Marketing Techniques That Effect Product Engagement

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**Abstract**

The current study discusses the effect of ego depletion and celebrity endorsement on product engagement and inclusion of the product in the self-concept. Past research shows that there may be a relationship between these variables (Baumeister, Sparks, Stillman, Vohs, 2007; Popescu, 2014). In the present research, participants completed either an adapted form of the ego depletion task by Bertrams, Englert, and Dickhäuser (2010) or the control ego depletion task. Furthermore, they viewed a picture of either a celebrity endorsed advertisement or an advertisement without a celebrity. Participants then completed a series of questions that measured for product engagement, inclusion of product in the self-concept, and amount of money they would be willing to spend on the product. Results show that there is no significance in the relationships between variables. Companies may use these results to improve advertisements in order to increase engagement with their products and the public.

**Marketing Techniques That Effect Product Engagement**

Advertisements can sway a person’s perception by making them more likely to want a product, or like a product. The field of product endorsement is growing exponentially (Bergkvist, and Zhou, 2016). There is a large portion of advertisements that include celebrities; these advertisements can be more persuasive, especially if the viewer is experiencing ego depletion (Baumeister, Sparks, Stillman, Vohs, 2007). Products may be included into a consumer’s self-concept if it displays a symbolic meaning to the consumer (Popescu, 2014). Celebrities may also display symbolic meanings, therefore the products they advertise will also be symbolic (Popescu, 2014). This means the products will be placed into the self-concept and subsequently be purchased (Popescu, 2014). Knowing exactly how much these advertisements effect self-concept and brand engagement for consumers can be of paramount importance to businesses and celebrity endorsers alike because it will likely affect the amount they are profiting. In this paper, it is suggested that ego-depletion will influence the degree to which celebrity endorsements improve product engagement.

*Celebrity Endorsement*

Celebrity endorsed advertisements are used on many platforms such as social media, television, radio, and billboards. A celebrity endorser includes a well-known person who uses their notoriety to enhance the selling of a product by being present with the product in an advertisement (McCracken, 1989). Bergkvist and Zhou (2016) suggested a definition for celebrity endorsement in which there is a settlement between a celebrity and a brand that the brand may utilize the celebrities title or photo in order to boost their product. This will benefit both the celebrity in attaining public acknowledgement and payment and the brand by also receiving acknowledgment and hopefully more payment through more consumer purchase. Celebrity endorsement is a largely used approach by businesses that leads costumers away from competing brands and to theirs (Popescu, 2014). This leads to more sales for brands who use celebrity endorsement versus brands who do not (Popescu, 2014). Research by Elberse and Verleun (2012) evaluated the impact of professional athlete endorsers on brand sales. They found that these celebrity endorsers produce an increase of 4% in sales (Elberse and Verleun, 2012). Additionally, they saw positive correlation between athlete performance and sales (Elberse and Verleun, 2012). Based on these findings, inferences can be made to suggest that celebrity endorsement will increase brand engagement, including the potential inclusion of the brand in the self-concept.

*Self-Concept*

The self-concept is defined as the idea a person has of themselves as a whole (Gecas, 1982). The self-concept plays a vital role in consuming goods because consumers often buy products that relate to their self-concept (Roe and Bruwer, 2017). Ogbeide and Bruwer’s (2013) research shows how the self-concept is displayed through the choice and purchase of products, specifically with wine. They found that when consumers purchased wine, they consider and integrate their ideas of their self-image (Ogbeide and Bruwer, 2013). According to Popescu (2014), consumers develop symbolic meanings for brands and celebrities, linking them to themselves. When celebrities who represent certain qualities that a consumer strives to attain, they are likely to link themselves to the brands this celebrity endorses (Popescu, 2014). Therefore, it can be assumed that consumers are also likely to buy and incorporate products being endorsed by idolized celebrities into the self-concept.

*Ego Depletion*

Ego depletion is a brief decline in one’s ability to participate in self controlling actions (Baumeister, Bratslavsky, Muraven, and Tice, 1998). Advertisements may be more effective if the person viewing them is depleted of self-control. Self-control is often ignored when emotional distress arises in order to enhance positive emotions (Baumeister, 2002). Muraven, Tice and Baumeister (1998) found that when participants concealed their emotions when watching a film that evoked negative emotion, they were more likely to abandon efforts to complete a difficult task that required self-control than participants who were able to journal their emotions. It is likely that when consumers are under emotional distress they will easily go into an ego depleted state and partake in impulse buying (Baumeister, 2002). Therefore, arguments can be made that in the current study after completing the ego depletion task participants will be more likely to discard any self-control and have increased product engagement.

*Current Study*

Past research suggests that celebrity endorsement with positive celebrities leads to increased sales for brands (Elberse and Verleun, 2012). Furthermore, endorsing products with celebrities who consumers admire, and are likely to link to themselves, can lead to a link between the product and the consumer’s self-concept (Popescu, 2014). It is important to choose celebrity endorsers who consumers admire because consumers are more likely to buy products that are extensions of their self-concept. The present study will help the researchers determine if certain celebrity endorsement techniques help bring products into the self-concept and therefore increase product engagement; and whether product engagement is also affected by ego depletion. Furthermore, it is hypothesized that the effect of celebrity endorsements on people’s engagement with products will be greater when they are ego depleted as compared to when they are not ego depleted.

## Methods

### **Participants**

Participants were 37 women undergraduate students at the University of New England. Participants were originally 42 women and 5 dropped out because they did not complete all tasks required for the study. Participants average age was 20.05 (SD= 2.20). Participants were asked to take part in a study on the effects of branding on the self-concept.

### **Procedure**

This was an experimental design in which participants were randomly assigned to one of four conditions. The experiment was a 2 (Depletion condition: ego depletion vs. control) x 2 (Celebrity condition: celebrity endorsement vs. control) factorial design. Participants were asked to fill out a survey using google forms regarding general demographic information. After completing this, participants were asked to complete an ego depletion or control manipulation. Then, they were asked to answer a question that measured how difficult they found the manipulation. Next, participants were asked to look at the celebrity endorsement or control manipulation for at least 2 minutes. Following the manipulation, they were asked to complete the measure of product in the self-concept IOS scale. Further, participants were asked to answer a series of questions assessing product engagement. Finally, participants were asked to report the amount of money they would spend on the product. There was no time limit imposed on the participants.

### **Measures**

**Self-concept***.* We used an adapted version of the Inclusion of Others in Self Scale by Aron, Aron, and Smollan (1992) which taps into how much one perceives including the product in the self-concept by presenting participants with 7 images of two circles in varying distances from one another. Participants responded by selecting the pair of circles that best represented their relationship with the product (1=separate, 7=very close). Higher scores mean higher levels of inclusion of the product in self.

**Ego Depletion Manipulation**. Participants were randomly assigned to either the ego depletion or the control manipulation. In the ego depletion condition adapted from Bertrams, Englert, and Dickhäuser (2010), participants were asked to transcribe a complex passage that was provided leaving out the letters *e* and *n* anytime they appear. In the control condition, participants were asked to transcribe a simple passage and did not have to omit letters during transcription.

**Celebrity Endorsement Manipulation**. Participants were randomly assigned to either the celebrity endorsement manipulation or the control group. In the celebrity endorsement condition, participants were asked to look at a photo of Jennifer Anniston with a recognizable lotion bottle for about 2 minutes while thinking about the product, including its features and qualities, and what it would be like to use the product. In the control condition, participants were given the same instructions while looking at a photo of the recognizable lotion bottle by itself.

**Product Engagement.** The amount of product engagement participants had was measured by asking participants to fill out a survey created for this study regarding their engagement with the product. On a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*), participants were asked to rate how much they agreed or disagreed with 6 statements. Higher scores corresponded to higher levels of product engagement. Finally, an engagement variable was created in order to attain an average engagement with the product. This was comprised by taking the average of participant responses to all 6 engagement questions.

## Results

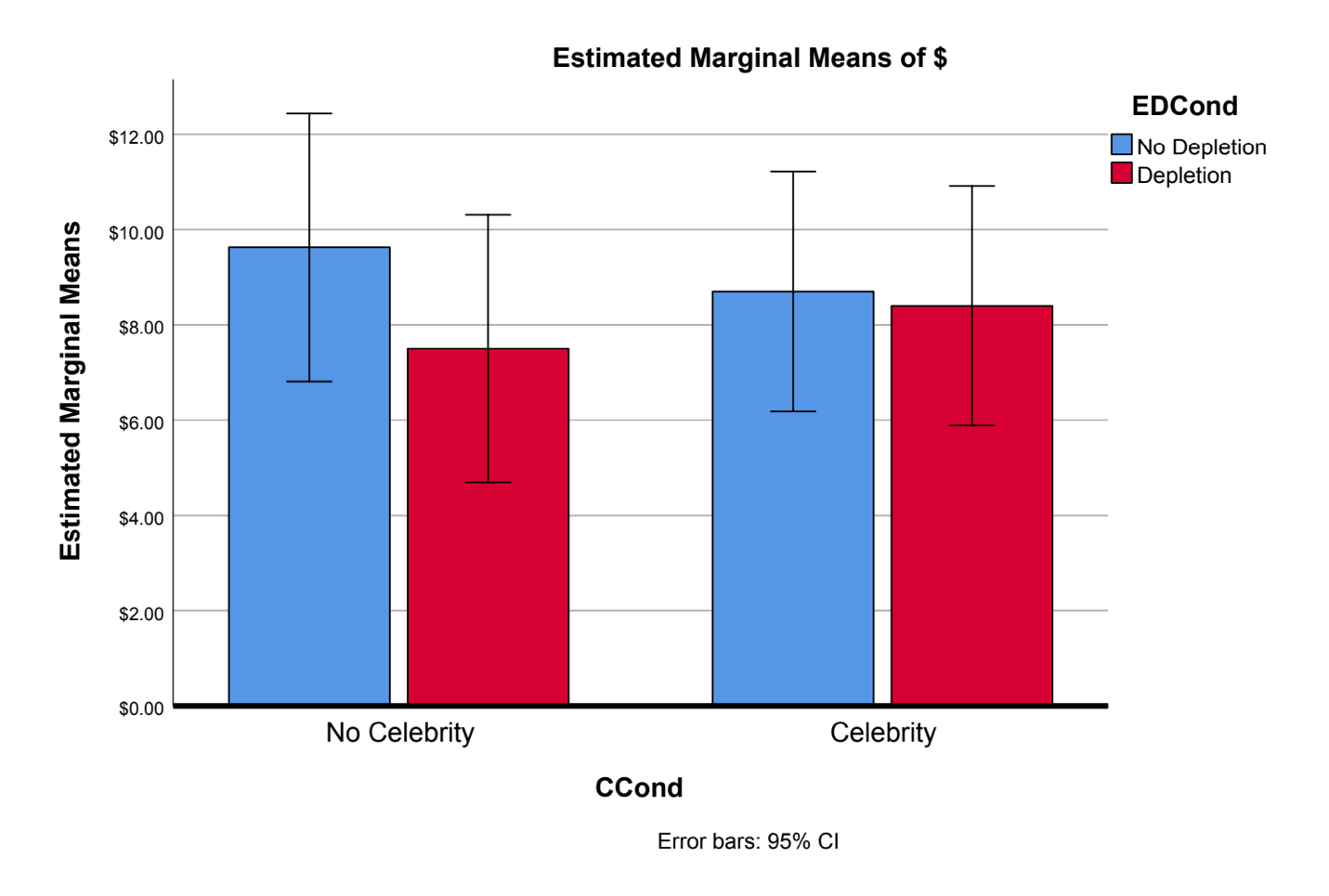
To determine the relationship of Inclusion of Product in self-concept (SCS) from ego depletion condition, celebrity endorsement, and their interaction we conducted a 2 (Ego depletion: ego depletion manipulation, control) X 2 (celebrity endorsement: celebrity, no celebrity control) analysis of variance (ANOVA) predicting how much participants included the product in their self-concept. This analysis revealed that the main effect of ego depletion was nonsignificant, *F* (1, 33) = 0.61, *p* = .44. This suggests that participants in the depletion (*M* = 3.55) and no depletion (*M* = 3.10) conditions did not differ in how much they included the product in their self-concept. Furthermore, there was not a significant main effect of the celebrity manipulation, *F* (1,33) = 0.70, *p* = .41. Participants did not score higher for including the product in their self-concept in the no celebrity control condition (*M* = 3.56) compared to the celebrity condition (*M* = 3.05). There was no significant interaction between ego depletion condition and celebrity endorsement condition, *F* (1, 33) = 0.40, *p* = .53, suggesting ego depletion and celebrity endorsement do not interact to predict the inclusion of product in the self-concept.

Even though this interaction was non-significant, we looked at the simple effect of ego depletion in each condition. A simple effects test was conducted to determine the nature of the non-significant interaction. More specifically, two t-tests were conducted comparing how ego depletion effected participants’ inclusion of product in their self-concept in both celebrity and no celebrity conditions. The analysis revealed that when there was no celebrity present, there was no significant differences between participants in the no ego depletion condition (*M* = 3.13) and participants in the ego depletion condition (*M* = 4.00)in including the product in the self-concept, *t* (14) = -.98, *p* = .35. Therefore, when there was no celebrity present, the participants in the ego depletion versus no ego depletion conditions did not differ significantly in how much they included the product in their self-concept. When there was a celebrity shown, participants in the no ego depletion condition (*M* = 3.00) had not differed significantly regarding including the product in self compared to the participants in the ego depletion condition (*M* = 3.09), *t* (19) = -.10, *p* = .91. This difference was not statistically significant.

To determine the relationship of product engagement from ego depletion condition, celebrity endorsement condition, and their interaction we conducted a 2(ego depletion: ego depletion manipulation, control) X 2 (celebrity endorsement: celebrity, no celebrity control) analysis of variance (ANOVA) predicting how much participants engaged with the product. The analysis revealed that the main effect of ego depletion was nonsignificant, *F* (1, 33) = .00, *p* = .97. This suggests that participants in the depletion (*M* = 4.52) and no depletion (*M* = 4.53) conditions did not differ in how much they were engaged with the product. Also, there was not a significant main effect of celebrity endorsements *F* (1,33) = .10, *p* = .75. Participants did not score higher for product engagement in the no celebrity condition (*M* = 4.58) compared to the celebrity condition (*M* = 4.47). There was no significant ego depletion condition X celebrity endorsement condition interaction, *F* (1,33) = .95, *p* = .34. That is, the relationship between ego depletion and product engagement did not depend on celebrity endorsement.

To determine the relationship of money from ego depletion condition, celebrity endorsement condition, and their interaction we conducted a 2(ego depletion: ego depletion manipulation, control) X 2 (celebrity endorsement: celebrity, no celebrity control) analysis of variance (ANOVA) predicting how much money participants would spend on the product. The analysis revealed that the main effect of ego depletion was nonsignificant, *F* (1, 32) = 0.86, *p* = .36. These results show that participants did not differ significantly in how much money they would spend on the product in the depletion (*M* = 7.95) and no depletion (*M* = 9.16) conditions. Although these results are non-significant, we can see there was a small difference between the depletion and no depletion conditions (see figure 1) even if it was not significant. There was not a significant main effect of celebrity endorsements *F* (1,32) = 0.00, *p* = .99. Participants did not report a willingness to spend more money on the product in the no celebrity condition (*M* = 8.56) compared to the celebrity condition (*M* = 8.55). Also, there was a slight but non-significant ego depletion condition X celebrity endorsement condition interaction, *F* (1,32) = .48, *p* = .49. That is, the relationship between ego depletion and product pricing did not depend on celebrity endorsement (see figure 1).

These results are inconsistent with our predictions that product engagement, amount of money spent, and inclusion of product in self-concept scores would be higher when in the ego depletion manipulation group, and the celebrity endorsement group. Participants in the ego depletion group and the celebrity endorsement group did not differ significantly in their scores for inclusion of product in the self-concept, amount of money they were willing to spend on the product, or product engagement.

*Figure 1.* Estimated means of money in dollars participants are willing to spend on the product split by celebrity conditions.

**Discussion**

Results from this study suggest that there were no significant interactions between the ego depletion conditions and the celebrity endorsement conditions in predicting the inclusion of product in the self-concept scores. This implies that when participants are ego depleted there is no difference in IOS scores from when they are not depleted. This also implies that when participants are shown advertisements of celebrities endorsing products versus products advertised alone, there is no significant difference in IOS scores. Despite the lack of significance in these results, a t-test furthered our findings showing that the participants in the ego depletion condition versus the no ego depletion control condition did not differ significantly in how much they included the product in their self-concept when there was no celebrity present in the advertisement.

Further, the celebrity endorsement conditions had no significant effect in regard to product engagement scores, negating the hypothesis which states that celebrity endorsement would predict higher product engagement scores. Similarly, the ego depletion conditions did not have a significant main effect in relation to product engagement. There was a small difference, although it was not significant, between amount of money participants were willing to spend on the product in the no ego depletion and ego depletion groups for the no celebrity control group. This suggests that when participants are not ego depleted, having no celebrity in the advertisement may actually be more effective in getting participants to spend more money than if they are depleted with no celebrity present.

The results of this study imply that there must be some use of self-control still at play. Muraven, Shmueli, and Burkley (2006) suggest that it is possible for consumers to conserve self-control even when depleted. These researchers’ results showed that people who expect to use self-control in the future will try to be more conservative with the amount of self-control they exert in the present. Furthermore, participants who try to be more conservative with the amount of self-control they exert perform worse on a self-control task than those who do not anticipate needing to use self-control in the future (Muraven, et. al, 2006). When these results are translated into the current research it can suggest that since participants did not suspect to have to use self-control in future tasks, they were able to use more of it when viewing the advertisement. Therefore, participants were not swayed towards the product in the celebrity control or manipulation conditions.

Furthermore, it is hypothesized by Moller, Deci, and Ryan (2007) that when people use autonomous choice, they are less ego depleted than people who are using controlled choice. Participants in this previous research were given the autonomy to choose a side in a debate about whether or not psychology should be taught in high schools. After, they had to record themselves giving a speech about the side they chose. Later, they were giving problem solving tasks to complete. The results showed that participants in the autonomous choice group, were more likely to persist in trying to solve the problem-solving task longer than those who were not given choice in what side of the debate they were on. In the current study, participants were given the autonomous choice on all tasks. There was no time limit imposed on the participants when looking at the advertisement, and they had free will to choose answers when filling out surveys. It can be implied from this previous research, that participants in the present research were not ego depleted as expected to be and therefore, were not affected by the advertisements. As the results from this previous study suggest, as participants were given autonomous choice, they were less ego depleted and more able to use self-control when filling out the survey.

It is also possible that the advertisements shown in this study did not align with participants self-concept or self-image. Research has shown that people typically buy items that are similar or that can relate to their own self-concept or personal image (Grzeskowiak, Sirgy, Foscht, and Swoboda, 2016). Regarding the current study, participants may not have been interested in the product being advertised and the celebrity endorsing it because it did not relate to their self-concept. In this study, a picture of Jennifer Aniston with the product was used because it was believed that she was a neutral celebrity, having been a generally positive person in the celebrity community. Participants may not necessarily relate to Jennifer Aniston although she is seen as a good person. This would lead to a neutral or nonsignificant impact on the results.

Although the results show insignificance in the current study, there are still some strengths. One strength of this study is the use of technology to gather data. The data was gathered using Google Forms, where the results could be collected accurately, and the survey could be easily accessible to participants. Another asset to this research was the manipulation of variables and use of multiple surveys. The use of two independent variables resulted in a total of four surveys; two surveys with one independent variable manipulated, one with no manipulated variables (the control group), and one with both independent variables manipulated. This was a cross sectional design and it helped to see the effects of both independent variables alone and together. Along with the incorporation of surveys, the task used to incorporate ego depletion was generally reported to be very difficult for participants. This supports a predicted reaction from students that they would be frustrated with the task of transcribing a paragraph and leaving out the letters *e* and *n*.

The limitations to this research were that it lacked in a large sample size. The study gathered 42 women from the University of New England and excluded 5 due to incomplete survey results leaving the number of participants at 37. The small sample size may have led to insignificant results because it was not a large enough sample to see significant results. The sample size also made it more difficult to make the results generalizable to the population. Using haphazard sampling limited our research participants to being mostly student athletes. There is no evidence that this has affected outcomes however, this may aid in difficultness for generalizing to the population at large. Along with limited sampling choice, there was no way to time how long participants looked at the advertisements. This could have led to participants not actually looking at the image for two minutes and therefore, not being influenced by it.

In future studies regarding this topic researchers should consider gathering more participants in order to find a significant result. Furthermore, researchers should use a simple random sampling technique in order to negate any possible confounds from the population of participants. Moreover, it would be more beneficial to time how long participants look at the shown advertisement. This could help with attaining more accurate product engagement scores. Researchers should be concerned with strengthening the methods and materials used for this study in order to gain significant results to determine if there is a main effect from celebrity endorsements and ego depletion on product engagement and inclusion of the product in the self-concept.

Results from this study imply that celebrity endorsements are not more effective than advertisements without celebrities. This suggests that it does not make a difference whether companies promoting products use celebrity endorsements or not. Therefore, companies can save time and money when producing advertisements for their products by advertising products alone. Moreover, it can be suggested by these results, although they are nonsignificant, that there is a small effect on people to be more willing to pay a higher price for a product in the instance that it is advertised without a celebrity. In this study, results were misguided by the effects of a small sample size and the inability to time tasks. Furthermore, this shows the importance of sample sizes and procedures in gaining significance in results. Although the results from this study were insignificant, it can be assumed due to previous research that in future studies, if changes to the methods and procedures are changed, significance may be found.

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