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Effect of the interaction between brand attachment and physiological nicotine dependence on motivation to quit smoking

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Abstract:

Our study aimed to explore the effect of the interaction between brand attachment and nicotine dependence on the motivation to quit smoking. Contrary to our initial hypothesis, which suggested that high levels of brand attachment combined with strong nicotine dependence would lead to low motivation to quit smoking, our results revealed an unexpected trend. Participants less attached to a specific cigarette brand were actually less inclined to quit smoking, indicating that individuals who are not strongly attached to a specific cigarette brand may be so nicotine-dependent that the type of cigarette itself becomes less important. Thus, they may be less motivated to quit smoking. A comprehensive understanding of these mechanisms would often require a multidimensional approach. This should be investigated in future studies, integrating various variables to obtain a more holistic perspective of the phenomenon.

Keywords: Brand attachment, physiological nicotine dependence, motivation to quit smoking.

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Introduction.

In the field of smoking research and smoking cessation, understanding the factors influencing the motivation to quit smoking is of crucial importance. Among these factors, brand attachment and nicotine

dependence are significant areas of interest. According to Fiore et al. (2008), nicotine dependence is recognized as the primary driver of cigarette consumption. The neurobiology of nicotine dependence, characterized by neuroadaptive responses in the brain, can create a strong incentive to maintain nicotine consumption regardless of the cigarette brand used (Benowitz, 2010).

However, studies like that of Wakefield et al. (2002) have emphasized that brand attachment can influence attitudes and behaviors related to smoking. This work advances the idea that consumers attached to a specific brand react more positively to the visual presentation of packages from that brand, which can influence their purchasing behaviors. These results could also suggest that brand attachment can create loyalty, which can be a barrier to smoking cessation.

Moreover, individuals strongly attached to a cigarette brand may have integrated that brand into their personal identity (Aaker, 1997; Escalas, Bettman, 2005). The idea of giving up this brand could be perceived as a loss of a part of their identity, which could explain a reluctance to quit smoking. It is possible that some brands have implemented marketing strategies aimed at strengthening consumers' emotional attachment to their product (Fournier, 1998; Batra, Ahuvia, Bagozzi, 2012). This could result in a more positive perception of the brand by consumers, even if they are aware of the health risks associated with cigarette consumption.

We can imagine that individuals exhibiting both high nicotine dependence and strong attachment to a cigarette brand may face increased difficulties when it comes to quitting smoking. These two forms of attachment would create a dual dependence, as physical attachment to nicotine creates a biological dependence, while psychological attachment to a brand can generate an emotional and identity component. The simultaneous rupture of these two bonds could therefore represent a more significant challenge in the smoking cessation process, where physical dependence and emotional aspects are intrinsically linked.

The objective of the study is to examine the effect of brand attachment on the desire to quit smoking.

H1 : The greater the brand attachment, the lower participants should report a level of motivation to quit smoking, but only when the level of nicotine dependence is high.

Method.

Participants.

120 participants (82 men and 38 women) volunteered to participate in this study. The participants' average age is 31.36 years ($SD = 2.78$) and ranges from 20 to 53 years. The design involves a one independent variable with two conditions: Brand Attachment (BA) and No Brand Attachment (NBA). We utilize online administrations for data collection.

Materials and Procedure.

Physiological nicotine dependence. Initially, the Fagerström Test for Nicotine Dependence is introduced.

This questionnaire consists of six questions. The resulting score estimates the subject's physiological dependence on nicotine (e.g., daily frequency). The subject's score is interpreted in four levels ranging from 0 to 10. The first level (0 to 2) indicates that the subject is not nicotine-dependent and can quit smoking without resorting to nicotine replacement therapy. Individuals with higher scores (7 to 10) are considered highly or very highly dependent, and pharmacological treatments are recommended.

Brand attachment. The brand attachment measurement scale is then introduced. This scale consists of eight items reflecting manifestations and consequences of brand attachment. We selected this short, unidimensional scale, validated by Ball et al. (1992, 1995), which incorporates the concepts of Cristau, Heilbrunn, and Lacoueilhe. Each of these concepts measures a different expression of attachment (dependence, affection, nostalgia, passion, etc.). This condensed scale with eight items aims to highlight both the strength of attachment and its predictive validity.

Motivation scale (Richmond). This scale is a test assessing motivation to quit smoking, validated by Richmond (1993). The author evaluates this motivation through four questions and measures three levels: low or moderate, good, very good. There are two possible responses for the first question (yes or no), and four possible responses on a Likert scale for the others (ranging from "not at all" to "a lot" and from "no" to "definitely").

Results.

Brand attachment. Linear regressions revealed an effect of brand attachment, $b = 0.34$, $p < .04$. The level of motivation to quit smoking was lower when participants were less attached to a brand ($M = 2.95$, $SD = 1.37$) than when they were attached ($M = 3.91$, $SD = 1.71$).

Physiological nicotine dependence. Furthermore, the analysis shows no difference in the level of motivation to quit smoking between participants with high physiological nicotine dependence ($M = 3.31$, $SD = 1.49$) and those with a low level of dependence ($M = 2.82$, $SD = 1.54$), $b = 0.19$, ns .

*Physiological dependence*Brand Attachment.* We will focus primarily on this part of the analysis as our hypothesis concerns only the interaction effect between physiological nicotine dependence and brand attachment. The analysis revealed a highly significant interaction effect between these two variables, $b = 0.41$, $t(120) = 3.20$, $p < .008$.

Regarding our hypothesis and based on the statistical analysis, we can see that contrary to our predictions, the lower the brand attachment, the lower the level of motivation to quit smoking. Our hypothesis is thus refuted.

Discussion.

The purpose of our study was to examine the effect of the interaction between brand attachment and nicotine dependence on the motivation to quit smoking. Contrary to all expectations, we observed that the lower the brand attachment, the lower the level of motivation to quit smoking.

One could argue that individuals who are not strongly attached to a specific cigarette brand may be so nicotine-dependent that the type of cigarette itself becomes less important. Thus, they may be less motivated to quit smoking because nicotine dependence remains a predominant factor, regardless of the brand.

These results are consistent with the work of Hughes and Hatsukami (1986), who made a significant contribution to understanding the relationship between nicotine dependence and cigarette choice preferences. They examined how nicotine dependence levels in smokers could influence their sensitivity to variations in the type of cigarette they consume.

Their work highlighted that highly nicotine-dependent smokers were less sensitive to differences between cigarette types. In other words, their cigarette choice seemed to be less influenced by specific brand- or tobacco-related characteristics. This finding suggests that as nicotine dependence increases, other cigarette characteristics, such as taste or type, become less determining in the smoker's choice process.

This research suggests that nicotine dependence can create a certain uniformity in cigarette preferences among highly dependent smokers. These results are consistent with the idea that, for individuals highly dependent on nicotine, the substance itself can become the central factor in satisfying their needs, minimizing the impact of variations between cigarette types.

However, it is essential to note that nicotine dependence is complex, and other factors such as behavioral, social, and psychological aspects may also play a role in the motivation to quit smoking. A comprehensive understanding of these mechanisms would often require a multidimensional approach, to be explored in future studies, incorporating different variables to obtain a more complete picture of the phenomenon.

Conclusion.

This study aimed to explore the interaction between brand attachment and nicotine dependence in relation to the motivation to quit smoking. Contrary to expectations, the results revealed that the lower the brand attachment, the lower the motivation to quit smoking. It is suggested that individuals with low attachment to a specific brand may be highly nicotine-dependent, making the type of cigarette less crucial.

Thus, their motivation to quit smoking could be reduced, with nicotine dependence remaining a central factor regardless of the brand. These findings align with previous work by Hughes and Hatsukami (1986), emphasizing that smokers highly dependent on nicotine are less sensitive to differences between cigarette types.

This suggests that, with increased dependence, other cigarette characteristics become less important in the smoker's choice process.

However, the study highlights the complexity of nicotine dependence, noting that behavioral, social, and psychological factors may also influence the motivation to quit smoking. A multidimensional approach in future studies, incorporating different variables, would be necessary for a comprehensive understanding of these mechanisms.

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