



Journal of Articles in Support of the Null Hypothesis

Vol. 14, No. 2

Copyright 2018 by Reysen Group. 1539-8714

www.jasnh.com

State Mindfulness and the Red Bull Effect

Jody A. Thompson

Carey J. Fitzgerald

Department of Social Sciences

University of South Carolina - Beaufort

Data have shown that participants primed with images of a can of the drink Red Bull tend to show an increase in risk taking activities, such as increased recklessness (Brasel & Gips, 2011). Mindfulness-induction has been shown to increase attention and awareness (Brown & Ryan, 2003; Lueke & Gibson, 2015, 2016) and increased levels of attention and awareness have been shown to greatly decrease automaticity (Chambers, Low, & Alan, 2008; Kang, Gruber, & Gray, 2013). Decreasing automaticity should disrupt the increase in negative primed behaviors such as risk-taking. In the present set of experiments, however, priming participants with Red Bull did not lead them to a higher association of self with risky self-concepts, nor did the Red Bull primed participants display an increase in any of the negative (i.e., risk-taking) and aggressive behaviors that were measured. Also, state mindfulness did not decrease any negative behaviors compared to the control group.

Keywords: Red Bull Effect; Mindfulness; Priming; Implicit Association Test; Risk; Risky Behavior; Consumer

Corresponding author:

Jody A. Thompson, Department of Social Sciences, University of South Carolina Beaufort,
One University Boulevard, Bluffton, SC 29910. Email: jthompso@uscb.edu T: (843) 208-8175.

Introduction

The things that we own help us to express ourselves, remind us of pleasant experiences, and to define who we are (Belk, 1988). Consumers often identify with a particular brand because it is built upon their perception of their ideal self (O’Cass & Frost, 2002; Stokburger-Sauer, Ratneshwar, & Sen, 2012). Therefore, brands have meaning and consumers choose them in ways that allow them to co-opt that meaning. Aker (1997) determined that brands have five dimensions of personality that consumers may want to co-opt for themselves. These traits can lead consumers to create an emotional connection with the brand and possibly take on the personality of the brands they purchase (Bhattacharya & Sen, 2003; Delbaere, McQuarrie, & Phillips, 2013). Those who identify strongly with a particular company or brand tend to become biased in favor of that brand (Allison & Uhl, 1964) and become loyal customers (He, Li, & Harris, 2011; Li, Green, Farazmand, & Grodski, 2012). Overall, these findings showed that brands have figurative personalities, and people use those personalities to communicate aspects about themselves.

Brands play a significant role in people’s purchasing decisions as well. It is possible, however, that this role can occur automatically, and outside of one’s conscious awareness. Factors that can influence brand selection in this way include past associations (Aarts, Verplanken, & van Knippenberg, 1998), repeated exposure to a specific brand (Janiszewski, 1993), evaluative conditioning (Gibson, 2008), and unconscious goal activation (Chartrand, Huber, Shiv, & Tanner, 2008; Huang & Bargh, 2014). Thus, automatic processes can impact brand choice. Beyond brand choice, brand meaning has been shown to have automatic effects on other aspects consumer behavior (Aarts, Verplanken, & van Knippenberg, 1998; Janiszewski, 1993; Stokburger-Sauer, Ratneshwar, & Sen, 2012). For example, allowing consumers to express themselves through brand choice led to reduced religiosity, as the self-expressive function of brands reduced the need for self-expression through religious beliefs (Cutright, Erdem, Fitzsimons, & Shachar, 2014). In general, research in consumer behavior has been moving toward a more thorough consideration of automatic, nonconscious processes (Bargh, 2002; Chartrand, 2005; Dijksterhuis, Smith, van Baaren, & Wigboldus, 2005). One potential way that brands can create automatic effects on consumers is through priming.

Priming

Priming occurs when incidental exposure to a stimulus prompts action in accordance with constructs activated by that stimulus. One way in which this can happen is for the prime to activate a social category, which then subsequently affects behavior. For example, priming the concept of ‘college professor’ led participants to perform better on a trivia test (Dijksterhuis & van Knippenberg, 1998), though it should be mentioned that there has been a failure to replicate this effect (Shanks et al., 2013). However, other researchers have found similar priming effects. For example, priming the African-American stereotype leads to greater anger (Bargh, Chen & Burrows, 1996) and worse performance on a difficult math test (Gibson, Lueke, Hawkins, & Bushman, 2017; Wheeler, Jarvis, & Petty, 2001).

One hypothesis for how at least some priming effects occur is that primed constructs are attributed to one’s own thoughts rather than the prime (Loersch & Payne, 2014). In fact, a variation in the influence of primes on behavior may occur according to the individual’s

perception of the origination of the primed thoughts. A single prime can result in different priming effects depending on the focused attention of the participant. When participants focus on the self, prime-related content was assimilated into their self-perception, thus affecting behavior and judgments (DeMarree & Loersch, 2009). When the focus was on a non-self target, the prime had no effect on self-concept. Similarly, Wheeler, DeMarree and Petty (2007) suggest that primed constructs are incorporated into the active self, leading to prime congruent behavior. They determined that the active self can cause changes in the effects of primes. This reaction can modify the effects that cause a prime to lead to an automatic behavior.

Priming in Consumer Domains

An expanding area of research has demonstrated that exposure to brands, products, and logos can prime different behaviors, such as food consumption, impatience, creativity, honesty, healthy behaviors, and risky behaviors (Aggarwal & McGill, 2012; Earp, Dill, Harris, Ackerman, & Bargh, 2013; Fitzsimons, Chartrand, & Fitzsimons, 2008; Harris, Bargh, & Brownell, 2009; Harris, Pierce, & Bargh, 2014; Lueke et al., 2017; Zhong & DeVoe, 2010). Specifically, the brand Red Bull has marketed itself as promoting risk, excitement, and action, which parallels the behavioral changes caused by being primed with Red Bull. Exposure to an image of a Red Bull can lead to a preference for risky tasks, an endorsement of risky traits, and an increased tendency to engage in risky behaviors (Brasel & Gips, 2011; Lueke et al., 2017). These brand priming effects demonstrate clearly how brands can affect behavior outside of conscious awareness through automatic processes (Chartrand, 2005). These studies provide support for the assumption that priming can impact the consumer automatically via indirect ways that s/he does not intend, is not aware of, and is unable to control.

Mindfulness

Langer and Moldoveanu (1999) describe mindfulness as a manner of observing unique differences regardless of whether or not those characteristics are significant. Mindfulness is thought of as being in a state of heightened awareness. This includes awareness of not only what is happening in the external world, but also awareness of the internal world and the present moment (Baer, 2003). Mindful introspection turns the concentration of the individual toward an understanding of the here and now. Someone in a mindful state is more sensitive to the perspective and circumstance of his or her behavior. There is an enhanced ability to see ideas and emotions more objectively. The individual can then ruminate on those cognitive actions as ephemeral and distinct events (Bishop et al., 2004).

De-automatization is a primary outcome of mindfulness training (Kang et al., 2013). When compared to a control group that does not receive mindfulness training, mindfulness training brings about an increase in awareness (Brown & Ryan, 2003). Awareness paired with an increase in attention appears to greatly decrease automaticity (Chambers et al., 2008; Lueke & Gibson, 2015). Awareness, being a key part of mindfulness, should be related to the reduction of automatic tendencies. When priming occurs, if awareness is brought to the prime then the effects of that prime can be eliminated (Murphy & Zajonc,

1993). Similarly, Loersch and Payne (2012) showed that when individuals attribute their prime-related thoughts to the prime, then the prime does not influence behavior. In sum, mindfulness has been shown to provide a variety of benefits for those in a mindful state, including a reduction of automatic response.

Because mindfulness has been shown to increase both external and internal awareness of what is going on at the present moment (Baer, 2003; Langer, 1989), this state should increase self-awareness and decrease the automatic effects of a prime – including the negative behavioral influences that priming from brands such as Red Bull seem to elicit.

Sex Differences

Differences between the sexes have been a staple in social psychological research. Previous research has found that males and females have different gender roles (Eagly & Steffen, 1984) that can influence the way they respond to others – leading to gender differences in social behaviors such as risk taking. Gender differences in risk taking have been shown. For example, males take more risks in competitive settings (Boheim & Lackner, 2015). In addition, although some financial decisions dealing with risk show minimal gender differences (Garg & Duvenhage, 2014), other research has shown that males (particularly those high in optimism) make more risky investment decisions (Felton, Gibson, & Sanbonmatsu, 2003). When compared to women, men perceive situations as less risky, and perceive the potential negative consequences of risky behaviors as less likely to occur (Harris, Jenkins, & Glaser, 2006). With these differences in mind, sex was examined as an exploratory variable in the present study.

Present Study

The purpose of the present study was to examine whether inducing state mindfulness would decrease the behaviors produced by brand priming. Decreasing automaticity should disrupt the increase in primed behaviors. This study not only sought to determine whether mindfulness-induction decreases negative primed behaviors like risk-taking activities, but also to determine if all primed behaviors (i.e. cooperation, supportiveness) decrease as well. This was tested by including the brands Red Bull and Honest Tea as a part of brand priming. Red Bull was utilized because of previous research illustrating a connection between Red Bull priming and risk-taking. Honest Tea was selected as a potential prime that may increase more positive behaviors, such as honesty. The Risk Self-concept Implicit Associations Test (IAT; Horcajo, Rubio, Aguado, Hernández, & Márquez, 2014) allowed for the study of the degree to which participants automatically associate the self with risky or safe actions. This was done by the use of categories “Me” versus “Not-Me” along with “Risky” versus “Secure.”

Hypotheses

- Hypothesis 1a: Priming with Red Bull will lead to greater association of self with risky concepts.
- Hypothesis 1b: Priming with Red Bull will lead to preference for risky tasks;
- Hypothesis 1c: Priming with Red Bull will lead to riskier behavior over a 25 trial lab noise blast task (CRT).

Hypothesis 1d: Priming with Red Bull will lead to risky decisions to attempt to keep more fish in the resource allocation task.

Hypothesis 2a: Priming with Honest Tea will lead to greater cooperation in the resource allocation task

Hypothesis 2b: Priming with Honest Tea will not affect behavior on the other measures in which risk is the prevalent concept.

Hypothesis 3: Induction of state mindfulness will eliminate all hypothesized priming effects.

Method

Participants

Participants for this study were $N = 133$ undergraduate students (52 males, 81 females) from a medium-sized university in the Midwestern United States who received extra credit in their Introductory Psychology course as compensation.

Materials

Participants used a computer to complete a demographics questionnaire that included the Brief Sensation Seeking Scale, or BSSS, (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew 2002) to measure self-reported propensity to engage in risk-taking behaviors, and a trait optimism task (Scheier, Carver, & Bridges, 1994) to measure self-reported positive behaviors, then they listened to either an audio recording selected to induce state mindfulness or a neutral audio recording (Cropley, Ussher, & Charitou, 2007). Following this, they completed the Mindfulness Attention Awareness Scale (MAAS) state questionnaire (Brown & Ryan, 2003). Upon completion of the questionnaire, participants viewed a priming slide show. A priming slide show consists of a series of images that are shown to the participants very briefly. Next participants completed a Risky Self-Concept Implicit Association Test (IAT) (Horcajo, et al., 2014), then ranked preferences among various types of tasks, and completed a resource allocation task (Komorita & Parks, 1995) to measure behavioral risk-taking. Finally, participants competed in a competitive reaction-time task, or CRT, to measure aggressive behavior. The time to complete all the tasks for the study was determined to be approximately 45 minutes for each participant.

Procedure

The current study used a 2 (mindfulness/control) x 3 (priming: Red Bull, Honest Tea, neutral) design. Participants entered the lab and were randomly assigned to one of these six conditions. First, they completed a demographics questionnaire. Participants then either listened to a mindfulness-induction audio clip or neutral-audio clip. The mindfulness induction recording was a ten minute clip that aimed to increase participants' awareness of their body, mind, and whole self. Participants were then asked to follow instructions in breathing exercises and to observe their feelings and experiences. The control recording was a ten minute clip with a description of geography and town information of various locations in the United Kingdom. Both audio clips contained the same narrator (Cropley et

al., 2007).

After the audio clip, participants then completed the MAAS-state questionnaire (Brown & Ryan, 2003). After completing the state mindfulness questionnaire, participants then viewed a slide show designed to prime them. The slide show was comprised of 132 slides with varying brands, each slide staying in view for one and a half seconds. Of the slides, 16 contain the specific prime. One group was primed with Red Bull. Another group was primed with Honest Tea. The neutral prime group then viewed the slide show with neutral brands (i.e., brands not associated with risk-taking behaviors or eco-friendly/prosocial behaviors), such as Sprite, substituted for the priming slides used in the other conditions. In order to ensure attention to the slide show, participants were asked to press the spacebar each time that Dasani water appeared in the slide show ($n = 20$). Following the priming procedure, participants then completed the IAT (Horcajo et al., 2014). All participants were informed immediately before they rank ordered their task preferences that they would be entered into a drawing where they could win \$20. They were assigned a set number of chances. They were also told that they could potentially risk losing some of those chances in attempts to win more chances for the drawing. Participants were then given a list of ten tasks and received instructions to rank order their preferences of the tasks. Two tasks involved risk-taking (risking chances in a drawing on roulette game or a balloon inflation game), two were aggressive (a sniper video game or a task assigning unpleasant hot sauce to another participant), two were competitive (a racing video game and a reaction time task), two were cooperative (work with another participant to navigate a maze and work with another participant on a fishing for profit game) and two were neutral (solving anagrams and Sudoku puzzles).

Following the preference ranking, participants completed the CRT. In the CRT, they were told that they were competing with another person in a different room on 25 trials of being the quickest to react to a stimulus (Giancola & Zeichner, 1995). The winner would be able to blast their opponent with a noise that the participant can adjust both in duration and intensity. After the CRT had concluded, participants were then told that they will be working with a partner for a resource allocation task (Komorita & Parks, 1995). Participants were not told that the partner for this task would be the same as the one from the CRT. Participants played a fishing game where they try to obtain as much profit as possible. They caught fifteen fish each season for five seasons and had to choose how many to keep for profit and how many to return to the lake for conservation. They were told that if resources in the lake ran too low, all profits would be taken from “both” parties (in actuality, there was no other person playing the game). Upon completing the resource allocation task, participants were then tested for suspicion. Using open-ended questions, they were first asked to write the purpose of the experiment. They were then asked if they felt the experiment had an alternative purpose, and if so to explain the alternative purpose they perceived. Once the study was completed, participants were then debriefed.

Results

The experimental design was a 2 (Male vs. Female) \times 2 (Mindful vs. Control) \times 3 (Red Bull vs. Honest Tea vs. Sprite) between-subjects design. All the analyses used a 2 \times 2 \times 3 ANOVA.

Table 1. Mean (SD) State-MAAS Scores

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	2.52 (0.64)	2.98 (0.74)	2.33 (0.69)	2.58 (0.73)
Female	2.11 (1.06)	2.55 (1.17)	2.69 (0.91)	2.41 (1.07)
Total	2.20 (0.98)	2.71 (1.03)	2.51 (0.81)	2.47 (0.95)
Mindfulness				
Male	3.40 (1.11)	3.26 (1.28)	3.13 (0.95)	3.28 (1.07)
Female	3.62 (1.19)	3.68 (0.90)	3.71 (1.12)	3.68 (1.03)
Total	3.50 (1.13)	3.55 (1.02)	3.49 (1.08)	3.51(1.06)
Total				
Male	3.14 (1.06)	3.11 (1.00)	2.69 (0.90)	2.96 (0.99)
Female	2.68 (1.32)	3.17 (1.16)	3.26 (1.14)	3.03 (1.22)
Total	2.85 (1.24)	3.15 (1.10)	3.01 (1.07)	3.00 (1.13)

Note. Greater numbers indicate greater state-mindfulness ratings.

Mindfulness

The state-MAAS was given to participants as a manipulation check. A $2 \times 2 \times 3$ ANOVA was used to examine state mindfulness as a manipulation check. There proved to be a significant main effect for the mindfulness manipulation, $F(1, 121) = 25.23$; $p < .001$ $\eta_p^2 = 0.22$ with the participants in the mindfulness condition displaying greater state mindfulness than the participants in the control condition. No other main or interactive effects were significant, all $F_s < 2.28$, all $p_s > .40$, all $\eta_p^2 < .03$.

Implicit Association Test

The D method was used to calculate IAT scores. Positive numbers indicate a greater implicit association between “Me” and “Cautious” words; while negative numbers indicate a greater implicit association between “Me” and “Risky” words.

The distribution of IAT scores were slightly negatively skewed, so the scores were log-transformed to normalize the distribution. After log-transforming the scores, no significant effects or interactions were found all $F_s < 1.47$, all $p_s > .23$, all $\eta_p^2 < .02$.

Risky Task Preference

When asking participants to rank order their preference for tasks, two tasks dealt with risking potential chances at winning a drawing. The rankings of each risky task were added together for an overall rating of risky task preference. A lower mean score indicated a greater preference for risky tasks.

A $2 \times 2 \times 3$ ANOVA was used to analyze risky task rankings (See Table 2). An interaction of priming and sex was marginally significant $F(2, 121) = 2.96$, $p = .06$, $\eta_p^2 = .05$. Priming did not yield any significant effects within the male sample, $F(2, 49) = .72$, $p = .49$, $\eta_p^2 = .01$; however, priming had a marginal main effect on the female sample, $F(2, 78) = .79$, $p = .07$, $\eta_p^2 = .05$. No other main or interactive effects were significant all, $F_s < 2.54$, all $p_s > .11$, all $\eta_p^2 < .04$.

Table 2. Mean (SD) Rankings of Risky Task Preference

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	11.20 (4.02)	10.00 (5.21)	10.64 (4.37)	10.54 (4.42)
Female	11.18 (3.66)	13.08 (3.66)	11.36 (4.23)	11.83 (3.82)
Total	11.18 (3.65)	11.90 (4.46)	11.00 (4.21)	11.35 (4.07)
Mindfulness				
Male	11.75 (5.17)	9.29 (5.31)	10.56 (3.47)	10.75 (4.66)
Female	7.50 (4.79)	11.69 (4.91)	8.86 (4.59)	9.65 (4.97)
Total	9.82 (5.34)	10.96 (5.04)	9.52 (4.19)	10.10 (4.84)
Total				
Male	11.59 (4.74)	9.67 (5.08)	10.60 (3.89)	10.65 (4.51)
Female	9.81 (5.34)	12.31 (4.38)	9.96 (4.52)	10.75 (4.53)
Total	10.50 (4.57)	11.41 (4.74)	10.24 (4.22)	10.71 (4.51)

Note. Smaller numbers indicate a greater preference for risky tasks.

Cooperative Task Preference

When asking participants to rank order their preference for tasks, two tasks dealt with working with a partner in order to complete the given objective. The rankings of each cooperative task were added together for an overall rating of risky task preference. A lower mean score indicated a greater preference for cooperative tasks (See Table 3). A $2 \times 2 \times 3$ ANOVA for cooperative task preference was carried out.

A three-way interaction between priming, sex, and mindfulness appeared, $F(2, 121) = 4.18, p < .02, \eta^2_p = .09$. Two follow-up 2 (gender) \times 3 (Priming) ANOVAs – one for the mindful condition, and one for the control condition – were conducted to parse the interaction. Results for the control condition showed no significant main effects for priming, $F(2, 59) = .09, p = .92, \eta^2_p = .01$ nor sex, $F(1, 59) = 1.48, p = .23, \eta^2_p = .03$. In the control condition, priming and sex did not significantly interact with each other, $F(2, 59) = 1.29, p = .28, \eta^2_p = .03$. Results for the mindful condition also showed no significant main effects for priming, $F(2, 62) = .11, p = .89, \eta^2_p = .01$, nor sex $F(1, 62) = 1.32,$

Table 3. Mean (SD) Means for Cooperative Task Preference

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	11.60 (3.21)	10.25 (3.73)	12.18 (3.16)	11.42 (3.34)
Female	10.29 (2.95)	10.92 (3.33)	9.73 (2.83)	10.34 (3.01)
Total	10.59 (2.99)	10.67 (3.41)	10.95 (3.18)	10.74 (3.15)
Mindfulness				
Male	10.17 (2.59)	12.14 (2.34)*	10.22 (3.35)	10.68 (2.83)
Female	10.30 (2.50)	8.63 (2.53)*	11.07 (3.71)	9.90 (3.11)
Total	10.23 (2.49)	9.70 (2.93)	10.74 (3.52)	10.22 (3.00)
Total				
Male	10.59 (2.72)	11.13 (3.20)	11.30 (3.31)	11.02 (3.06)
Female	10.30 (2.74)	9.66 (3.09)	10.48(3.36)	10.12 (3.05)
Total	10.41 (2.72)	10.16 (3.17)	10.84(3.32)	10.47 (3.07)

Note. Smaller numbers indicate a greater preference for cooperative tasks.

$p = .25$, $\eta_p^2 = .03$; however, there was a significant interaction between priming and sex, $F(2, 62) = 3.27$, $p = .05$, $\eta_p^2 = .07$. To analyze this interaction, three independent samples t -tests were conducted to compare cooperative task preferences between men and women within each of the three priming conditions. The analyses revealed that men in the Sprite condition recorded significantly higher scores – indicating a decreased preference for the cooperative tasks – than women in the Sprite condition, $t(21) = 3.14$, $p < .01$. However, there were no significant sex differences in the Red Bull and Honest Tea conditions, all t s < 0.56 , all p s $> .58$. In the $2 \times 2 \times 3$ ANOVA that was conducted, there were no significant main effects, nor were there any other significant interactions, all F s < 2.82 , all p s $= .10$, all $\eta_p^2 < .05$.

Competitive Reaction Time Task

Participants were then given the CRT. The intensity and duration of a blast of white noise was measured for their first instance of behavior as well as averaged over 25 trials. See Table 4 for descriptive statistics on initial noise blast intensity ratings and Table 5 for initial noise blast duration ratings. A Pearson product-moment correlation coefficient was run to assess the relationship between the first given intensity of a noise blast and first given duration of a noise blast assigned by participants. There was a positive correlation between the two variables, $r(n = 130) = .51$, $p < .001$. Because of this correlation, an aggregate of first assigned intensity and first assigned duration was created (See Table 6). A Pearson product-moment correlation coefficient was also run to assess the relationship between the average assigned intensity of a noise blast and average assigned duration of a noise blast assigned by participants. See Table 7 for average noise blast intensity ratings over 25 trails and Table 8 for average noise blast duration ratings. There was a positive correlation between the two variables, $r(n = 130) = .76$, $p < .001$. Because of this correlation, the two scores were combined (See Table 9). The two combined variables (for initial settings and average settings) were then analyzed in separate ANOVA's.

A main effect for priming in initial ratings was marginally significant $F(2, 118) = 2.56$, $p = .08$, $\eta_p^2 = .05$. Tukey post hoc tests indicated participants in the Sprite condition produced significantly higher responses (aggregated intensity and duration)

Table 4. Mean (SD) Initial CRT Intensity Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	4.40 (1.52)	6.38 (2.07)	5.09 (2.70)	5.38 (2.34)
Female	2.47 (1.07)	3.83 (2.17)	4.00 (1.18)	3.30 (1.64)
Total	2.91 (1.41)	4.85 (2.43)	4.55 (2.11)	4.08 (2.16)
Mindfulness				
Male	5.00 (3.19)	5.57 (1.81)	5.00 (1.87)	5.15 (2.41)
Female	3.90 (1.97)	4.50 (1.75)	3.69 (2.21)	4.08 (1.95)
Total	4.48 (2.68)	4.83 (1.80)	4.23 (2.14)	4.52 (2.20)
Total				
Male	4.81 (2.74)	6.00 (1.93)	5.05 (2.31)	5.25 (2.36)
Female	3.00 (1.59)	4.21 (1.93)	3.83 (2.17)	3.68 (1.83)
Total	3.67 (2.24)	4.84 (2.09)	4.39 (2.10)	4.30 (2.18)

Note. Higher numbers indicate a higher decibel level.

Table 5. Mean (SD) Initial CRT Duration Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	2.20 (0.84)	4.00 (2.14)	3.00 (1.90)	3.17 (1.88)
Female	2.00 (1.32)	3.08 (1.56)	3.00 (1.00)	2.60 (1.39)
Total	2.05 (1.21)	3.45 (1.82)	3.00 (1.48)	2.81 (1.60)
Mindfulness				
Male	4.64 (3.01)	4.71 (2.29)	4.67 (0.50)	4.67 (2.58)
Female	4.00 (2.67)	3.94 (2.08)	3.77 (2.49)	3.90 (2.32)
Total	4.33 (2.80)	4.17 (2.13)	4.14 (2.46)	4.21 (2.43)
Total				
Male	3.88 (2.75)	4.33 (2.16)	3.75 (2.27)	3.96 (2.37)
Female	2.74 (2.12)	3.57 (1.89)	3.42 (1.95)	3.24 (2.00)
Total	3.16 (2.41)	3.84 (2.00)	3.57 (2.08)	3.52 (2.17)

Note. Higher numbers indicate a longer noise blast.

than participants in the Red Bull condition. The Tukey post hoc test did not reveal any significant differences between Sprite and Honest Tea, nor did the Tukey post hoc test find any significant differences between Red Bull and Honest Tea. It was further determined that there was a significant main effect for mindfulness in the initial ratings $F(1, 118) = 6.45$, $p = .01$, $\eta_p^2 = .10$. Those in the control condition had lower combined initial intensity + duration levels than those in the mindful condition. There was also a significant main effect for sex in the combined initial intensity + duration ratings $F(1, 118) = 10.15$, $p = .002$, $\eta_p^2 = .12$. Females assigned lower combined initial intensity + duration ratings than males.

No interactive effects were significant for initial ratings, all F s < 1.41, all p s > .22, all $\eta_p^2 < .03$. There was a main effect for sex in the aggregated averaged CRT ratings $F(1, 118) = 6.15$, $p = .02$, $\eta_p^2 = .08$. Females assigned a lower average intensity + duration

Table 6. Mean (SD) Aggregate Initial CRT Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	3.30 (1.04)	5.19 (1.13)	4.05 (1.84)	4.27 (1.60)
Female	2.24 (1.08)	3.46 (1.74)	3.50 (0.95)	2.95 (1.40)
Total	2.48 (1.14)	4.15 (1.73)	3.77 (1.45)	3.45 (1.60)
Mindfulness				
Male	4.82 (2.48)	5.14 (1.80)	4.83 (1.79)	4.91 (2.03)
Female	3.95 (2.22)	4.22 (1.77)	3.74 (2.25)	3.99 (2.01)
Total	4.40 (2.34)	4.50 (1.79)	4.18 (2.10)	4.36 (2.05)
Total				
Male	4.34 (2.22)	5.17 (1.42)	4.40 (1.81)	4.61 (1.85)
Female	2.87 (1.77)	3.89 (1.77)	3.63 (1.75)	3.46 (1.79)
Total	3.42 (2.05)	4.34 (1.75)	3.98 (1.80)	3.91 (1.89)

Note. The averaged ratings of the combined initial intensity and duration.

Table 7. Mean (SD) Averaged CRT Intensity Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	6.75 (0.61)	5.65 (2.09)	5.66 (2.16)	5.88 (1.90)
Female	4.84 (1.41)	4.51 (2.02)	5.10 (1.29)	4.81 (1.56)
Total	5.27 (1.50)	4.97 (2.07)	5.38 (1.76)	5.21 (1.76)
Mindfulness				
Male	5.09 (2.60)	6.60 (2.21)	6.12 (2.17)	5.82 (2.37)
Female	5.19 (2.43)	5.50 (1.52)	4.76 (1.93)	5.18 (1.89)
Total	5.14 (2.46)	5.83 (1.78)	5.32 (2.10)	5.44 (2.11)
Total				
Male	5.61 (2.29)	6.09 (2.12)	5.87 (2.12)	5.85 (2.14)
Female	4.97 (1.81)	5.08 (1.79)	4.92 (1.64)	4.99 (1.73)
Total	5.21 (2.00)	5.43 (1.95)	5.35 (1.91)	5.33 (1.94)

Note. Higher scores indicate greater decibel levels averaged over 25 trials.

Table 8. Mean (SD) Averaged CRT Duration Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	6.40 (0.32)	4.31 (1.94)	4.73 (2.17)	4.94 (1.96)
Female	4.66 (1.51)	4.41 (2.23)	4.71 (1.22)	4.60 (1.65)
Total	5.05 (1.52)	4.37 (2.06)	4.72 (1.72)	4.73 (1.76)
Mindfulness				
Male	5.44 (2.49)	5.35 (1.75)	5.58 (1.93)	5.56 (2.07)
Female	4.86 (2.51)	5.17 (1.49)	4.42 (1.66)	4.84 (1.83)
Total	5.17 (2.45)	5.23 (1.53)	5.02 (1.88)	5.14 (1.95)
Total				
Male	5.74 (2.09)	4.79 (1.86)	5.25 (2.09)	5.27 (2.02)
Female	4.73 (1.90)	4.85 (1.84)	4.56 (1.45)	4.72 (1.74)
Total	5.11 (2.01)	4.83 (1.83)	4.87 (1.78)	4.94 (1.86)

Note. Higher scores indicate grater length of noise blast averaged over 25 trials.

Table 9. Mean (SD) Aggregate Averaged CRT Ratings

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	6.58 (0.17)	4.98 (2.09)	5.19 (2.03)	5.41 (1.83)
Female	4.75 (1.31)	4.46 (2.10)	4.91 (1.16)	4.71 (1.53)
Total	5.16 (1.39)	4.67 (2.01)	5.05 (1.62)	4.97 (1.67)
Mindfulness				
Male	5.27 (2.03)	5.97 (1.93)	6.00 (1.93)	5.69 (1.93)
Female	5.03 (2.45)	5.34 (1.46)	4.59 (1.77)	5.01 (1.83)
Total	5.15 (2.19)	5.53 (1.60)	5.17 (1.93)	5.29 (1.89)
Total				
Male	5.68 (1.78)	5.44 (1.95)	5.56 (1.98)	5.56 (1.87)
Female	4.85 (1.78)	4.96 (1.78)	4.74 (1.50)	4.86 (1.68)
Total	5.16 (1.80)	5.13 (1.83)	5.11 (1.76)	5.13 (1.78)

Note. The combined intensity and duration ratings over 25 trials averaged together.

ratings over 25 trials than their male counterparts. No other main or interactive effects for averaged intensity + duration ratings were significant, all F s < 1.54, all p s > .22, all $\eta^2_p < .03$.

Resource Allocation Task

Measurement of the resource allocation task averaged number of fish participants kept per-season over the span of five seasons (See Table 10). The results of a $2 \times 2 \times 3$ ANOVA showed a marginal main effect for sex $F(1, 121) = 3.19, p = .08, \eta^2_p = .04$ with males keeping more fish per-season than their female counterparts. No other main or interactive effects were significant, all F s < 1.87, all p s > .16, all $\eta^2_p < .03$.

Table 10. Mean (SD) Average Number of Fish Kept Per Season

	Red Bull	Sprite	Honest Tea	Total
Control				
Male	6.92 (2.19)	8.35 (3.80)	9.40 (2.35)	8.53 (2.93)
Female	6.74 (2.93)	8.25 (2.39)	7.00 (2.11)	7.29 (2.59)
Total	6.78 (2.73)	8.29 (2.92)	8.20 (2.50)	7.75 (2.77)
Mindfulness				
Male	7.70 (1.58)	8.97 (2.82)	7.87 (2.01)	8.07 (2.07)
Female	7.52 (1.69)	7.69 (2.10)	7.17 (2.86)	7.47 (2.27)
Total	7.62 (1.60)	8.08 (2.35)	7.44 (2.53)	7.72 (2.19)
Total				
Male	7.47 (1.75)	8.64 (3.28)	8.71 (2.29)	8.29 (2.49)
Female	7.03 (2.54)	7.94 (2.21)	7.10 (2.51)	7.38 (2.42)
Total	7.20 (2.25)	8.18 (2.61)	7.81 (2.52)	7.73 (2.48)

Note. Larger numbers indicate a greater amount of fish kept per trial over 5 trials.

Discussion

Throughout the experiment, there was little support for the hypothesized effects. Due to time constraints, lack of participants, and equality of the distribution of participants this particular study was underpowered. It is also possible that this experiment contained too many measures. As Srull and Wyer (1979) show, priming effects tend to fade after a delay. For this experiment, there were five measures following the priming procedure; each requiring several minutes to complete. It is also possible that the use of too many measures following the mindfulness manipulation could cause a weakening of potential effects on those later measures. It is also possible that the mindfulness induction may not produce lasting mindfulness effects (MacKillop & Anderson, 2007). The audio clip is ten minutes in length, however, participants were completing the experiment thirty minutes after the clip had finished. After the clip, participants had to complete a variety of tasks and mindfulness may have worn off. Although the mindfulness clip does increase state-mindfulness, it is not clear how long these effects last (Thompson, Cozaniotis, Russell, Williams, Brophy, & Lorentz, 2017). Future studies should look into the duration of state-mindfulness following the mindfulness induction clip.

Findings showed that participants who underwent mindfulness training did show greater state mindfulness according to the state-MAAS. This supports previous research demonstrating that the audio clip induces state mindfulness and is a valid manipulation. There were no sex differences in this finding, as it had the same effect for both males and females. However, when given the ability to rank order preferences for potential games to play, those in the mindfulness condition showed a greater preference for risky tasks as opposed to those in the control condition, which was opposite of the hypothesized effect. This may indicate that mindfulness training does not necessarily make people kinder or more careful, but merely increases one's awareness of their own thoughts and behaviors.

The mindfulness and sex interaction showed that females in the mindfulness condition had a greater preference for risky tasks than females in the control condition. This goes against the finding that females in the mindfulness condition had a greater association of cautiousness to their implicit self-concept.

The ANOVA on the original IAT scores yielded a significant interaction between sex and priming, but this interaction was no longer significant after log-transforming the IAT scores. This may mean that the significant interaction between sex and priming was due to the skewed distribution caused by the small sample size and greater number of female over males. In addition, a marginal interaction between priming and sex was found in regards to IAT scores.

When ranking preferences for risky tasks, males primed with Red Bull showed less preference for risky tasks than females primed with Red Bull, while males primed with Sprite had a greater preference for risky tasks than females primed with Sprite, and males primed with Honest Tea were almost identical to females with the same prime. These findings could be the result of a gender imbalance in the groups.

For ranking their preferences for cooperative tasks, gender differences were found. Females were more likely to prefer working with a partner than males. This could be thought of in terms of gender norms. According to these norms, females are typically thought of as more communal, meaning that they are supposed to foster harmonious relationships, while men are supposed to assume more agentic roles (Eagly & Steffen, 1984). Agentic roles are thought of as following the "breadwinner" role. A three-way interaction of priming, sex, and mindfulness did appear. Mindful males primed with Red Bull and Honest Tea had more of a tendency to rank working with others higher than control males primed with Red Bull and Honest Tea. Control males primed with Sprite had a greater preference to work with others than their mindful Sprite counterpart. Mindful females primed with Red Bull and Honest Tea had more of a tendency to rank working with others as lower than control females primed with Red Bull and Honest Tea. However, control females primed with Sprite ranked working with others as less preferable than their mindful counterparts.

Competitive Reaction Time task for combined initial intensity + duration assignments did show a mindfulness effect with the control condition producing combined lower initial intensity + duration ratings. The expectation was that mindfulness would produce lower combined intensity + duration assignments. There were gender differences in that females had a strong tendency to assign lower combined intensity + duration assignments than males. However, mindfulness did show an increase in combined initial intensity + duration assignments for both males and females. Mindfulness may have given individuals a boost in confidence for competing with others for the first trial. The priming effect was marginal, however, and the effect was also opposite of the expectation. Red

Bull showed the lowest initial and average combined intensity + duration assignments. The Red Bull brand could have made participants more aware of potential risks. When combined intensity + duration assignments were averaged over 25 trials, the priming and mindfulness effects dissipate entirely. A main effect for sex remains stable for both the combined initial intensity + duration assignments and the combined averaged intensity + duration assignments. One interpretation for this is that an overabundance of female participants and an uneven distribution of male participants may lead to false alarms for interpretation of potential priming and mindfulness effects on CRT behavior.

The CRT also measured reaction times of how quickly participants hit a button once a specific light appeared. Gender differences were found. Males were typically faster than females on reaction times. This could be due to the fact that males were typically assigning more intense and longer noise blasts than females, therefore they were risking larger reciprocity effects from their opponents. This could have led to a more competitive state in males.

The resource allocation task also displayed gender differences. Males typically kept more resources, risking their profits being taken away, than females. This could also be thought of as following traditional gender stereotypes. Males following the more agentic roles, keeping resources to provide for themselves, while females were following the more communal roles, working more with the other person to make sure enough resources were there for everyone.

Conclusion

In conclusion, this study sought to demonstrate whether mindfulness-induction would decrease primed behaviors that are potentially negative (i.e. risky behaviors) as well as to determine whether other primed behaviors, such as prosocial behavior, would decrease as well. The results of this experiment did not support the findings of some previous studies using Red Bull as a prime. However, the results highlight the importance of replication to determine the constancy of the priming effects. The effects of priming are caused by ephemeral materials initiated in past experiences of the participant, such as stimuli that they have recently viewed that are inconsequential to their decision making.

It is also the case that the effects of mindfulness and measures of mindfulness validation need to be further studied. With findings that novices to meditation should not be expected to be associated with greater levels of mindfulness (MacKillop & Anderson, 2007), replication of findings with minimal amounts of mindfulness training should be replicated to find consistency within the results. Similar to the above conclusion on priming research, mindfulness research also needs to be examined further to develop a greater understanding of its effectiveness, as well as its duration of effectiveness, in laboratory settings.

References

- Aarts, H., Verplanken, B., & van Knippenberg, A. (1998). Predicting behavior from actions in the past: Repeated decision making or a matter of habit? *Journal of Applied Social Psychology, 28*, 1355-1374.
- Aggarwal, P. & McGill, A. L. (2012). When brands seem human, do humans act like brands? Automatic behavioral priming effects of brand anthropomorphism. *Journal of Consumer Research, 39*, 307-323.
- Allison, R. I., & Uhl, K. P. (1964). Influence of beer brand identification on taste perception. *Journal of Marketing Research, 1*, 36-39.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice, 10*, 125-143.
- Bargh, J. A. (2002). Losing consciousness: Automatic influences on consumer judgment, behavior, and motivation. *Journal of Consumer Research, 29*, 280-285.
- Bargh, J. A., Chen, M. & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology, 71*, 230-244.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology, 81*, 1014-1030.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research, 15*, 139-168.
- Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of Marketing, 67*, 76-88.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*, 230-241.
- Boheim, R., & Lackner, M. (2015). Gender and risk taking: Evidence from jumping competitions. *Journal of the Royal Statistical Society, 178*, 883-902.
- Brasel, S. A., & Gips, J. (2011). Red bull "gives you wings" for better or for worse: A double-edged impact of brand exposure on consumer performance. *Journal of Consumer Psychology, 21*, 57-64.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822-848.
- Chambers, R., Lo, B. C. Y., & Allen, N. B. (2008). The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cognitive Therapy and Research, 32*, 303-322.
- Chartrand, T. L. (2005). The role of conscious awareness in consumer behavior. *Journal of Consumer Psychology, 15*, 203-210.
- Chartrand, T. L., Dalton, A. N., & Fitzsimons, G. J. (2007). Nonconscious relationship reactance: When significant others prime opposing goals. *Journal of Experimental Social Psychology, 43*, 719-726.
- Chartrand, T. L., Huber, J., Shiv, B., & Tanner, R. J. (2008). Nonconscious goals and consumer choice. *Journal of Consumer Research, 35*, 189-201.
- Clark, J. K., Eno, C. A., & Guadagno, R. E. (2011). Southern discomfort: The effects of stereotype threat on the intellectual performance of US southerners. *Self and Identity, 10*, 248-262.
- Cropley, M., Ussher, M., & Charitou, E. (2007). Acute effects of a guided relaxation routine (body scan) on tobacco withdrawal symptoms and cravings in abstinent smokers. *Addiction, 102*, 989-993.
- Cutright, K. M., Erdem, T., Fitzsimons, G. J., & Shachar, R. (2014). Finding brands and losing your religion? *Journal of Experimental Psychology: General, 143*, 2209-2222.
- DeCoster, J., & Claypool, H. M. (2004). A meta-analysis of priming effects on impression formation supporting a general model of informational biases. *Personality and Social Psychology Review, 8*, 2-27.
- Delbaere, M., McQuarrie, E. F., & Phillips, B. J. (2013). Personification in advertising: Using a visual metaphor to trigger anthropomorphism. *Journal of Advertising, 40*, 121-130.
- DeMaree, K. G. & Loersch, C. (2009). Who am I and who are you? Priming and the influence of self versus other focused attention. *Journal of Experimental Social Psychology, 45*, 440-443.
- Dijksterhuis, A., & Bargh, J. A. (2001). The perception behavior expressway: Automatic effects of social perception on social behavior. *Advances in Experimental Social Psychology, 33*, 1-40.
- Dijksterhuis, A., & van Knippenberg, A. (1998). The relation between perception and behavior, or how to win a game of trivial pursuit. *Journal of Personality and Social Psychology, 74*, 865-877.

- Dijksterhuis, A., Chartrand, T. L., & Aarts, H. (2007). Effects of priming and perception on social behavior and goal pursuit. In J. A. Bargh (Ed.), *Social psychology and the unconscious: The automaticity of higher mental processes* (pp. 51-132). Philadelphia: Psychology Press.
- Dijksterhuis, A., Smith, P. K., Van Baaren, R. B., & Wigboldus, D. H. (2005). The unconscious consumer: Effects of environment on consumer behavior. *Journal of Consumer Psychology, 15*, 193-202.
- Doyen, S., Klein, O., Pichon, C.-L., & Cleeremans, A. (2012). Behavioral priming: It's all in the mind, but whose mind? *PLoS ONE, 7*, e29081. doi:10.1371/journal.pone.0029081
- Eagly, A. H., & Steffen, V. J. (1984). Gender stereotypes stem from the distribution of women and men into social roles. *Journal of Personality and Social Psychology, 46*, 735-754.
- Earp, B. D., Dill, B., Harris, J. L., Ackerman, J. M., & Bargh, J. A. (2013). No sign of quitting: Incidental exposure to "no smoking" signs ironically boosts cigarette-approach tendencies in smokers. *Journal of Applied Social Psychology, 43*(10), 2158-2162.
- Eisenberg, P. (1947). Seeing yourself as you are. In P. Eisenberg (Ed.), *Why we act as we do*. New York, NY: Alfred A. Knopf.
- Felton, J., Gibson, B., & Sanbonmatsu, D. M. (2003). Preference for risk in investing as a function of trait optimism and gender. *Journal of Behavioral Finance, 4*, 33-40.
- Fiori, K. L., Brown, E. E., Cortina, K. S., & Antonucci, T. C., (2006). Locus of control as a mediator of the relationship between religiosity and life satisfaction: Age, race, and gender differences. *Mental Health, Religion & Culture, 9*, 239-263.
- Fitzsimons, G. M., & Bargh, J. A. (2003). Thinking of you: nonconscious pursuit of interpersonal goals associated with relationship partners. *Journal of Personality and Social Psychology, 84*, 148.
- Fitzsimons, G. M., Chartrand, T. L., & Fitzsimons, G. J. (2008). Automatic effects of brand exposure on motivated behavior: how Apple makes you "think different." *Journal of Consumer Research, 35*, 21-35.
- Garg, A. K., & Duvenhage, A. (2014). Risk-taking patterns of male and female entrepreneurs in Roodepoort. *African and Asian Studies, 13*, 452-478.
- Giancola, P. R., & Zeichner, A. (1995). Construct validity of a competitive reaction-time aggression paradigm. *Aggressive Behavior, 21*, 199-204.
- Gibson, B. (2008). Can evaluative conditioning change attitudes toward mature brands? New evidence from the Implicit Association Test. *Journal of Consumer Research, 35*, 178-188.
- Gibson, B., Lueke, A., Hawkins, I. & Bushman, B. J. (2017). Video games and stereotype to behavior effects: Playing or watching a black avatar in a video game decreases intellectual performance. *Manuscript submitted for publication*.
- Harris, J. L., Bargh, J. A., & Brownell, K. D. (2009). Priming effects of television food advertising on eating behavior. *Health Psychology, 28*, 404-413.
- Harris, C. R., Jenkins, M., & Glaser, D. (2006). Gender differences in risk assessment: Why do women take fewer risks than men? *Judgement and Decision Making, 1*, 48-63.
- Harris, J. L., Pierce, M., & Bargh, J. A. (2014). Priming effect of antismoking PSAs on smoking behaviour: A pilot study. *Tobacco Control, 23*(4), 285-290.
- He, H., Li, Y., & Harris, L. (2011). Social identity perspective on brand loyalty. *Journal of Business Research, 65*, 648-657.
- Honest Tea. (n.d.). Retrieved from: <https://www.honesttea.com/about-us/our-story/>
- Huang, J. Y., & Bargh, J. A. (2014). The selfish goal: Autonomously operating motivational structures as the proximate cause of human judgment and behavior. *Behavioral and Brain Sciences, 37*(2), 121-135.
- Kang, Y., Gruber, J., & Gray, J. R. (2013). Mindfulness and de-automatization. *Emotion Review, 5*, 192-201.
- Komorita, S. S., & Parks, C. D. (1995). Interpersonal relations: Mixed-motive interaction. *Annual Review of Psychology, 46*, 183-207.
- Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley.
- Langer, E. J., & Moldoveanu, M. (1999). The construct of mindfulness. *Journal of Social Issues, 56*, 1-9.
- Li, M., Green, R. D., Farazmand, F. A., & Grodski, E. (2012). Customer loyalty: Influences on three types of retail stores' shoppers. *International Journal of Management and Marketing Research, 5*, 1-19.
- Loersch, C., & Payne, B. K. (2012). On mental contamination: The role of (mis)attribution in behavior priming. *Social Cognition, 30*, 241-252.

- Loersch, C., & Payne, B. K. (2014). Situated Inferences and the what, who, and where of priming. *Social Cognition, 32*, 137-151.
- Lueke, A., & Gibson, B. (2015). Mindfulness meditation reduces implicit age and race bias: The role of reduced automaticity of responding. *Social Psychological and Personality Science, 6*, 284-291.
- Lueke, A., & Gibson, B. (2016). Mindfulness reduces discrimination and negative explicit racial attitudes. *Psychology of Consciousness: Theory, Research, and Practice, 3*, 34-44.
- Lueke, A., Gibson, B., Scherr, K., Franks, A., Hawkins, I., Thompson, J., McDonald, A., & Felton, J. (2017). Feeling red bullish: An active self-account of priming risk. *Manuscript submitted for publication*.
- MacKillop, J., & Anderson, E. J. (2007). Further psychometric validation of the mindful attention awareness scale (MAAS). *Journal of Psychopathology and Behavioral Assessment, 29*, 289-293.
- Murphy, S. T., & Zajonc, R. B. (1993). Affect, cognition, and awareness: Affective priming with optimal and suboptimal stimulus exposures. *Journal of Personality and Social Psychology, 64*, 723-739.
- O' Cass, A., & Frost, H. (2002). Status brands: examining the effects of non-product-related brand associations on status and conspicuous consumption. *Journal of Product and Brand Management, 11*, 67-88.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*, 1063-1078.
- Shanks, D. R., Newell, B. R., Lee, E. H., Balakrishnan, D., Ekelund, L., Cenac, Z., ... & Moore, C. (2013). Priming intelligent behavior: An elusive phenomenon. *PloS one, 8*(4), e56515.
- Sprite. (n.d.). Retrieved from <http://www.coca-colaproductfacts.com/en/coca-cola-products/sprite/>
- Srull, T. K., & Wyer, R. S., Jr. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology, 37*, 1660-1672.
- Stokburger-Sauer, N., Ratneshwar, S., & Sen, S. (2012). Drivers of consumer-brand identification. *International Journal of Research Marketing, 29*, 406-418.
- Thompson, J. A., Cozaniotis, E. A., Russell, A., Williams, J., Brophy, K., & Lorentz, B. (2017, March). *Math, stress, and mindfulness, Oh My! Mindfulness and stress reduction*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.
- Wheeler, S. C., Jarvis, W. B. G., & Petty, R. E. (2001). Think unto others: The self-destructive impact of negative racial stereotypes. *Journal of Experimental Social Psychology, 37*, 173-180.
- Zhong, C., & DeVoe, S. E. (2010). You are how you eat: Fast food and impatience. *Psychological Science, 21*, 619-622.

Received: 6.14.2017

Revised: 10.10.2017

Accepted: 10.11.2017