSAP as a valid, reliable measure of interpretation bias for body dissatisfaction. Although preliminary, this study contributes to the minimal research in this area and serves as the first psychometric investigation of the WSAP to measure such interpretation bias for body dissatisfaction.

Introduction

Cognitive biases are thinking or perceptual tendencies that result in a propensity to process information from the environment in favor of disorder-relevancy over neutrality (Williamson, 1996) and are commonly accepted to be vital in the development and maintenance of many psychiatric disorders, including eating disorders (MacLeod, 2012). Research has demonstrated support for two types of cognitive biases in individuals who are body-dissatisfied: memory (e.g., Unterhalter, Farrell, & Mohr, 2007) and attention (e.g., Rieger et al., 1998) biases. Less work has been done to investigate a third type called interpretation bias, which occurs when individuals more readily endorse a negative weight/shape-related explanation for an ambiguous event (e.g., someone attributes an odd look from a stranger as a negative reaction to his/her weight).

Cognitive biases may stem from disorder-relevant cognitive self-schemata. Markus (1977) defined self-schemata as, "cognitive generalizations about the self, derived from past experience, that organize and guide the processing of the self-related information contained in the individual's social experiences" (p. 64). As such, individuals with appearance-schemata are more invested in their appearance and therefore preferentially focus and place importance on appearance-related information when making determinations about the self (Cash & Grant, 1996). This can be problematic for individuals with negative body image because it can distort their perception of events in a way that confirms their body-image concerns (Cash & Grant, 1996). Cognitive biases—including memory, attention, and interpretation biases—are examples of these types of distortions. Jakatdar, Cash, and Engle (2006) found that individuals who were appearance-schematic (i.e., defined self-worth based on appearance) exhibited more negative cognitive distortions (e.g., biases) related to body-image. These distortions not only predicted negative body-image affect and quality of life, but also associated with eating pathology above and beyond what could be predicted by body dissatisfaction and appearance-schemata (Jakatdar et al., 2006).

Although relatively understudied in body-dissatisfied populations, interpretation bias has received some attention. Most research has directly explored interpretation bias in body-dissatisfied individuals using an experimental paradigm in which participants are presented first with words/ambiguous scenarios and then asked second for their interpretations using either forced-choice and/or free-response formats. For instance, Jackman, Williamson, Netemeyer, and Anderson (1995) found that when presented with ambiguous scenarios (e.g., After exercising for 2 hours at a health club, you catch a glimpse of the shape of your hips as you pass by a mirror), women who were body-dissatisfied

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were more likely to select negative weight/shape-related interpretations (e.g., After exercising for 2 hours at a health club, you get a glimpse of your *large* hips as you pass by the mirror) than women who were not body-dissatisfied. According to evidence from studies using experimental approaches like this, women who are body-dissatisfied—either at the clinical (i.e., eating disordered; Cooper, 1997) or nonclinical level (Altabe, Wood, Herbozo, & Thompson, 2004; Jackman et al., 1995; Rosser, Moss, & Rumsey, 2010)—are more likely than non-body-dissatisfied peers to select negative weight/shape-related interpretations of ambiguous words/scenarios without recognizing alternative, more adaptive explanations.

Although useful for fleshing out the cognitive processes of individuals with body dissatisfaction, the above experimental paradigm may not accurately reflect the nature of interpretation bias as explained by cognitive theory, which asserts that pre-existing schemata prime individuals for subsequent interpretations. This was the rationale behind the use of the Word Sentence Association Paradigm (WSAP) as a method to measure interpretation bias in anxiety (Beard & Amir, 2009), as the WSAP taps into disorder-relevant schemata before ambiguous stimuli are presented. In other words, the WSAP presents stimuli in a different order (i.e., prime comes before ambiguous scenario) compared to previously mentioned paradigms for interpretation bias in body dissatisfaction. The WSAP has been used to assess interpretation bias in populations with anxiety (e.g., Amir, Prouvost, & Kuckertz, 2012) and depression (e.g., Cowden Hindash & Amir, 2012), but no study to date has utilized the WSAP method to measure interpretation bias in individuals struggling with body dissatisfaction.

Therefore, the objective of this study was to investigate the reliability and validity of a novel computerized assessment of interpretation bias for body dissatisfaction—the WSAP—in hopes of developing a task that more accurately reflects the cognitive processing involved in such bias. A more ecologically valid measure of interpretation bias would help to expand current cognitive and etiologic conceptualizations of body dissatisfaction, and the WSAP can also be easily adapted into an intervention vehicle.

Method

Participants

Participants included 214 female undergraduates who were recruited via the psychology participant pool at a large, mid-Atlantic university in the United States. Participants were primarily Caucasian (65%; 19% African American, 7% Asian, 3% Hispanic, 6% other) with a mean age of 20 (SD = 2.66; range = 18–33). The majority of participants chose "single" as their relationship status (59%; 40% in a relationship, 0.5% married; 0.5% divorced) and selected the highest bracket (>$100,000) for annual household income (24%; the university has a large proportion of commuters). Although eating disorder diagnoses were not the focus of the study, 4.7% of participants scored in the clinical range of eating pathology based on Eating Disorder Examination Questionnaire (EDE-Q) cut-scores (Carter, Stewart, & Fairburn, 2001). A subset of participants (n = 17) returned for a second session of testing to complete a retest of the WSAP. These participants were representative of the larger group on key demographic variables (i.e., primarily Caucasian [70%], mean age of 20), although this subset of participants was significantly higher than the larger group on measures of body dissatisfaction, eating disorder symptoms (excluding eating concern), depression, and anxiety.

Measures

Word Sentence Association Paradigm Measure of Interpretation Bias (WSAP). An original assessment of interpretation bias for body dissatisfaction was modeled after Beard and Amir's (2009) task for social anxiety. The WSAP more accurately reflects the nature of cognitive errors described by cognitive theory. For the WSAP, a fixation cross appears on the computer screen for 750 ms and alerts participants that a trial is beginning. Then, a word or brief phrase appears that represents either a negative interpretation (e.g., "Too Large") or a benign interpretation (e.g., "Satisfied"). Half of the trials contained benign interpretation words/phrases and half contained negative interpretation words/phrases. The word/phrase remains on the screen for 750 ms before disappearing. Next, an ambiguous scenario related to body dissatisfaction (e.g., "While getting dressed, you examine your reflection in the mirror") appears on the screen. Because cognitive theory asserts that pre-existing schemata about the importance of weight/shape may prime individuals' subsequent interpretations, the WSAP introduces weight/shape (e.g., "fat") or neutral (e.g., "fine") primes prior to introducing scenarios. Participants were prompted to press either *1* if they thought the word and scenario were related or *3* if they thought the word and scenario were unrelated. Primes were considered negative/benign based on how they disambiguated the scenario that followed. For example, "proud" is not a negative word in isolation, but when endorsed as related to the situation, "You realize you have not eaten anything all day," it disambiguates the scenario in a way that is consistent with negative weight/shape interpretations, and is therefore considered a negative target word. Similarly, while the scenarios are described as "ambiguous," this is only within context to body dissatisfaction. For instance, although the scenario "Someone posts an unflattering picture of you on Facebook" has a negative context, it is ambiguous in that someone could easily interpret it as being related or unrelated to shape/weight concerns (e.g., it could be unflattering for reasons other than weight/shape—e.g., embarrassing facial expression). Participants completed five practice trials to ensure that they understood the procedure. Participants completed 45 scenarios total for the WSAP (see Appendix). An interpretation bias score (IB-score) was calculated by subtracting the number of neutral interpretations from the number of negative interpretations that individuals endorsed. Therefore, a higher IB-score indicates greater endorsement of negative associations between words/phrases and ambiguous scenarios.

Body Shape Questionnaire (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987). The BSQ is a 34-item self-report measure of how often individuals experienced body- and shape/weight-related concerns in the past four weeks. The BSQ has good concurrent and discriminant validity, as well as good test–retest reliability (r = .88) and criterion-related validity (Rosen, Jones, Ramirez, & Waxman, 1996). Internal consistency for the BSQ in the current sample is strong (see Table 1).

Depression Anxiety Stress Scales-Short Form (DASS; Lovibond & Lovibond, 1995). The DASS is a 21-item self-report inventory that was used to assess depression and anxiety levels. These scales have demonstrated good reliability (anxiety α = .81, depression α = .85) and validity for nonclinical samples (Osman et al., 2012). Internal consistencies for the DASS in the current sample are adequate (see Table 1).

Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Bèglin, 1994). The EDE-Q is a 28-item self-report inventory that assesses four dimensions of eating disorder symptoms: Restraint (e.g., limiting food intake), Eating Concern, Shape Concern, and Weight Concern. The EDE-Q has good reliability (total