

Marketing

# Brand priming effect on consumers' financial risk taking behavior

*Efeito do priming de marca sobre a propensão ao risco financeiro do consumidor*

*Efecto del priming de marca en la propensión al riesgo financiero para el consumidor*

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## Abstract

Taking the perspective of brand priming theory, this study proposes that brands associated with an audacious personality trait may influence consumers to be take more risks in making subsequent decisions. Two experiments, run in sport brands contexts, showed that individuals exposed to brands with high (vs. low) audacity traits demonstrated a higher rate of risk taking in financial decisions. The studies also showed that this effect is moderated by individuals' experience with the financial market. This moderation suggests that there was an activation of a goal not just semantic activation, but through the brand priming. This research provides insights into how today's consumers deal with brand priming effects in risky choice settings. From a managerial perspective, it can help managers to understand the likely effects of brand priming on behavior and better predict the probability of risk aversion or risk seeking outcomes.

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**Keywords:** Brand; Priming; Risk taking; Nonconscious Behavior

## Resumo

Com base na perspectiva teórica do *priming* de marca, neste estudo, se propõe que marcas associadas à personalidade de audácia podem influenciar os consumidores a tomarem decisões mais arriscadas em situações subsequentes. Dois experimentos, realizados no contexto de marcas esportivas, mostram que os indivíduos expostos a marcas com alta (vs. baixa) audácia demonstraram maior propensão ao risco em decisões financeiras. Esses estudos também mostram que esse efeito é moderado pela experiência do indivíduo com o mercado financeiro. Essa moderação sugere que houve a ativação de uma meta por meio do *priming* da marca e que não houve apenas uma ativação semântica. Essa pesquisa apresenta alguns caminhos sobre como os consumidores lidam com o *priming* de marca e seus efeitos sobre as escolhas. Sob a ótica gerencial, os resultados podem ajudar os gestores a entender os efeitos prováveis do *priming* de marca sobre o comportamento e assim prever a probabilidade de maior aversão ou propensão ao risco.

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**Palavras-chave:** Marca; Priming; Propensão ao risco; Comportamento não consciente

## Resumen

Con base en la perspectiva teórica del *priming* de marca, en este estudio se sugiere que las marcas asociadas con la personalidad osada o audaz pueden influir en la conducta del consumidor y llevarlo a tomar decisiones más arriesgadas en situaciones posteriores. Dos experimentos, llevados a cabo en el contexto de marcas deportivas, muestran que los individuos expuestos a marcas con alta (vs. baja) osadía demostraron mayor propensión

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al riesgo en las decisiones financieras. Los estudios también muestran que tal efecto es moderado por la experiencia del individuo con el mercado financiero. Esa moderación sugiere que hubo la activación de una meta por medio del *priming* de la marca y no solo una activación semántica. Este estudio indica algunos caminos para entender cómo los consumidores se relacionan con el *priming* de marca y su efecto en las elecciones. Desde la perspectiva de la gestión, los resultados pueden ayudar a los gerentes en la comprensión de los efectos probables del *priming* de marca en el comportamiento y, así, podrán predecir la probabilidad de una mayor aversión o propensión al riesgo.

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*Palabras clave:* Marca; Priming; Propensión al riesgo; Comportamiento no consciente

## Introduction

Many everyday actions occur spontaneous or automatically, and without any regard for who is affected by them. [Bargh and Chartrand \(1999\)](#) argue that most of a person's day is not determined by conscious intentions, but by mental processes triggered by environment characteristics and the operation of nonconscious behavior.

[Sela and Shiv \(2009\)](#) explain these automatic processes and priming effects. Automatic processes are characterized by actions without the need of a conscious monitoring. Basically, this concept is about internalized knowledge and acquired experiences that will be used whenever needed, but without any conscious effort on the part of the individual. The current research extends the study of nonconscious behavior by focusing on the influence of brand priming on consumers' risk taking behavior in the context of financial decision making.

Priming is defined as the way experiences create future actions, without individuals' conscious knowledge ([Bargh & Chartrand, 2000](#)). Priming is an incidental activation of knowledge structures process, involving qualities such as personality and stereotypes traits. This activation of mental structures will be responsible for subsequent behavior beyond consciousness.

The priming effect works as a manipulation of future actions, meaning that it powerfully triggers subsequent actions and is capable of influencing consumption attitudes, behaviors and decisions in a nonconscious way ([Aarts, Custer, & Veltkamp, 2008](#); [Brasel & Gips, 2011](#); [Chartrand, Huber, Shiv, & Tanner, 2008](#); [Friedman & Elliot, 2008](#); [Fitzsimons, Chartrand, & Fitzsimons, 2008](#); [Pickering, McLean, & Krayeva, 2015](#); [Sela & Shiv, 2009](#)).

Accordingly, personality and human characteristics are used as a brand positioning strategy. Subsequent consumption actions, attitude behavior or decisions are a consequence of the perception and importance these brands take in consumers' minds, based in how they identify and wish to have an interaction with the brand personality characteristics ([Cesario, Plaks, & Higgins, 2006](#); [Yang, Cutright, Chartrand, & Fitzsimons, 2014](#)).

Recent research demonstrates how brand priming influences consumer behavior ([Brasel & Gips, 2011](#); [Fitzsimons et al., 2008](#)). With this research, we attempt to determine if the visual exposure to a sport logo brand, with a high audacity personality characteristic, can prime consumers to have a nonconscious risk taking behavior in subsequent decisions. These decisions are not necessarily related to sports activities. In this study, we investigate the risk taking in financial decision making.

Our theoretical contribution is to demonstrate that brands with more salient personality characteristics can trigger subsequent actions related to these characteristics. These actions do not necessarily involve a situation in which the brand is consumed. In this study, risk taking behavior is measured in a context not related to the practice of sports, but to the financial market.

We also demonstrate that the priming effect on subsequent behavior comes from consumers' goals. The goal priming theory ([Aarts et al., 2008](#); [Bargh & Chartrand, 2000](#)) posits that a goal cannot be activated through a priming manipulation if it is not intrinsic to the individual's goals. Therefore, this research shows that risky behavior will only be primed by a brand if the individual has experience with the risky situation. Otherwise, the brand will not have any effect on individuals' behavior because the goal does not exist. Therefore, we show how much experience participants should have for the brand priming to impact the likelihood of a risky choice.

## Priming theory

The priming can affect the action of an individual in a purely cognitive way, where the semantic content drives the action. For example, people exposed to the stereotype of elderly people walked slowly when compared to people that were not exposed to the same stereotype ([Bargh, Chen, & Burrows, 1996](#)). A group of individuals exposed to a violent sport (boxing) presented a higher tendency to choose hostile activities and also to have hostile behavior when compared to a group of people exposed to a non-violent sport ([Wann & Branscombe, 1990](#)). Similarly, participants primed with helpfulness words, demonstrated better communicative quality in narratives, as compared to those primed with unhelpful words ([Pickering et al., 2015](#)).

Social influence is also a significant source of behavior priming. Recent research shows that implicit activation of a significant other (e.g. one who shares personal values, ideology or religious beliefs) indirectly activates the worldview shared with the significant other, leading to its active pursuit, validation, and protection ([Przybylinski & Andersen, 2015](#)).

Also, exposure to a prime that activates a stereotype can lead to stereotype-consistent behavior. For instance, [Campbell, Manning, Leonard, and Manning \(2016\)](#) investigated whether stereotype priming effects on children's food consumption. Children from 6 to 14 years old were exposed to either a normal weight or overweight cartoon character prime. The results show that overweight cartoon character primes activated the overweight stereotype, leading to relatively high levels of food

intake. However, when children's own health knowledge was activated prior to exposure to the prime, the overweight cartoon did not increase consumption.

In a similar stereotype priming investigation, [Dijksterhuis and Knippenberg \(1998\)](#) argue that it is possible to have improved intelligence by the simple exposure to a stereotype that suggests intelligence. To confirm this prediction, the authors exposed a group of people to a professor stereotype, another group was exposed to a secretary stereotype and a control group not exposed to any stereotype. After exposure, an activity to measure the participants intelligence was proposed and from statistical analysis it was proved the group exposed to professor figures obtained better performance when compared to the other groups.

These situations are semantic, immediate and with no motivational aspect. This semantic priming is known as trait-based priming ([Bargh et al., 1996](#); [Dijksterhuis & Knippenberg, 1998](#); [Fitzsimons et al., 2008](#)). The action triggered by priming occurs immediately after exposure and dissipates over time and mainly with accomplishment of the primed action.

On the other hand, depending on the kind of exposure and stimulation content, the priming can influence goal pursuit. In this case the motivational component is very consistent. It is what literature calls goal-based priming ([Chartrand et al., 2008](#)). To understand how this priming mechanism works it is necessary to understand the motivational aspects of goal pursuit. Therefore [Fitzsimons, Chartrand, and Fitzsimons \(2008\)](#) demonstrate how nonconscious goals are activated by priming manipulation. These goals can be activated by situational factors and operate automatically to influence behavior.

Goals are mentally represented as mind states and these representations can be activated in a nonconscious way because they pre-exist in the individual's mind. These goals that already exist, are part of a knowledge structure kept in memory, created by the individual's life ([Aarts & Dijksterhuis, 2000](#); [Bargh & Gollwitzer, 1994](#)).

[Aarts et al. \(2008\)](#) state that the pursuit of nonconscious goal can occur when a pre-existing and wished for goal is activated. However the authors suggest a strengthener (or moderator) role of positive effect in this process. For instance, a person that has a goal to save money, when exposed to a stimulation with strong relation to low price and saving, can have this goal activated and the person's attitudes will be induced to satisfy this goal. [Chartrand et al. \(2008\)](#) demonstrated that the consumers, when exposed to a brand with strong low price and money-saving appeal (WALMART), had the goal activated and were more inclined to choose and buy cheaper clothes when compared to people exposed to more prestigious brands.

Some authors ([Aarts et al., 2008](#); [Stajkovic, Locke, & Blair, 2006](#)) suggest behavior changes after priming exposure, as consequence of the activation of a goal that until then was "asleep" inside the individual's mind. The goal had already existed, but only after exposure to the priming, the goal was activated, which would in turn, trigger future actions to achieve this goal.

Therefore, it is unlikely that the priming, by itself, is strong enough to generate some action or behavior change. It is more likely that these motivations are internalized and would only

emerge after exposure of something that would remind an individual of the goal, in spite of any conscious awareness. [Eitam and Higgins \(2010\)](#) argue that it is not possible to create a new motivational state through priming, and it will only be activated if there are pre-existent mental representations.

If there is a goal, the priming effect should not dissipate over time, but could increase until the goal is satisfied. However if only one behavior trait was activated, probably the effect will dissipate in a short period of time, immediately after exposure ([Sela & Shiv, 2009](#)).

Priming can also work, however, by influencing the individual to avoid the behavior associated to the priming. [Laran, Dalton, and Andrade \(2011\)](#), demonstrate that brands cause priming effects (i.e., behavioral effects consistent with those implied by the brand), whereas slogans cause reverse priming effects (i.e., behavioral effects opposite to those implied by the slogan). The authors show that exposure to the retailer brand name "Walmart," typically associated with saving money, reduces subsequent spending, whereas exposure to the Walmart slogan, "Save money. Live better," increases it. Slogans cause reverse priming effects and brands cause priming effects because people perceive slogans, but not brands, as persuasion tactics. [Laran et al. \(2011\)](#) suggest that priming effects are reversed when consumers perceive a marketing tactic as a source of persuasion.

Brands and logotypes can be used as priming manipulation ([Brasel & Gips, 2011](#); [Fitzsimons et al., 2008](#)). Brands are important tools in this process because of their natural tendency to embody concepts, meanings, attitudes and personality.

### *Brand priming*

The use of brands to influence subsequent activities has been studied in the recent years. [Fitzsimons et al. \(2008\)](#) used the Apple brand and its creative personality, constricting it with the IBM brand. A group of people was exposed to Apple (word composing a shuffled sentence) whereas another group was given brand IBM. In a second step, participants were given a task involving creativity. The authors found that the Apple group reached a better performance in the creativity task, when compared to the IBM group.

[Brasel and Gips \(2011\)](#) used the image of the brand printed on racing cars. The context of the study was a virtual car race game. The paint jobs on the cars were used as visual stimulus, with the logos of the selected brands printed on the cars. One of the brands was Red Bull, which has speed and performance appeal. The initial hypothesis was that participants who played the game with the Red Bull car would present the best race time when compared to the participants exposed to other brands (Guinness, Coca-Cola and Tropicana). However, the authors found that the performance of Red Bull group was in a "U" format, meaning they were in both the faster and slower groups. The reason is that when Red Bull cars were used, the motivation for best performance, triggered by the brand was so high that the participants reached the limits of their abilities. If they did not make any mistakes, they were indeed be the faster ones. However the

chances to make mistakes during the route increased because of the speed, and these mistakes caused a significant loss of time in the car racing game.

These previous studies demonstrate that brands may influence in subsequent actions. In many cases, the triggered actions will be semantic, wherein the individual perceives a strong trait in brand and behaves in a similar manner. However, brands have long been associated with human traits, which influences not only semantic changes, but also behavior. The reason for this goal-based priming is that consumers get involved with the brand personality traits (Aaker, 1997; Ferraro, Bettman, & Chartrand, 2009). This personality representations trigger consumers' perceptions of brands as living entities with their own humanlike motivations, characteristics, conscious will, emotions, and intentions (Puzakova, Kwak, & Rocereto, 2013).

Beyond the priming effect, the placebo effect the brand is capable of generating must be considered. For instance, Amar, Ariely, Bar-Hillel, Carmon, and Ofir (2011) developed an activity to measure reading skills in an environment under high brightness. In order to diminish luminosity effects and improve visual capacity, sunglasses were given to the participants. The first group used glasses printed with a brand that carries a high quality appeal (Ray Ban), whereas the other group used the exact same glasses which had been printed with a lower quality brand (Mango). The results demonstrated that activities were carried out in a more efficient way by the group that used the glasses printed with the high quality perception brand when compared with the participants that used the same glasses, but printed with the low quality brand.

It is not recent that brands are capable to influence consumers decisions in favor of the products they represent. The perception of the product quality is more of a reflex reaction to the brand than, in fact, the product's features themselves. This was demonstrated in the classic blind beer test, by Allison and Uhl (1964), in which the authors proved that without a label on the bottle, when consumers tasted the beverage, they could not distinguish the beer that, according to them at the beginning of the experiment, was their favorite one.

In most of the studies on brand priming, the actions of individuals following brand exposition had a high fit with built-in characteristics of the brands. Wall Mart is much aligned to saving money and low prices (Chartrand et al., 2008; Laran et al., 2011). Also, elderly people are wisely fragile and slow (Bargh et al., 1996).

The associations may be similar for some sports brands. Communication strategies make direct association of these brands to performance in sport. This effect can occur as a result of a brand placebo effect, either because of the purpose of the product stamped by the brand or personality traits associated with the brands.

Exposure to these brands can make consumers feel more confident, safer or even more daring and, consequently, lead to more risk taking in subsequent decisions. Brands associated with an audacious personality may influence consumers to be more risk taking in subsequent decisions. Therefore, the first hypothesis suggests:

**H1.** Individuals exposed to images of brands with personality traits related to audacity will be more risk taking in subsequent consumption situations, compared to individuals exposed to images of brands which the audacity trait is less salient.

However, brand priming will only affect subsequent behavior if there is an implicit goal related to the behavior activated by the brand priming (Aarts et al., 2008; Stajkovic et al., 2006; Yang et al., 2014). The priming of a brand that conveys an audacity idea, will only induce an audacious behavior in situations in which the consumer has a salient related goal. The brand priming will occur if the motivational state already exists, if there is some sort of mental pre-existent representation.

Therefore, the effect proposed in the first hypothesis is moderated by individuals' experience with the primed situation. Following this logic, when the audacity primed by the brand is salient, people with experience in taking risks in some situations become more risk taking in their subsequent decisions. Because the priming effect should be consistent with the consumer's implicit goals, we propose that:

**H2.** The impact of brands that convey audacity on subsequent risk taking behavior is moderated by consumers' experience in dealing with these risk taking situations.

## Overview of the studies

In two experiments, we test whether brand priming with audacity trait enhance risk taking behavior. In both studies we test the initial hypothesis that brands associated to an audacity personality may influence consumers to be more risk taking in subsequent decisions. We also demonstrate the moderating effect of consumers' experience in dealing with risky taking situations.

Before the experiments, we run a pre-test to verify which personality traits were associated with each brand that we were going to use in the brand priming manipulations in studies 1 and 2. We chose sports brands for the pre-test because they are generally associated with audacity personality traits.

Participants were students of business administration and economics courses. Students from sports related courses did not participate in the current studies.

### Pre-test

Comparing similar brands, that are active in the same market segment, with similar product portfolio can be difficult. To identify if sport brands are really noticed as the most inclined to take risks, a pre-test was taken using a brand personality scale proposed by Muniz and Marchetti (2012), adapted to the Brazilian context and originally proposed by Aaker (1997). The scale has five personality dimensions, but for this pre-test only the dimension "audacity" was analyzed, composed by the traits "boldness", "modern", "update", "creative", "brave" and "young".

Table 1  
Audacity dimension of brand personality traits.

Dimension	Trait	Brands										
		NIKE (n = 17)		ADIDAS (n = 14)		TOPPER (n = 17)		REEBOK (n = 18)		F	p	$\eta_p^2$
		M	s	M	s	M	s	M	s			
Audacity	Boldness	4.1 <sup>a</sup>	0.6	3.6 <sup>a</sup>	0.9	2.7 <sup>b</sup>	1.1	2.8 <sup>b</sup>	1.0	7.58	0.000	0.28
	Modern	4.4 <sup>a</sup>	0.7	4.2 <sup>a</sup>	0.9	3.0 <sup>b</sup>	1.0	3.5 <sup>b</sup>	0.9	7.19	0.000	0.17
	Update	4.5 <sup>a</sup>	0.7	4.2 <sup>a</sup>	0.7	3.2 <sup>b</sup>	0.7	3.6 <sup>b</sup>	0.6	10.7	0.000	0.16
	Creative	4.1 <sup>a</sup>	0.7	3.7 <sup>a</sup>	0.8	2.8 <sup>b</sup>	0.8	3.3 <sup>b</sup>	0.8	6.26	0.001	0.11
	Brave	4.3 <sup>a</sup>	0.9	4.0 <sup>ab</sup>	0.7	3.6 <sup>b</sup>	0.7	3.4 <sup>c</sup>	0.9	4.13	0.010	0.13
	Young	4.2 <sup>a</sup>	0.7	4.1 <sup>a</sup>	0.8	3.3 <sup>b</sup>	0.7	3.7 <sup>bc</sup>	0.8	3.45	0.020	0.16
	MEAN	4.3 <sup>a</sup>	0.7	3.9 <sup>a</sup>	0.8	3.1 <sup>b</sup>	0.8	3.4 <sup>b</sup>	0.8	6.55	0.000	0.27

Note: s, standard deviation; means that do not share subscripts differ by  $p < 0.05$  according to Bonferroni post hoc.  $\eta_p^2$  estimates of effect size.

### Participants and design

Sixty-six undergraduate students (55.2% women, mean age: 23.4 years old) participated in this pre-test in exchange for course credit. The pre-test was computer based and was run on the Qualtrics platform.

Using a five-point scale (1 = not at all descriptive; 5 = extremely descriptive), subjects were asked to rate the extent to which the six personality traits describe each brand. Four brands were rated: Nike, Adidas, Reebok and Topper. To control for comparisons effect within the brands, we adopted a single-factor between subjects design and each participant randomly rated only one brand.

### Results

Because the objective of this stage was to identify the audacity personality traits that were more associated with each brand, an Anova was performed. The results are presented in Table 1.

Nike was the brand with the higher rated means for all the traits. Therefore, we describe the differences from this brand relative to the others. For the trait “boldness”, Nike ( $M = 4.1$ ;  $\sigma = 0.6$ ) presented a significant difference from Reebok ( $M = 2.8$ ;  $\sigma = 1.0$ ) and also from Topper ( $M = 2.7$ ;  $\sigma = 1.1$ );  $F(3,62) = 7.58$ ;  $p = 0.000$ ,  $\eta_p^2 = 0.28$ . Nike was also considered more “modern” ( $M = 4.4$ ;  $\sigma = 0.7$ ) than Topper ( $M = 3.0$ ;  $\sigma = 1.0$ ) and Reebok ( $M = 3.5$ ;  $\sigma = 0.9$ );  $F(3,62) = 7.19$ ;  $p = 0.000$ ,  $\eta_p^2 = 0.17$ . For the trait “update”, Nike ( $M = 4.5$ ;  $\sigma = 0.7$ ) is also different from Reebok ( $M = 3.6$ ;  $\sigma = 0.6$ ) and Topper ( $M = 3.2$ ;  $\sigma = 0.7$ );  $F(3,62) = 10.72$ ;  $p = 0.000$ ,  $\eta_p^2 = 0.16$ .

And for the “creative” trait, there was a significant difference between Nike ( $M = 4.1$ ;  $\sigma = 0.7$ ) and Topper ( $M = 2.8$ ;  $\sigma = 0.8$ ) and Nike and Reebok ( $M = 3.3$ ;  $\sigma = 0.8$ ),  $F(3,62) = 6.26$ ,  $p = 0.001$ ,  $\eta_p^2 = 0.11$ . For the “brave” trait, Nike ( $M = 4.3$ ;  $\sigma = 0.9$ ) was different from Topper ( $M = 3.6$ ;  $\sigma = 0.7$ ) and Reebok ( $M = 3.4$ ;  $\sigma = 0.9$ ),  $F(3,62) = 4.13$ ,  $p = 0.010$ ,  $\eta_p^2 = 0.13$ . The trait “young” also presented significant differences between Nike ( $M = 4.2$ ;  $\sigma = 0.7$ ) and Topper ( $M = 3.3$ ;  $\sigma = 0.7$ ),  $F(3,62) = 3.45$ ,  $p = 0.020$ ,  $\eta_p^2 = 0.16$ . The audacity dimension ( $\alpha = 0.88$ ), indicated that Nike score was statistically different from Topper and Reebok,  $F(3,62) = 6.55$ ,  $p = 0.000$ ,  $\eta_p^2 = 0.27$ .

The pre-test results showed Nike and Adidas did not differ in any of the traits, but Nike demonstrated the largest difference

from the other brands. Nike and Topper were the most discrepant in all the audacity traits. Then Nike is probably the brand that can trigger the audacity priming and, consequently, induce risk taking in subsequent decisions, whereas, Topper is the least one. For the experiments Nike and Topper will be the brands for priming manipulation.

### Experiment 1

The goal of experiment 1 was to investigate the impact of brand priming on risk taking in subsequent decisions. Based on the pre-test results, we expected that Nike will have a higher priming effect on risk taking, compared to Topper. We also test the moderation effect of experience in the relationship between brand priming and consumers’ risk taking in subsequent situations of consumption. Respondents in experiment 1 did not participate again in experiment 2.

### Participants and design

Eighty-two undergraduate students (57.1% men, mean age: 21 years old) participated in this study in exchange for course credit.

The study design was a single-factor between subjects with two priming conditions (Nike vs. Topper) randomly allocated to one of the two conditions. The experiment was computer based and was run on the Qualtrics platform. All participants were seated at individual workstations.

### Procedure

The first manipulation was the brand priming stimulus, which was nothing more than a simple visual logo exposure. This exposure, inspired by Fitzsimons et al. (2008) study, consisted in exposing exactly the same brand image in twelve different color options and, from there, the participants were asked to choose only one option of color that best suited the brand.

In the Nike brand group, participants were exposed to two non sport brands and, finally, to Nike logo, in this order. In the Topper brand group, besides the first two brands, participants saw Topper logo. Following Fitzsimons et al. (2008) procedure, these two other brands were included in the choosing colors task, aiming at leaving manipulation more realistic and minimize any



Fig. 1. Brand priming manipulation.

suspicion regarding this first stage's purpose. These two other brands were Sadia and Havaianas. Fig. 1 shows an example of the stimulus for the brand priming manipulation:

Participants had free time to do the choices. After the logo choice for each brand, participants were asked to explain the reason for the specific color choice for the logo. Therefore, they would be more involved with the task and get even more exposed to the brand priming. After this task, participants were immediately invited to participate in another, supposed unrelated, research.

Participants were directed to a second stage of the study, in which a risk taking behavior was evaluated. The scenario was based on Atalay (2007) study, also run with undergraduate students. To measure risk, two choice options were offered. The following cover story was presented:

“Your family established a trust fund in your name when you were an infant. The money in the fund is being managed by the bank until the trust agreement expires on your 25th birthday. The money in your trust fund will switch to your management after your 25th birthday. The bank, with your family's permission, is interested in understanding your preferences when it comes to making investment decisions. The bank manager tells you that he has researched some options for investing and come up with two investment options that seem reasonable. He wants you to review these options and indicate which one you would prefer to invest in if you were investing \$5000.”

Then the options were presented: **Option A:** The first investment option is an investment portfolio with a 60% chance of gaining 20% on your investment, and a 40% chance of losing 20% of your investment. **Option B:** The second investment option is an investment portfolio with a 70% chance of gaining 10% on your investment, and a 30% chance of losing 10% of your investment. Option A was the most risky one.

After these information analysis, all participants were asked to point out their preferences in a 8-point scale, where 1 = “strongly prefer option A” and 8 = “strongly prefer option B”. For data analysis, scales were inverted, making data interpretation easier, so the higher the mean, the higher the risk taking behavior.

After the investment option, participants indicated their investing experience in making investments (“I usually invest my money in the financial market”), measured in a 7-point scale (1 = “completely disagree” and 7 = “completely agree”).

In the manipulation check for the risk manipulation scenario, respondents indicated which of the 2 options were the most risky one.

## Results

**Manipulation check.** The majority of the respondents in fact found option A riskier than option B, with no significant differences among the other brand priming manipulation groups. A chi-square test indicated that there is no significant association between the primed brand and risk perception,  $\chi^2(1, n = 82) = 0.00, p = 1.00, \phi = -0.02$ , as 93% of the group participants exposed to Nike indicated this option A as most risky and within the group exposed to Topper, 94% considered option A riskier than option B.

In order to rule out differences in overall experience with the financial market investment across the groups of brand priming, an Independent samples t-test was conducted. Results showed that there was no difference in participants experience with the financial market investment ( $M_{\text{Nike}} = 2.91, SD_{\text{Nike}} = 1.6$  vs.  $M_{\text{Topper}} = 2.70, SD_{\text{Topper}} = 1.4; t(80) = 0.62, p = 0.53$ ), which means that the Nike group did not present a previous higher experience with the financial market, compared to the Topper group. Even though the undergraduate students do not have high experience with the financial market, they are aware of the risks involved in this decision because they confirmed that option A is substantially riskier than B. Also, the use of financial decisions as a measure of risk taking is often used in studies with undergraduate students. See for instance Duclos, Wan, and Jiang (2013). The authors run four studies with undergraduate students. All the studies were related to financial risk taking behavior.

**Hypothesis test.** We expected that participants exposed to the Nike logos would be more inclined to choose option A, the riskiest one, to invest their money. Beyond that, it is expected this effect is moderated by individuals experience in investing in the financial market, because a goal cannot be activated through a priming if it is not already present (Aarts et al., 2008; Chartrand et al., 2008). Priming only activates a goal the consumer already possesses.

To test if risk behavior is moderated by experience in investing in the financial market, we followed the recommendations of Hayes (2013), in which the independent variable effect over the dependent variable occurs indirectly through a moderator. Hayes (2013) explains that for this analysis, both the direct and indirect effects of the independent variable over the dependent variable should be considered.

For the moderating role of experience in investing in the financial market, we conducted a regression analysis with the investment choice as the dependent variable, brand priming and the interaction of experience and brand priming as the independent variables.

The model compared exposure to Nike versus exposure to Topper, coded as “1” and “0” respectively. The procedures for

significance calculation are by the confidence interval, generated through bootstrapping. The bootstrapping technique is based on the assessment of the direct and interaction paths presented in the moderation model. However it provides the significance calculus of the effects with normal distribution (significant coefficient “*p*”) and non-normal distribution (CI superior and inferior), for values of  $-1$  D.P., average and  $+1$  D.P. of the moderator *M* (Prado, Korelo, & Silva, 2014). Besides this, the model can be calculated with script PROCESS, developed by the Hayes (2013) for SPSS and freely available. For each data set, a bootstrap sample of *n* cases is generated by drawing from the sample with replacement, and each path (e.g., “a” and “b”) is calculated in each bootstrap sample. This process is repeated a total of 5000 times for each data set, yielding 5000 bootstrap estimates of the “ab” (Hayes & Scharkow, 2013). The procedure also offers options for testing more than one moderator and provides data for generating the moderation function graphic, which may help in the visualization of the interaction effects.

Therefore, we do not rely on the “*p*” value for significance evaluation. In this case Hayes (2013) recommends evaluation of the confidence interval of 95%, where cannot exist signals changes between superior and inferior limits, which would be the presence of null effect.

The moderation analysis was conducted using process module in SPSS with 5.000 samples (Hayes, 2013), running model 1, which represents the simple moderation. The model was significant, with a  $R^2 = 0.35, p < 0.05$ . There was a significant direct effect of brand priming on risk taking ( $coeff = 3.20, t = 2.52, p < 0.05$ ). There was also a main effect of investing experience ( $coeff = 0.32, t = 2.46, p < 0.05$ ). As expected we found a significant interaction effect of brand priming and investing experience ( $coeff = 0.42, t = 2.07, p < 0.05$ ).

The results show the participants with a habit to invest average from  $M = 3.70$  ( $coeff = 0.75, 95\% \text{ C.I.} = [0.00, 1.49]$ ) regarding financial market investing habit took a riskier option after exposure to Nike (vs. Topper). Participants with low habit to invest did not present significative differences in risk tendency. The nature of this interaction is presented in Fig. 1.

To investigate at what levels of experience in investing in the financial market led to differences in risky investment choice, we used Johnson–Neyman technique to identify the significance region (Hayes, 2013; Preacher, Curran, & Bauer, 2006). The Johnson–Neyman technique primary contribution is the determination of significance of differences in group performance (Johnson & Fay, 1950). With the Johnson–Neyman technique the analysis of the problem is carried further, in that a “region of significance” is established. If this region of significance is found to exist in a particular problem, it becomes possible to specify all the systems of values of the basic characters of matching for which the null hypothesis involving such systems would be rejected (Hayes, 2013).

Our results revealed that participants with approximately  $M = 3.70$  ( $coeff = 0.75, 95\% \text{ C.I.} = [0.00, 1.49]$ ) experience with the financial market chose the riskier investment. Participants with low experience in the financial market did not have any significant differences in the investment choice likelihood. The nature of this interaction is also displayed in Fig. 2.

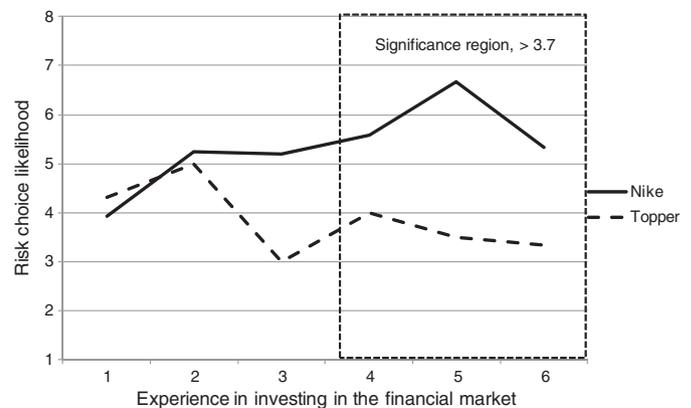


Fig. 2. Brand priming × experience interaction on investment risk choice likelihood (Study 1).

### Discussion

Study 1 establishes that consumers behave in a manner consistent with that implied by a brand (a priming effect). The central hypothesis of this study is that people exposed to a brand image with characteristics of audacity will be more risk taking in subsequent decisions compared to those exposed to a brand image not associated with audacity traits. The results confirmed this premises. There was a main effect of Nike brand priming on financial risk choice likelihood. The moderator effect for financial market investing experience shows when this effect occurs.

Previous studies have demonstrated that brands and logotypes can be used as priming manipulation (Brasel & Gips, 2011; Chartrand et al., 2008; Fitzsimons et al., 2008).

Although these results support hypothesis 1 and 2, a few concerns must be highlighted. The main concern is that we need to demonstrate that the priming was goal-based and not just a trait-based priming. Priming manipulation that activates goals will have a stronger effect along the time or while the goal is not achieved (Bargh et al., 1996). If participants had another unrelated task to spend a few minutes before being exposed to the risk choice scenario, and after that the priming effect on likelihood risk choice disappears, then we probably do not have a goal-based priming, but only a trait-based priming based.

Another limitation is that we do not have a control group. Therefore, it is not clear if the priming effect is a consequence of the Nike prime increasing risk taking choices or Topper prime decreasing this risk behavior likelihood. These issues are addressed in experiment 2.

### Experiment 2

The main purpose of Experiment 2 was to replicate the findings obtained in the first study while addressing the two main concerns emphasized previously. Precisely, this experiment uses (a) a different priming manipulation and (b) a control group was included.

### Participants and design

A total of one hundred and forty-five undergraduate students (59% men; mean age: 21.7 years old), participated in exchange

for course credit. The design was a single factor between subjects, with three priming conditions (Nike vs. Topper vs. Control), randomly allocated to one of the three conditions. The experiment was computer based and was run on the *Qualtrics* platform.

### Procedure

Brand priming manipulation followed the same procedures of the previous study. The only difference here is that we included a control group, which did not receive any priming stimulus. After that, participants were asked to resolve a crossword puzzle and they had three minutes to find as many words as they could. This procedure was adopted by Chartrand et al. (2008) between priming exposure and the dependent variable measuring. The purpose of this nonrelated task was to verify if brand priming had only a semantic or a goal activation. If the second option was true, the brand priming effect would not dissipate after some minutes and a different activity.

The third and final part of the study was the risk taking behavior. The same procedures of experiment 1 were taken in study 2.

### Results

**Manipulation check.** Again, the majority of the respondents found option A riskier than option B, with no significant differences among the brand priming manipulation groups. A chi-square test indicated that there is no significant association between the primed brand and risk perception,  $\chi^2(1, n = 145) = 0.07, p = 0.9, \phi = -0.04$ , as 90% of the group participants exposed to Nike indicated this option A as most risky and within the group exposed to Topper, 94% considered option A more risk taking than option B. Within the control group, 88% chose option A as the riskiest one.

An Anova showed there was no significant difference among the groups regarding the average number of words found in the crossword puzzle task ( $M_{\text{Nike}} = 6.4, SD_{\text{Nike}} = 2.6$  vs.  $M_{\text{Topper}} = 6.1, SD_{\text{Topper}} = 2.3$  vs.  $M_{\text{Control}} = 5.6, SD_{\text{Control}} = 2.3$ ; ( $F(2,142) = 1.52, p = 0.22$ ), as expected.

There were no differences in overall experience with the financial market investment across the groups. Results indicated no significant difference in financial market investing experience ( $M_{\text{Nike}} = 2.8, SD_{\text{Nike}} = 2.1$  vs.  $M_{\text{Topper}} = 2.7, SD_{\text{Topper}} = 2.0$  vs.  $M_{\text{Control}} = 2.0, SD_{\text{Control}} = 1.9$ ; ( $F(2,142) = 1.05, p = 0.38$ ).

**Hypothesis test.** Anova analysis showed that the groups differentiated in financial investment risk likelihood ( $M_{\text{Nike}} = 5.2, DP_{\text{Nike}} = 2.3$  vs.  $M_{\text{Topper}} = 4.0, DP_{\text{Topper}} = 2.3$  vs.  $M_{\text{Control}} = 4.3, DP_{\text{Control}} = 2.4$ ; ( $F(2,142) = 3.59, p < 0.05, \eta_p^2 = 0.12$ ). The group exposed to the Nike logo expressed the higher intention of choosing the riskiest investment option. Post hoc contrasts indicated there was a significant difference only between Nike and Topper ( $p < 0.05$ ). This result demonstrates that Nike priming increased risk taking behavior in subsequent decision.

For the moderation effect of experience in investing in the financial market, the same tests mentioned in the previous experiment were done, following Hayes (2013) predictions. However, as we had three groups, three models were tested. The first one

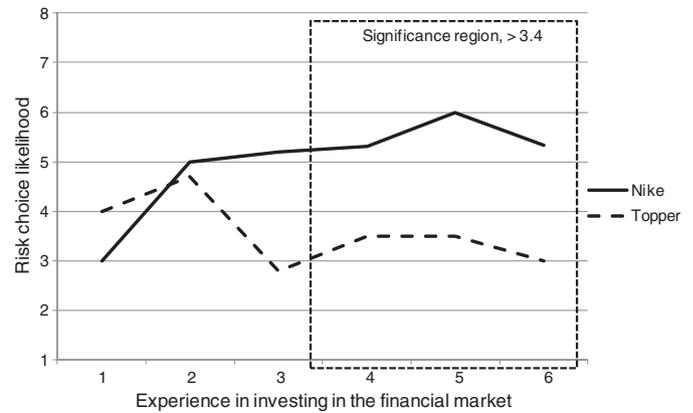


Fig. 3. Brand priming  $\times$  experience interaction on investment risk choice likelihood (Study 2).

compared exposure to Nike versus exposure to Topper, coded as “1” and “0” respectively. The second model compared the group exposed to Nike and the control group, also coded as “1” and “0” respectively. The third model compared the groups Topper and Control, coded for this analysis as “1” and “0” respectively. For all the analysis we run model 1 (Hayes, 2013), which represents the simple moderation.

For the Nike vs. Topper analysis, the model was significant, with a  $R^2 = 0.29, p < 0.05$ . There was no significant direct effect of brand priming on risk taking ( $coeff = -0.94, t = -1.15, p = 0.25$ ). However, the expected interaction effect of brand priming and investing experience on investment risk choice likelihood was significant ( $coeff = 0.55, t = 2.33, p < 0.05$ ).

To investigate at what levels of experience in investing in the financial market led to differences in risky investment choice, we used Johnson-Neyman technique to identify the significance region (Hayes, 2013). Results revealed that participants with an approximately mean of 3.4 experience with the financial market chose the riskier investment. Participants with low experience in the financial market did not have any significant differences in the investment choice likelihood. The nature of this interaction is displayed in Fig. 3.

The analysis for Nike brand priming moderation vs. control group, the model was significant, with a  $R^2 = 0.27, p < 0.05$ . Also, the results showed a not significant direct effect of brand exposure on risk choice ( $coeff = -0.46, t = -0.61, p = 0.54$ ), and no direct effect of the experience ( $coeff = 0.01, t = 0.03, p = 0.97$ ). However the interaction effect of brand priming and investing experience on investment risk choice likelihood was marginally significant ( $coeff = 0.50, t = 1.91, p = 0.06$ ). The Johnson-Neyman test showed the participants with approximately mean of 2.88 experience with the financial market chose the riskier investment after exposure to Nike when compared to participants in the control group.

As expected, the moderation analysis for Topper vs. Control on risk choice likelihood did not show any significant direct effect of experience ( $coeff = 0.01, t = 0.03, p = 0.97$ ), of brand priming ( $coeff = 0.14, t = 0.17, p = 0.86$ ) nor for the interaction ( $coeff = -0.14, t = -0.48, p = 0.63$ ).

### Discussion

The results of experiment 2 properly replicated those of experiment 1. Nike brand priming effect increases risk taking in subsequent decisions. We demonstrated this effect with investment risk choice likelihood situation. Beyond that, the moderation effect of experience with the financial market showed consistent results. Comparing to the control group, results show the effect really comes from exposure to the Nike logo, because Topper condition did not differentiate from the control group.

Several studies (e.g., Aarts & Dijksterhuis, 2000; Aarts et al., 2008; Bargh & Gollwitzer, 1994; Stajkovic et al., 2006) showed that a goal can only be activated, either through a brand priming or any other incentive, if the goal is already intrinsic in the individuals' mind. For an individual that does not invest in the financial market, it would be difficult for a brand priming to change his behavior.

In this study it was possible to test the possibility that risk choice likelihood, for some participants, is part of a list of implicit goals, and exposition to the brand awakens this goal. Similar effect was observed in other studies (e.g., Aarts et al., 2008; Chartrand et al., 2008; Stajkovic et al., 2006). Another aspect that contributes in this direction was the insertion of a task (crossword puzzle) between the brand priming manipulation and the subsequent dependent variable measure. As we replicated the findings of experiment 1, we demonstrated that the priming effect really activated a goal.

### Conclusion

The findings reported here raise questions of interest to consumer researchers and to marketing practitioners. This work highlights the brand priming effect on consumers' subsequent decisions, specifically in the domain of risk taking. It is not a recent development that consumer behavior literature has investigated the antecedents and consequences of risk taking behavior. We show evidence that brands perceived with audacious personality traits can trigger subsequent risk taking in decision making.

Another theoretical contribution is the demonstration that predicted behavior is not only a consequence of semantic priming. Earlier research showed that semantic primes can facilitate the processing of conceptually related visual stimuli (Brasel & Gips, 2011; Ferraro, Bettman, & Chartrand, 2009). Going beyond these observations, the present studies highlight that visual exposure to brand logos that have no pre-existing meaningful association with the brand in question (e.g., a sport brand and a financial decision) can influence subsequent behavior.

On a practical front, marketing managers have long been aware of the complex factors underlying consumer behavior. Brand image and personality are quite connected to the images associated with them. Consumers are more willing to have closer relationship with their favorite brands. Nowadays, it is possible to "talk" to a brand through social networks, and brands are always interacting with consumers about interesting topics, such as sports, politics, social events, and so on. Given that the most part of our information processing is unconscious, it is not

surprising that this increasing interaction between brands and consumers will have psychological consequences for consumer behavior. Understanding how consumers construe their brand interactions can help managers to develop brand positioning strategies.

Recently, Nike launched an advertising campaign named "Risk Everything", gathering the best soccer players to speak about the brand's concept and its essence. In an interview, those responsible for the campaign explained the main purpose of this ad: "The film wants to show how some of the world's best soccer players have access to success dealing with such pressure, due to their willingness to risk everything". This campaign is a picture of how to insert meaning to increase the construction of a strong brand image.

The observed findings may also have direct managerial implications concerning risk taking behavior in consumption situation. Under many circumstances, consumers can either become more or less risk seeking during the browsing and purchasing processes. Identifying these moments can help companies to find the message frame that best fits the situation. The current work shows that financial investments are directly affected by very temporary brand priming. Indeed, the relevance of financial management for well-being is not denied. Given the number of consumption situations demanding some mode of balancing between risk and financial reward (e.g. investing in stock market, saving for the future, etc.), it is managerially significant to understand when consumers are more willing to trade risk for reward.

However, financial decision is not the only type of risk on a daily basis. Probably, the impact of brand priming exposure is likely to influence a variety of risky choice settings. For marketing managers, understanding the impact of brand priming on the choices of their customers is important to potentially increase its effects on sales (Atalay, 2007). Managers that expose brands associated to risk taking may increase their sales in other product categories. This brand exposure can, for instance, increase new product adoption, which is also risky consumer behavior.

### Limitations and future research

Consumers see many brands during the course of a day but often pay very little attention to how such exposures will influence their subsequent decisions. Future research could analyze brand priming effect in stores, supermarkets and online shopping, so brand priming theory would increase external validity.

Recently, a study from Yang et al. (2014) analyzed the effect of exposure to a group of similar versus dissimilar brands over consumers evaluation. Besides that, future studies that evaluate groups of brands still require further investigation. It is possible that consumers do not form perceptions of a brand's traits and characteristics in isolation, but instead use the context, which could include another brand or the context in which the brand is presented, to form their impressions and judgments.

We tested our predictions with sports brands, but we are aware that other brands with the same personality traits would probably raise the same risk taking behavior. The initial evidences suggest

that other brands that raise consumers' confidence and performance. Future studies could replicate the previous findings with different brands.

It is important to highlight that the scenario of a financial investment to measure risk taking likelihood was chosen because it is a situation where risk is easily noticed. However, other risk taking decision measures could be used as dependent variable.

One potential limitation of the current paper is that it did not use a brand priming in a real local situation. A brand priming manipulation outside of the lab would have increased the external validity of the study. However, because of the difficulty in controlling possible confounding sources, we adopted a manipulation similar to that adopted in previous studies (e.g., Chartrand, Huber, Shiv, & Tanner, 2008; Fitzsimons et al., 2008; Laran et al., 2011).

Although the two studies involved financial decision-making, it is not the only decision domain where risk taking plays a significant role. For instance, Brasel and Gips (2011) investigated the brand priming on risky driving behavior. Therefore, other consumption situations could be tested in future research, such as the willingness to adopt a new product or a new brand.

Our results may also be limited by the convenient sample of undergraduate students. Future studies could research different samples to determine whether the results are consistent with those provided by our study.

## Conflicts of interest

The authors declare no conflicts of interest.

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