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# The impact of luxury and performance associations of sports brands on self-esteem and motivation to practise physical activity

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Dissertation written under the supervision of professor João Pedro Niza Braga

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## **ABSTRACT**

**Title:** The impact of luxury and performance associations of sports brands on self-esteem and motivation to practise physical activity

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This dissertation investigates how performance and luxury associations of sports brands impact consumers' self-esteem and motivation to practise physical activity. Previous research suggests that performance brands increase consumers' self-esteem. We theorize that luxury associations of sports brands will allow for a similar effect in self-esteem and that the combination of both associations in the same sports brand will result in a combination of the individual effects, resulting in greater self-esteem when compared to the isolated associations. Additionally, we propose that luxury and performance associations will both individually lead to heightened motivation to practise physical activity, due to different psychological processes. We theorize that self-efficacy will be a mediator in the relationship between performance associations and motivation, whereas social display will be a mediator in the relationship between luxury associations and motivation. Last, we foresee that the combination of both associations will lead to a heightened effect of motivation when compared to the isolated conditions. Primary data was collected in the form of an experimental questionnaire. Results failed to show significant effects of our predictors in self-esteem. Nevertheless, results suggest that motivation is partially heightened due to performance (non-luxury) associations, and that additional luxury associations of performance brands significantly decrease one's motivation to practise physical activity.

**Keywords:** sports brands, performance, luxury, self-esteem, self-efficacy, social display, motivation, physical activity.

## SUMÁRIO

**Título:** The impact of luxury and performance associations of sports brands in self-esteem and motivation to practise physical activity.

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Esta tese investiga de que forma as associações de performance e de luxo relativas a marcas desportivas influenciam a autoestima e a motivação para a prática de exercício físico dos consumidores. Estudos anteriores sugerem que as marcas de performance aumentam a autoestima do utilizador. Propomos que associações de luxo terão um efeito semelhante às de performance, aumentando a autoestima do consumidor, e que a combinação destes dois tipos de associação na mesma marca desportiva causará a combinação dos efeitos individuais, resultando numa maior autoestima, em comparação com as condições isoladas. Além disso, propomos que as condições isoladas de luxo e performance levarão a um aumento da motivação para a prática desportiva, que ocorre derivado de diferentes processos psicológicos. Prevemos que a autoeficácia seja um mediador na relação entre associações de performance e motivação, enquanto a exibição social será um mediador na relação entre associações de luxo e a motivação. Por último, prevemos que a combinação das associações provoque uma maior motivação do que as condições individuais. Os resultados revelam efeitos não significativos das variáveis independentes na autoestima. No entanto, sugerem que associações de performance (não luxo) aumentam parcialmente a motivação para a prática desportiva e que associações adicionais de luxo a uma marca de performance reduzem significativamente a motivação para a prática desportiva.

**Palavras-chave:** marcas desportivas, performance, luxo, autoestima, autoeficácia, exibição social, motivação, atividade física.

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## **LIST OF ABBREVIATIONS**

CI – Confidence Interval

H - Hypothesis

SES - Socioeconomic Status

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## **Chapter 1: Introduction**

Brands and the branding process have existed for as long as human civilization has subsisted (Moore & Reid, 2008). Throughout the years, many authors presented different definitions that attempted to explain the concept of “brand”. For instance, Aaker (1991) introduces the concept as “a distinguishing name and/or symbol (such as a logo, trademark, or package design), intended to identify the goods or services of either one seller or a group of sellers, and to differentiate those goods or services from those of competitors”. Another example relies on Kotler’s (2000) definition that considers the concept of brand as a supplier’s commitment to convey the customers a specific and consistent set of attributes, advantages and services. Nevertheless, brands have proven to be a much more complex construct. Academic research has covered an extension of topics and conducted several distinct studies that have largely advanced our understanding of brands. For instance, it is currently known that consumers may regard brands as objects with personality traits and social perceptions (Aaker, 1997). It has also been shown that consumers may also perceive brands as being part of their mental representation of the self (Escalas & Bettman, 2003), and build human-like relationships with certain brands (Fournier, 1998). Furthermore, brands are also capable of generating consumer communities composed of brand admirers (Muniz & O’Guinn, 2001), with the ability of influencing group behaviour (Bagozzi & Dholakia, 2006). Moreover, recent research has also proven that brands have the ability of influencing individual behaviour, both consciously (Park & John, 2014), and unconsciously (Fitzsimons et al., 2008).

Marketers claim that the existence of brands serves the purpose of satisfying consumers’ needs. For instance, Landes and Posner (1987) state that when trademarks preserve consistent levels of quality throughout time, the brand can act as a proxy for information, saving consumers indirect costs of searching. That is, brand names influence consumers’ decisions using a straightforward heuristic similar to “if the brand has a good reputation, then the product must be of good quality” (Maheswaran et al., 1992). Additionally, this rationale also implies that the existence of brands encourages investments on product quality (Landes & Posner, 1987). Furthermore, given that consumers generate expectations of the benefits that a specific brand delivers, one can conclude that brands contribute to minimizing consumers’ subjective risk of engaging in regretful purchases (Kapferer, 2012). Apart from these functional advantages, another illustration of how brands can benefit consumers lies on the social and psychological domain. Trademarked products enable consumers to use the brand’s personality

as a means to define their sense of self, both for the individual and for those around him. That is to say that brands can serve as symbolic entities (Levy, 1959), and become vehicles for consumers' self-expression, either to communicate the actual or aspired identity (Aaker, 1996).

In summary, research largely suggests that brands have the ability to benefit consumers in a wide range of manners. This research builds on this regard to propose that brands can benefit consumers in yet another manner. We theorize that brands have the capability to positively influence psychological states of consumers. Specifically, we propose that luxury and performance associations of sports brands will enhance consumers' self-esteem and motivation to engage in physical activity. Branden (1994), a leading figure in the field of self-esteem, categorically stated that "self-esteem has profound consequences for every aspect of our existence". Not only there is a link between self-esteem and happiness (Baumeister et. al, 2003), meaning that people that report high self-esteem are significantly happier than those that do not, but they are also less likely to develop depressive symptoms (Whisman & Kwon, 1993), eating disorders, and other health issues (Baumeister et. al, 2003). Moreover, research suggests that self-esteem has an impact on consumers' behaviour, given that low self-esteem consumers, unlike high self-esteem consumers, tend to buy low quality products that confirm their self-views (Stuppy et al., 2019). On another note, motivation to practise physical activity can aid in the fight against sedentarism, which is not only one of the main factors leading to death worldwide, but also represents a huge burden to society given that it is associated with several health conditions. Thus, in consequence of physical inactivity, society incurs in significant medical care costs and productivity losses (World Health Organization, n.d.). Therefore, it is crucial to understand what factors undermine and enhance these two constructs.

Previous research suggests that brands which are strongly associated with performance results have the power to heighten consumers' self-esteem when using them (Garvey et al., 2015). This research aims to confirm these findings and to further investigate the effects of luxury associations, and of simultaneous associations of performance and luxury on one's self-esteem. Additionally, we foresee that the three types of sportswear brand associations (performance, luxury and both concurrently), will also positively impact one's motivation to engage in physical activity. Nevertheless, we predict that the means for doing so will differ across conditions, being the motivational boost a consequence of distinct processes. In the case of performance brands, we believe that the heightened motivation will be a consequence of an increased feeling of self-efficacy regarding the practice of physical activity, whereas in the matter of luxury brands, we speculate that the responsible factor for this boost will be a desire for socially displaying the items. Moreover, we theorize that a simultaneous association of

sports brands with performance and luxury will yield a stronger effect on both dependent variables under study in this research, when compared to the isolated association.

Towards these research objectives, in chapter two, along with providing a concise theoretical overview regarding the main concepts and theories at stake within our proposal, we disclose our research hypothesis. In chapter three, we focus on the methodological approach that our study embraced, and further elaborate on the materials used and procedures followed. Chapter four elaborates on the hypothesis testing and the obtained results. In the fifth and final chapter, the main findings are summarized, and a general discussion of results is presented. Additionally, we discuss the academic and managerial implications of our findings and mention the research limitations and recommendations for future research.

## **Chapter 2: Literature review**

In this chapter, we examine critical concepts and theoretical background that concerns this research. Specifically, we explore the potential of brands to impact consumers' feelings and behaviour, the derived benefits of luxury consumption, the concept of luxury sportswear, consumers' state of self-esteem, self-efficacy and motivation to practise physical activity.

### ***2.1 The power of brands and performance brands***

Brands have been extensively researched throughout the years and have often been regarded as the most valuable intangible asset of businesses (e.g., Keller & Lehmann, 2006). One valuable illustration of the potential of brands lies in the research of Fitzsimons et al., (2008), who has shown that the mere unconscious exposure to brand logos influences human behaviour, by lining it up according to the brand's associated characteristics. For instance, the researchers found that those participants who were briefly and unconsciously exposed to the logo of Apple outperformed those exposed to IBM's logo and those that belonged to the control group in creativity-related tasks, due to the fact that Apple, unlike IBM, is strongly associated with creativity. The authors even mention the case of Nike as an example of application for their findings. Given that this brand was found to be associated with "activeness" and "confidence", being therefore considered to be related with these goals, exposure to Nike logos would lead people to unconsciously pursue goals of activeness and self-confidence.

Additionally, trademarks have been further studied in the field of placebo effects. It is well-known that brands repeatedly make use of marketing communications to promise consumers enhanced performance results, derived from the use of their products. Indeed, previous research demonstrates that determined brands possess the ability to objectively affect one's performance in a variety of tasks, in the absence of material quality variances (Garvey et al., 2015). In the case of the previously mentioned study, participants were offered a golf putter and required to complete a golf putting task. All participants used the same putter, meaning that actual putter performance was not influencing results. However, the product label was manipulated to reflect either a non-branded putter, a weak performance brand putter or a strong performance brand putter. A strong performance brand is defined as one that carries powerful and beneficial performance expectations in consumers' minds in a particular set of activities, which in the case of this study was Nike. Participants using Nike's golf putters had a better golf performance (taking fewer strokes to sink a putt) than those using golf putters

from a starter brand and than those using golf putters without any brand information, providing evidence for the existence of beneficial performance brand placebo effects. Moreover, not only has it become clear that the use of performance brands affects specific task outcomes, as it has been shown these brands also positively impact specific mental states of consumers. For instance, task-related stress was found to decrease, and state self-esteem was found to be heightened as a consequence of performance brands' use (Garvey et al., 2015).

Another example of the potential of brands, and specifically performance brands, consists of the research of Park and John (2014), who have shown that brands that deliver performance promises to consumers can affect behaviours on a conscious level. Furthermore, the findings of their research suggest that this effect happens through the powering of a self-efficacy process. For instance, students were found to perform better on the GRE math test when using a MIT pen, in comparison to a regular pen, due to the fact this institution promises its students to exceptionally develop their knowledge and skills.

These findings are compatible with preceding analysis developed in the sphere of social psychology that refuted the traditional concept of the self as stable and invariant, regardless of the context. For instance, Markus and Kunda (1986) concluded that the self is susceptible to external influences and can therefore be considered fluid and malleable. Subsequent investigations on consumer research corroborated these findings by proving that brands that possess certain personality dimensions (Aaker, 1997) can act as situational cues and enhance one's assessment of different aspects of the self (Fennis et al., 2005).

## ***2.2 The concept of luxury***

Luxury can be economically defined as the products and brands whose price quality ratio is the highest of the market (Kapferer, 1997). Other authors defined luxury as the products and brands whose ratio of functionality to price is low, whereas the ratio of intangible and situational utility to price is high (Nueno & Quelch, 1998). Nevertheless, for the purpose of this research, we will focus on the definition developed by Vigneron and Johnson (1999), who define prestige products and brands as those that fulfil the five following aspects: (1) be a symbol of status or wealth that allows consumers to impress others; (2) represent a source of uniqueness and exclusivity that allows consumers to enhance their self-concept; (3) represent a symbolic means of attaining group membership in order to enhance one's self concept; (4) be a way of evoking feelings of personal pleasure; and (5) be the source of superior technical quality. Note that,

whereas the first three characteristics emphasize the role of interpersonal effects on the consumption of luxury brands, the last two regard personal effects. That is, the authors recognize that the consumption of luxury products varies upon one's susceptibility to others, as some consumers are publicly self-conscious and care about how they are seen by others, while other consumers are privately self-conscious and are instead concerned about their inner thoughts and emotions. In summary, luxury-seeking behaviour is the result of two main consumers' motivations: (1) a desire for sociability; and (2) a desire for self-expression (Vigneron & Johnson, 1999). As it is our goal to assess the extent to which luxury sportswear will evoke in the research participants a desire for socially displaying the items, hereinafter we shall focus on the interpersonal set of effects described by Vigneron and Johnson (1999).

Previous research has shown that possessions have inherent meanings attached (Richins, 1994), and that they are many times used by consumers to build the self and therefore become a symbolic contribution to one's identity or serve as demonstrations of one's identity (Belk, 1988; Csikszentmihalyi & Halton, 1981). Furthermore, past developments in this field have accepted that products can be acquired as a means to influence how consumers are perceived by others, and to achieve positive reactions (Schenk & Holman, 1980). This psychological process goes by the name of impression management, and it is specifically defined as those behaviours that one incurs in with the objective of manipulating the impressions and perceptions established by others regarding the individual (Tedeschi, 2013). Francis Bourne (1957) developed a framework that contemplates the influence of reference groups on product and brand purchase decisions. Reference groups can be defined as those to which an individual desires to psychologically identify himself with (Sherif, 1953). This theory posited that the strength of the influence of reference groups will depend upon the level of conspicuousness of the purchased items. In order to operationalize the concept of "conspicuousness", Bourne (1957) mentioned the degree of exclusivity and the degree of social visibility of the items as the two factors at play. That is, in the authors' view, the more exclusive and socially visible the purchased items are, the more prominent the influence of reference groups on the product and brand choice among consumers. This study was updated by Bearden and Etzel (1982), who had a different approach towards exclusivity and social visibility. With the purpose of further detailing the criteria used by Bourne (1957), the authors converted: (1) the degree of exclusivity into whether the product is considered a luxury or, instead, a necessity; (2) the degree of social visibility into whether the product is meant for public, or rather private consumption. This conversion was established due to the fact that luxury goods are not possessed by the mass

market but only by a narrow segment of the population, and that publicly consumed products and brands can be seen by others, whereas privately consumed products and brands cannot.

The results of the previously mentioned studies suggest that reference groups have a stronger influence on those products and brands that are considered luxurious, and simultaneously consumed in public circumstances. For the purpose of this research, these studies' conclusions provide a theoretical background that allows us to theorize that luxury sports brands can be used in public environments in order to attain or reinforce external approval, or to improve one's social standing. We theorize that this tendency for socially displaying luxury items will influence one's overall motivation to engage in physical activity.

### ***2.3 The concept of luxury sportswear***

Sportswear can be defined as functional clothing and footwear specially sketched and meant to be worn when playing sports, or when engaging in recreational activities (Hayes & Venkatraman, 2017). Even though the market for luxury products and that for sportswear were once considered two separate realities, in recent years these two industries are converging to generate a new sector that commercializes luxury sportswear (Woodworth, 2018).

This recent market has grown from three distinct sources. One consists of the expansion of conventionally regarded luxury brands into the sportswear market, through the creation of a new product line of sportswear. Considering that conventional luxury brands use the same brand name in a parallel product category, this strategy is considered brand extension (Aaker & Keller, 1990). One can find existing examples of this strategy in successful, well-known luxury brands such as Prada and Zegna, with their luxury sportswear lines Prada Sport (currently Linea Rossa) and Zegna Sport (currently Z Zegna), respectively (Muret, 2014; Grobe, 2019). A second example relies on the expansion from conventionally regarded sports brands into the luxury fashion market by creating special luxury lines of their products in collaboration with prestigious fashion designers (Gosselin, 2021). This strategy is based on the idea that brands are deeply connected with the personality and lifestyle of its creators (Hines & Bruce, 2007), and thus fashion designers are regarded as fundamental elements of luxury brands. For instance, since 2005 the well-known sports brand Adidas has invested in a collaboration with a prominent fashion designer, Stella McCartney, and launched a luxury line entitled "*Adidas by Stella McCartney*", which is a high-performance sportswear collection for women, across a wide assortment of sports (About Stella McCartney, n.d.). Finally, the third

source of the emergence of the luxury sportswear industry consists of existing collaborations between sportswear giants and luxury houses (Gosselin, 2021). One illustration of this process is, for instance, the partnership between Adidas and Prada, who officially released in 2019 a limited edition of 700 available pairs of the famous Superstar model with Prada's logo on one side. Part of this collection was also the well-known Prada's Bowling Bag that, in this collaboration project with Adidas, resembled a gym bag (Hobbs, 2019). Despite choosing these examples, several others could have served the same purpose.

It is important to note that the characteristics of luxury brands referred to in the previous section of this chapter represent at the same time the main benefits that consumers can retrieve from their use, which, as a logical extension, also apply to the luxury sportswear products.

#### ***2.4 The concept of self-esteem***

It has been categorically stated by leading figures in the field that self-esteem is a fundamental human necessity that has deep consequences for each aspect of human existence (Branden, 1994). Preceding studies have linked high self-esteem with several beneficial consequences, including, for instance, occupational success (Judge & Bono, 2001), overall health and life quality (Evans, 1997), academic achievement (Hansford & Hattie, 1982), persistence in the case of failure (McFarlin et al., 1984), among other examples. On the other hand, low self-esteem was found to be related to multiple disadvantageous outcomes, such as depressive symptoms (Whisman & Kwon, 1993), juvenile delinquency (Rosenberg et al., 1989), and mortality (O'Connor & Vallerand, 1998). Furthermore, previous research also shows that consumers' self-esteem has implications in the scope of consumer behaviour. An illustration of this impact lies on the research of Stuppy et al., (2019), that found that consumers with low self-esteem desire to confirm their existing view of the self and consequently tend to purchase lower-quality products. Contrarily, high self-esteem consumers are inclined to select products that enhance their self-views. That is, regardless of the product category, these consumers preferred superior quality products, as these enable them to feel better about themselves (Stuppy et al., 2019). Thus, it is crucial to understand what this concept encompasses, and what factors can strengthen or undermine one's state of self-esteem.

Self-esteem has been widely investigated in the scope of social and behavioural sciences (Donnellan et al., 2011). The concept of self-esteem refers to a general subjective assessment

of personal worth (Rosenberg, 1965). In detail, Rosenberg (1965) defines high self-esteem as the state in which an individual respects himself and considers himself to be worthy. Contrarily, low self-esteem is related with feelings of self-dissatisfaction, self-rejection and lack of self-respect. In addition, in this field of research two approaches have been undertaken. Whereas implicit self-esteem regards the automatic assessment one has about himself, explicit self-esteem refers to a similar evaluation based on a conscious reasoning, often investigated using self-reports. Hereinafter, this paper will focus on the concept of extrinsic self-esteem. Conley (1984) argued that self-esteem is not a stable individual construct, but rather it is highly liable to be influenced by one's external environment. For instance, a comparison between oneself with a successful other may lead to lowered self-esteem (Tesser, 1988). Moreover, previous research suggests that possessions and brands are closely related to consumers' perceptions of the self (Belk, 1988; Dolich 1969, Escalas & Bettman, 2005, Landon, 1974). Furthermore, possessions were shown to have the ability of boosting consumers' state of self-esteem to the extent that the consumed products are consistent with the central values of one's self concept (Ferraro et al. 2011).

Regarding performance brands, Garvey et al (2015) conducted a study to evaluate the effect of performance associations in consumers' state of self-esteem. Specifically, participants were randomly assigned to either a strong performance brand (Nike) golf putter, or to the control-group, where no information was given regarding the brand of the golf putter. Results showed that participants using the performance brand putter presented significantly higher levels of self-esteem. Thus, we aim at confirming these findings, and theorize that participants imagining themselves wearing sports equipment from performance non-luxury brands will present higher levels of self-esteem than those imagining themselves wearing non-performance non-luxury brands.

In the field of luxury associations of brands, it has also been shown that an individual's socioeconomic status (SES), or in other words, the society's fundamental view of the individual, has a significant relationship with self-esteem, with higher SES participants reporting higher levels of self-esteem (Twenge & Campbell, 2002). Thus, we theorize that participants imagining themselves wearing sports equipment from luxury non-performance brands will present higher levels of self-esteem than those imagining themselves wearing non-performance non-luxury brands.

Finally, we predict that the combination of luxury and performance associations in the same outfit will lead to a combination of the individual effects of performance and luxury, causing the strongest effect on self-esteem. That is, when a sports brand is associated both with

performance and luxury simultaneously, consumers will present higher levels of self-esteem when compared to performance non-luxury brands, and when compared to luxury non-performance brands.

### ***2.5 The concept of self-efficacy***

As seen above, brands are complex entities capable of influencing human performance at a conscious level through a self-efficacy process (Park & John, 2014). For the purpose of this research, it is of extreme importance to clearly distinguish between self-esteem and self-efficacy. While the former concept regards an overall evaluation of self-value, the latter consists of one's cognitive personal belief about possessed capabilities at a narrow, specific domain (Bandura, 1994; Bandura 2006; Rosenberg, 1965). According to social cognitive theory, self-efficacy is a crucial self-regulatory instrument that controls individuals' motivation (Bandura, 2010). Namely, self-efficacy increases one's willingness to undertake challenges, as well as the effort invested in overcoming those challenges, and the degree of determination when dealing with difficulties while completing certain activities (Bandura & Schunk, 1981; Brown & Inouye, 1978; Weinberg et. al, 1979). However, it is worthy to clarify that self-efficacy does not regard one's actual capabilities. Instead, it concerns the individual's beliefs about what he can accomplish with the possessed skills. Thus, one can think of self-efficacy as a sensation of self-confidence applied to a narrow, specific context (Feltz, 1988).

### ***2.6 Motivation to practise physical activity***

Motivation has perennially been the focus of attention in the field of psychology research, with several debates regarding human beings' activeness and passivity (Kohn, 1990). According to Ryan & Deci (2000), human beings can be either engaged and proactive, or passive and detached, to a great extent due to the external context in which they function. For these authors, the concept of motivation concerns energy, direction and persistence, which are considered characteristics of intention and activation. Thus, understanding the motivational processes that underlie human behaviour is crucial to influencing others in a positive manner, and therefore it is of critical importance for those in roles that involve mobilizing others to act (Ryan & Deci (2000)). In detail, the practice of physical activity has been proven to be of

extreme importance for one's individual health and for the general benefit of society that, in the absence of sedentarism, would suffer less economic and productivity costs (World Health Organization, n.d.). Accordingly, it is pertinent and relevant to understand the extent to which brands can play a role in consumers' motivation to practise physical exercise.

Park and John (2014) found that performance brand use can consciously impact one's behaviour. In this research, we propose that when participants imagine themselves wearing equipment from performance (non-luxury) sports brands they will feel more motivated to practise physical activity when compared to non-performance non-luxury brands. Specifically, and given that mediation answers the question of by what means a variable exerts an effect over another (Preacher & Hayes, 2008), we propose that self-efficacy will be a mediator in the relationship between performance (non-luxury) associations and motivation to practise physical activity.

Additionally, we theorize that participants asked to imagine themselves wearing equipment from luxury (non-performance) sports brands will feel higher levels of motivation to practise physical activity, when compared to those allocated to the non-performance non-luxury sports brand. Vigneron and Johnson (1999) stated that the benefits derived from luxury consumption rely on either interpersonal or personal effects. The interpersonal set of effects refers to the effects that the individual's consumption of luxury products or brands will have on others' beliefs of the user, and consist of our object of study. Thus, bearing in mind the concept of impression management previously analysed, we theorize that the desire for socially displaying the items will be a mediator in the relationship between luxury (non-performance) associations and motivation to practise physical activity. That is to say that participants that are exposed to luxury (non-performance) sports brands will feel a desire to display the luxury item in public, so that their social standing is improved, consequently, this social display leading to enhanced motivation to practise physical activity, when compared to non-performance, non-luxury brands.

Finally, assuming that the two previous hypotheses are corroborated, we further predict that the combination of luxury and performance associations in one sports brand will enable a combination of the individual effects of performance and luxury on motivation to engage in physical activity, that will bear the strongest effect on this variable. That is, when a sports brand combines both performance and luxury associations, the consumer will feel more motivated wearing this outfit, than if wearing a performance non-luxury outfit or a luxury non-performance outfit.

## **2.6 Hypothesis Overview**

Having the previous theoretical background in mind, the question that arises is whether participants exposed to, and imagining themselves wearing sports equipment from different combinations of performance and luxury associations of brands, will present different levels of self-esteem and of motivation to practise physical activity.

Regarding self-esteem, first we aim at confirming the findings of Garvey et al (2015) and show that performance (non-luxury) brands have the ability to enhance consumers' self-esteem. Thus:

*H1: Performance non-luxury brands will enhance one's self-esteem in comparison to non-performance non-luxury brands.*

Additionally, we predict that luxury associations of sports brands will enhance self-esteem in comparison to non-luxury non-performance brands. Thus:

*H2: Luxury non-performance brands will enhance one's self-esteem in comparison to non-performance non-luxury brands.*

Finally, and assuming that H1 and H2 are corroborated, we theorize that performance luxury brands will have the strongest effect on self-esteem. Thus, we propose:

*H3: Luxury performance brands will have a stronger positive effect in self-esteem when compared to performance non-luxury brands and when compared to luxury non-performance brands.*

Concerning motivation to practise physical activity, we theorize that performance (non-luxury) brands use will trigger a process of self-efficacy, that will partially or fully be responsible for a boost in their motivation to exercise. Thus:

*H4: Performance non-luxury brands will enhance one's motivation to practise physical activity in comparison to non-performance non-luxury brands.*

*H5: The increase in motivation to practise physical activity derived from performance non-luxury brand use is, partially or completely, mediated by consumers' perceptions of self-efficacy.*

Further, we predict that luxury (non-performance) brands will power in consumers a need for socially displaying the sportswear outfit, that will partially or fully be responsible for a boost in their motivation to exercise. Therefore:

*H6: Luxury non-performance brands will enhance one's motivation to practise physical activity in comparison to non-performance non-luxury brands.*

*H7: The increase in motivation to practise physical activity derived from luxury non-performance brand use is, partially or completely, mediated by consumers' need for socially displaying the luxury items.*

Finally, and assuming that H4 and H6 are corroborated, we theorize that performance luxury brands will have the strongest effect on motivation to practise physical activity. Thus, we propose:

*H8: Luxury performance brands will have a stronger positive effect in motivation to practise physical exercise when compared to performance non-luxury brands and when compared to luxury non-performance brands.*

## **Chapter 3: Methodology**

This chapter focuses on the research approach embraced, elaborating on the research methods, data collection, materials and procedures and ending with a summary of the data treatment process.

### ***3.1 Research methods***

Devising to answer the research questions introduced in the previous section, the present research applied an exploratory approach, collecting both primary and secondary data. The latter was presented in the literature review chapter in order to establish an adequate theoretical background for the purpose of hypothesis' generation. The former was gathered by conducting a quantitative experiment in the form of an online questionnaire. An experimental approach was chosen due to the fact that by randomly allocating participants into controlled groups and by manipulating the performance and luxury associations of the brands shown, we would be able to establish a cause-and-effect relationship between the independent and dependent variables under study. Moreover, a questionnaire format was chosen instead of a laboratory experiment, as the former, unlike the latter consists of an affordable way to gather quantitative data in a limited period of time.

### ***3.2 Data collection***

For the purpose of assessing the effect of performance and luxury associations of sports brands in self-esteem and motivation to engage in physical activity, an experimental questionnaire was designed on qualtrics and distributed via the internet (Appendix A: Questionnaire Transcript). This diffusion vehicle was chosen because it allows for a significant reach, reduced time usage and reduced incurred costs. Moreover, another valuable advantage is the fact that online questionnaires enable participants to remain anonymous and are flexible to the extent that respondents can adjust their participation to their schedule's convenience, which can affect the degree of attention paid to the survey and consequently the accuracy of the answers.

The target population of this research consists of men and women, of all ages and backgrounds. Thus, the questionnaire was shared on social media platforms (Instagram and Facebook), as these are efficient means of targeting such a broad audience. For the purpose of sample selection, a non-probability sampling technique was chosen, as chance selection

procedures were not used but the selection rather relies on the personal judgement of the researcher. More specifically, a snowball-convenience sampling technique was chosen. The use of this method is justified due to its convenience and cost effectiveness, as part of the respondents are selected given their proximity to the researcher. Furthermore, referrals are a fast method of obtaining new subjects willing to participate, thereby increasing sample size.

A total of 527 participants filled in the research survey, being 446 responses fully completed and 81 partially completed. Nevertheless, only 437 were considered valid answers, given the fact that the remaining ones failed the manipulation check, meaning that the manipulation of the independent variable had no effect on the participants' answers. In order to reach a wider audience, two versions of the questionnaire were made available, one in English and one in Portuguese. Overall, 468 answers were filled in in Portuguese, whereas 59 were filled in in English.

### ***3.3 Materials and procedures***

The experiment followed a 2x2 between-subjects factorial design (Table 1), with two independent variables (luxury associations: present/absent; and performance associations: present/absent). Consequently, participants were randomly exposed to one of four conditions.

**Table 1**

*Research design*

Brand associations	Non-performance	Performance
Non-luxury	Domyos	Adidas
Luxury	Prada	Adidas for Prada

In each of the four conditions two sets of sportswear outfits were presented, one for women and another for men, which respondents were asked to imagine themselves wearing throughout the survey. The design and colours of the sports outfits presented were the same for the four groups, while the presented logo was modified in Photoshop as a means of manipulating performance and luxury associations. The control condition consists of participants' exposure to the Domyos logo (Figure 1), which is the private label for fitness equipment of Decathlon and is not associated with neither performance nor luxury. The associated description in this condition was the subsequent: "The following sportswear outfits

are from a private label named Domyos.” In the condition that represents performance non-luxury brands, participants were exposed to Adidas’ logo (Figure 2) and to the following caption “The following sportswear outfits are from the brand Adidas.” In the condition that represents luxury non-performance associated brands, respondents were exposed to Prada’s logo (Figure 3) and the subsequent caption “The following sportswear outfits are from a sportswear line of the luxury brand Prada”. As for the fourth condition, participants were exposed to outfits that belong to a collaboration between Adidas and Prada, referred to as Adidas for Prada. This condition represents a combination of both associations of luxury and performance, and the logo of this partnership consists of both brands’ logos (Figure 4). The description presented was the following “The following sportswear outfits belong to a collaboration between Adidas and Prada, referred to as Adidas for Prada”.

**Figure 1.**

Condition 1: Control group. Non-performance, non-luxury brand.



**Figure 2.**

Condition 2: Performance, non-luxury brand.



**Figure 3.**

Condition 3: Non-performance, luxury brand.



**Figure 4.**

Condition 4: Performance luxury brand.



The questionnaire commenced with a brief introduction with the purpose of sharing relevant information with the participants about the study they were undergoing. Respondents were told that the research was conducted due to academic purposes, that their participation was entirely voluntary, and reassured about the anonymity of their answers. Furthermore, participants were told there were no correct or incorrect answers, in order to maximize their willingness to respond honestly and they were informed about the approximate duration of the survey. Subsequently, they were instructed to click on a button that led to the actual questionnaire.

Following participants' assignment to one of the previously described conditions, questions were asked in order to evaluate their motivation to practise physical activity, self-efficacy in the sphere of physical activity, their desire to engage in social display of the exhibited products, their inclination towards status consumption, and finally their state of self-esteem, when imagining themselves wearing the respective sportswear outfit.

The first dependent variable, motivation to practise physical activity was measured using a 3-item measure, that assessed respondents' overall enthusiasm to practise physical activity when wearing the product shown, ranging from one to five. The second dependent variable,

self-efficacy beliefs towards the practice of physical activity, was measured using a 3-item measure, previously used by Garvey et. al (2015) in their research about the moderator role of self-efficacy on the placebo effects derived from performance brands' use. However, instead of using a 7-point scale, we used a 5-point one in order to measure all constructs in equally ranged scales, which allows for a better interpretation and relation between the different variables. Afterwards, aiming to evaluate participants' desire to engage in a process of social display of the exhibited sports outfits, two different scales were used. First, participants were asked three questions about the degree to which they felt several positive emotions (happiness, power and pride) when wearing the outfit in public environments and one question regarding the usage probability of the presented outfit in public spaces, all in a scale from one to five. Additionally, a 5-item measure ranging too from one to five, that was previously used by Eastman et. al (1999) was presented in order to complement the previous scale and to evaluate participants' interest towards conspicuous consumption. Then, a manipulation check question was asked. Participants were asked to recall and type in the name of the brand which they had previously seen and asked to imagine wearing, in order to detect whether or not the participant was paying attention to the survey and that the manipulation of the independent variables had an effect on the answers. The last dependent variable, self-esteem, was measured using Rosenberg's Self-Esteem Scale (1965), which is a ten-item scale with satisfactory reproducibility and scalability that reports the individual's notion of self-worth by assessing both positive and negative feelings about the self (Rosenberg, 1965). Respondents stated their level of agreement with the sentences on a scale from one to five, where 1 stood for "Strongly Disagree" and 5 stood for "Strongly Agree". Finally, respondents fulfilled a few questions concerning their demographic information.

To conclude, participants were shown a message of gratitude, calling attention to the fact that their collaboration was fulcral to the development of this research. Moreover, they were introduced to the researcher's institutional email and welcomed to convey any questions or remarks regarding the study.

### ***3.4 Data reliability and data treatment***

This section describes how the primary data was processed and analysed after its collection. Prior to the statistical analysis, the dataset was prepared using the statistical software

SPSS. First, the individual datasets from the four different surveys were condensed into one final dataset. Subsequently, the final variables to be used in the aim of the research were computed. In order to prepare the independent variables of the model, two dummy variables were added to the dataset, one for each concept under study. That is, for the concept of luxury, one dummy variable was created, which took either a value of zero or one, depending on whether luxury was absent or present on each participant’s attributed condition. For the concept of performance, another dummy variable was added, taking either the value of one or zero, depending on whether the participant was exposed to a performance brand or not. Additionally, for each composite measure, a new variable was calculated by averaging the respective items. For this purpose, a few items within the composite measures of conspicuousness and self-esteem had to be previously reversed scored. Lastly, responses from under eighteen-year-old participants and those that failed the manipulation check were disregarded.

Then, for the purpose of ensuring the reliability of the scales used in the questionnaire that were not previously developed by other authors, Cronbach's Alpha of the constructs of motivation and social display were computed (Table 2). This test proved that both scales were statistically robust, meaning they were internally consistent and ready to be used without any further refinements.

**Table 2**

*Cronbach’s Alpha test of motivation and social display scales.*

Scale	Motivation	Social Display
Cronbach’s Alpha	.833	.922

Finally, using the same statistical software, the data was analysed. The tests performed include several Analysis of Variance, that allowed us to widely comprehend the effects of luxury and performance associations on the dependent variables. Additionally, to test the hypothesis, Independent Samples T-tests were performed in order to shed light into whether there were statistically significant differences between the means of the four experimental groups regarding participants’ self-esteem and motivation to engage in physical activity. Furthermore, multiple mediation analyses were conducted using the PROCESS macro for SPSS, which is a logistic regression path analysis modelling tool, to test for possible mediator effects of self-efficacy perceptions and social display tendencies on the impact of performance and luxury respectively, on motivation to practise physical activity.

## Chapter 4: Results' analysis

This chapter addresses the results of this study. All statistical analysis referred to in this section employed a significance level  $\alpha = 5\%$ . For further details please refer to Appendix B.

### 4.1 Sample description

The final sample is composed of 70,2% women, 29,5% men and 0,3% preferred not to say (Appendix II: table B1). The average age of participants lies at 28 years old, and most participants can be referred to as young adults, as they are in the range of 18 to 26 years old, with a cumulative percentage of 70,2% (Appendix II: table B2; B3). Regarding the distribution among experimental conditions, we managed to get a similar number of participants for each brand, except for "Adidas for Prada" that got slightly less valid responses given the higher number of participants that failed the manipulation check. Nevertheless, we gathered 115 responses to the Domyos condition, 119 to the Adidas condition, 121 to the Prada condition and 82 responses regarding Adidas for Prada (Appendix II: table B4).

### 4.2 Impact on Self-esteem

First, we began by analysing the effects of the two independent variables on participants' self-esteem. For this purpose, a Two-Way Analysis of Variance (luxury/non-luxury) x (performance/non-performance) was performed.

**Table 3**

*Descriptive Statistics of Self-esteem*

Luxury	Performance	Mean	Std. Deviation
Absent	Absent	3.8833	.71299
	Present	3.8569	.58909
Present	Absent	3.8287	.72299
	Present	3.9415	.73567

The descriptive statistics revealed similar means of self-esteem for the four experimental conditions (Table 3). The ANOVA results (Appendix B, Table B5) revealed that performance associations of sportswear brands do not have a significant main effect on consumers' self-esteem ( $M = 3.8563$ ,  $SD = .71657$ ;  $M = 3.8898$ ,  $SD = .64925$ ;  $F(1,353) = .342$ ,  $p = .559$ ,  $np^2 = .001$ ). Moreover, luxury also does not have a statistically significant main effect on self-esteem

( $M = 3.8697$ ,  $SD = .65057$ ;  $M = 3.8748$ ,  $SD = .72801$ ;  $F(1,353) = .041$ ,  $p = .839$ ,  $np^2 = .000$ ). Regarding the interaction between luxury and performance, this too proves not to bear statistically significant effects on self-esteem ( $F(1,353) = .889$ ,  $p = .346$ ,  $np^2 = .003$ ).

Nevertheless, in order to specifically analyse the research hypothesis, four Independent Samples T-tests were computed. First, consider H1, which compares the non-performance non-luxury condition with the performance non-luxury condition (Appendix B, Table B6). The differences in the values of self-esteem between the two groups is statistically insignificant, ( $t(196) = .285$ ,  $p = .776$ ), with similar mean scores for the performance non-luxury group ( $M = 3.8569$ ,  $SD = .58909$ ) and for the non-performance non-luxury group ( $M = 3.8833$ ,  $SD = .71299$ ). Focusing on H2, which compares the non-performance non-luxury condition with the luxury non-performance condition (Appendix B, Table B7), again the difference in the values of self-esteem was found to be statistically insignificant, ( $t(188) = .524$ ,  $p = .601$ ), with similar means for the luxury non-performance group ( $M = 3.8287$ ,  $SD = .72299$ ) and for the non-performance non-luxury group ( $M = 3.8833$ ,  $SD = .71299$ ). Considering H3, two comparisons were developed. First, we compared the performance non-luxury condition with the performance luxury condition (Appendix B, Table B8). The results revealed that the differences in the means of self-esteem are not statistically significant ( $t(165) = -.821$ ,  $p = .413$ ), with identical mean scores for the performance non-luxury group ( $M = 3.8569$ ,  $SD = .58909$ ) and the performance luxury group ( $M = 3.9415$ ,  $SD = .73567$ ). The second comparison regards the luxury non-performance group and the performance luxury group (Appendix B, Table B9). Once more, the differences in the mean values of self-esteem were found to be statistically insignificant, ( $t(157) = -.960$ ,  $p = .338$ ), with similar mean scores for the luxury non-performance group ( $M = 3.8287$ ,  $SD = .72299$ ) and for the performance luxury group ( $M = 3.9415$ ,  $SD = .73567$ ).

In conclusion, H1, which predicts that performance non-luxury sports brands would increase consumers' self-esteem when compared to non-performance non-luxury sportswear brands cannot be accepted, as the participants allocated to performance non-luxury sportswear brands did not present higher levels of self-esteem in comparison to non-performance non-luxury sports brands. Furthermore, H2, which predicts that luxury non-performance sportswear would increase self-esteem when compared to non-performance non-luxury sportswear brands cannot be accepted either, as participants allocated to both conditions presented similar means of self-esteem. Therefore, given that both H1 and H2 were rejected, it is logical to disregard H3, as this hypothesis reflects a combination of the predicted effects of H1 and H2.

Nevertheless, observing the results of the two Independent Samples T-test that concern this hypothesis, when the means of self-esteem are compared between the performance non-luxury group and the performance luxury group, and when the means of self-esteem are compared between the luxury non-performance group and the performance luxury group, no statistically significant differences were found. Thus, H3 must be rejected.

### ***4.3 Impact on Motivation to practise Physical Activity***

We began by analysing the effects of the two independent variables on participants' motivation to practise physical activity. For this purpose, a Two-Way Analysis of Variance (luxury/non-luxury) x (performance/non-performance) was performed.

**Table 4**

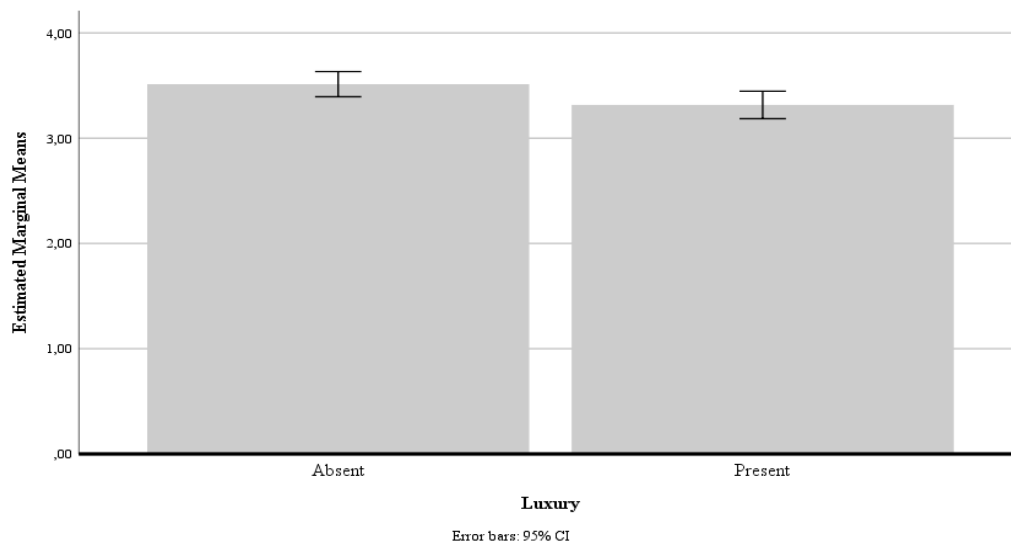
*Descriptive Statistics of Motivation to Practise Physical Activity*

Luxury	Performance	Mean	Std. Deviation
Absent	Absent	3.3994	.80398
	Present	3.6254	.93564
Present	Absent	3.3145	.93473
	Present	3.3158	.84484

The descriptive statistics reveal that the means of motivation between the four experimental groups are quite similar, except for the performance non-luxury condition, which presents a visible difference when compared to the other conditions (Table 4). The ANOVA results (Appendix B, table B10) revealed that performance associations of sports brands did not have a statistically significant main effect on motivation ( $M = 3.4954$ ,  $SD = .90922$ ,  $M = 3.3569$ ,  $SD = .87078$ ;  $F(1,389) = 1.591$ ;  $p = .208$ ;  $np^2 = .004$ ). Regarding luxury associations of sports brands, the plot for the estimated marginal means of motivation when luxury associations are present versus when these are absent (Figure 5) indicated that the presence of luxury seems to negatively influence consumers' motivation to practise physical activity.

**Figure 5.**

*Estimated Marginal Means of Motivation (luxury vs. non-luxury)*

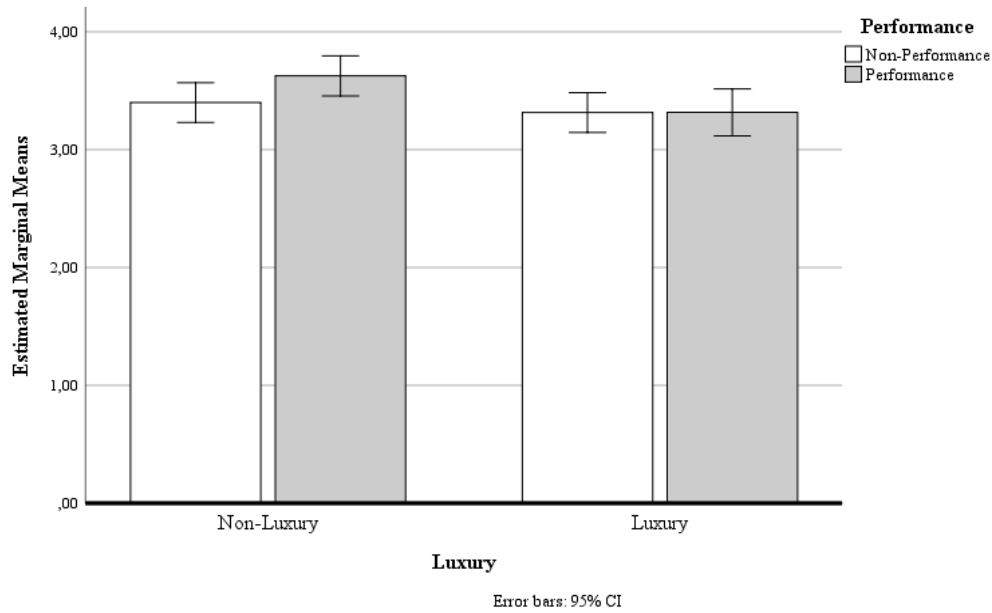


Indeed, the ANOVA results revealed that there is a statistically significant main effect of luxury associations on the motivation to practise physical activity ( $F(1,389) = 4.79$ ;  $p = .029$ ,  $np^2 = .012$ ). However, contrary to our expectations, the presence of luxury associations led to significantly lower levels of motivation ( $M = 3.315$ ;  $SD = .89588$ ), when compared to the conditions in which luxury associations were absent ( $M = 3.5118$ ;  $SD = .87725$ ).

Concerning the interaction effect between luxury and performance associations, results reveal that this effect is statistically insignificant ( $F(1,389) = 1.554$ ;  $p = .213$ ;  $np^2 = .004$ ). Nevertheless, when observing the descriptives and the plots of the interaction effect (Figure 6), it seems that performance impacts motivation only when luxury associations are absent. That is, when a sports brand is associated with luxury, performance no longer seems to influence motivation. However, when a sports brand is not associated with luxury, performance associations seem to increase motivation to engage in physical activity.

**Figure 6.**

*Estimated Marginal Means of Motivation (interaction effect)*



In order to elaborate on this, we performed four Independent-Samples T-tests that allowed us to compare the means of motivation between the four experimental groups and test our hypothesis. Considering H4, which predicts that the performance non-luxury condition will present higher levels of motivation to practise physical activity when compared to the non-performance non-luxury condition, the results (Appendix B, Table B11) revealed marginally significant differences in the means of motivation ( $t(209) = -1.883, p = .061$ ). Indeed, the performance non-luxury group had a higher mean score of motivation ( $M = 3.6254, SD = .93564$ ), when compared to the non-performance group ( $M = 3.3994, SD = .80398$ ). Thus, we can derive that performance influences marginally one's motivation to engage in physical activity when luxury associations are absent. Regarding H6, which predicts that the luxury non-performance condition will present higher levels of motivation to practise physical activity when compared to the non-performance non-luxury condition, the results (Appendix B, Table B12), revealed that the differences in motivation are statistically insignificant ( $t(210) = .709, p = .479$ ) with similar mean scores for the luxury non-performance group ( $M = 3.3145, SD = .93473$ ) and for the non-performance non-luxury group ( $M = 3.3994, SD = .80398$ ). Considering H8, two comparisons were established. First, we compared the performance non-luxury condition with the performance luxury condition (Appendix B, Table B13). The differences between both groups proved to be statistically significant ( $t(179) = 2.287, p = .023$ ).

Specifically, despite being contradictory to what we had previously hypothesized, the performance non-luxury group presented significantly higher means of motivation ( $M = 3.6254$ ,  $SD = .93564$ ) when compared to performance luxury group ( $M = 3.3158$ ,  $SD = .84484$ ). This means that the use of sports brands that are simultaneously associated with performance and luxury, such as the collaboration between Adidas and Prada that served as a manipulation in our study, will decrease motivation to practise physical activity, in comparison to performance non-luxury sports brands, such as Adidas. Further, we compared the means of motivation between the conditions of luxury non-performance and performance luxury associations. The results (Appendix B, Table B14) revealed that the differences in the means of motivation between both groups are statistically insignificant, ( $t(180) = -.10$ ,  $p = .992$ ), with similar means for the luxury non-performance group ( $M = 3.3145$ ,  $SD = .93473$ ) and for the luxury performance group ( $M = 3.3158$ ,  $SD = .84484$ ). In summary, one can conclude that the performance non-luxury group is the one that is driving the main effect of luxury on motivation to practise physical activity.

Therefore, in what concerns the research hypothesis, we can accept H4. That is, when consumers are wearing sportswear from a performance brand that has no associations with luxury, such as Adidas, their motivation to practise physical activity is enhanced when compared to a situation where they would wear sportswear from non-performance non-luxury brands, such as Domyos. However, we concluded that H6 must not be accepted, as participants of both conditions revealed to have similar means of motivation to practise physical activity regardless of the presence/absence of luxury associations. Given the fact that H6 was rejected, as luxury alone does not seem to impact one's motivation to practise physical activity, it is logical to disregard H8, as this hypothesis would reflect a combination of the predicted effects of H4 and H6. Indeed, when observing the plots for the interaction effect (Figure 6), one can see that, when both luxury and performance associations are present, there is not a boost in motivation when compared to the conditions of performance non-luxury and luxury non-performance. This was confirmed by two of the Independent Samples T-tests described above, specifically the one that compared the performance non-luxury group with the performance luxury group, and the one that compared the luxury non-performance group with the performance luxury group. Respectively, the first considered performance (non-luxury) brands and suggests that additional associations of luxury will, in fact, reduce consumers' motivation to practise physical activity, whereas the second considered luxury (non-performance) brands and suggests that additional associations of performance do not impact motivation.

#### *4.4 Underlying processes of self-efficacy, social display and conspicuousness*

On the scope of self-efficacy, an ANOVA (Appendix B, Table B15), revealed that performance associations did not reveal a statistically significant main effect on this construct ( $M = 3.6294$ ,  $SD = .82629$ ;  $M = 3.6458$ ,  $SD = .8774$ ;  $F(1,383) = .039$ ;  $p = .843$ ;  $np^2 = .000$ ). Similarly, luxury associations also did not have a statistically significant main effect on self-efficacy ( $M = 3.6309$ ;  $SD = .83898$ ;  $M = 3.6444$ ;  $SD = .86674$ ;  $F(1,383) = .029$ ;  $p = .866$ ;  $np^2 = .000$ ). The interaction between both performance and luxury associations was found to be insignificant as well ( $F(1,383) = .000$ ;  $p = .986$ ;  $np^2 = .000$ ). Considering H5, which predicts that, in the case of performance brands self-efficacy would be triggering the motivation boost, an Independent Samples T-test was performed in order to compare the means of self-efficacy between the non-performance non-luxury condition and the performance non-luxury condition (Appendix B, Table B16; B17). The results revealed that the differences in the means of self-efficacy are statistically insignificant ( $t(208) = .159$ ,  $p = .874$ ), with similar means for the non-performance non-luxury group ( $M = 3.6540$ ,  $SD = .90455$ ) and the performance non-luxury group ( $M = 3.6349$ ;  $SD = .83144$ ). Thus, performance associations in the absence of luxury associations do not seem to impact one's perceptions of self-efficacy. Nevertheless, to test for a possible mediation effect of self-efficacy on the relationship between performance (non-luxury) and motivation to practise physical activity, a regression analysis using PROCESS Macro on SPSS was undertaken (Appendix B, Table B18). Using bias-corrected bootstrapping with 5,000 resamples, we found the indirect effect to be statistically non-significant, with a 95% CI:  $-.0449$  to  $.0419$ . In conclusion, H5 cannot be accepted as self-efficacy is not causing the motivation boost delivered by performance non-luxury brands. Nevertheless, in order to explore what exactly might be causing the increase in motivation derived from performance non-luxury brand use, we tested social display and conspicuousness as possible mediators, despite not having formulated any hypothesis on this. The results will be described in the respective paragraphs below.

On the sphere of social display, an ANOVA (Appendix B, Table 19), revealed that performance does not have a statistically significant main effect on this construct ( $M = 3.0600$ ,  $SD = 1.11448$ ;  $M = 3.0291$ ,  $SD = 1.10199$ ;  $F(1,377) = .164$ ;  $p = .686$ ;  $np^2 = .000$ ), occurring the same with luxury ( $M = 3.1098$ ,  $SD = 1.09548$ ;  $M = 2.9880$ ,  $SD = 1.11499$ ;  $F(1,377) = 1.271$ ;  $p = .260$ ;  $np^2 = .003$ ). The interaction between both performance and luxury associations was found to be insignificant as well ( $F(1,377) = .000$ ;  $p = .717$ ;  $np^2 = .000$ ).

Given that H6 was rejected, we can automatically reject H7 because since luxury non-performance brands do not increase motivation, then social display could not be responsible for any motivation increase. Nevertheless, we still tested social display as a mediator in the relationship between luxury (non-performance) associations and motivation. An Independent Samples T-test was performed to compare the means of social display between the non-performance non-luxury condition and the luxury non-performance condition (Appendix B, table B20; B21). The results revealed that the differences in the means of social display are statistically insignificant ( $t(204) = -.572, p = .568$ ), with similar means for the non-performance non-luxury group ( $M = 2.9856, SD = 1.09767$ ) and the luxury non-performance group ( $M = 3.0735; SD = 1.11003$ ). Therefore, luxury associations in the absence of performance associations do not seem to impact one's desire for socially displaying the items. Regardless, in order to test for a mediation effect of social display on the relationship between luxury (non-performance) and motivation to practise physical activity, a regression analysis using PROCESS Macro on SPSS was again performed (Appendix B, Table B22). Using bias-corrected bootstrapping with 5,000 resamples, we found the indirect effect of luxury on motivation to be statistically insignificant, with a 95% CI:  $-.1035$  to  $.1825$ , leading us to conclude that social display is not a mediator in the relationship between luxury non-performance associations and motivation. Additionally, we tested social display as a mediator in the relationship between performance non-luxury associations and motivation, which proved to be insignificant with a 95% CI:  $-.1314$  to  $.1322$  (Appendix B, Table B23). Thus, in the case of performance non-luxury brands it is not a desire to show off the items in public that is leading to increased motivation to practise physical activity.

Finally, the same procedures were followed for conspicuousness. The ANOVA (Appendix B, Table B24) revealed that performance has a marginally significant main effect on this variable ( $F(1,371) = 3.504, p = .062, np^2 = .009$ ), with higher mean scores for those participants exposed to brands where performance associations are present ( $M = 2.3651, SD = .86771$ ) compared to those exposed to brands where performance associations are absent ( $M = 2.2039, SD = .83059$ ). On the other hand, luxury does not significantly impact conspicuousness ( $M = 2.3018, SD = .85691; M = 2.2578, SD = .84666; F(1,371) = .457, p = .499, np^2 = .001$ ), and neither does the interaction between performance and luxury ( $F(1,371), p = .939, np^2 = .000$ ). An Independent Samples T-test was performed to compare the means of conspicuousness between the non-performance non-luxury condition and the luxury non-performance condition (Appendix B, Table B25; B26), which turned out insignificant ( $t(201) = -.573, p = .567$ ). Thus, the differences in the means of conspicuousness for the non-performance non-luxury group ( $M$

= 2.1703, SD = .79618) and the luxury non-performance group (M = 2.2373; SD = .86596) are not statistically significant. Therefore, luxury associations in the absence of performance associations do not seem to impact one's tendency for conspicuousness. Nevertheless, we used PROCESS to test for the existence of a mediation effect of conspicuousness in the relationships between luxury (non-performance) associations and motivation (Appendix B, Table B27). Using bias-corrected bootstrapping with 5,000 resamples, we found the indirect effect of luxury on motivation to be statistically insignificant, with a 95% CI: -.0368 to .0749, meaning that conspicuousness is not mediating this relationship. Additionally, conspicuousness was tested as a possible mediator in the relationship between performance non-luxury association and motivation (Appendix B, Table B28). Results show that the indirect effect of performance on motivation is also statistically insignificant, with a 95% CI: -.0140 to .1106, allowing us to conclude that conspicuousness is not mediating the positive effect that performance non-luxury brands have on one's motivation to practise physical activity.

## **Chapter 5: Main conclusions and future research**

This chapter summarizes and discusses our main findings as well as the academic and managerial conclusions derived from this research. Moreover, the limitations of this study are mentioned, along with relevant suggestions for future research on this topic.

### ***5.1 Main findings and discussion***

For the most part, we were not able to verify our hypothesis, especially in what concerns consumers' self-esteem. Contrary to the theoretical background covered in chapter two, and especially to the findings of Garvey et al. (2015), none of our experimental conditions proved to influence consumers' feelings of personal worth. Thus, we cannot derive any conclusion regarding the impact of luxury nor performance associations of sportswear brands on consumers' self-esteem.

In what concerns motivation to practise physical activity, again our results did not support most of our hypothesis. Nevertheless, there are two inferences that can be established.

Firstly, H4 was corroborated, or in other words, the use of sports brands that customers strongly associate with performance results seem to have a positive influence on their motivation to practise physical activity, when these brands are not concurrently associated with luxury. Specifically, consumers wearing sportswear from a performance non-luxury brand demonstrate higher levels of desire to engage in physical activity when compared to consumers wearing non-performance non-luxury sports brands. Notwithstanding, given that this effect was not mediated by self-efficacy as we hypothesized, nor by any other construct mentioned in this research, it is intriguing what exactly is causing this effect. One reason why this might be happening regards quality perceptions of the products exposed in both experimental conditions. Note that, in the present research, our control condition consisted of a sportswear outfit from a non-performance non-luxury brand that was at the same time a private label. Previous research provides evidence that suggests that customers perceive private label brands as standing below national brands on what regards product quality (Bellizzi et al. 1981) and quality consistency over multiple purchases throughout time (Rosen, 1984). Additionally, while it is generally known that performance sports brands are more expensive than private label sports brands, research on the scope of marketing steadily demonstrates that consumers take price as an indicator of product quality (Erickson & Johansson, 1985; Dodd's & Monroe, 1985; Monroe & Krishnan, 1984). Therefore, participants exposed to the performance non-luxury condition of

our research might have associated Adidas with higher levels of product quality, which is of extreme importance when practising physical activity. Whereas the use of low-quality sportswear might cause consumers discomfort, for instance due to fabrics that cause overheating and sweating, research suggests that high quality sportswear possesses cooling effects that effectively reduce skin temperature and sweat rate, consequently improving the athletes' physiological responses (Li & Wang, 2018). Additionally, sportswear choice can also impact the users' safety (National Institutes of Health, n.d.). For instance, whereas low-quality active wear can contain materials that irritate the skin (March, 2018a) and consequently lead to friction related skin injuries (Baby et al., 2020), research shows that high-quality sportswear can reduce the impact of violent movements that are inevitably part of certain sports (Li & Wang, 2018). On that account, perceived product quality might have been one factor leading participants exposed to performance non-luxury brands to present significantly higher levels of motivation to practise physical exercise. Even though it is also plausible to apply this rationale to luxury associated sports brands, in the following paragraph we discuss why the two associations might not have led to the same outcome in motivation to practise physical activity.

The second inference we were able to establish is that luxury associations in the absence of performance do not seem to impact one's overall motivation to practise physical exercise. Furthermore, in the case of performance brands additional luxury associations seem to significantly decrease consumers' motivation to practise physical activity, cancelling out the positive effect caused by performance associations alone. However, considering that the theoretical background on the scope of luxury provides robust evidence suggesting that consumers wearing luxury products frequently do so in order to achieve external approval and to accomplish status needs, it is curious that luxury associations in the absence of performance associations do not cause a heightened motivation to practise physical exercise via the social display need. Moreover, it is curious that motivation instead decreases when luxury is added to existing performance associations. In addition, the perceived quality rationale described in the paragraph above consists of yet another factor that could have contributed to heightened motivation. Thus, one factor that might be contributing to this outcome is referred to as consumption guilt, which is an individual's displeasing emotional state associated with the purchase of a product and related with potential objections to his actions (Baumeister et al., 1994; Dahl et al., 2003). Consumption guilt is often related with hedonic purchases, as it is the case of luxury sportswear, given that it is harder to justify such acquisitions (e.g., Khan & Dhar, 2006; Kivetz & Simonson, 2002a; Lascu, 1991; Okada, 2005; Strahilevitz & Myers, 1998). Therefore, wearing luxury sportswear might create intrapersonal conflicts, not only because an

individual might desire to allow himself the pleasure of buying such hedonic product and at the same time be reminded that this act will diminish his monetary resources, but also because hedonic consumption is morally charged (Khan & Dhar, 2006). Additionally, research shows that guilt and justification apprehensions frequently lead consumers to deprive themselves from hedonic satisfaction and consequently postpone hedonic experiences (Kivetz & Keinan, 2006; Shu & Gneezy, 2010). This sentiment of guilt might have come along to those participants allocated to the luxury conditions, inhibiting their motivation levels.

### ***5.2 Academic and Managerial Implications***

According to the World Health Organization (WHO), the practice of regular physical activity is proven to aid in preventing several diseases such as heart disease, stroke, diabetes and multiple types of cancer. Further, it helps prevent hypertension, improving mental health and overall life quality and well-being. Nevertheless, physical inactivity is not only one of the main factors leading to death throughout the world, with estimations of around five million deaths per year that could be avoided through the practice of regular physical exercise, but it is also a burden to society. This is due to the fact that as sedentarism is associated with multiple health conditions, society incurs in significant medical care costs and productivity losses. Estimates from 2016 revealed that sedentarism costs the health system US\$54 billion and that the economy lost US\$14 billion (World Health Organization, n.d.). In addition to this, as countries around the world develop economically, the trend towards physical inactivity keeps growing. Thus, this is a relevant problem for both individuals and societies, that must be researched in order to be addressed as efficiently as possible.

This research suggests that performance brands can be part of the solution to this worldwide matter. It is not new that brands can deliver self-related benefits to its consumers. However, our findings are enlightening in the sense that brands that deliver strong performance expectations to consumers seem to have the ability to boost their motivation to practise physical activity. To put it another way, this realization is of great importance as performance brands have the potential to change human behaviour for the best, contributing to improve one's physical and mental health.

From the managers' perspective, these findings pose a relevant opportunity. First, the fact that performance brands have the ability to motivate consumers to practise physical exercise is beneficial for their companies. Assuming that their customer base is loyal, if these consumers

remain motivated to practise physical exercise throughout the years, they will most likely keep practising exercise and buying from the brand to which they are loyal to, generating a significant life-time value when compared to non-performance brands, which seem to less motivate consumers. This finding is an assurance to performance brands, that does not fit any other type of sports brands researched in this paper. Managers can seize this opportunity by investing consumer-brand relationship improvement, with the ultimate goal of building customer loyalty. Bearing this in mind, from the motivation perspective, sportswear performance brands do not benefit from partnering with luxury houses. That is, when partnering with such brands, managers must have into account that even though they might be attracting a new market segment that is keen on luxury, it is likely that they will not be as motivated to practise exercise as if they were acquiring and wearing products from the performance brand alone. Therefore, this luxury enthusiastic segment might represent a less significant life-time value for the brand than other segments that purchase from the performance brand portfolio that is not associated with luxury houses.

Furthermore, managers and marketers can make use of these findings to gain a competitive edge, at the same time they would be contributing to solve the global issue of sedentarism. One way this can be done is by offering plus size options, or by expanding the offering variety to the extent of regular size options. Plus size consumers are most likely those that will benefit the most from practising physical exercise in a regular basis. However, in order to reap the physical and psychological benefits of physical activity, it is key to remain motivated. Despite this, many of these consumers frequently have no other option to shop for sportswear than at specialty retailers for clothes, feeling undervalued by sports giant brands. Nowadays, even though the main performance players in the market already offer plus size products, the available options are still quite limited, when compared to the range of fashion options available for the straight size market. Therefore, by investing in widening the diversity of designs, colours and sizes of the plus size market, performance brands would be taking another step towards inclusiveness and catering for a valuable market segment, while they would also be aiding in the worldwide fight against physical inactivity.

### ***5.3 Limitations and Future Research Recommendations***

This research contributes to an increasing body of research on brands and their associated benefits and psychological effects. Nevertheless, the findings of this research must be seen in light of some limitations.

First, in what concerns the hypothesis development, we must mention that in order to generate H3 and H8, we took an additive approach of self-esteem and motivation. That is, we proposed that if performance non-luxury brands have a positive effect on self-esteem/motivation, and if luxury non-performance brands also empower self-esteem/motivation, then both associations on a single sportswear product would lead to an addition of these effects that would result in a greater impact in self-esteem/motivation. However, this assumption might not have been realistic. For instance, one might enjoy green tea on certain occasions and appreciate cinnamon cookies on others. Nevertheless, one might not be keen on having both together. Translating this illustration into the aim of this research, H1/H4 and H2/H6 could have been corroborated, and yet, H3/H8 could still have been fruitless. Indeed, the additive approach does not seem to apply to motivation, given that isolated luxury associations have a null effect on motivation but significantly diminish motivation when added to isolated associations of performance. If this additive approach would apply, additional associations of luxury to a performance brand would result in a null effect when compared to the performance non-luxury brand. That is, additional associations of luxury would not cancel out the positive impact of performance non-luxury brands on motivation.

In what regards the methodology deployed, one must take into consideration the fact that, by choosing a survey as a means of conducting a quantitative experience, our manipulation consisted of showing participants images of sportswear outfits and asking them to imagine themselves wearing it. As a result, the manipulation might not have been as effective as in the case of a laboratory experiment, where participants could authentically wear the outfits that served as manipulation. For instance, in the research of Garvey et. al (2015), participants' self-esteem was measured in a laboratory, after being randomly assigned to either a performance brand or a control equipment and completing a specific task with that equipment. Indeed, this research bears significant evidence suggesting that performance brand use enhances self-esteem. Thus, for the purpose of future research, a similar approach would be recommended, as it would possibly generate more accurate results.

Regarding the data collection process, this study used a snow-ball convenience sampling technique, meaning that the sample was not randomly selected. Even though this method can be applied as an approximation for a random sample, this might have influenced the results. Moreover, one factor that can be pointed out as a possible reason as to why the results did not correspond to the expectations is the fact that we did not impose our participants any level of interest in the practice of physical activity. That is, in the case that some of the participants were completely uninterested in this practice, perhaps it makes sense that performance and/or luxury

associations of sports brands will not influence this fact, as the participant him/herself would not buy any sportswear in the first place. Regarding sample size, despite having gathered a total of 527 responses, allowing for a number equal or above 82 valid responses per each experimental condition, a large-scale research could have generated more meticulous conclusions. Therefore, for future research purposes, it would be beneficial to gather larger quantities of data and to use a probability sampling technique, ensuring that each individual within the population has an equal chance of being selected for the study. Additionally, it might make sense to consider as a population those individuals that have, at least, a slight degree of interest in physical activity.

On another note, we did not find any evidence suggesting that self-efficacy perceptions of participants mediate the relationship between performance non-luxury associations and motivation to engage in physical activity. Nevertheless, there may be a just cause for this matter. Park and John (2014) found evidence that self-efficacy beliefs are indeed related with performance brand use. However, this association with performance only proved to influence those participants to which they referred to as “entity theorists”, that is, those that believe that their personal characteristics cannot be improved with personal effort. Participants that believed that they were able to improve through their personal efforts, referred to as “incremental theorists”, did not report a self-efficacy boost derived by performance brand use. Therefore, when replicating this study, it would make sense to evaluate participants’ implicit self-theory, as this is a factor that deeply influences consumers’ brand experience. As a result, future researchers would be able to distinguish between these distinct types of participants and infer more precise conclusions regarding the role of self-efficacy in the relationship between performance (non-luxury) associations and motivation to practise physical activity.

In outline, future researchers can utilize these findings and recommendations to further explore this topic.

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## APPENDIX

### *Appendix A - Questionnaire Transcript*

#### Introduction:

Welcome and thank you for participating in this study!

The following questionnaire was developed within the scope of my master's thesis at Católica Lisbon SBE.

I would like to assure you that your participation is completely voluntary and anonymous, and that all data will be treated confidentially. There are no right or wrong answers, therefore I ask you to be honest in your answers.

Your participation in this study should take approximately 4 minutes.

Thank you for your attention and cooperation!

Please click [here](#) to be directed to the study.

#### Block 1 - Attributed Condition and General Instructions:

One of the following captions was randomly assigned to participants, along with an image of the respective sportswear outfits:

- (1) The following sportswear outfits are from a private label named Domyos.
- (2) The following sportswear outfits are from the brand Adidas.
- (3) The following sportswear outfits are from a sportswear line of the luxury brand Prada.
- (4) The following sportswear outfits belong to a collaboration between Adidas and Prada, referred to as Adidas for Prada.

On the left-hand side, the women's outfit is presented, whereas on the right-hand side the men's outfit is presented. While answering the following questions and until the end of this survey, please imagine that you have bought one of these outfits and that you are currently wearing it.

Block 2 - Motivation to engage in physical activity:

1. How motivated would you feel to engage in physical activity in this outfit, on a scale from 1 "Not motivated at all" to 5 "Extremely motivated"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. How enthusiastic would you feel about engaging in physical activity in this outfit, on a scale from 1 "Not enthusiastic at all" to 5 "Extremely enthusiastic"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Owning this outfit, how likely would it be that you would dedicate more time to engage in physical activity, on scale from 1 "Not likely at all" to 5 "Extremely likely"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 3 - Self-efficacy evaluation:

1. How capable are you at practising physical activity on a scale from 1 "Not capable at all" to 5 "Extremely capable"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. How experienced are you at practising physical activity on a scale from 1 "Not experienced at all" to 5 "Extremely experienced"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. How confident are you about your physical activity skills on a scale from 1 "Not confident at all" to 5 "Extremely confident"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 4 - Social display evaluation:

1. How likely is it that you would wear this outfit in public places, on a scale from 1 "Not likely at all" to 5 "Extremely likely"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. How happy would you feel if you were using this outfit in a public space, on a scale from 1 "Not happy at all" to 5 "Extremely happy"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. How powerful would you feel if you were using this outfit in a public space, on a scale from 1 "Not powerful at all" to 5 "Extremely powerful"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. How proud would you feel if you were using this outfit in a public space, on a scale from 1 "Not proud at all" to 5 "Extremely proud"?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 5 - Status Consumption evaluation:

5. Please, rate your degree of agreement/disagreement with the following statements on a scale from 1 "Totally disagree" to 5 "Totally agree".

	1	2	3	4	5
I would buy a product just because it has status.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in new products with status.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would pay more for a product if it had status.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The status of a product is irrelevant to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A product is more valuable to me if it has some snob appeal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 6: Manipulation check

6. What is the brand of the sportswear outfit you were asked to imagine owning and wearing throughout this survey?

Block 7: Measuring Self-esteem:

7. Please, rate your degree of agreement/disagreement with the following statements on a scale from 1 "Totally disagree" to 5 "Totally agree".

	1	2	3	4	5
On the whole, I am satisfied with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At times, I think I am no good at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have a number of good qualities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to do things as well as most other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel I do not have much to be proud of.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I certainly feel useless at times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am a person of worth, at least on an equal plane with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I could have more respect for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All in all, I am inclined to feel that I am a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take a positive attitude towards myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 6 - Demographics

6.1 Age:

## 6.2 Gender:

- Female
- Male
- Non-binary / third gender
- Prefer not to say

### Thank you note:

Your participation was crucial for the development of this research. Thank you!

If you have any questions or remarks regarding this study, please do not hesitate to contact the primary investigator, Mariana Marques, through the following e-mail: [s-msrmarques@ucp.pt](mailto:s-msrmarques@ucp.pt)

## Appendix B - Survey Results

### Sample Description Tables

Table B1: gender distribution

Gender	Frequency	Percentage	Cumulative Percentage
Female	250	70.2	70.2
Male	105	29.5	99.7
Prefer not to say	1	0.3	100
Total	437	100	

Table B2: age distribution

		Frequency	Valid Percent	Cumulative Percent
Valid	18,00	14	3,9	3,9
	19,00	14	3,9	7,9
	20,00	45	12,6	20,5
	21,00	35	9,8	30,3
	22,00	70	19,7	50,0
	23,00	41	11,5	61,5
	24,00	16	4,5	66,0
	25,00	5	1,4	67,4
	26,00	10	2,8	70,2
	27,00	4	1,1	71,3
	28,00	3	,8	72,2
	29,00	3	,8	73,0
	31,00	1	,3	73,3
	32,00	1	,3	73,6
	33,00	2	,6	74,2
	34,00	1	,3	74,4
	35,00	3	,8	75,3
	36,00	6	1,7	77,0
	37,00	5	1,4	78,4
	38,00	4	1,1	79,5
	39,00	5	1,4	80,9
	40,00	7	2,0	82,9
	41,00	5	1,4	84,3
	42,00	3	,8	85,1
	43,00	2	,6	85,7
	44,00	4	1,1	86,8
	45,00	5	1,4	88,2
46,00	4	1,1	89,3	
47,00	2	,6	89,9	
48,00	2	,6	90,4	
49,00	1	,3	90,7	
50,00	4	1,1	91,9	
51,00	3	,8	92,7	

	52,00	4	1,1	93,8
	53,00	1	,3	94,1
	54,00	3	,8	94,9
	55,00	3	,8	95,8
	56,00	3	,8	96,6
	57,00	5	1,4	98,0
	58,00	1	,3	98,3
	59,00	4	1,1	99,4
	60,00	1	,3	99,7
	63,00	1	,3	100,0
	Total	356	100,0	
Missing System		81		
Total		437		

Table B3: age mean

	N	Minimum	Maximum	Mean	Std. Deviation
Age:	356	18,00	63,00	28,1798	11,37064
Valid N (listwise)	356				

Table B 4: experimental conditions' distribution

Manipulation	Frequency	Percentage	Cumulative Percentage
Domyos	115	26.3	26.3
Adidas	119	27.2	53.5
Prada	121	27.7	81.2
Adidas for Prada	82	18.8	100
Total	437	100	

## ANOVA and Independent Samples T-Tests of Self-Esteem

Table B 5: test of Between-Subjects Effects (self-esteem)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	,526 <sup>a</sup>	3	,175	,372	,774	,003	1,115	,123
Intercept	5202,338	1	5202,338	11023,37	,000	,969	11023,369	1,000
Luxury	,020	1	,020	,041	,839	,000	,041	,055
Performance	,161	1	,161	,342	,559	,001	,342	,090
Interaction	,420	1	,420	,889	,346	,003	,889	,156
Error	166,594	353	,472					
Total	5519,370	357						
Corrected Total	167,120	356						

a. R Squared = ,003 (Adjusted R Squared = -,005)

b. Computed using alpha = ,05

*Table B6: Independent Samples T-Test (H1)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3,327	,070	,285	196	,776	,0265	,09273	-,15640	,20934
Equal variances not assumed			,284	184,611	,777	,0265	,09326	-,15752	,21046

*Table B7: Independent Samples T-test (H2)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,051	,821	,524	188	,601	,05461	,10418	-,15090	,26012
Equal variances not assumed			,524	187,769	,601	,05461	,10419	-,15093	,26015

*Table B8: Independent Samples T-Test (H3: performance non-luxury condition vs. performance luxury condition)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	3,283	,072	-,821	165	,413	-,08468	,10314	-,28833	,11897
Equal variances not assumed			-,782	114,838	,436	-,08468	,10830	-,29920	,12985

Table B9: Independent Samples T-Test (H3: luxury non-performance condition vs. performance luxury condition)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,001	,973	-,960	157	,338	-,11282	,11747	-,34484	,11921
Equal variances not assumed			-,957	136,219	,340	-,11282	,11784	-,34586	,12023

### ANOVA and Independent Samples T-Tests of Motivation to practise Physical Activity

Table B10: Test of Between-Subjects Effects (motivation)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	6,481 <sup>a</sup>	3	2,160	2,762	,042	,021	8,287	,666
Intercept	4487,637	1	4487,637	5738,88	,000	,937	5738,880	1,000
Luxury	3,746	1	3,746	4,790	,029	,012	4,790	,588
Performance	1,244	1	1,244	1,591	,208	,004	1,591	,242
Interaction	1,215	1	1,215	1,554	,213	,004	1,554	,238
Error	304,187	389	,782					
Total	4909,222	393						
Corrected Total	310,667	392						

a. R Squared = ,021 (Adjusted R Squared = ,013)

b. Computed using alpha = ,05

Table B 11: Independent Samples T-Test (H4)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,003	,318	-1,883	209	,061	-,22603	,12006	-,46271	,01066
Equal variances not assumed			-1,881	203,789	,061	-,22603	,12015	-,46292	,01087

Table B12: Independent Samples T-Test (H6)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,519	,219	,709	210	,479	,08491	,11975	-,15117	,32098
Equal variances not assumed			,709	205,406	,479	,08491	,11975	-,15120	,32101

Table B13: Independent Samples T-Test (H8: performance non-luxury condition vs. performance luxury condition)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,866	,353	2,287	179	,023	,30961	,13535	,04252	,57669
Equal variances not assumed			2,325	170,415	,021	,30961	,13315	,04677	,57244

Table B 14: Independent Samples T-Test (H8: luxury non-performance condition with the performance luxury condition)

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,275	,260	-,010	180	,992	-,00132	,13503	-,26777	,26512
Equal variances not assumed			-,010	170,571	,992	-,00132	,13279	-,26345	,26081

**ANOVA, Independent Samples T-tests and mediation analysis of the underlying process of Self-Efficacy**

*Table B15: Tests of Between-Subjects Effects (self-efficacy)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	,048 <sup>a</sup>	3	,016	,022	,996
Intercept	5007,013	1	5007,013	6827,860	,000
Luxury	,021	1	,021	,029	,866
Performance	,029	1	,029	,039	,843
Interaction	,000	1	,000	,000	,986
Error	280,862	383	,733		
Total	5403,556	387			
Corrected Total	280,910	386			

- a. R Squared = ,000 (Adjusted R Squared = -,008)  
 b. Computed using alpha = ,05

*Table B16: Statistics of Self-efficacy*

	N	Mean	Std. Deviation	Std. Error Mean
Non- performance	105	3,6540	,90455	,08828
Performance	105	3,6349	,83144	,08114

*Table B17: Independent Samples Test (H5)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,877	,350	,159	208	,874	,01905	,11990	-,21733	,25542
Equal variances not assumed			,159	206,540	,874	,01905	,11990	-,21734	,25543

*Table B18: Indirect Effect of performance (non-luxury) on motivation to practise physical activity (H5)*

	Effect	BootSE	BootLLCI	BootULCI
Self-Efficacy	-.0030	.0207	-.0449	.0419

**ANOVA, Independent Samples T-tests and mediation analysis of the underlying process of Social Display**

*Table B19: Tests of Between-Subjects Effects (social display)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	1,731 <sup>a</sup>	3	,577	,469	,704	,004	1,408	,145
Intercept	3458,316	1	3458,316	2813,340	,000	,882	2813,340	1,000
Luxury	1,562	1	1,562	1,271	,260	,003	1,271	,203
Performance	,202	1	,202	,164	,686	,000	,164	,069
Interaction	,162	1	,162	,132	,717	,000	,132	,065
Error	463,430	377	1,229					
Total	3993,875	381						
Corrected Total	465,160	380						

a. R Squared = ,004 (Adjusted R Squared = -,004)

b. Computed using alpha = ,05

*Table B20: Statistics of Social Display*

	N	Mean	Std. Deviation	Std. Error Mean
No Luxury	104	2,9856	1,09767	,10764
Luxury	102	3,0735	1,11003	,10991

*Table B21: Independent Samples Test (social display)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,162	,688	-,572	204	,568	-,08795	,15382	-,39123	,21533
Equal variances not assumed			-,572	203,808	,568	-,08795	,15384	-,39127	,21536

*Table B22: Indirect Effect of luxury on motivation to practise physical activity*

	Effect	BootSE	BootLLCI	BootULCI
Self-Efficacy	-.0418	.0717	-1.035	.1825

*Table B23: Indirect Effect of performance on motivation to practise physical activity*

	Effect	BootSE	BootLLCI	BootULCI
Self-Efficacy	.0021	.0668	-.1314	.1322

**ANOVA, Independent Samples T-tests and mediation analysis of the underlying process of Conspicuousness**

*Table B24: Tests of Between-Subjects Effects (conspicuousness)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	2,764 <sup>a</sup>	3	,921	1,277	,282	,010	3,830	,341
Intercept	1906,150	1	1906,150	2641,081	,000	,877	2641,081	1,000
Luxury	,330	1	,330	,457	,499	,001	,457	,104
Performance	2,529	1	2,529	3,504	,062	,009	3,504	,463
Interaction	,004	1	,004	,006	,939	,000	,006	,051
Error	267,762	371	,722					
Total	2216,280	375						
Corrected Total	270,526	374						

a. R Squared = ,010 (Adjusted R Squared = ,002)

b. Computed using alpha = ,05

*Table B25: Statistics of Conspicuousness*

	N	Mean	Std. Deviation	Std. Error Mean
No Luxury	101	2,1703	,79618	,07922
Luxury	102	2,2373	,86596	,08574

*Table B26: Independent Samples Test (conspicuousness)*

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,928	,167	-,573	201	,567	-,06696	,11679	-,29724	,16333
Equal variances not assumed			-,574	199,907	,567	-,06696	,11674	-,29716	,16324

*Table B27: Indirect Effect of Luxury on Motivation to Practise Physical Activity*

Effect	BootSE	BootLLCI	BootULCI
Self-Efficacy	.0140	-.0368	.0749

*Table B 28: Indirect Effect of Performance on Motivation to Practise Physical Activity*

Effect	BootSE	BootLLCI	BootULCI
Self-Efficacy	.0404	-.0140	.1106