Cognitive Correlates of Boredom Proneness: The Role of Private Self-Consciousness and Absorption

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ABSTRACT. The contributions of private self-consciousness and absorption in explaining boredom proneness were investigated. University students enrolled at a public university in the southeastern United States completed a packet containing the Boredom Proneness Scale (BPS; R. Farmer & N. D. Sundberg, 1986), the Self-Consciousness Scale (SCS; A. Fenigstein, M. F. Scheier, & A. H. Buss, 1975), the Tellegen Absorption Scale (TAS; A. Tellegen & G. Atkinson, 1974), the Need for Cognition Scale (NCS; J. T. Cacioppo, R. E. Petty, & C. F. Kao, 1984), and a demographic questionnaire. Scores on the Boredom Proneness subscale, Internal Stimulation, which indicates the difficulty in keeping oneself interested and entertained, were significantly lower for individuals high in absorption (a measure of attention). Individuals high in positive self-awareness, representing awareness of one’s internal states, reported lower overall boredom. Individuals high in negative self-awareness, which focuses on evaluation and judgment, reported increased total boredom proneness scores. Implications of these findings for the treatment of boredom proneness and future research are discussed.

BOREDOM is often equated with situations that are monotonous and repetitious and that lack external stimulation (Berlyne, 1960; Davies, 1926; Fiske & Maddi, 1961; Geiwitz, 1966; Hebb, 1966; Mikulas & Vodanovich, 1993; O’Hanlon, 1981). Individuals typically respond to boredom by adjusting the external environment to be more varied and stimulating.

However, researchers have emphasized that the ability to cognitively generate interest or entertainment may be more effective in reducing boredom.

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(Czikszentmihalyi, 1975; Hamilton, 1981; Hamilton, Haier, & Buchsbaum, 1984; Polly, Vodianovich, Watt, & Blanchard, 1993). Csikszentmihalyi stated that boredom is contrary to "flow" experiences, in which an individual's attention is absorbed in an intrinsically enjoyable activity. Furthermore, he argued that intrinsic enjoyment can occur in any activity when we have the necessary "skills." Hamilton (1981) suggested that training one's attention (i.e., a skill) would help to increase one's ability to maintain an optimal level of information flow or arousal, and therefore, decrease boredom. Subsequently, a study by Hamilton, Haier, and Buchsbaum (1984) directly related poor attention to the experience of boredom.

Leary, Rogers, Canfield, and Coe (1986) argued that people feel bored when they must make a concerted effort to maintain their attention on a particular stimulus. "Boredom occurs only as a result of attending to stimuli that are not intrinsically captivating, and the level of boredom experienced is a direct function of the cognitive effort required to sustain focused attention on the stimulus" (p. 968).

In their investigation of cognitive components associated with boredom, Leong and Schneller (1993) found that a dogmatic cognitive style decreases the perception of stimuli in the environment, resulting in decreased self-awareness. They suggested that individuals lacking self-awareness are prone to boredom when they must turn to their own resources in an understimulating environment.

Thus, the construct of self-awareness may be an important factor in regulating boredom. For instance, individuals who are aware of their internal states (e.g., thoughts, emotions) may notice the contributing factors to their mood and, consequently, cope in a way that prevents the experience of boredom. Researchers have found an association between this type of self-awareness and low scores on such constructs as depression and social anxiety (Reeves, Watson, Ramsey, & Morris, 1995). In addition, Watson, Hickman, Morris, Stutz, and Whiting (1994) found this type of self-awareness to be associated with greater collective self-esteem.

It should be noted, however, that if self-awareness creates personal evaluation and/or dwelling on the self (narcissism), it can be maladaptive. Some writers have suggested that narcissism leads to an increased likelihood of boredom (Eisnitz, 1974; Spacks, 1995; Weinberger & Muller, 1975). According to Spacks (1995), the evaluative aspect of self-awareness often leads to a focus on deficiencies and faults: "The inner life comes to be seen as consequential, therefore its inadequacies invite attention. The concept of boredom serves as an all-purpose register of inadequacy" (p. 23). Conway and Giannopoulos (1993) suggested that individuals whose self-awareness reflects attempts at self-understanding may actually be less aware of their own thoughts and feelings. Furthermore, they found a significant correlation between this type of self-awareness and lower self-esteem. This is consistent with the research of Watson et al. (1994), who found that this form of self-awareness was linked with less personal self-esteem and greater social anxiety.
The previous review indicates that boredom is largely associated with a lack of external stimulation (perceived or real) and/or a lack of the cognitive skills to intrinsically generate interest. Our focus in the present study was to explore the role of cognitive factors in the regulation of boredom. We hypothesized that individuals with low absorption scores (as a measure of attention) possess higher overall boredom proneness than those with high absorption scores. Particularly, we expected those with low levels of absorption to report significantly greater boredom, resulting from an inability to keep oneself mentally interested or entertained.

We also investigated the relationship between two different aspects of self-awareness and boredom proneness, and we hypothesized that individuals with a high degree of positive self-awareness (reflective of attentiveness to one’s internal states) are low in boredom proneness. In contrast, we hypothesized that individuals with a high proportion of negative self-awareness (focusing on evaluation and judgment) are high in boredom proneness.

We also examined the relationship of age, gender, and scores on the Need for Cognition Scale (Cacioppo et al., 1984) to boredom proneness. We expected these variables to affect boredom proneness because past research has found that men have significantly greater boredom proneness scores than women (Polly et al., 1993; Sundberg, Latkin, Farmer, & Saoud, 1991; Watt & Vodanovich, 1992), particularly when boredom is associated with the need for change and variety (Vodanovich & Kass, 1990a; Watt & Blanchard, 1994). Also, studies have found that younger people (O’Hanlon, 1981; Vodanovich & Kass, 1990a) and individuals with low need for cognition (Watt & Blanchard, 1994) possess greater levels of boredom proneness.

**Method**

**Participants**

The participants were 219 women and 89 men enrolled at the University of West Florida. The 308 volunteers ranged in age from 19 to 64 years (M age = 28, SD = 8.9).

**Instruments**

Consistent with previous research (Kass & Vodanovich, 1990; McLeod & Vodanovich, 1991; Polly et al., 1993; Vodanovich & Kass, 1990a, 1990b; Watt & Blanchard, 1994), the 28-item Boredom Proneness Scale (BPS; Farmer & Sundberg, 1986) was converted from its original true–false format to a 7-point Likert scale in order to increase the sensitivity of measurement.

Construct validity of the BPS has been reported by its authors. For instance, boredom proneness has been shown to be positively related to measures of depression, hopelessness, and loneliness (Farmer & Sundberg, 1986). Other
researchers have reported significant, positive relationships between boredom proneness scores and impulsivity (Watt & Vodanovich, 1992), sensation seeking (Kass & Vodanovich, 1990), and feelings of alienation (Tolor, 1989), hostility, depression, and anxiety (Vodanovich, Verner, & Gilbrede, 1991). Negative relationships have been found between boredom proneness scores and self-actualization (McLeod & Vodanovich, 1991), life satisfaction, autonomy (Farmer & Sundberg, 1986), need for cognition (Watt & Blanchard, 1994), positive affect (Vodanovich et al., 1991), and assertiveness (Tolor, 1989).

A factor analysis by Vodanovich and Kass (1990b) yielded evidence that the construct of boredom proneness consists of at least five factors. These factors were labeled External Stimulation (BPexts), Internal Stimulation (BPints), Affective Responses (BPaff), Perception of Time (BPtime), and Constraint (BPcon).

The reliability (coefficient α) of the 7-point version of the BPS has been reported in many studies. These coefficients have ranged from .79 to .84 (Kass & Vodanovich, 1990; McLeod & Vodanovich, 1991; Polly et al., 1993; Vodanovich & Kass, 1990a; Watt & Blanchard, 1994). In the present study, the coefficient alpha for total scores on the revised BPS was .80. Internal consistency reliabilities (coefficient α) for the five subscales were .74 (BPexts), .70 (BPints), .66 (BPaff), .63 (BPtime), and .66 (BPcon).

The Self-Consciousness Scale (Fenigstein et al., 1975) consists of 23 self-descriptive statements to which participants can respond on a 7-point scale. Although the Self-Consciousness Scale includes three subscales that explore Private Self-Consciousness, Public Self-Consciousness, and Social Anxiety, we examined scores on the Private Self-Consciousness subscale only.

The Private Self-Consciousness subscale records an introspective sensitivity to thoughts and feelings within the self, and includes the two factors of Internal State Awareness and Self-Reflectiveness. Internal State Awareness refers to awareness of and sensitivity to one's thoughts and emotions (e.g., "I'm generally attentive to my inner feelings"); Self-Reflectiveness refers to attempts at self-understanding (e.g., "I reflect about myself a lot"; Conway & Giannopoulos, 1993).

Fenigstein et al. (1975) reported test–retest reliabilities across a 2-week interval of .79 for the Private Self-Consciousness subscale. Coefficient alphas have been reported as .46 for Internal State Awareness and .61 for Self-Reflectiveness (Watson et al., 1994). Internal consistency reliabilities (coefficient α) in the present study were .73 (Private Self-Consciousness), .61 (Internal State Awareness), and .72 (Self-Reflectiveness).

Absorption was measured by the 34-item Tellegen Absorption scale (TAS), a subscale of the Tellegen and Atkinson (1974) 300-item True-False Differential Personality Questionnaire. The scale contains self-descriptive items reflecting experiences of absorption and involvement in a variety of activities.

Tellegen and Atkinson (1974) showed that the TAS yields a dimension orthogonal to the two major factors of the Minnesota Multiphasic Personality
Inventory. Scores on the TAS have been shown to significantly relate to a host of constructs, especially hypnotic susceptibility (Spanos, Steggles, Radtke-Bodorik, & Rivers, 1979; Tellegen & Atkinson, 1974). Additionally, absorption has been related to biological measures of attention (Davidson, Schwartz, & Rothman, 1976). Researchers have found the scale to possess adequate reliability across a variety of samples (Tellegen, 1982). The scale was modified to a 7-point Likert format to increase the sensitivity of measurement. Internal consistency reliability (coefficient α) for the revised TAS in this study was .95.

The need for cognition was assessed with the 18-item short form of the Need for Cognition Scale (NCS; Cacioppo, Petty, & Kao, 1984). This instrument was developed to measure "the tendency for an individual to engage in and enjoy thinking" (Cacioppo & Petty, 1982, p. 116). The scale consists of self-descriptive statements arranged on a 7-point scale. Cacioppo and Petty (1982) concluded that individuals high in the need for cognition prefer complex to simple tasks, whereas those low in the need for cognition show a greater preference for simple tasks.

Evidence of the scale's validity has been offered by Cacioppo and Petty (1982), who found that university faculty members have significantly higher NCS scores than assembly line workers, whereas NCS scores were found to be unrelated to social desirability and test anxiety. In addition, Olson, Camp, and Fuller (1984) found a positive correlation between the need for cognition and measures of curiosity. Cacioppo et al. (1984) reported theta coefficients of .90 for the 18-item version of the NCS. Internal consistency reliability (coefficient α) in the present study was .90.

Procedure

Each student participant completed a packet containing the Boredom Prone-ness Scale, the Self-Consciousness Scale, the Tellegen Absorption subscale, the Need for Cognition Scale, and a short demographic sheet requesting information regarding age, gender, and race. The questionnaires were completed during regular class periods, and all scores were kept anonymous. The order in which the participants completed the scales was counterbalanced, with the exception that the BPS was always completed first.

Results

Pearson correlation coefficients and sample sizes for all variables used in the study are contained in Table 1. As the table indicates, age and scores on the Need for Cognition Scale were significantly related to the overall BPS scores (age, r = -.17; NCS, r = -.26) and to the BPS subscale score of Internal Stimulation (age, r = -.22; NCS, r = -.41). Preliminary analyses of variance (ANOVA) indicated a significant gender difference in BPInts scores, with men reporting significantly lower scores (M = 21.4) than women (M = 23.7), F(1, 307) = 7.87, p < .01.
<table>
<thead>
<tr>
<th>Measure</th>
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<td>6. BPSf</td>
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Note: BPS = Boredom Proneness Scale; BPSb = External Stimulation; BPSa = Attention Stimulation; BPSf = Internal Stimulation; BPSf = Affective Response; BPSf = Emotion Stimulation; BPSf = Emotional Arousal; NCS = Need for Cognition Scale; ISA = Internal State Awareness; SR = Self-Reactivity.
However, the effect of gender on BPS total scores was not significant. Consequently, age, Need for Cognition (NCS) scores, and gender (dummy coded) were used as covariates in assessing the impact of Absorption and Self-Awareness scores on BPints, whereas only NCS scores and age were used as covariates in further analyses involving overall BP scores.

A median split was used to divide participants into low ($M = 114.3$) versus high ($M = 178.3$) absorption groups (TAS). This same procedure was used to dichotomize participants into low and high self-awareness groups (Internal State Awareness: $M = 19.1$ and $M = 24.9$, respectively; Self-Reflectivity: $M = 13.1$ and $M = 21.3$, respectively). A one-way analysis of covariance (ANCOVA) showed a significant main effect for Absorption scores on BPints. Specifically, students in the low absorption group possessed greater BPints scores ($M = 24.7$) than those in the high absorption group ($M = 21.3$), $F(1, 307) = 10.669$, $p < .001$.

A separate one-way ANCOVA showed a significant main effect of absorption level on BPS total scores. Unexpectedly, students in the low absorption group possessed significantly lower BP total scores ($M = 85.9$) than those in the high absorption group ($M = 87.4$), $F(1, 307) = 4.563$, $p < .05$. Finally, a two-way ANCOVA showed significant main effects for both Internal State Awareness (ISA) and Self-Reflectivity (SR) on BPS total scores. Specifically, students in the high ISA group possessed significantly lower BP total scores ($M = 83.9$) than those in the low ISA group ($M = 88.4$), $F(1, 307) = 5.523$, $p < .019$. Conversely, students in the high SR group possessed significantly higher BP total scores ($M = 91.2$) than those in the low SR group ($M = 83.2$), $F(1, 307) = 27.624$, $p < .001$ (see Table 2).

### Table 2

Means and Standard Deviations of Boredom Proneness Scores, by Low and High Absorption and Self-Consciousness Groups

<table>
<thead>
<tr>
<th>Boredom proneness</th>
<th>TAS</th>
<th>Cognitive group</th>
<th>ISA</th>
<th>SR</th>
<th>F</th>
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<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>$F$</td>
<td>Low</td>
<td>High</td>
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<tr>
<td>BPS total</td>
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<tr>
<td>$M$</td>
<td>85.9</td>
<td>87.4</td>
<td>4.6*</td>
<td>88.42</td>
<td>83.93</td>
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<tr>
<td>$SD$</td>
<td>17.2</td>
<td>17.3</td>
<td></td>
<td>16.0</td>
<td>18.8</td>
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<tr>
<td>BPints</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>$M$</td>
<td>24.7</td>
<td>21.3</td>
<td>10.7***</td>
<td>24.4</td>
<td>20.9</td>
</tr>
<tr>
<td>$SD$</td>
<td>7.0</td>
<td>5.8</td>
<td></td>
<td>6.7</td>
<td>6.1</td>
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</tbody>
</table>

Note. BPS = Boredom Proneness Scale; BPints = Boredom Proneness subscale: Internal Stimulation; TAS = Tellegen Absorption Scale; ISA = Internal State Awareness; SR = Self-Reflectivity.

*p < .05. **p < .01. ***p < .001.
Discussion

The results of the present study offer partial support for the hypothesis that the ability to be absorbed and self-aware can minimize boredom levels. As expected, individuals high in absorption had lower scores on the Boredom Proneness subscale BPints (Internal Stimulation). That is, individuals who are capable of fully engaged attention are less prone to experience difficulty in mentally keeping themselves interested and entertained. This finding offers some support for previous theoretical work that has related poor attentional performance to the experience of boredom (e.g., Czikszentmihalyi, 1975; Hamilton, 1981; Hamilton et al., 1984; Leary et al., 1986).

Unexpectedly, however, individuals with high absorption had higher overall BPS scores. A possible explanation for these findings is that the Tellegen Absorption Scale (TAS) measures the quantity of attention, and that attention regulation (quality) is the necessary component for coping with boredom associated with external stimulation. For example, in their research using the TAS and a measure of several attentional dimensions, Crawford, Brown, and Moon (1993) found the TAS to be positively related to only one measure of attention: extremely focused. The other three (moderately focused, dual attention for two cognitive tasks, dual attention for one cognitive and one motoric task) were not significantly related. This finding suggests that the TAS assesses only one type of attention. Indeed, this type of attention may represent the skill necessary to self-generate interest, but it may not be optimal for regulating boredom in everyday activities.

As expected, individuals high in positive self-awareness (ISA) reported lower overall boredom, and those high in negative self-awareness (SR) reported higher total BPS scores. These findings suggest that possessing a high degree of self-awareness, which reflects an awareness of internal states, may mediate the tendency to experience boredom. It also appears that the tendency to self-reflect—through evaluating oneself and examining one’s reasons for doing things—may increase the likelihood of boredom.

These findings support previous research that has found that the Private Self-Consciousness subscale of the SCS possesses two distinct components reflecting adaptive and maladaptive functioning. For example, differential effects between SR and ISA have been exemplified in research, showing SR to be significantly associated with maladaptive narcissism, lower self-esteem, higher social anxiety, greater concern with dieting, and greater depression, whereas the reverse was true for the ISA (Conway & Giannopoulos, 1993; Watson & Biderman, 1993; Watson et al., 1994).

The results of the present study may have important implications for the treatment and assessment of boredom. If, as this study suggests, boredom is affected by a deficit in certain cognitive skills, then intervention strategies that focus on the development of such abilities (e.g., self-awareness, absorption) may help offset its occurrence.
Avenues for treatment may be techniques associated with Eastern philosophies. Hamilton (1981) stated that individuals who practice meditation are usually proficient at being absorbed in a task. She described meditation techniques as requiring sustained, absorbed attention to either internal or external stimuli. Therefore, if an individual is suffering from boredom due to difficulty maintaining interest, meditation may prove helpful.

Distinguishing between the effects of the two types of self-awareness may provide useful information for the treatment of boredom proneness. For instance, individuals can be taught simple cognitive skills that improve awareness and decrease the judgments attached to self-focused attention. Developing this cognitive ability could lead to improved awareness without judgment, which seems to be the crucial component of adaptive self-awareness.

More research is also needed to explore the generalizability of the BPS subscales among different ethnic groups and nonstudent populations. The information yielded by these subscales may prove useful in choosing treatment techniques. For example, someone scoring high on BPints (indicating difficulty generating interest) may need to be taught skills that improve internally focused attention. Someone scoring high on BPexts (reflecting a need for variety and change) may need to be taught skills that improve externally focused attention.

It seems apparent from the present study that improving cognitive skills can mediate one's experience of boredom. As Hamilton (1981) said, "The implications of training attention are that we would be better able to maintain a sense of freshness, interest, and excitement through more of ordinary life instead of so often feeling alienated, empty and bored" (p. 307).

REFERENCES


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