CO-BRANDING OF LUXURY FASHION BRANDS AND TECHNOLOGY BRANDS AND RETAIL CHANNELS: FOCUSING ON CONSUMER PERCEPTIONS OF STATUS-SIGNALING

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Abstract

The current study aimed to investigate the impact of luxury fashion–tech collaborations and their retail channels on consumers' desires for luxury items and perceptions of luxury fashion brands' images via status-signaling perceptions. Two research models were built based on signaling theory, and two experiments tested the causal effects of two independent variables in each sub-study: luxury fashion–tech collaboration status and luxury fashion brand prestige (in Study 1) and brands that carry luxury fashion–tech collaborative products and retail channels (in Study 2).

Study 1 used a 2 x 2 (luxury fashion–tech collaboration status: with vs. without a tech component in the product because of the collaboration) x (luxury fashion brand prestige: top-tier vs. accessible) mixed design. Data from a total of 58 men and women Amazon MTurkers in the United States who were between 18 and 35 years of age was used for analyses.

Consequently, a luxury item from a top-tier luxury fashion brand (vs. an accessible luxury fashion brand) resulted in a higher rating in terms of all consumer responses. Although the collaboration status had no statistically significant impact on consumers' responses, the interaction effect between a luxury fashion–tech collaboration and luxury fashion brand prestige on perceptions of status-signaling of the luxury item showed that, for the top-tier luxury fashion brand, consumers perceived the regular luxury item (i.e., without a tech component) as more status-signaling than the one with the luxury fashion–tech collaborative product (i.e., with a tech component). In contrast, for the accessible luxury fashion brand, consumers perceived the luxury fashion–tech collaborative product as more status-signaling than the regular luxury item. Thus, as

expected, it was demonstrated that the effect of the luxury fashion–tech collaboration on perceptions of status-signaling of the luxury item was more beneficial to accessible luxury fashion brands compared with top-tier luxury fashion brands. However, this positive impact did not extend to the other two consumer responses—consumer desires for the luxury item and perceptions of the luxury fashion brand's image. The perceptions of status-signaling of the luxury items had positive impacts on the two consumer responses, as expected. However, the mediation effect of perceptions of status-signaling of the luxury items was not supported.

Study 2 used a 2 x 2 (brands that carry luxury fashion–tech collaborative products: luxury fashion brand vs. tech brand) x (retail channel: physical store vs. online store) mixed design. Data from a total of 59 men and women Amazon MTurkers in the United States who were between 18 and 35 years of age was used for analyses.

Accordingly, products carried by luxury fashion brands evoked higher perceptions of status-signaling of the luxury fashion–tech collaborative products compared with those carried by a tech brand. However, this positive impact was not extended to the desire for luxury fashion–tech collaborative products and perceptions of the luxury fashion brand's image. There was no interaction effect between brands that carry luxury fashion–tech collaborative products and retail channels. As expected, perceptions of status-signaling of the luxury fashion–tech collaborative products had positive effects on the two consumer responses, as in Study 1. The mediation effect of perceptions of status-signaling of the luxury fashion–tech collaborative products was significant for both consumer responses, thereby demonstrating the indirect impact of the brands that carry luxury fashion–tech collaborative products via the mediator.

The current study has theoretical implications in that it extends the literature on signaling theory. Brands are known to signal their qualities to consumers, and the current study demonstrated brands' practices in the collaboration context. The current study also demonstrated that the alliance of luxury fashion and tech brands could maximize the signaling function through retailing strategies. Regarding the co-branding literature, the current study took a luxury fashion brand's perspective for the first time in terms of a luxury fashion–tech collaboration and identified which brand (luxury fashion vs. tech) should preferably carry luxury fashion–tech collaborative products to enhance consumer responses. Finally, it identified the mechanism of these responses—namely, perceptions of status-signaling of the products. The current study has practical implications in that it provides retailing strategies as well as guidance for marketing strategies for luxury fashion brands of different levels of prestige when partnering with technology brands.

Table of Contents

List of Tables

List of Figures

Chapter 1. Introduction

This chapter gives an overview of research on co-branding between luxury fashion and tech companies. A problem statement, the significance of the research, and the purpose of the research follow. Definitions of terms used in the study are described at the end.

1.1. Background

One of the reasons that humans have worn clothes is to adorn themselves and to express their taste or style (Solomon & Schopler, 1982). Beyond basic purposes such as protecting skin from the environment or covering parts of the body as required by social norms (Sanborn, 1927), fashion retailers and advertisers have emphasized the aesthetic and symbolic aspects of clothes to entice consumers (Jackson & Shaw, 2008). Today, technological advancements have enabled people to wear technology devices in pursuit of convenience (Zhang et al., 2017). The advent of wearable technology, or "wearables," provides another category of products through which consumers can express their traits, such as social status (Nieroda et al., 2018).

Wearable technology ("wearable tech") is defined as "a category of devices that can be worn by a consumer and often includes tracking information" (Lunney et al., 2016, p. 114). Examples include smartwatches, activity trackers, smart glasses, and earphones (Berglund, Duvall, & Dunne, 2016). One of the critical issues in the wearable tech industry has been finding an optimal balance between fashion and technology (Nieroda et al., 2018). Tech giants such as Apple have partnered with fashion brands to increase the aesthetic appearance and symbolism of products (Nieroda et al., 2018). An example is the Apple Watch Hermès, which debuted in 2015. The Hermès logo is always showing on

the display, and consumers can customize their watches with multiple iconic straps and watch faces from Hermès. Because of these aesthetic and symbolic aspects, many consumers who want a luxury experience have spent over $1,300 for this smartwatch (O'Hara, 2018).

According to this trend, which emphasizes aesthetic and symbolic aspects, fashion companies have started to embark on innovative wearable tech endeavors and position themselves as tech-savvy brands in a technophile era (Salonga, 2021). Fashion companies have partnered with technology companies or even self-developed wearable tech products. Allied technology brands are not necessarily just well-known companies. Many luxury fashion houses, such as Chanel and Prada, have collaborated with startups or have invested in startups that deal with fashion tech, AI, or sustainability (CB Insights, 2018). In particular, Louis Vuitton (LV), a French fashion house, is a front runner in technological co-branding and the development of fashion tech. In 2019, LV launched wireless earphones by collaborating with an audio products company, Master & Dynamic, to create the LV wireless Horizon earphones. The price for a set of these earphones is over $1,000, but their aesthetic and symbolic benefits fascinated celebrities and wealthier-than-average consumers worldwide (Gonzales, 2019). LV even self-developed a smartwatch, the LV Tambour Horizon connected watch, in 2017. The company highlighted that, unlike smartwatches from tech companies, such as Apple Watch, the Tambour Horizon is a fashion-first timepiece that reflects the wearer's style and personality (Stafford, 2017). Luxury fashion's co-branding with tech has established a branding strategy to broaden consumer bases and increase brand loyalty (Shen at al., 2017; Wang et al., 2015).

Regarding retail channels where luxury fashion–tech collaborative products are sold, the channel seems to vary according to who took leadership of the co-branding. For example, Apple Watch Hermès is sold both in physical and online stores operated by Apple and Hermès. The LV wireless Horizon earphones are sold only in LV's physical and online stores, but not in the retail channels of the technology brand that LV collaborated with. This new trend of co-branding between fashion and technology brands suggests there needs to be active research on the effect of these collaborative productions on consumer responses and retail strategy.

1.2. Problem Statement and Significance of the Study

Despite the market potential of luxury fashion–tech collaborative products, little is known about effective marketing strategies. The literature on co-branding has consistently tested the mechanism of perceived quality and illustrated that all brands engaged in co-branding can increase the perceived quality of co-branded products and benefit from brand alliances (e.g., Chien et al., 2014; Helm & Özergin, 2015*;* Washburn et al., 2004). However, little research has focused on the mechanism of status signaling when a luxury brand engages in co-branding. There needs to be research investigating whether luxury brands' co-branding activities with varied brand prestige with non-luxury brands, such as technology brands, increase or dilute the status-signaling perception of a co-branded product. This is because one of the core assets of luxury fashion brands and their products is status signaling (Kapferer & Valette-Florence, 2018), which should not be diluted due to the marketing and promotional needs of luxury fashion–tech collaborations. Furthermore, scant research on co-branding or wearable tech has

investigated whether the status-signaling perceptions of a product increase the desire for the product or improve the image of the brand that sells the product.

This present study has theoretical implications in that it builds on signaling theory and extends the literature on co-branding. It is one of the first attempts to focus on the status-signaling of luxury fashion–tech collaborative products and to empirically examine consumers' desires for products according to the mechanism of signaling one's status to others and the luxury fashion brand's image. This current study also contributes to the wearable tech literature in that it addresses the symbolic aspect of wearable tech and resulting consumer desires and perceptions of brand image, which were previously rarely addressed.

This current study was framed by the theoretical perspective of signaling theory: a theoretical perspective about how a signaler "attempts to manipulate, rather than inform, other organisms" (Cronk, 1994, p. 81). Concerning consumer behavior, the current study empirically tests whether luxury fashion–tech collaborative products are perceived as signaling status. Not only people but also brands signal their good qualities to consumers according to signaling theory (Tsao et al., 2006). In terms of branding, the current study suggests that a fashion brand and a tech brand could signal the high status of their products due to a luxury fashion–tech collaboration. In particular, the current study suggests that a luxury fashion brand could promote a positive brand image with a collaboration. In addition, the current study investigates the effects of the status-signaling of luxury items according to a luxury fashion brand's prestige and the retail channels that carry the luxury items.

This research suggests practical implications for luxury fashion brands that potential co-branding partners could be broadened beyond independent artists or fast fashion brands (e.g., H&M), characterized by their ability to rapidly capture most fashion trends as designs flow from the catwalk (Barnes & Lea-Greenwood, 2010). The current study suggests that luxury fashion brands should focus on emphasizing status-signaling aspects when co-branding with a technology brand concerning retailing to increase a desire for luxury fashion–tech collaborative products. This current study also suggests how the brand image of a luxury fashion brand will appear after co-branding with a technology brand. In addition, the current study suggests practical implications for both types of luxury fashion brands for different levels of prestige, including top-tier and accessible. This work also identifies how each brand could benefit from a luxury fashion–tech collaboration.

All previous research on fashion–tech collaboration (e.g., Nieroda et al., 2018) was from the technology brands' perspectives and addressed how a technology brand could effectively integrate fashion into its products and benefit from co-branding. The research provided little guidance for marketing strategies for fashion brands when partnering with technology brands. This research extends the co-branding literature by obtaining a luxury fashion brand's perspective for the first time regarding a luxury fashion–tech collaboration. Meanwhile, the literature on luxury fashion has tackled co-branding with independent artists or fast-fashion brands (e.g., Shen at al., 2017), and it cannot be used to explain the effect of a completely different partnership with technology.

Retailing decisions determine the supply, handling, and delivery of products and consumer experiences, which are all directly related to corporate performance

(Varadarajan et al., 2010). Despite the importance of a retail strategy, previous research (e.g., Nieroda et al., 2018) has been limited to product development or advertising strategies for the co-branding of luxury fashion brands. For luxury fashion brands to continue to co-brand with technology brands and thrive, it is important to investigate which retail channels contribute to consumers' status-signaling perceptions of luxury fashion–tech collaborative products and are optimal for maximizing favorable consumer responses (Nieroda et al., 2018; Solomon, 2018). For example, if target customers value a status-signaling aspect and an exclusive luxury experience, luxury fashion–tech collaborative products should be sold on luxury fashion brands' retail channels rather than simply through the technology brands' retail channels. The current study contributes to the co-branding literature by investigating retail strategies for the first time. Overall, the findings of the current study could benefit industry practitioners in devising luxury fashion–tech collaboration-specific strategies for product development, retailing, merchandising, or advertising.

1.3. Purpose of the Study

The current study aims to investigate the impact of luxury fashion–tech collaborations and their retail channels on consumers' desires for luxury items and perceptions of luxury fashion brands' image via status-signaling perceptions. Two research models were built based on signaling theory, and two experiments tested the causal effects of two independent variables in each sub-study: luxury fashion–tech collaboration status and luxury fashion brand prestige (in Study 1) and brands that carry luxury fashion–tech collaborative products and retail channels (in Study 2). More specifically, the research aims to investigate the impact of four factors on consumers'

desires for luxury fashion–tech collaborative products and their evaluations of luxury fashion brand images. In Study 1, a factor is the luxury fashion–tech collaboration status (with vs. without tech components in the product because of co-branding). Another factor is luxury fashion brand prestige (top-tier vs. accessible). In Study 2, a factor is a brand that carries luxury fashion–tech collaborative products (luxury fashion brand vs. technology brand). Another factor is the retail channel (physical store vs. online store) for luxury fashion–tech collaborative products.

Study 1 aims to investigate the effect of luxury fashion–tech collaborations by luxury fashion brands at different prestige levels (top-tier vs. accessible) on consumers' desire for products and their perceptions of a luxury fashion brand's image. This research also aims to discern which luxury fashion brand type (top-tier vs. accessible) could benefit more from co-branding. Study 2 aims to investigate the effect of retail channels (physical store vs. online store), in which a luxury fashion brand and its technology brand ally sell luxury fashion–tech collaborative products, on consumers' desires for products and perceptions of the luxury fashion brand's image. Based on signaling theory, a mediator was used in both sub-studies to explain the mechanism of those effects: consumers' perceived status signaling of luxury fashion–tech collaborative products. Proving the postulated mechanism to be true demonstrates the importance of the status-signaling aspect of luxury fashion–tech collaborative products.

The study's research questions are as follows:

1) Will the tech component of a luxury item following the luxury fashion–tech co-branding impact its status signaling and, in turn, result in greater consumer desire for the product and favorable image of a luxury fashion brand?

2) Will the effect of the tech component of a luxury item vary according to the prestige of a luxury fashion brand? If so, which luxury brand type would benefit more from co-branding?
3) Will the retail channel where a luxury fashion–tech collaborative product is sold impact a luxury fashion–tech collaborative product's status signaling and, in turn, result in greater consumer desire for the product and favorable image of a luxury fashion brand?

1.4. Assumptions of the Study

This current study assumed that luxury fashion brands collaborate with tech brands that fit well, not with those that do not fit, which would cause poor brand performance (Dalman & Puranam, 2017; Moon & Sprott, 2016). The current study also assumed that a luxury fashion–tech collaborative product can be sold by either the luxury fashion brand or the tech brand, thereby posing a question of the most effective retail channel for the co-branded product. This study further assumed that the wristwatch (without a tech component) and the smartwatch (with a tech component) are identical in all aspects of design except the tech component.

1.5. Definition of Terms

Brand image: "Perceptions about a brand as reflected by the brand associations held in consumer memory" (Keller, 1993, p. 3).

Brand prestige: A "relatively high status of product positioning associated with a brand" (Steenkamp, Batra, & Alden, 2003, as cited in Baek, Kim, & Yu, 2010, p. 663).

Co-branding: “Short- or long-term association or combination of two or more individual brands, products, and/or other distinctive proprietary assets” (Simonin & Ruth, 1998, p. 30).

Desire for products: A strong feeling of wanting to have a certain product (Crisp, 1987).

Retail channel strategy: The way in which a company’s product offer is made available to a customer (de Faultrier et al., 2014).

Signaling theory: A theoretical perspective about how a signaler “attempts to manipulate, rather than inform, other organisms” (Cronk, 1994, p. 81).

Wearable technology: “A category of devices that can be worn by a consumer and often includes tracking information” (Lunney et al., 2016, p. 114).

Chapter 2. Literature Review

This chapter starts with an overview of the literature and presents a review of the co-branding of luxury fashion and technology brands and brand image. Subsequently, a theoretical background section evaluates the literature on signaling theory. The hypotheses and research models are presented in the last section.

2.1. Background Literature

2.1.1. Co-Branding of Luxury Fashion Brands

"Co-branding" or "brand alliance" pertains to "short- or long-term association or combination of two or more individual brands, products, and/or other distinctive proprietary assets" (Simonin & Ruth, 1998, p. 30). Since the late 1990s, co-branding has consistently been performed in numerous industries to enhance brand performance (Cooke & Ryan, 2000; Pinar & Trapp, 2008). The literature on co-branding has investigated many co-branding strategies, such as ingredient branding and affinity programs (Pinar & Trapp, 2008; Swaminathan & Reddy, 2000).

Co-branded products are not only limited to goods, but they can also include services, for example, a co-branding partnership between a consulting services company and a market research corporation. Two or more brands that engage in co-branding can be in the same or different product categories. For example, in 2015, luxury fashion brand Balmain co-branded with H&M, a fast fashion brand, to promote clothing, and both brands are in the same product fashion category. Conversely, the luxury fashion brand, Hermès, has co-branded with a technology brand, Apple, to market Apple Watch Hermès since 2015, and the two brands are in different product categories, fashion and technology, respectively.

Brand equity, or the strength of two or more brands engaged in co-branding, can have similar status or variations therein. In the case of Balmain and H&M, Balmain has higher status. Both have the capacity to attract new customers from each other's brands (Kim et al., 2007). It was also determined that the brand that hosted the co-branding benefited more than its partner when co-branding was successful (Lou et al., 2007). In contrast, the partner brand was more negatively impacted than the brand that hosted the co-branding when the alliance was unsuccessful (Lou et al., 2007).

A private label's use of a national brand's attribute as an ingredient in a co-branded product (e.g., Kroger cookies with Nestlé chocolate) is another representative form of co-branding in which the prestigious status of two or more brands engaged in co-branding is not similar. In this instance, the private label hosted the co-branding, increased awareness of its brand, attitudes toward it, and product sales by borrowing the national brand's reputation (Keller & Aaker, 1992). The national brand provides an attribute, an "ingredient," to the co-branded product, and the collaboration helps them to improve their competitiveness and obtain additional sales without cannibalizing the sales of their existing products (Aaker, 2003; Vaidyanathan & Aggarwal, 2000). There is minimal danger of brand dilution because the brand is not extended to other product categories (Vaidyanathan & Aggarwal, 2000). It has been demonstrated that the host brand (i.e., private label) increases its product evaluation by using the co-branded "ingredient" (i.e., the national brand's product attribute) rather than the self-branded "ingredient" (i.e., private brand's product attribute) through co-branding (Desai & Keller, 2002).

In summary, the literature on co-branding has consistently shown that brands that engage in co-branding enhance perceptions of the quality of their co-branded products and benefit from the brand alliance (Helm & Özergin, 2015; Washburn et al., 2000). To ensure the success of the strategic partnership, a brand image fit between partners is pivotal (Dalman & Puranam, 2017; Moon & Sprott, 2016). In addition, it has been determined that the brand equity, strength, or awareness of a partner had significant impacts on co-branding outcomes (Lou et al., 2007).

Luxury fashion brands have co-branded with brands in various categories within or beyond fashion to stay abreast of trends and ensure the accessibility and affordability of products to potential customers (Wang et al., 2015). For example, luxury fashion brands often collaborate with famous global artists (e.g., Richard Prince and LV in 2008) and fast fashion brands (e.g., H&M and Lanvin in 2010). Co-branding promotes consumers' attitudes toward luxury fashion brands, increases brand loyalty, and expands the consumer base with profit maximization (Shen at al., 2017; Wang et al., 2015).

The infusion of visual art into luxury products has been demonstrated to enhance consumers' perceptions of the prestigious value of a luxury fashion brand, perceived luxuriousness, and purchase intentions regarding the co-branded product (Lee et al., 2015; Peluso et al., 2017). However, co-branding with fast fashion brands was demonstrated to dilute the image of luxury fashion brands when the brand or product fit between the brand alliances was poor (Mrad et al., 2019; Wang et al., 2015). Additionally, co-branding performance has been shown to vary from country to country. Wang et al. (2015) compared the perceptions of U.S. and Indonesian consumers toward a luxury brand after the application of a co-branding strategy and reported that Indonesians had a more

favorable attitude in this regard, compared to Americans, when the product fit between the co-branding partners was high. The authors attributed the finding to the difference in power–distance belief, which is high and low in Indonesia and the U.S., respectively. Specifically, the desire for exclusivity, social class, and power through the acquisition of luxury items played a considerably more important role in Indonesia than it did in the U.S.

The benefits and limitations of luxury fashion brand co-branding suggest that caution is advisable in the selection of collaborative alliances and in the execution of co-branding strategies. The co-branding of luxury fashion and technology, a seemingly less relevant field, has recently been assessed not only in the co-branding literature but also in the wearable technology literature.

2.1.2. Wearable Technology

Wearable technology, also known as "wearable tech" or "wearables," has helped make technology more pervasive and ubiquitous by incorporating it into daily life (Mihajlović et al., 2014). It enhances or extends the functionality of clothing or accessories, provides users with convenience and assistance, and addresses concerns such as well-being, communication, and privacy (Zhang et al., 2017). Its functions range from the recording of activities to tracking information, such as movement, steps, and heart rate, typically via small wearable or portable personal tools or accessories (Clifton et al., 2012). Wearable technology has diverse applications. As smartwatches and activity trackers have become popular, wearable technology has become prominent in consumer electronics and has been incorporated into healthcare, advanced textiles, and navigation systems (Clifton et al., 2012). The global wearable technology market was valued at

$19,633 million in 2015, and it is expected to reach $57,653 million by 2022 (Mamtani, 2017), which implies an important market opportunity.

Smartwatches have played a dominant role in the widespread use of wearable technology (Choi & Kim, 2016). A step counter by Fitbit was first released in late 2010. Afterwards, smartwatches were released by major electronics companies and new start-ups. Samsung® Galaxy Gear was one of the offerings in 2013. Apple, currently a smartwatch giant, launched the Apple® Watch in 2015 and has continued to launch a new series each year. The global smartwatch market was estimated to be $9,265 million in 2017 and is projected to reach $31,071 million by 2025 (Tiwari & Patil, 2020).

Wearable technology constitutes hybrid products that possess features from more than one product category, like technology and fashion (Rajagopal & Burnkrant, 2009). It can be designed from either a functional or aesthetic perspective or a combination of both (Nieroda et al., 2018). Consumers perceive wearable technology to constitute both digital devices and fashion accessories (Chuah et al., 2016; Nieroda et al., 2018).

Moreover, wearable technology comprises four basic aspects: function, ergonomics, aesthetics, and symbolism (Nieroda et al., 2018). Of these, it is consistently emphasized that design aesthetics is a very important aspect of wearable technology, which needs to be operable but also look appealing (Homburg et al., 2015; Jindal et al., 2016; Miner et al., 2001; Sonderegger, 2013). Design has been shown to positively impact consumer responses (i.e., purchase intentions) to wearable technology (Homburg et al., 2015).

Nieroda et al. (2018) evaluated the importance of the symbolism of wearable technology and the degree to which it is a status symbol. They found that wearable

technology is often linked to a user's social status; for example, Apple Watch Hermès was associated with a fashionista. They also established that a person who uses multi-functional wearable technology, such as a smartwatch, is likely to have elevated social status compared to a user of mono-functional wearable technology, such as an activity tracking bracelet.

Typically, consumers are concerned with image-related consistency (i.e., between the self and the product) when assessing or selecting a product (Kressmann et al., 2006). For example, some consumers value status symbols, such as luxury watches and jewelry from brands such as Rolex, because these items are congruent with the social placement that they occupy or desire (Nieroda et al., 2018). This tendency also applies to an evaluation of wearable technology. Nieroda et al. (2017) found that the same smartwatch was perceived differently according to whether users were oriented to well-being, technology, or fashion. They postulated that people signal their personality through their wearable technology. Therefore, the selection of a certain type of wearable technology depends on an individual's personality and perception of congruence between the self and the product.

Wearable technology was functional but not particularly aesthetically attractive in early 2010 (Sonderegger, 2013). However, as the importance of aesthetic appeal and symbolism grew, wearable technology expanded to meet fashion expectations, and garments that signaled status and were stylish were produced (Solomon, 2018). Co-branding between technology and fashion companies to enhance the aesthetic and symbolic appeal of products has been a notable trend in the wearable technology industry (Solomon, 2018).

2.1.3. Co-Branding of Fashion and Technology Brands

As wearable technology has become increasingly popular, technology brands have invested in making wearable technology more appealing by partnering with fashion brands (Avins, 2014). Through partnerships and resulting special editions of products, technology brands have appropriated the credibility of established, high-end fashion designers by partnering with them and producing special editions of their creations (Avins, 2014). The partnership in 2015 between Google and Levi Strauss, an American clothing company, to create a jacket, Project Jacquard is one of the earliest examples of a fashion–tech collaboration for wearable technology; the jacket had touch-sensitive areas to control a smartphone, When developing special editions of existing technological products, technology companies seem to have chosen their fashion brand partners based on a specific brand image. For example, Apple collaborated with Hermès, a top luxury fashion brand, and added luxuriousness to its smartwatch, and Samsung teamed with Under Armour, a sports apparel company renowned for its innovative technology, and conferred sporty and health-promoting qualities to its smartwatch (Charlton, 2020; O'Hara, 2018).

Similarly, fashion brands have partnered with technology brands to cater to a tech-savvy consumer culture and ensure that their image projects this quality (Burnes, 2019). Thus, fashion brands can absorb the customers of technology brand alliances and extend their businesses into technology categories (Shen et al., 2017). Luxury fashion can be differentiated from regular fashion, because unlike the latter, it is exclusive and is produced by high-status fashion houses (Godart & Seong, 2014). Therefore, when luxury fashion brands co-brand with technology brands, they opt to co-brand with illustrious

technology brands, thereby creating a “dream team” (Bowe, 2019). The Galaxy Z Flip Thom Browne Edition phones from Samsung, released in 2020, are a recent example of this. The phones were designed using the distinctive Thom Browne signature brand colors featured on the runway on a pebble gray exterior and offered the same innovative Galaxy Z Flip features. It was promoted as a perfect blend of art and technology (Leedham, 2020). The phone’s purchase price was more than $2,480, and it was sold as a package with the Galaxy Watch Active2 smartwatch and Galaxy Buds + wireless earphones (Leedham, 2020).

Luxury fashion brands do not solely choose to form alliances with famous technology brands. When luxury fashion brands partner with little-known technology brands, they take the lead and highlight the appealing design and exclusivity of collaborative wearable technology rather than focus on high-quality functioning (Gomes, 2020). For example, Louis Vuitton Wireless Horizon earphones and the product’s case feature the company’s logo, and LV emphasized the product’s colorful and appealing design, along with the symbolic benefits of brand heritage and reputation (Gomes, 2020). Unlike simple classic wireless earphones, LV’s new product serves to signal the high status of the wearer (Gomes, 2020).

Other luxury fashion brands, such as Chanel and Prada, have also collaborated with or invested in fashion–technology or artificial intelligence startups, which have enabled them to diversify at a reduced cost compared to launching a new technology brand (CB Insights, 2018). This type of wearable technology also extends to products already carried by luxury fashion brands, such as handbags. Consider another example: LV premiered its monogram handbag with two built-in flexible screens in 2019. It is a

prototype, and two styles, a “speedy” bag and a “bucket” bag for women, premiered at the company’s Cruise 2020 shows in New York. The screens display moving images or web pages using innovative OLED technology, which is lighting technology from a technology company (Yalcinkaya, 2019). The LV screen bag aims to be the next-generation smartphone (Yalcinkaya, 2019). This indicates that luxury fashion brands could incorporate technological literacy as part of their appeal (Stafford, 2017).

It is expected that an increasing number of technology companies will co-brand with luxury fashion brands to enhance the aesthetic appeal and symbolism of wearable technology products. In addition, more luxury fashion brands will apply technology to their fashion items. However, a reputable name in either industry does not guarantee success; truly successful fashion–technology co-branding may not solely derive from established fashion houses and technology giants (Avins, 2014). Active research on luxury fashion and tech brands’ co-branding-specific marketing strategies is warranted.

2.1.4. Retail Channels for Luxury Fashion–Technology Brand Collaborations

A “retail channel strategy” is defined as the way in which a company’s product offer is made available to a customer (de Faultrier et al., 2014). A consumer’s choice of retail channel corresponds with certain needs or expectations regarding the purchasing of products (Doherty et al., 1999). Most companies across various product categories have adopted an omnichannel strategy that enables consumers to shop using multiple methods (e.g., in a physical store, online, or by phone; Verhoef et al., 2015). Here, different retail channels do not work in isolation. They are designed and orchestrated to cooperate, which improves users’ experiences and drives optimal brand performance across various points of contact with consumers (Verhoef et al., 2015).

Luxury fashion–technology brand collaborations are sold via multiple channels, and little is known about the optimal retail strategies for the co-branding of fashion–technology products. For example, Apple Watch Hermès is sold in-store and online through both Apple and Hermès. By contrast, LV's wireless earphones are sold in LV's physical and online stores but not in the physical or online stores of its technology brand alliance. Disparate retail channels are used to market luxury fashion–tech collaborations, which poses the question of which channels are optimal to maximize the brand performance of the collaboration in this regard, which needs to be determined.

This current study operationalizes a luxury fashion–tech collaborative product as a wearable product that is from a collaboration between a luxury fashion brand and a tech brand. Both of its luxury fashion and tech components are visible when a user wears it, thereby making the product function as more status-signaling or less status-signaling and potentially influencing the image of the fashion brand. The collaboration could occur for not only wearable tech, but also non-wearable tech such as multi-room speakers. However, the current study only focuses on collaborations on wearable devices (e.g., smartwatches and earphones).

2.1.5. Brand Image

A "brand" is "a name, symbol, design, or some combination which identifies the product of a particular organization as having a substantial, differentiated advantage" (O'Malley, 1991, p. 107, as cited in Rooney, 1995, p. 48). "Brand image" refers to "perceptions about a brand as reflected by the brand associations held in consumer memory" (Keller, 1993, p. 3). Brand associations that make up the brand image comprise three dimensions of attributes, benefit, and consumers' overall attitudes toward the brand

(Keller, 1993). Consumers' perceptions of brand image should include the three categories of brand association (Hsieh et al., 2004). Various factors, such as celebrities (Keller, 1998), advertisements, and the country of origin (Koubaa, 2008), help to create the visualization of a brand image in consumers' minds (Keller, 1993). Consumers make inferences about a product based on brand images (Keller, 1998), which is why brand images matter.

There are three types of brand images: functional, social, and sensory (Roth, 1995a). A "functional image" is used to prevent or solve problems, and a "social image" is utilized to convey status (Roth, 1995a). A "sensory image" is selected to provide variety and sensory gratification to consumers (Roth, 1995a). A brand tends to standardize its image in the absence of cross-market distinctions in a country (Roth, 1995b). However, image customization takes place when these distinctions exist (Roth, 1995b). Thus, one brand can have one or multiple brand images with which to maximize brand performance, depending on global market conditions (Roth, 1995b).

Developing and maintaining a clearly defined brand image is vital for a brand because consumers identify the needs that can be satisfied by a brand based on brand image, and they use it to avoid the risk related to a product (Sirgy, 1985). They evaluate products based on the brand's image, which affects their purchase decisions (Park et al., 1986; Phau & Prendergast, 2000). Brand image can also be a factor that distinguishes a brand from competitors (DiMingo, 1988) and is a critical component of brand equity (Keller, 1993), the worth of the brand itself (Aaker, 1992).

Brand image has been extensively investigated in the literature, particularly regarding co-branding (e.g., Geylani, Inman, & Hofstede, 2008), brand extension (e.g.,

Eren-Erdogmus et al., 2018), and mergers and acquisitions (e.g., Lee et al., 2011). Co-branding can improve or dilute a brand's image and, thus, influence brand equity (Geylani et al., 2008; Washburn, Till, & Priluck, 2000). Therefore, a brand that seeks to utilize co-branding should track its brand image.

Brand image is quite a broad concept that captures diverse dimensions and types, and researchers in the branding literature have validated brand image measurements according to their specific disciplinary or research focus. For example, Cho et al. (2015), in the fashion merchandising discipline, validated the fashion brand image scale encompassing cognitive, sensory, and affective associations (e.g., intimacy: "I feel happy when I wear this brand"). Frequently used aspects and measurement items for brand images in the (co-)branding literature include quality (e.g., "This brand is known to consistently deliver very high quality"), reputation (e.g., "I have heard a lot of good things about this brand"), trust (e.g., "This is a brand that I trust"), and personality (e.g., "This brand is interesting"; Davis et al., 2009; Martinez & Pina, 2003). The current study focused on the status-signaling aspect of brand images because it postulated that the mechanism of a luxury fashion–tech collaboration involves perceptions of the status-signaling of the luxury item. In the current study, the perceived luxury fashion brand's image was operationalized as consumers' perceptions of a luxury fashion brand concerning admiration, high status, wealth, sophistication, and making a good impression on others through the brand's products (Albrecht, Backhaus, Gurzki, & Woisetschläger, 2013; Eren-Erdogmus et al., 2018; Sung et al., 2015; Vogel et al., 2019).

2.1.6. Brand Prestige and Its Influence on Co-Branding

A brand functions as a signal that represents an entity, increases the credibility of an entity, and reduces consumers' perceived uncertainty or perceptions of risk regarding product quality when there is a gap in information about the product between the entity and its customers (i.e., information asymmetry; Sirgy, 1985). Brand prestige helps to reduce information asymmetry (Baek et al., 2010). Brand prestige also reflects "a relatively high status of product positioning associated with a brand" (Steenkamp, Batra, & Alden, 2003, as cited in Baek, Kim, & Yu, 2010, p. 663). Globally positioned brands and luxury brands, for example, represent high brand prestige (Baek et al., 2010; Kapferer, 1994). Indeed, brand prestige increased perceived quality and reduced perceived risks among consumers (Baek et al., 2010).

Regarding co-branding, brand prestige has a spillover ("halo") effect (Borah & Tellis, 2016; Crane, 1965; Pina et al., 2013; Sine et al., 2003). A less prestigious brand might pursue co-branding with a highly prestigious brand because a co-branded product has the potential to be more favorably appraised by consumers owing to the spillover effect (Simonin & Ruth, 1998). Indeed, the literature on co-branding has consistently established that a brand with less prestige, equity, strength, familiarity, or awareness benefits more from the co-branding alliance than a partner with more prestige, equity, strength, familiarity, or awareness (Lou et al., 2007; McCarthy & Norris, 1999; Simonin & Ruth, 1998; Wang et al., 2015; Washburn et al., 2000).

Thus, many brands pursue co-branding with a luxury brand to take advantage of its luxury attributes and to benefit from the spillover effect (Shen et al., 2017). For example, H&M has co-branded with various luxury fashion brands (i.e., Karl Lagerfeld,

Alexander Wang, and Balmain) every year since the early 2000s (Mrad et al., 2019). Most co-branding alliances have been extremely successful, evidenced by overnight line-ups for the opportunity to purchase a newly launched product, websites crashing within two minutes following the posting of new product launches online, collections being sold out within 30 minutes of being launched in large cities, and 15% sales growth (Mrad et al., 2019).

2.2. Theoretical Background

2.2.1. Signaling Social Status through Luxury Consumption

Signaling theory is founded in evolutionary psychology, for example, regarding intrasexual competition and hunting for a mate (Buss, 1988; Gurven & Hill, 2009; Hennighausen et al., 2016; Hudders et al., 2014). Later, it was extended to various disciplines, including anthropology and psychology, as well as job recruitment (Spence, 1978), corporate strategies, and consumer behaviors (Karasek III & Bryant, 2012; Nelson, 1970; Rao et al., 1999). From a company perspective, "signaling" refers to a seller's informing its unobservable product quality to a buyer (Boulding & Kirmani, 1993). The signaler, signal, receiver, and feedback comprise key elements of signaling theory (Certo, 2003). Signalers obtain information about an individual, organization, or product and selectively send signals, or informational cues, to receivers to induce desired outcomes; they usually convey positive attributes of their organizations (Certo, 2003). To address information asymmetry between a company and its customers, the company must use signals such as offering a warranty, promoting its brand name, and committing to advertising expenditures (Certo, 2003). For example, luxury fashion brands' prestige could be described as packaged with various signals by luxury fashion brands. Receivers

(e.g., consumers) usually have limited information about the organization and are willing to obtain it (Certo, 2003). Receivers send feedback, which makes the signaling process effective; the signaler can confirm whether the signals have been interpreted as they intended through the receivers' feedback (Certo, 2003). The effectiveness of signaling depends on the observability, frequency, and reliability of the signals (Certo, 2003). Signaling increases consumers' perceptions about product quality and decreases information costs and perceived risks (Erdem & Swait, 1998).

Consumers are also signalers. Costly signaling theory is a specific form of signaling theory that has been used to explain an individual's use of costly signals (Saad, 2007). Four criteria must be met for a signal to qualify as costly: "First, the signal must be easily observable. Second, the signal must be hard to fake (because of its associated costs). Third, the signal must be associated with an unobservable, yet desirable, individual quality, such as good genes, physical health or other. And fourth, the signal must ultimately yield a fitness benefit" (Bliege Bird & Smith, 2005, as cited in Nelissen & Meijers, 2011, p. 344). The signal could be directed to a general audience or to the signaler's significant other (Berger & Ward 2010; Han et al. 2010).

Consumers use signals as an impression management tool (Wood & Hoeffler, 2013). Impression management is a strategy for self-enhancement (Solomon, 2010). Self-enhancement is considered such a fundamental concern in an individual's social and professional life that social psychology has actively addressed the impression management of individuals (Solomon, 2010). Individuals manage the way they appear to others, whether face to face or online, every day to portray desirable identities (Solomon, 2010). Physical appearance has a significant impact on the judgments made by others

(Goffman, 1978); thus, the products and brands that an individual uses have a meaningful impact on the social impressions gained (Solomon, 2010).

Luxury products have been consistently assessed as a costly signal, along with other types of signals (e.g., the proactive provision of highly valuable resources; Gintis et al., 2001; Zahavi, 1995). Luxury products possess the qualities of brand heritage, prestige, rarity, artisanship, recognizability, and desirability, and they are available at premium prices, which is why people desire them (Dunham, 2011; Liu & Choi, 2009; Tynan et al., 2010). People sometimes seek luxury goods because they can expedite a better perception of self and boost self-esteem, which are goals of impression management (Berger & Heath, 2007; Sivananthan & Pettit, 2010). People also seek luxury products to signal important information about a person's wealth, level of prestige, or discerning tastes to others (Han et al., 2010; Mazzocco et al., 2012; Park & John, 2018; Richins, 1994; Rucker et al., 2012; Wilcox et al., 2009). Typically, extraordinary consumer behaviors, for example, individuals spending money on the acquisition of luxury products to publicly display their wealth, are termed "conspicuous consumption" or "status consumption" (Corneo & Jeanne, 1997; Pino et al., 2017).

The literature on costly signaling and conspicuous consumption (e.g., Han et al., 2010; Hudders et al., 2014; Nelissen & Meijers, 2011) has assessed these behaviors. For example, Nelissen and Meijers (2011) found that conspicuously displaying luxury is a way of costly signaling and evokes status-related preferential treatment in human social interactions. To be specific, women who consumed luxury products were perceived to be more attractive, ambitious, sexy, and higher status than those who did not in the study by Hudders et al. (2014). In an investigation of different types of consumers according to

wealth and the need for status, Han et al. (2010) demonstrated that consumer preferences for (in)conspicuously branded luxury items are in line with their need to dissociate from or associate with the members of the group to which they belong and other groups. Wealthy consumers with little desire for status were demonstrated to elect to associate with their own group and paid a premium for inconspicuously branded items that only they could recognize. By contrast, wealthy consumers with a strong desire for status used conspicuously branded luxury items to signal their disassociation with less affluent groups. In addition, those who sought status but could not afford authentic luxury items used conspicuously branded counterfeits to gain an association with those who were wealthy.

Co-branding is used by brands to signal their product quality to their customers (Rao et al., 1999). The alliance partner can signal the quality that an original brand cannot signal by itself (Rao et al., 1999). For example, it was found that consumers evaluated an unknown foreign brand more positively when that brand applied a co-branding strategy (Voss & Tansuhaj, 1999). Likewise, luxury fashion brands choose to co-brand with technology brands to signal that they are tech savvy (Burnes, 2019) because this is not that achievable on their own.

From a consumer perspective, costly or exclusive products or brands other than luxury fashion, such as innovative technology products, can also be used by consumers to signal a desired impression or social status (Anderson & Lee, 2008; Nieroda et al., 2018). Knowing, owning, and using innovative technology conveys a good impression (e.g., tech savvy, trendy, wealthy, and professional) to others and can be used to improve one's social status in this era of technophiles (Arbore, Soscia, & Bagozzi, 2014; Grecia, 2012;

Nieroda et al., 2018). This means that consumers today may be socially motivated to buy, display, and talk about innovative technology.

Thus, luxury fashion–tech collaborative products can be used as costly signals (Nieroda et al., 2018). Empirical testing is needed to compare the perceived level of status-signaling of luxury fashion–tech collaborative products with that of regular luxury items. The tests should assess whether the addition of technology would improve the desirability of a luxury item, along with the luxury fashion brand image.

2.3. Hypotheses and Research Model Development

2.3.1. Status-Signaling Function of Luxury Items and Consumers' Responses

A luxury brand needs to utilize co-branding to reinforce the exclusive perception of its brand (Shin et al., 2017), and most luxury fashion brands have consistently done so (Okonkwo, 2016). Desmichel et al. (2020) proposed that ephemeral and iconic luxury products have distinct symbolic meanings in the marketplace. Ephemeral luxury items were operationalized as those that are launched every season by luxury brands and represent the brand's most up-to-date designs, aesthetic elements, or technology, and are pivotal to setting new fashion trends (e.g., a limited-edition LV handbag designed in collaboration with a famous artist; Passariello, 2006). Iconic luxury items are those that the luxury brand continues to carry for years and represent the brand's history, tradition, and legacy (e.g., a classic LV handbag; Kapferer & Bastien, 2012). According to the findings of Desmichel et al. (2020), ephemeral luxury consumption boosted observers' perceptions of an individual's achieved, but not ascribed, social status. The positive effect of ephemeral luxury consumption on observers' perceptions of an individual's achieved social status was mediated by perceptions of his or her creativity. This result implies that

an individual who uses ephemeral luxury items enhances others' perceptions of his or her creativity and, in turn, social status.

It was demonstrated that the perceived level of prestige of luxury fashion brands was considered greater when the brands incorporated artwork on wallets compared to when they did not in a study by Lee et al. (2015). The use of artwork had a spillover effect in that it transferred the attributes of the art to the luxury product (Lee et al., 2015). Pino et al. (2017) assessed the art infusion effect in relation to luxury items and found that brand advertisements that incorporated recognizable artwork increased the products' perceived luxuriousness. They verified that recognizable art served as a means of signaling status to others.

Similar to infusing artwork, an increasing number of luxury fashion brands have started to integrate technological components into their products, presumably in the hope that they will appear to be tech savvy and exclusive (Burnes, 2019). Examples include LV's screen bag and Saint Laurent's CIT-E Backpack® (Saint Laurent X Google smart backpack). The current study operationalized luxury fashion–tech collaboration status according to whether a luxury item had a technology component from a technology brand. The differentiation between traditional luxury items and luxury fashion–tech collaborative products is that the addition of technology to luxury items elevates the status-signaling allure of the resulting product because fashion–tech collaborative products are as portable as traditional luxury items and more visible than traditional luxury items (Chuah et al., 2016). Across cultures, people make inferences regarding the personalities and statuses of others based on the goods and services they are seen to own or use (Belk, 1978). They are also more self-expressive and more expensive than regular

luxury items in general; thus, only a few people can wear these products, thereby creating a more pronounced perception of exclusivity (Choi & Kim, 2016; Chuah et al., 2016). In addition, because consumers perceive wearable technology to be both technology and fashion (Choi & Kim, 2016; Chuah et al., 2016; Rauschnabel et al., 2015), they consciously or subconsciously use it to communicate lifestyle-related symbolic meanings that signal their tastes, moods, personalities, cultural beliefs, values, and membership of specific subcultures (Miner et al., 2001). Status-signaling was operationalized in this current study as the function of certain products or the consumption of products critical to an individual's social identity, social status, or success. In other words, it demonstrated the extent to which a product reflected an individual's social status.

Ho et al. (2017) used the term "high technology–luxury co-branded products" (HLCPs) to refer to luxury fashion–tech collaborative products. In research on HLCPs (e.g., an LG–Prada collaborative cell phone), Ho et al. (2017) found that affect, not cognition, mediated the effect of consumers' attitudes toward luxury brands (i.e., the combination of LG and Prada) on consumer behavior toward HLCPs. Here, affect was operationalized as feeling something and expressing one's personality through owning HLCPs. They concluded that high-technology attributes helped two luxury brands promote exclusivity and high-end brand images.

To date, the literature on luxury brand co-branding has investigated an attitude toward a product, purchase intention, or brand attitude as consumer responses (Ho et al., 2017; Huettl & Gierl, 2012; Lado et al., 2016; Shen et al., 2014; Wang et al., 2015). Desire for a luxury item is another consumer response that needs to be examined, given the proliferation of co-branding between luxury fashion and technology brands. It has

been evaluated primarily in the literature on luxury products because the essence of luxury is desirability, exclusivity, or aspirations (Kapferer & Valette-Florence, 2018). Consumer desire for luxury fashion–tech collaborative products does not necessarily mean that consumers will purchase them right away and increase corporate profits (Spreng & Olshavsky, 1993). Herein lies the distinction between "desire" and "demand," as "demand" refers to both the desire and the willingness to pay for products (Cramer, 1957). However, consumer desire is worth investigating because intense desire can lead to actual purchases in the future (Lynn, 1989). For example, consumers who cannot afford a luxury fashion–tech collaborative product, but who are determined to obtain it, could save up and purchase it later. By contrast, wealthy people can buy the product as soon as they recognize their desire for it. Therefore, the first aim of manufacturers, retailers, and advertisers of luxury fashion–tech collaborations is to arouse consumer desires for the products (Solomon, 2018). Consumers eventually make purchases that fit who they are, aspire to be, or both (Sirgy, 1985).

Brand image should also be examined because co-branding can improve or dilute a brand's image, thus impacting brand equity (Ho et al., 2017). Only the luxury fashion brand's image was assessed because the current study focused on perceptions of the luxury fashion brand instead of the partnering tech brand. The first dependent variable, the desire for luxury items, was used to measure product–level consumer responses, and the second dependent variable, the perceived luxury fashion brand's image, was used to measure brand-level consumer responses. The literature on the topic (e.g., Lee et al., 2015) has consistently reported that co-branding positively impacts brand image because

of enhanced perceptions pertaining to the quality, exclusivity, and prestige of the co-branded products and brand.

Based on the previous research findings of a positive effect on consumer responses to luxury fashion–tech collaborations, the current study postulated that consumers' perceptions of the status-signaling of a luxury item and perceptions of a luxury fashion brand image would be enhanced, and consumers would experience an increased desire for a luxury fashion–tech collaborative product, compared to a classic luxury item.

Thus, the first hypothesis of the current study was as follows:

H1. Luxury fashion–tech collaborative products (vs. luxury products without a tech component) will positively influence consumers' (a) perceptions of the status signaling of the luxury item, (b) the desire for the luxury item, and (c) perceptions of the luxury fashion brand's image.

2.3.2. Prestige of Luxury Fashion Brands' Effect on Consumers' Responses to Luxury Fashion–Tech Collaborations

Luxury fashion brands can be divided into two types. Luxury fashion brands are high in prestige in general, and examples of traditional luxury fashion brands include Chanel, LV, and Gucci (Truong et al., 2009). Luxury fashion brands with slightly less status, for example, accessible or masstige luxury fashion brands, include Coach, Michael Kors, and Kate Spade (Truong et al., 2009). Accessible luxury fashion brands differ from traditional luxury fashion brands regarding perceived prestige, product price, target consumers, and marketing strategies (Kim et al., 2018; Truong et al., 2009).

Regarding the brand prestige and brand image of each type of luxury fashion brand, Truong et al. (2009) found that consumers' perceived prestige varied between

traditional luxury fashion brands (e.g., Gucci) and masstige fashion brands (e.g., Calvin Klein) in an investigation of young adults of both genders. This implies that consumers' desires for products from each type of luxury fashion brand may also vary. In addition, O'Cass and Choy (2008) found that the higher the perceived status of fashion clothing brands, the greater the willingness to pay a premium for a brand. This reflected consumers' willingness to pay a premium for a brand for its quality or symbolic values, although the payment was more than its utilitarian value or competitive offerings in the marketplace (Netemeyer et al., 2004).

Kim et al. (2019) evaluated identifiers of traditional versus masstige luxury fashion brands and found that the two types of luxury fashion brands shared cues of authenticity, accomplishment, sophistication, exclusivity, and pride in common. However, identifiers of traditional luxury fashion brands included timelessness, experiential pleasure, and heritage, and those of masstige fashion brands included renewal, seduction, and seasonality. These distinctions between the two types of luxury fashion brands indicated that their brand images were different.

The current study operationalized luxury fashion brand prestige as the brand's relative status of product positioning and dichotomized this variable into top-tier versus accessible luxury fashion brands. Based on previous research findings that have demonstrated increased consumer responses toward top-tier luxury fashion brands compared to accessible luxury fashion brands (e.g., O'Cass & Choy, 2008), the current study postulated that consumers' responses to luxury fashion–tech collaborations will also vary according to the prestige of luxury fashion brands.

Thus, the second hypothesis of the current study was as follows:

H2. A luxury item from a top-tier luxury fashion brand (vs. a luxury item from an accessible luxury fashion brand) will obtain a higher rating in (a) perceptions of the status-signaling of the luxury item, (b) consumer desires for the luxury item, and (c) perceptions of the luxury fashion brand's image.

2.3.3. Co-Branding Effects on the Level of Prestige of Luxury Fashion Brands

Numerous studies (e.g., Lou et al., 2007) have assessed which co-branding partner benefited more from the alliance when the status of two brands was unequal, resulting in two experimental conditions concerning brand familiarity (well-known vs. lesser-known), brand quality (higher vs. lower), and brand equity (higher vs. lower). In their study on the moderating effect of brand familiarity on a brand alliance, Simonin and Ruth (1998) showed that consumers' attitudes regarding the co-branding strategy affected their ratings of each brand (i.e., the spillover effect). Brands were not affected equally by engagement in the alliance, and unfamiliar brands were subject to a greater positive spillover effect owing to the brand alliance. McCarthy and Norris (1999) demonstrated that moderate-quality host brands consistently benefited from their alliance with "ingredient" brands in terms of consumer product quality perceptions, product evaluations, and purchase likelihoods, while high-quality host brands only occasionally benefited from the alliance. The authors concluded that alliances were effective overall, especially for moderate-quality host brands seeking to improve their competitive position.

Washburn et al. (2000) found that co-branding was a win–win strategy for both brands in an alliance, but the brand with low brand equity benefited more from co-branding concerning consumers' evaluation of the product. They concluded that co-branding strategies are effective when an unfamiliar brand introduce a new product. Lou

et al. (2007) reported that when information that a brand alliance was successful was given to participants, the lesser-known brand benefited more from the successful alliance than well-known brands in terms of consumer attitudes toward the co-branded product. The host brand benefited more than the "ingredient" brand when the awareness of both partners in a successful alliance was equal.

There was no research in the co-branding literature that directly addressed brand prestige and divided luxury brands into two types: top-tier luxury brands and accessible luxury brands. Research on these two types of luxury fashion brands concerning the effects of co-branding is warranted, as an increasing number of luxury fashion brands in both types are co-branding with technology brands. As the two types of luxury fashion brands vary in perceived prestige, product price, target consumers, and marketing strategies (Kim et al., 2018; Truong et al., 2009), it can reasonably be assumed that the effects of co-branding will similarly vary. This current study made inferences about the effects of co-branding based on research that addressed similar concepts to brand prestige. Brand prestige tends to be in line with brand familiarity and brand quality in that, the higher the familiarity and quality of a brand, the higher the brand prestige is (Hussein & Hassan, 2018). In addition, brand equity is also closely related to brand prestige in that brand prestige tends to increase brand equity (Ahn, Park, & Hyun, 2018). Based on the previous research findings, the current study postulated that accessible luxury fashion brands, compared to top-tier luxury fashion brands, would benefit more from a luxury fashion–tech collaboration.

Thus, the third hypothesis of the current study was as follows:

H3. The positive effects of a luxury fashion–tech collaboration on (a) perceptions of the status-signaling of the luxury item, (b) consumer desires for the luxury item, and (c) perceptions of the luxury fashion brand's image will be stronger for accessible luxury fashion brands compared to top-tier luxury fashion brands.

2.3.4. Impact of Status-signaling of Luxury Items on Consumer Responses

Status has been reported to be key in luxury marketing because it significantly influences consumers' desires for luxury brands (Berger & Ward, 2010; Frank, 1985; Veblen, 1899/1994). Researchers have found that participants' desire for luxury increases when they are reminded of successful people or of threats to their own status (Dubois et al., 2012; Mandel et al., 2006). Thus, once consumers perceive the status-signaling of luxury items, it increases their desire for the product.

In Kapferer and Valette-Florence's (2016) research, class and status were demonstrated to be antecedents of luxury brand desirability in a survey of men and women and were shown to reflect a brand's standing above other brands and to endow buyers with class and status. This implies that when a consumer perceives the status-signaling of luxury items, the image of the luxury fashion brand will be enhanced.

Thus, the fourth hypothesis of the current study was as follows:

H4. The perceived status-signaling of luxury items will positively influence (a) consumers' desire for luxury items and (b) perceived luxury fashion brand image.

2.3.5. Mediation Effect of Luxury Items' Status-Signaling

There can be various reasons why consumers prefer luxury fashion–tech collaborative products over classic luxury fashion items. The literature (e.g., Shen et al., 2014) suggests that consumer responses to luxury fashion–tech collaborations depend on

consumer characteristics and situations that inspire consumers to pursue luxury fashion brands' collaborative products.

Regarding consumer characteristics, it was demonstrated that consumers with a high need for uniqueness with respect to fast fashion−luxury co-brands held more favorable purchase perceptions of the co-brand than those with a low need for uniqueness in a study by Shen et al. (2014), who researched the status-signaling of luxury items. Similarly, compared to those with a low desire for signaling status, consumers with a high desire for signaling status were more interested in buying luxury products that incorporated recognizable artwork instead of those that featured non-recognizable artwork (Pino et al., 2017).

Concerning situational factors, Desmichel et al. (2020) compared the effect of ephemeral versus that of iconic luxury handbags on participants' appeal as collaborators and their influence on others by manipulating them in either a meritocratic or an egalitarian context. Ephemeral luxury consumption was demonstrated to boost individuals' perceptions of achieved social status in a meritocratic context but diminished their perceptions in an egalitarian context. The implication is that consumers in a meritocratic society, for example, the U.S., could use ephemeral luxury, such as a luxury fashion–tech collaboration, to conduct status-signaling.

Considering the research findings, not all consumers in certain situations have a favorable image of a luxury fashion brand after co-branding, and the current study postulated that consumers would respond positively to luxury fashion–tech collaborative products through the mechanism of the perceived status-signaling of the products. In other words, the status-signaling function in relation to luxury items would mediate the

relationship between the luxury fashion–tech collaboration status as well as consumers' desire for luxury items and perceptions of luxury fashion brand image.

Thus, the fifth hypothesis of the current study was as follows:

H5. The effect of the luxury fashion–tech collaboration status (with vs. without a tech component in a product due to the collaboration) on consumers' (a) desire for the luxury items and (b) perceptions of luxury fashion brand image will be mediated by perceptions of the luxury items' status-signaling.

2.3.6. Brands with Luxury Fashion–Tech Collaborative Products, Perceived Status-Signaling of, and Consumers' Responses to the Products

Using a food presentation analogy, the same food can be perceived differently depending on the serving dish used to present it. For a single product that is offered across various retail channels, a similar situation applies regarding the retailer of the product (i.e., the brand name). Product consumption is a holistic process that involves searching, obtaining, using, and abandoning products, and the way consumers acquire products affects their evaluation of them (Goldman, 1982).

The current study postulated in the discussion of H1 through H5 that luxury fashion–tech collaborations target consumers who desire luxury and the status-signaling function of luxury products to help maintain or enhance their social status. Thus, the selected retail channel strategy should be in line with and contribute to the purpose of increasing consumer desire for the products and enhancing brand image. Both luxury fashion and technology brands have applied an omnichannel approach (Wilson, 2021), and it is worth determining which retail channel contributes most to the brand

performance of luxury fashion–tech collaborative products to optimize limited retailing budgets (Nieroda et al., 2018).

The researcher found through an Internet search that, currently, consumers typically have four retail channel options through which they can buy luxury fashion–tech collaborative products: the respective physical and online stores of both the luxury fashion and technology brands. The reasons for selecting a particular retail channel vary (Kollmann et al., 2012). For example, even though consumers can easily purchase luxury fashion–tech collaborative products online, those who wish to test the functionality of a product will visit the physical store of either brand in person (Kollmann et al., 2012).

Consumers perceive luxury fashion–tech collaborative products to be both digital devices and fashion accessories (Chuah et al., 2016; Nieroda et al., 2018); therefore, it may be difficult for consumers to categorize luxury fashion–tech collaborative products (Nieroda et al., 2018). The retail setting can facilitate product categorization for shoppers (Nieroda et al., 2018). Nieroda et al. (2018) suggested that if a fashion–tech collaborative product is carried by a fashion brand or is in the fashion section of a department store, it is likely that consumers will categorize it as a fashion product. Similarly, if the same product was carried in a technology brand store or in the technology section of a department store, it would easily be categorized as a technology product by consumers. Thus, these authors proposed that, when merchandising wearable technology in active sections in Macy's or Nordstrom stores, it would be effective to place a smartwatch from Fossil, a reasonably priced, high-quality watch, alongside Under Armour products (Nieroda et al., 2018). Here, the brand Under Armour is a sports equipment company and is considered a reasonably priced, high-quality brand (Garcia, 2021). In comparison, the

authors took another example of the Tory Burch for Fitbit Flex, the result of a collaboration between the luxury fashion brand Tory Burch and Fitbit, a wearable technology product company that offers products at reasonable prices (Skjong & Roberts, 2021). The authors proposed that, when merchandising luxury fashion–tech collaborative products, it would be most effective to place them next to products from Lululemon Athletica, an exclusive yoga apparel brand compared to Under Armour. The authors did not test their propositions, but their propositions inspired this current study to postulate that luxury fashion–tech collaborative products would be easily categorized as luxury fashion products rather than technology products if they were carried by a luxury fashion brand in-store or online compared to a technology brand's stores.

Research is needed to determine whether positioning luxury fashion–tech collaborative products as luxury fashion rather than technology products would contribute to better consumer responses and brand performance. The current study operationalized a factor, a brand that carries luxury fashion–tech collaborative products, as an entity that carries the co-branded products. This variable was dichotomized into a luxury fashion brand and a technology brand.

According to Dion and Borraz (2017), luxury fashion brands motivate consumers to act out their status in a social hierarchy as well as signal their position in it. Physical cues to the "servicescape" related to a brand (i.e., architecture, atmosphere, interior design, merchandising, and product offerings) indicate the status of the consumers who are expected to shop in the store. To be specific, the servicescape related to a product includes particular "architecture and design (e.g., closed doors, precious materials, arty shop windows, large and empty spaces), atmospherics (e.g., soft lighting, absence of

music, low density), merchandising (e.g., masterpieces in the shop windows with price tags, absence of price tags in store, minimal display of goods, showcasing artwork), and social cues (e.g., the presence of door staff and security guards, the dress code of floor staff)" (Dion & Borraz, 2017, p. 81). The servicescape (re)configures the existing system of class roles and relationships (Dion & Borraz, 2017). The servicescape also creates a natural sense of segregation among consumers by making some feel out of place and therefore unwilling to visit the store because they think they do not belong there (Dion & Borraz, 2017). In addition, the behaviors of sales floor employees, such as relatively arrogant attitudes while interacting with customers, makes consumers feel exclusion and lack legitimization (Dion & Borraz, 2017). Luxury shoppers in a physical store are also regarded as socially superior in the eyes of non-luxury shoppers, which further consolidates the social hierarchy and the exclusivity of a luxury brand (Dion & Borraz, 2017).

When a comparison is made of the servicescape of a luxury fashion brand to that of a technology brand, it is apparent that a consumer's experience with a product in a luxury fashion brand store includes the experience of luxury, exclusivity, and even intimidation (Dion & Borraz, 2017), and consumers easily recall these associations when remembering luxury fashion brand products. By contrast, a visit to a technology brand store rarely provides consumers with an aspirational servicescape, a sense of exclusivity, or an access barrier (Okonkwo, 2010). In addition, the aforementioned associations would not be evoked when recalling the technology brand product. Therefore, a product that is carried by a luxury fashion brand might be perceived as more status-signaling than one carried by a technology brand.

The current study also examines consumers' desire for luxury fashion–tech collaborative products and luxury fashion brands' images according to the brand that carries the products. Many consumers choose to locate a more upscale and exclusive setting, relative to their usual shopping experience, where they feel they are not accepted to enhance themselves (Dion & Borraz, 2017). Similarly, the desire to signal their status to themselves or others is one of the most prominent reasons why consumers covet luxury goods (Han et al., 2010). Perceptions of exclusivity or intimidation by luxury fashion brands reinforce the desirability of the brand and its products (Dion & Borraz, 2017).

Nieroda et al. (2018) emphasized the importance of not overshadowing luxuriousness with functionality when technology and luxury fashion brands co-brand to develop wearable technology products. The authors proposed that the manufacturers and retailers of luxury fashion–tech collaborative products should position them in a new product category (i.e., as luxury fashion rather than technology products; Nieroda et al., 2018). They suggested that adherence to an upscale positioning strategy (i.e., positioning the new product category as jewelry or watches rather than tech devices) was the safest approach to maximize luxuriousness, although they did not empirically test this proposition. Their proposition inspired this current study to postulate that consumers will desire luxury fashion–tech collaborative products more when they are carried by a luxury fashion brand and are categorized as luxury fashion than they would if the products were carried by a technology brand and were categorized accordingly.

Based on the literature review, the present study postulated that consumers would perceive luxury fashion–tech collaborative products offered in luxury fashion brands' physical or online stores as more status-signaling than if they were on offer in the

technology brand's physical or online stores. In addition, the proposition was that consumers would desire the co-branded products more if the products were carried by the luxury fashion brand rather than the technology brand. Although little is known about whether carrying a co-branded product on the retail channels of a luxury fashion brand, as opposed to a technology brand, improves brand image, the current study postulated that consumers' rating of a luxury fashion brand's image would be favorable if they carry their products (i.e., luxury fashion–tech collaborative products) as they usually did compared to when their products are carried in a technology brand's stores and doing the opposite of the upscaling strategy (Nieroda et al., 2018).

Thus, the sixth hypothesis of the current study was as follows:

H6. Luxury fashion–tech collaborative products carried by a luxury fashion brand, rather than by a technology brand, will positively influence consumers' (a) perceptions of status-signaling of the luxury fashion–tech collaborative product, (b) desire for the luxury items, and (c) perceptions of the luxury fashion brand's image.

2.3.7. Retail Channels and Perceived Status-Signaling of and Consumers' Responses to Luxury Fashion–Tech Collaborative Products

Luxury fashion brands and technology brands utilize multiple retail channels (e.g., department stores, outlet stores, official online stores for a luxury fashion brand, specialty stores, and official online stores for a technology brand; Seock, 2009). They are largely classified using two formats: physical and online (Kim & Lee, 2011). These two formats provide distinctive shopping experiences for consumers (de Faultrier et al., 2014). Although the product, itself, is the same, other attributes can vary, such as the price of the

product, the servicescape, the potential for customer–brand interaction, the capacity for product deliveries, and the quality of the customer service (Sousa & Voss, 2006). The current study operationalized the retail channel as a physical and online space in which a consumer could buy a luxury fashion–tech collaborative product.

In their evaluation of food retailers, Koschmann and Isaac (2018) demonstrated that physical stores had a relatively high-price image; by contrast, online stores were associated with a relatively low-price image. High prices signal high product quality (Koschmann & Isaac, 2018), and in the case of the luxury market, a high price may signal a high status-signaling aspect of a product and increased desire by consumers for luxury (Kapferer & Valette-Florence, 2016).

In addition, Koschmann and Isaac (2018) suggested that retailers that are already strongly associated with a particular store format (e.g., a luxury fashion brand's offline retailing rather than online retailing) may be unable to change their price image among consumers by changing their retail channels despite the retailers' brand positioning and competitive differentiation. This suggests that a luxury fashion brand image will be more favorably rated when the co-branded products are carried in a format with which the luxury fashion brand is already strongly associated (i.e., offline retailing rather than online retailing). Thus, the current study postulated that a product that was carried in a physical store would be perceived as more status signaling and desirable compared to the same product on offer in an online store. Consumers' responses to the luxury fashion–tech collaborative products in terms of desire for the products and a luxury fashion brand's image would be rated higher when the products are carried in the luxury fashion brand's physical store than in the luxury fashion brand's online store. Likewise,

consumers' responses to the products would be rated higher when the products are carried in the tech brand's physical store than in the tech brand's online store.

Typically, the luxury in-store format is designed to convey exclusivity or even intimidation to customers who visit the store (Dion & Borraz, 2017). As online retailing has become increasingly prevalent, luxury fashion brands have started to adopt online platforms like non-luxury brands (Okonkwo, 2010). There is an absence of salespersons and other shoppers to reinforce the sense of exclusivity of a luxury fashion brand when a luxury shopper browses online (Okonkwo, 2010). Consumers from around the world can purchase luxury items with a few clicks, which means that the barrier for entry is negligible (Okonkwo, 2010). Nonetheless, it was reported that online accessibility to luxury goods did not affect consumers' perceptions of exclusivity; hence, it did not dilute brand desirability (Brun, Castelli, Kluge, & Fassnacht, 2015). Thus, the current study postulated that luxury fashion–tech collaborative products carried by a luxury fashion brand's online stores would be perceived as more status-signaling than those carried by a technology brand's physical stores. It was speculated that consumers' desire for luxury fashion–tech collaborative products and their perception of a luxury fashion brand's image would be higher when the products were carried by the luxury fashion brand's online store rather than by the technology brand's physical store.

Notably, the current study investigates a desire for the products rather than behavioral responses, such as purchase intention. The price of a product, one of the most salient attributes involved when consumers make purchasing decisions (Erickson & Johansson, 1985), can vary according to the retail channel used (Cuellar & Brunamonti, 2014). For example, consumers might obtain a discount from an online retailer, and the

physical store might not offer a discount (Ma, Lin, & Zhao, 2016). In addition, the store format (physical vs. online) is known to affect consumers' price expectations (Koschmann & Isaac, 2018). Consumers could show higher purchase intention to luxury fashion–tech collaborative products that are carried by a retail channel that sells the same products at a reduced price (i.e., online stores in general). However, the aim of the current study is to determine which retail channel most evokes consumers' desire for products arising from luxury fashion–tech collaborative products. The current study assumed that, unlike purchase intention, consumer desire would not be dependent on consumers' price expectations and possible price discounts from each type of retail channel (physical vs. online; Cramer, 1957).

In summary, it was believed that the consumer response to luxury fashion–tech collaborative products would be more positive in the following order: when the co-branded products were carried in the luxury fashion brand's physical and online stores and in the technology brand's physical and online stores.

Thus, the seventh hypothesis of the current study was as follows:

H7. Consumer response to luxury fashion–tech collaborative products regarding (a) the perception of status-signaling, (b) the desire for the luxury fashion–tech collaborative products, and (c) the perception of the luxury fashion brand image will be rated from high to low in the following order when the products are carried: in the luxury fashion brand's physical store, in the luxury fashion brand's online store, in the tech brand's physical store, and in the tech brand's online store.

2.3.8. Impact of Status-Signaling of Luxury Fashion–Tech Collaborative Products on Consumer Responses

As discussed in H4, a tenet of the current study was that once consumers perceived the status-signaling of luxury fashion–tech collaborative products, after noticing where the products were carried, they would desire the products because status appeal evokes the desire for a luxury product (Berger & Ward, 2010; Dubois et al., 2012; Frank, 1985; Mandel et al., 2006; Veblen, 1899/1994). It has also been shown that consumers favorably evaluate the image of a luxury fashion brand that participated in co-branding once they perceive the status-signaling of luxury fashion–tech collaborative products (Kapferer & Valette-Florence, 2016).

Thus, the eighth hypothesis of the current study was as follows:

H8. Perceptions of the status-signaling of luxury fashion–tech collaborative products will positively influence (a) consumers' desires for the luxury fashion–tech collaborative products and (b) perceptions of the luxury fashion brand's image.

2.3.9. Status-Signaling's Mediation Effect of Luxury Fashion–Tech Collaborative Products

It is believed that a consumer's preference for luxury fashion–tech collaborative products, carried by a luxury fashion brand in-store or online, over the same products carried by a technology brand in-store or online, can be elucidated for varying reasons. As discussed in H6, when a luxury fashion brand store carries luxury fashion–tech collaborative products, the latter are categorized as luxury fashion products rather than technology products. This reminds consumers of the luxury fashion brand's exclusive

servicescape, which, in turn, increases the status-signaling of the products (Dion & Borraz, 2017; Nieroda et al., 2018).

Thus, the current study postulated that one of the mechanisms of the causal effect is the perceived status-signaling of luxury fashion–tech collaborative products. In other words, the status-signaling function of luxury fashion–tech collaborative products would mediate the relationship between the brand that carries the luxury fashion–tech collaborative products and consumers' desire for the products and perceptions of the luxury fashion brand's image.

Thus, the ninth hypothesis of the current study was as follows:

H9. The effect of brands (luxury fashion brands vs. technology brands) that carry luxury fashion–tech collaborative products on consumers' (a) desires for luxury fashion–tech collaborative products and (b) perceptions of the luxury fashion brand's image will be mediated by consumers' perceptions of the status-signaling of luxury fashion–tech collaborative products.

Figures 1 and 2 show the research models of the current study.

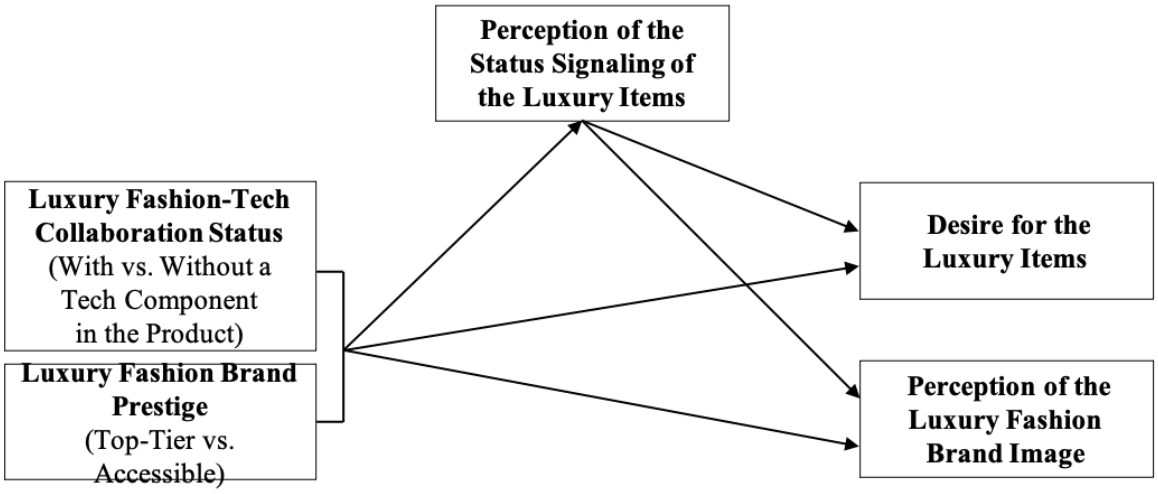

Figure 1. Research model (Study 1). A research model depicting the interactional effects between luxury fashion–tech collaboration status and luxury fashion brand prestige on consumers' desires for luxury items and their perceptions of the luxury fashion brand's image.

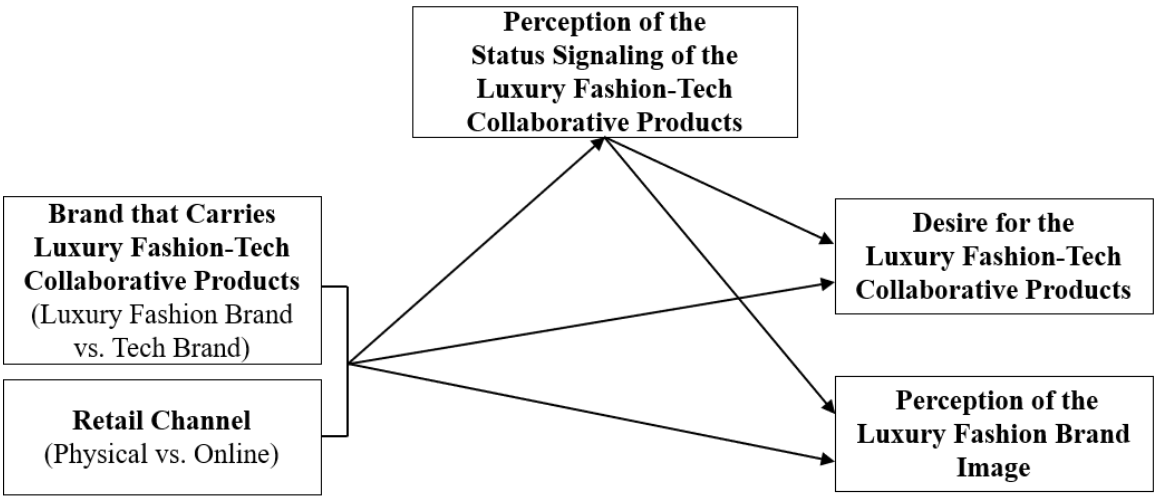

Figure 2. Research model (Study 2). A research model depicting the interactional effects between the brand that carries luxury fashion–tech collaborative products and the retail channel on consumers' desires for the products and their perceptions of the luxury fashion brand's image.

2.4. Overview of the Research

The current study conducted online experiments to test its hypotheses. The study comprised two sub-studies. Study 1 (to address H1 through H5) tested the effects of the interaction between luxury fashion–technology collaboration status and luxury fashion brand prestige on consumers' desires for luxury items and their perceptions of the luxury fashion brand's image. It also verified the underlying mechanism behind the impact of luxury fashion–technology collaboration status on consumers' desires for luxury items and perceptions of the luxury fashion brand's image. This is proposed to be the status-signaling of products.

Study 2 (to address H6 through H9) explored the optimal retail channel for luxury fashion–tech collaborative products. Specifically, Study 2 tested the impact of the brand that carries luxury fashion–tech collaborative products and the retail channel used on consumers' desires for luxury fashion–tech collaborative products and their perceptions of the luxury fashion brand's image. It also investigated the underlying mechanism responsible for the impact of the brand that carries luxury fashion–tech collaborative products on consumers' desires for luxury items and perceptions of the luxury fashion brand's image. This is also proposed to be the status-signaling of products.

Chapter 3. Methodology and STUDY 1

3.1. Overview of Methodology

Experiments were performed to empirically assess the impact of the independent variables on the dependent variables, while controlling for certain variables with the potential to affect the dependent variables in the causal research models. An "experiment" is a research method conducted using two or more variables, and it involves manipulating one variable to determine the changes caused in another variable (Creswell & Creswell, 2017). It has been shown that conducting experiments to test the impact of independent variables is more precise than conducting an exploratory study because experiments are conducted right after participants' exposure to stimuli, not relying on their experiences or memory (MacKenzie et al., 2013; Sreejesh et al., 2014). Therefore, this approach was adopted for the current study.

There are three types of experimental design: within-subjects, between-subjects, and mixed. In a within-subjects design, all participants are exposed to all experimental conditions (Keren, 1993). Researchers compare conditions within the same individuals. Accordingly, they can detect causal relationships between variables with a relatively small sample; it is cost effective (Keren, 1993). However, as participants experience more than one condition, a carryover effect may occur. An earlier treatment could alert the outcome of a later treatment, which threatens the internal validity of a study (Keren, 1993). Meanwhile, in a between-subjects design, each participant is exposed to only one condition, and different treatment groups are compared (Keren, 1993). Hence, the duration of the study is shorter, and it prevents carryover effects (Keren, 1993). However,

it requires a larger sample for high statistical power compared to a within-subjects design (Keren, 1993).

In a mixed design, there is at least one within-subjects factor and between-subjects factor, respectively, which is why the design is called “mixed” (Keren, 1993). Here, all participants are exposed to a part of conditions, not only one (Keren, 1993). Researchers can use the advantages of within-subjects design and between-subjects design (Rooney & Evans, 2018). The current study used a mixed design for experiments. Concerning sample size, the current study ensured each experimental condition had approximately a sample of 30, which is a rule of thumb amount of data for normal distribution (Van Voorhis & Morgan, 2007).

Two dependent variables and a mediating variable were measured, and to ensure the quality of research, reliability (i.e., the consistency of a measure) and validity (i.e., the accuracy of a measure) were checked (Schriesheim et al., 1991). This current study tested how well the measurement items investigated each variable as intended (Giannatasio, 1999).

3.2. Study 1

This section describes the study design, stimuli development, instruments, data collection, and experimental procedures for Study 1. It also shows the results of the hypotheses testing for Study 1.

3.2.1. Objective and Study Design

Study 1 aimed to test the impacts of luxury fashion–tech collaboration status and luxury fashion brand prestige on consumer desires for luxury items and on luxury fashion brands’ images. The study also aimed to test the mediation effect of perceived status

signaling for luxury items. Study 1 used a 2 x 2 (luxury fashion–tech collaboration status: with vs. without a tech component in the product because of the collaboration) x luxury fashion brand prestige (top-tier vs. accessible) mixed design where luxury fashion–tech collaboration status was a between-subject factor and luxury fashion brand prestige was a within-subject factor.

3.2.2. Stimuli Development

3.2.2.1. Luxury Item Selection

A classic example of a luxury fashion–tech collaborative product—and one of the most lucrative—is the smartwatch (Barkho, 2019; Chuah et al., 2016). The wristwatch (without a tech component) and the smartwatch (with a tech component) were selected as the most appropriate luxury items for Study 1 for the following reasons:

1) Four highly realistic study conditions can be set using a wristwatch. Luxury fashion brands have traditionally offered a wristwatch, which offers a suitable comparison product for Study 1. Smartwatch, a wristwatch with a tech component, is the experimental product of Study 1. The smartwatch industry has involved co-branding between fashion and tech companies since the mid-2010s (e.g., Apple Watch Hermès).
2) Classic luxury and luxury fashion–tech collaborative products have proven to serve as status symbols (Nelissen & Meijers, 2011; Nieroda et al., 2018). For example, a wristwatch or smartwatch is visible to people other than the wearer, and these accessories can be used to signal impressions of the wearer to others (Nelissen & Meijers, 2011; Nieroda et al., 2018).

3) A smartwatch is a familiar product to the public (Gartner, 2021). Consequently, explaining smartwatch technology and its functionalities (e.g., its purpose, function, or specifications) to participants is unnecessary for the experiment compared to technologies that are unfamiliar to the public.
4) The literature on co-branding and wearable tech (e.g., Chuah et al., 2016) has consistently investigated smartwatches, indicating the product's usefulness as a stimulus.

3.2.2.2. Brand Selection

This research used hypothetical brands, including both a luxury fashion brand and a tech brand, to control for any potential intervention resulting from participants' attitudes toward an existing brand. The study's use of fictitious brands would allow participants to freely express their responses to stimuli without potential bias toward a specific product or stereotype about a luxury fashion or tech brand (Chuah et al., 2016). One could argue that a consumer with a significant attachment to or love for a luxury fashion or tech brand would buy any product from that brand (Chuah et al., 2016). Furthermore, the current study did not measure behavioral responses such as purchase intention. This study aimed to investigate relative differences in participants' desire for luxury items and perceived image of luxury fashion brands across the four conditions: (a) with a tech component and from a top-tier luxury fashion brand, (b) with a tech component and from an accessible luxury fashion brand, (c) without a tech component and from a top-tier luxury fashion brand, and (d) without a tech component and from an accessible luxury fashion brand.

A pretest was conducted to select brand names of hypothetical luxury fashion and tech brands to ensure that participants perceive the chosen hypothetical brand as a realistic luxury fashion brand or tech brand as much as possible, following the approach used in Helm and Özergin's (2015) experimental study. Hypothetical brand names were provided to a total of 30 participants, all men (n = 18) and women (n = 12) between 18 and 35 years of age who have heard about or experienced a luxury fashion brand and a tech brand. This pretest took place on Amazon Mechanical Turk (Amazon MTurk), an online crowdsourcing marketplace where researchers can collect data, for an incentive of $0.50 per person. Thirty pretest participants were asked how much they agree that the three hypothetical brand names given indicate the name of a brand that would be associated with luxury fashion. Consequently, among *Lux.ly* (M = 4.23), *L.u.x.a.r.a* (M = 4.93), and *Luxella* (M = 5.60), *Luxella* and *L.u.x.a.r.a,* whose ratings' mean scores were about 5 or more using a seven-point Likert scale ("strongly disagree"–"strongly agree"), were used as traditional luxury fashion brands and accessible luxury fashion brands, respectively, in the scenarios of Study 1. They were also asked how much they agreed that a hypothetical brand name given indicates the name of a brand that would be associated with technology. Accordingly, *Techlance* (M = 5.38), whose ratings' mean scores were approximately 5 or more using a seven-point Likert scale, was used as a technology brand in the scenarios of Study 1. See Appendix A for the pretest's entire questionnaire.

3.2.2.3. Manipulation of Luxury Fashion–Tech Collaboration Status and Luxury Fashion Brand Prestige

Four hypothetical wristwatch and smartwatch descriptions were created for the following four scenarios: (a) with a tech component and from a top-tier luxury fashion brand, (b) with a tech component and from an accessible luxury fashion brand, (c) without a tech component and from a top-tier luxury fashion brand, and (d) without a tech component and from an accessible luxury fashion brand. These descriptions explained whether a luxury fashion brand has collaborated with a tech brand and whether the luxury fashion brand's prestige is top-tier or accessible, thereby manipulating the two key factors in Study 1: luxury fashion–tech collaboration status and luxury fashion brand prestige. The first factor, luxury fashion–tech collaboration status (with a tech component vs. without a tech component), was a between-subject variable. Meanwhile, the second factor, luxury fashion brand prestige (top-tier vs. accessible), was a within-subject variable. Distinguishing between two types of luxury fashion brands (top-tier vs. accessible) could be difficult for participants if they are unfamiliar with luxury fashion brands. To solve this problem, one participant evaluated luxury items from two types of luxury fashion brands (top-tier vs. accessible), allowing participants to respond more accurately by (sub)consciously comparing the two types of brands while responding to an online survey (Charness, Gneezy, & Kuhn, 2012). Another advantage of using the within-subjects factor is that there is less variance due to participant disposition because one participant is exposed to more than one condition and indicates responses (Greenwald, 1976). When the within-subject factor is used, the variability in measurements of dependent variables is more likely due to differences among experimental conditions than

to individual differences among participants (MacKenzie, 2013; Rooney & Evans, 2018). Thus, each participant in Study 1 was exposed to two scenarios among the four.

Each scenario asked participants to imagine a hypothetical situation where they were presented with a luxury wristwatch or a luxury smartwatch. The scenarios did not show participants any images of the luxury items to control for any possible impact resulting from the researcher's own design. In addition, if images of a wristwatch or smartwatch were provided, they could remind participants of a product from an existing brand, which would positively or negatively affect their responses to the scenarios in Study 1. The study's scenarios were created based on research in the co-branding literature that used hypothetical brands and scenarios (e.g., Helm & Özergin, 2015).

The four scenarios in Study 1 varied in only two respects. First was whether the luxury item depicted in a scenario is a smartwatch or a wristwatch (i.e., with a tech component vs. without a tech component). Second was the prestige of each scenario's luxury fashion brand. A top-tier luxury fashion brand scenario included a description that the luxury fashion brand is a top-tier luxury fashion brand, presenting the brand as an equivalent to existing top-tier luxury fashion brands, such as Gucci or LV. Meanwhile, a low-prestige luxury fashion brand scenario included a description that the luxury fashion brand is accessible, presenting it as a brand equivalent to existing accessible luxury fashion brands, such as Michael Kors or Ralph Lauren.

The amount of information between scenarios should be as consistent as possible to control for the amount of information's effect on consumer responses (Goodwin & Etgar, 1980). However, it is necessary to add an explanation about the tech component to the relevant scenarios. To ensure internal validity, a pretest was conducted to check how

participants perceived the amount of information in each scenario using a seven-point Likert scale ("very little information"–"very much information"). In this pretest, all four scenarios were presented to a total of 30 participants, all men (n = 14) and women (n = 16) between 18 and 35 years of age. The pretest took place through an online experiment on Amazon MTurk, for an incentive of $0.50 per person. Results from a one-way ANOVA revealed that there were no statistically significant differences in the amount of information among the four scenarios ($F(3, 116) = 2.06$, $p = .11$). Therefore, the scenarios were considered roughly equivalent in terms of the amount of information and used for Study 1. See Appendix B for the whole questionnaire for the pretest.

The scenarios included examples of real luxury fashion brands to help participants perceive the study's fictitious luxury fashion brands as realistic luxury fashion brands as much as possible. Accordingly, the current study conducted a pretest to select the most appropriate existing luxury fashion brands as examples. Multiple luxury fashion brands were identified through an Internet search and were presented to participants, who were asked to select four brands as "top-tier luxury fashion brands" and another four brands as "accessible luxury fashion brands" that come to mind when they think of each type of luxury fashion brand. Luxury fashion brand examples were presented to 10 men and 10 women aged between 18 and 35 and those who had heard about or experienced a luxury fashion brand and a tech brand. The same number of men and women participants enabled the researcher to reflect both parties' knowledge and perceptions about the prestige of luxury fashion brands. This was done through an online survey on Amazon MTurk, for an incentive of $0.50 per person. The four most-selected brands for each category were selected for the stimuli in Study 1. ***Gucci*** (n = 18), ***Prada*** (n = 14), ***Louis***

Vuitton (*n* = 11), and ***Chanel*** (*n* = 11) were selected as examples of top-tier luxury fashion brands. ***Michael Kors*** (*n* = 13), ***Ralph Lauren*** (*n* = 14), ***Hugo Boss*** (*n* = 12), and ***DKNY*** (*n* = 12) were selected as examples of accessible luxury fashion brands. See Appendix C for the whole questionnaire for the pretest.

Explaining a fictitious tech brand and the functionality of its tech component served as another factor in Study 1. An assumption of the current study was that both top-tier and accessible luxury fashion brands would partner with high-quality and reliable tech brands whose prestige matches their brand prestige (Dickinson & Heath, 2006). Thus, the current study did not say anything about them in the scenarios.

Moreover, the scenarios did not specify prices for the luxury items because price could function as another influential factor of the dependent variables. Luxury items with tech components could be more or less expensive in the real market, but the current study focused on price image or price perceptions—not actual prices. According to previous studies' findings (e.g., Ho et al., 2017) and the hypotheses of this current study about the perceived status signaling of luxury items, participants might perceive the prices of luxury fashion–tech collaborative products as more expensive than classic luxury items after reading scenarios.

The following four scenarios were used in Study 1:

1) Scenario 1: With a tech component and from a top-tier luxury fashion brand

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **Luxella** and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches and recently *collaborated with Techlance,* which is a tech brand, for the smartwatch.

Now, please evaluate the product and answer the following questions.

2) Scenario 2: With a tech component and from an accessible luxury fashion brand

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **L.u.x.a.r.a** and Techlance.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches and recently *collaborated with Techlance,* which is a tech brand, for the smartwatch.

Now, please evaluate the product and answer the following questions.

3) Scenario 3: Without a tech component and from a top-tier luxury fashion brand

Please imagine that you are shown a wristwatch. It is a new, *luxury fashion exclusive* by **Luxella**.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches.

Now, please evaluate the product and answer the following questions.

4) Scenario 4: Without a tech component and from an accessible luxury fashion brand

Please imagine that you are shown a wristwatch. It is a new, *luxury fashion exclusive* by **L.u.x.a.r.a**.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches.

Now, please evaluate the product and answer the following questions.

Before conducting the main study, two manipulation checks tested whether the manipulation of luxury fashion–tech collaboration status and luxury fashion brand prestige was successful. First, regarding luxury fashion–tech collaboration status, a manipulation check asked participants whether they noticed that the luxury fashion brand collaborated with the tech brand for a wristwatch using a binary scale ("yes" vs. "no"). Specifically, participants were exposed to one scenario at a time, and the manipulation check question followed on the next page. They could not go back to the scenario to find the answer to the question; it was intended to detect whether the participants noticed the

collaboration status at first reading. The second manipulation check determined whether participants perceive the luxury fashion brands that the scenarios depicted as top tier or accessible, as intended. Participants were asked how much they agree that the luxury brand is a top-tier luxury fashion brand in reputation using a seven-point Likert scale ("strongly disagree"–"strongly agree"). All the manipulation checks were conducted by showing all four scenarios to a total of 30 participants, all men (n = 18) and women (n = 12) between 18 and 35 years of age who have heard about or experienced a luxury fashion brand on Amazon MTurk for an incentive of $0.50 per person.

Regarding the first manipulation check, a binary logistic regression was performed to ascertain the effects of collaboration status on the likelihood that participants noticed whether the luxury fashion brand collaborated with the tech brand. The logistic regression model was statistically significant ($\chi^2(1) = 65.43$, $p < .001$). The model explained 56.7% (Nagelkerke R^2) of the variance in participants' noticing the collaboration status and correctly classified 84.2% of the cases. The results indicate that the scenarios let most participants know whether the luxury fashion brand collaborated with the tech brand.

Regarding the second manipulation check, an independent t-test revealed that the luxury fashion brand was perceived as a top-tier luxury fashion brand as intended (M = 6.05). There was a significant difference compared to the accessible luxury fashion brand in terms of perceived prestige (M = 4.65) (t (105.12) = 5.42, $p < .001$). The results demonstrated that the participants perceived the prestige of the top-tier luxury fashion brand and the accessible luxury fashion brand depicted in the scenarios differently. All

manipulations were revealed to be successful, and the current study used the scenarios for the main study. See Appendix D for the entire questionnaire of the manipulation checks.

3.2.3. Instruments

The dependent variables for Study 1 were consumers' desires for luxury items and perceptions of luxury fashion brands' images. The perceived status signaling of the luxury items was also measured and used as a mediator. The study involved three covariates: wristwatch involvement, technology involvement, and luxury fashion involvement. Demographic questions included a focus on participants' age, gender, ethnicity, household income, smartwatch usage, and purchase history of luxury fashion items.

All the measurements that were used in this current study were adopted from previous studies. Some items were adjusted to fit the context of the current study. A seven-point Likert scale ("strongly disagree"–"strongly agree") was used for all the items, unless otherwise noted below.

To ensure reliability and validity, the current study selected measurements with high reliability and acceptable factor loadings, increasing the measures' consistency and accuracy (Goodwin, 1999). Before testing the proposed hypotheses, a measure of internal consistency reliability (i.e., Cronbach's α) was checked to ensure that multiple items that were proposed to measure the same general construct correlated highly with each other (Henson, 2001). A factor analysis was also conducted to check the measurements' discriminant validity, determining whether each variable belonged to varying factors and was, thus, a conceptually distinct construct (Zait & Bertea, 2011).

Table 1 presents the measurements for the dependent, mediator, and covariates, as well as the demographic questions used in Study 1. The table also includes measurements for the pretests: (a) a selection of fictitious brand names, (b) a selection of examples of luxury fashion brands at two prestige levels, and (c) a check to ensure that an equivalent amount of information is presented across scenarios. Finally, Table 1 also includes measurements for the manipulation checks of (a) luxury fashion–tech collaboration status and (b) luxury fashion brand prestige.

Desire for luxury items. Two items were used to assess desire for a luxury item in the current study: "I desire the product in the description," and "If I had enough money, I would like to have the product in the description." They were adapted from Giovannini et al. (2015) and Nieroda et al. (2018) to fit the context of this study.

Luxury fashion brand's image. "Brand image" refers to "perceptions about a brand as reflected by the brand associations held in consumer memory" (Keller, 1993, p. 3). Six items were used to assess a luxury fashion brand's image in the present study:

1) After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.
2) After reading the description of the product above, I think the luxury fashion brand is admirable.
3) After reading the description of the product above, I think the luxury fashion brand signals high status.
4) After reading the description of the product above, I think the luxury fashion brand signals wealth.

5) After reading the description of the product above, I think the luxury fashion brand signals sophistication.
6) After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.

These six items were adapted from Albrecht et al. (2013), Eren-Erdogmus et al. (2018), Sung et al. (2015), and Vogel et al. (2019) to fit the context of the current study.

Perceived status signaling of luxury items. The current study used five items for the perceived status signaling of luxury items:

1) The product in the description shows others that I am sophisticated.
2) Owning the product in the description lets me differentiate myself from other people.
3) It says something to people around me when I use the product in the description.
4) The product in the description shows others that I am wealthy.
5) The product in the description is appropriate for expressing my social status and success.

These items were adapted from Giovannini et al. (2015), De Barnier et al. (2012), Dubois et al. (2001), and Choi and Kim (2016) to fit the context of the current study.

Wristwatch involvement. "Product involvement" refers to a consumer's level of interest, arousal, or emotional attachment regarding a certain type of product (Bloch, 1986, as cited in Yurchisin & Johnson, 2004). The involvement with wristwatch products was controlled to prevent participants' (un)involvement with the wristwatch in their daily lives from affecting their responses to the stimuli (Bloch, Commuri, & Arnold, 2009). A

10-item "Personal Involvement Inventory" was used to determine wristwatch involvement, including: "Unimportant–Important," "Boring–Interesting," "Irrelevant–Relevant," "Unexciting–Exciting," "Means nothing–Means a lot to me," "Unappealing–Appealing," "Mundane–Fascinating," "Worthless–Valuable," "Uninvolving–Involving," and "Not needed–Needed." These items were adapted from Zaichkowsky (1994).

Technology involvement. "Technology involvement" was referred to as the extent of a person's engagement with a certain technology (Agarwal & Prasad, 1998). This trait is an integral part of new technology acceptance (Cecchinato, Cox, & Bird, 2015; Choi & Kim, 2016; Yang, 2005). For example, more innovative individuals regard a smartwatch as more useful and easier to use, while less innovative people find the device as less useful and less easy to use (Choi & Kim, 2016). Therefore, the current study controlled for a participant's overall level of technology involvement in their daily lives. The following four items from Agarwal and Prasad (1998) were used:

1) If I hear about a new information technology, I look for ways to experiment with it.
2) Among my peers, I am usually the first to try out new technologies.
3) In general, I am not hesitant to try out new technologies.
4) I like to experiment with new technologies.

Luxury fashion involvement. Arguably, consumers' involvement with luxury items or luxury purchase experience could influence their desire for luxury items because a knowledge of and familiarity with luxury items can make consumers desirous of luxury items (Albrecht et al., 2013). A 10-item "Personal Involvement Inventory" from Zaichkowsky (1994) was used to determine involvement with luxury fashion items in

general in the current study, including: “Unimportant–Important,” “Boring–Interesting,” “Irrelevant–Relevant,” “Unexciting–Exciting,” “Means nothing–Means a lot to me,” “Unappealing–Appealing,” “Mundane–Fascinating,” “Worthless–Valuable,” “Uninvolving–Involving,” and “Not needed–Needed.”

Table 1. *Instruments*

Instrument	Items	Scale	Source
Desire for Luxury Items	I desire the product in the description.	7-point Likert scale (strongly disagree–strongly agree)	Giovannini et al. (2015); Nieroda et al. (2018)
	If I had enough money, I would like to have the product in the description.		
Luxury Fashion Brand Image	After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.	7-point Likert scale (strongly disagree–strongly agree)	Albrecht et al. (2013); Eren-Erdogmus et al. (2018); Sung et al. (2015); Vogel et al. (2019)
	After reading the description of the product above, I think the luxury fashion brand is admirable.	7-point Likert scale (strongly disagree–strongly agree)	
	After reading the description of the product above, I think the luxury fashion brand signals high status.	7-point Likert scale (strongly disagree–strongly agree)	
	After reading the description of the product above, I think the luxury fashion brand signals wealth.	7-point Likert scale (strongly disagree–strongly agree)	
	After reading the description of the product above, I think the luxury fashion brand signals sophistication.	7-point Likert scale (strongly disagree–strongly agree)	
	After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.	7-point Likert scale (strongly disagree–strongly agree)	

Perception of the Status-signaling of the Luxury Items	The product in the description shows others that I am sophisticated.	7-point Likert scale (strongly disagree–strongly agree)	Choi & Kim (2016); De Barnier et al. (2012); Dubois et al. (2001); Giovannini et al. (2015)
	Owning the product in the description lets me differentiate myself from other people.		
	It says something to people around me when I use the product in the description.		
	The product in the description shows others that I am wealthy.		
	The product in the description is appropriate for expressing my social status and success.		
Wristwatch Involvement	Please express your attitudes toward a "wristwatch (whether it is a classic wristwatch or a smartwatch)" in your daily life using the following scales. You should mark the scale 10 times (one for each row). 1. Unimportant (1)–Important (7) 2. Boring (1)–Interesting (7) 3. Irrelevant (1)–Relevant (7) 4. Unexciting (1)–Exciting (7) 5. Means nothing (1)–Means a lot to me (7) 6. Unappealing (1)–Appealing (7) 7. Mundane (1)–Fascinating (7) 8. Worthless (1)–Valuable (7) 9. Uninvolving (1)–Involving (7) 10. Not needed (1)–Needed (7)	7-point Likert scale	Zaichkowsky (1994)
Technology Involvement	If I hear about a new information technology, I look for ways to experiment with it.	7-point Likert scale (strongly disagree–strongly agree)	Agarwal & Prasad (1998)
	Among my peers, I am usually the first to try out new technologies.		
	In general, I am not hesitant to try out new technologies.		
	I like to experiment with new technologies.		
Luxury Fashion Involvement	Please express your attitude toward "luxury fashion items in general" in your daily life. You should mark the scale 10 times (one for each row). 1. Unimportant (1)–Important (7) 2. Boring (1)–Interesting (7) 3. Irrelevant (1)–Relevant (7) 4. Unexciting (1)–Exciting (7) 5. Means nothing (1)–Means a lot to me (7) 6. Unappealing (1)–Appealing (7) 7. Mundane (1)–Fascinating (7) 8. Worthless (1)–Valuable (7) 9. Uninvolving (1)–Involving (7) 10. Not needed (1)–Needed (7)	7-point Likert scale (strongly disagree–strongly agree)	Zaichkowsky (1994)

Demographic Questions	Age, gender, ethnicity, household income, smartwatch usage, and purchase history of luxury fashion items.		
Pretest Questions	Brand name selection: • How much do you agree that *Lux.ly* indicates the name of a brand that would be associated with luxury fashion? • How much do you agree that *L.u.x.a.r.a* indicates the name of a brand that would be associated with luxury fashion? • How much do you agree that *Luxella* indicates the name of a brand that would be associated with luxury fashion? • How much do you agree that *Techlance* indicates the name of a brand that would be associated with technology?	7-point Likert scale (strongly disagree– strongly agree)	Self-developed
	Luxury fashion brand example selection: • Which of the following come to mind when you think of top-tier luxury fashion brands? Please choose FOUR from the following list: Chanel, Louis Vuitton, Hermès, Dior, Burberry, Prada, Gucci, Tiffany & Co., Cartier, Armani • Which of the following come to mind when you think of accessible, non-top-tier luxury fashion brands? Please choose FOUR from the following list: Kate Spade New York, Coach, Hugo Boss, Michael Kors, DKNY, Tory Burch, Ralph Lauren, Isabel Marant, Rebecca Minkoff, Marc Jacobs, Vivienne Westwood	Multiple-choice (multiple responses)	Self-developed
	Making the amount of information equivalent across scenarios: Please rate the amount of information in the scenario.	7-point Likert scale (very little information– very much information)	Goodwin & Etgar (1980); Horne et al. (2001)

Manipulation Check Questions	Luxury fashion–tech collaboration status: Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Binary scale (yes/no)	Self-developed
	Luxury fashion brand prestige: Please respond to the following statement: The luxury fashion brand seems to have a top-tier reputation.	7-point Likert scale (strongly disagree–strongly agree)	Self-developed

3.2.4. Data Collection

Study 1 enrolled 58 participants who currently have lived in the United States for at least the past five years. Previous research (e.g., Chua et al., 2016) has investigated both men and women in addressing luxury fashion–tech collaborative products or smartwatches, observing no gender differences in their interest in such products. Therefore, men and women between 18 and 35 years of age were chosen for the current study.

Participants were recruited through Amazon MTurk upon receiving approval from the University of Minnesota Institutional Review Board. Amazon MTurk is increasingly used to conduct behavioral research because it offers multiple advantages, including "easy access to a large, stable, and diverse subject pool, the low cost of doing experiments, and faster iteration between developing theory and executing experiments" (Mason & Suri, 2012, p. 1). Amazon MTurk users were considered to earn low incomes in general (Ross et al., 2010), which may suggest that most participants might not be current luxury customers. However, the study's dependent variables were "desire for luxury items" and "perception of luxury fashion brand image," which participants could rate regardless of their income, in contrast to such behavioral responses as purchase intention. Meanwhile, widespread wearable tech consumers are known to be early adopters, typically younger people (Anderson & Lee, 2008). The Millennial generational cohort is lucrative and important to the luxury market in that their young age gives them great potential career prospects, thus making them future luxury customers (Danzinger, 2017; Shin et al., 2017). Generation Z and Millennials have buying power (Lantos, 2014).

Thus, the present study recruited Amazon MTurkers, and each participant was paid $1.50 as an incentive.

Screening questions were used to select only participants who were appropriate for the present study (Clow & James, 2013). For the "with a tech component" condition, participants must already have heard about or experienced using a smartwatch so they can notice that a tech component is incorporated into a wristwatch and indicate their responses accordingly. They also need to have heard about or experienced a technology brand. In addition, for all experimental conditions, the scenarios did not explain the luxury fashion brand, itself, and participants need to have heard about or experienced a luxury fashion brand to fully understand the stimuli and respond to them accordingly. Thus, three screening questions (i.e., "Have you heard about or experienced using a smartwatch (for example, an Apple Watch or Fitbit Versa)?," "Have you heard about or experienced a technology brand?," and "Have you heard about or experienced a luxury fashion brand?") were equally presented to all participants across all conditions and screened out prospective participants who had no knowledge of smartwatches, technology brands, and luxury fashion brands.

3.2.5. Experimental Procedures

The online survey was created in Qualtrics, a web-based program that enables people to create surveys and reports. Participants volunteered to participate in the study after reading a short description of it presented on the Amazon MTurk job dashboard. Moreover, participants were informed that the study concerned consumer responses to products. Participants read a consent form and began the survey, indicating by proceeding on to the survey that they consented to take part.

Participants saw either the first two of the four scenarios for the "with a tech component" condition (i.e., a smartwatch) or the remaining two scenarios for the "without a tech component" condition (i.e., a wristwatch). The order of the presentation of the two scenarios in one questionnaire was randomized to reduce carryover effects (Greenwald, 1976). After exposure to each stimulus, they were asked to indicate their level of desire for the products, perceptions of luxury fashion brand image, and the perceived status signaling of the products.

Next were attention check questions—trick questions assessing participants' attention to survey instructions (Hauser & Schwarz, 2016). Consumers usually participate in online surveys in their homes, without experimenters' supervision (Kung et al., 2018). Therefore, some participants might not look thoroughly at the stimuli (Chandler, Mueller, & Paolacci, 2014; Kung et al., 2018). Accordingly, the attention check questions (e.g., "What type of product was depicted in the product description?") identified such careless respondents and screened them out before the analysis phase of the current study (Maniaci & Rogge, 2014; Schmitt & Stults, 1985).

Next, participants indicated their level of wristwatch, technology, and luxury fashion involvement. At the end of the online questionnaire, they were asked to provide the following demographic information: age, gender, ethnicity, household income, smartwatch usage, and purchase history of luxury fashion items. Last, participants were debriefed with an explanation that the brands and products were manipulated for the study and were not for sale. See Appendix E for the entire questionnaire for Study 1.

3.3. Results

3.3.1. Demographic Characteristics of the Sample

Before testing the proposed hypotheses, the data was arranged and cleaned up. All participants whom the screening question had disqualified were excluded. Regarding the first manipulation check, the logistic regression model was statistically significant ($\chi^2(1) = 160.4367$, $p < .001$). The model explained 100% (Nagelkerke R^2) of the variance in participants' noticing the collaboration status and correctly classified 100% of cases. Regarding the second manipulation check, an independent *t*-test revealed that the luxury fashion brand was perceived as a top-tier luxury fashion brand as intended ($M = 6.05$), and there was a significant difference compared to the accessible luxury fashion brand in terms of perceived prestige ($M = 4.65$) ($t(105.12) = 5.42$, $p < .001$). This current study ensured the manipulations were successful for the main study. Those who gave wrong answers to the attention check questions were removed so only the responses of those who were considered to have thoroughly read the scenarios would be analyzed. Insincere participants who answered the same way for each question were also removed. Fifty-eight Amazon MTurkers were included in the analyses.

The mean age of the participants (men: $n = 36$, 62.07%; women: $n = 22$, 37.93%) was 30.46. The sample included consumers from a variety of backgrounds concerning ethnicity and annual household income. Most participants were Caucasian ($n = 36$, 62.07%), and the rest were Black or African American ($n = 10$, 17.24%), Native American ($n = 6$, 10.34%), Asian or Pacific Islander ($n = 4$, 6.90%), Hispanic or Latino ($n = 1$, 1.72%), or Mixed/Other ($n = 1$, 1.72%). Most (75.86%) participants' annual household income (before taxes) was between $20,000 and $100,000. Most participants

spent less than $500 (*n* = 22, 37.93%) or $500–$1,999 (*n* = 20, 34.48%) on luxury fashion products every year. When asked how long the participants had used a smartwatch (e.g., Apple Watch or Fitbit Versa) in the survey questionnaire, 10.34% had used their smartwatch for less than six months, 14.29% had used it between six months and one year, 29.31% had used it for one to two years, 13.79% had used it for two to three years, and 32.76% had used it for more than three years. Eight participants (13.79%) indicated that they had never used a smartwatch, although they had heard about the product.

3.3.2. Validity and Reliability Testing for Measurement

After the non-valid survey responses were filtered out, a factor analysis for discriminant validity and convergent validity was conducted (Goodwin, 1999). Cronbach's α was checked for internal consistency reliability (Streiner, 2003). Measurement items were maintained only when factor loadings and Cronbach's α coefficients were satisfactory.

A factor analysis was conducted, including all the covariates of wristwatch, technology, and luxury fashion involvement. Principal components for extraction and varimax for rotation were used. Factor loadings below 0.4 were considered too low to belong to a certain factor (Matsunaga, 2010). Consequently, measurement items whose factor loadings were not satisfactory were removed to ensure convergent validity (Child, 2006). In addition, internal consistency reliability tests were conducted, and the study checked whether each scale's Cronbach's α was more than 0.70 for measurement reliability (Hinton et al., 2004). The Cronbach's α value for each scale was satisfactory. The final factor loadings and Cronbach's α values are presented in Table 2.

Two items measuring the perception of the status-signaling of the luxury items scale ("The product in the description shows others that I am wealthy," and "The product in the description is appropriate for expressing my social status and success") were removed because of low factor loadings. Cronbach's α equaled 0.838 for the three remaining items. All measurement items of the desire for luxury items were classified as one factor, and Cronbach's α was 0.917. Four items of the perceptions of the luxury fashion brand's image scale ("After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others," "After reading the description of the product above, I think the luxury fashion brand is admirable," "After reading the description of the product above, I think the luxury fashion brand signals sophistication," and "After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out") were removed because of low factor loadings, with Cronbach's α equal to 0.888 for the two remaining items. Regarding the covariates, three measurement items of the wristwatch involvement scale ("Unimportant–Important," "Means nothing–Means a lot to me," and "Not needed–Needed") were removed because of low factor loadings, with Cronbach's α equal to 0.899 for the remaining seven items. All items measuring technology involvement were classified as one factor, and Cronbach's α was 0.814. Five measurement items of the luxury fashion involvement scale ("Boring–Interesting," "Unexciting–Exciting," "Unappealing–Appealing," "Mundane–Fascinating," and "Worthless–Valuable") were removed because of low factor loadings, with Cronbach's α equaling 0.870 for the five remaining items.

Table 2. *Results of Reliability and Factor Analyses*

Variable	Cronbach's α	Measurement item	Factor loading
Perception of the status-signaling of the luxury items	0.838	The product in the description shows others that I am sophisticated.	0.751
		Owning the product in the description lets me differentiate myself from other people.	0.784
		It says something to people around me when I use the product in the description.	0.854
Desire for the luxury items	0.917	I desire the product in the description.	0.817
		If I had enough money, I would like to have the product in the description.	0.808
Perception of the luxury fashion brand image	0.888	After reading the description of the product above, I think the luxury fashion brand signals high status.	0.676
		After reading the description of the product above, I think the luxury fashion brand signals wealth.	0.809
Wristwatch involvement	0.899	Boring–Interesting	0.791
		Irrelevant–Relevant	0.810
		Unexciting–Exciting	0.719
		Unappealing–Appealing	0.729
		Mundane–Fascinating	0.768
		Worthless–Valuable	0.711
		Uninvolving–Involving	0.691
Technology involvement	0.814	If I hear about a new information technology, I look for ways to experiment with it.	0.793
		Among my peers, I am usually the first to try out new technologies.	0.701
		In general, I am not hesitant to try out	0.639

		new technologies.	
		I like to experiment with new technologies.	0.788
Luxury fashion involvement	0.870	Unimportant–Important	0.652
		Irrelevant–Relevant	0.710
		Means nothing–Means a lot to me	0.778
		Uninvolving–Involving	0.740
		Not needed–Needed	0.796

3.3.3. Preliminary Analyses

Before proceeding to hypothesis testing, preliminary analyses were conducted to increase the precision of the testing. First, Chi-squared tests were conducted to determine whether participants' demographic characteristics and experiences with smartwatch and luxury fashion products affected the independent variables. There were no statistically significant differences among the experimental conditions according to gender (X^2 (1) = 3.904, p = 0.142), household income (X^2 (4) = 7.190, p = 0.126), smartwatch usage (X^2 (6) = 12.004, p = 0.062), and purchase history of luxury fashion items (X^2 (6) = 14.336, p = 0.073).

The current study checked that Levene's test of equality of error variances was not statistically significant for the mediator and dependent variables (p > .05). Thus, the homogeneity of variance assumption was satisfied.

Correlation analyses were conducted to check the multicollinearity problem among the dependent variables, perception of the status-signaling of the luxury items, desire for the luxury items, and perception of the luxury fashion brand image (Mansfield & Helms, 1982). Table 3 depicts the correlation coefficients. It was found that correlations among the dependent variables were not above .85, and there was no multicollinearity problem (Schroeder, Lander, & Levine-Silverman, 1990). Hence, the study proceeded with the hypothesis testing.

Table 3. *Correlation Analysis Results*

	Perception of the status-signaling of the luxury items	Desire for the luxury items	Perception of the luxury fashion brand image
Perception of the status-signaling of the luxury items		0.499**	0.665**
Desire for the luxury items	0.499**		0.688**
Perception of the luxury fashion brand image	0.665**	0.688**	

**$p < .01$.

3.3.4. Hypothesis Testing

3.3.4.1. Interaction Effect between Luxury Fashion–Tech Collaboration Status and Luxury Fashion Brand Prestige

The study first conducted a two-way multivariate analysis of covariance (MANCOVA) with SPSS 27.0. Table 4 shows the results of the two-way MANCOVA. There was a significant interaction effect between luxury fashion–tech collaboration and luxury fashion brand prestige (Wilks' Lambda = .602, $F(3, 51) = 11.244$, $p < .001$) on perceptions of the status-signaling of the luxury item ($F(1, 53) = 30.515$, $p < .001$). A

simple main effect test indicated that the case of the top-tier luxury fashion brand without a tech component in the product was rated higher (M = 6.00) compared to the case with a tech component in the product (M = 5.57) ($F(1, 56) = -2.252$, $p < .05$). In addition, the accessible luxury fashion brand with a tech component in the product (M = 5.00) was rated higher compared to the case without a tech component in the product (M = 4.40) ($F(1, 56) = 2.627$, $p < .05$). The luxury fashion–tech collaboration was more beneficial to accessible luxury fashion brands compared with top-tier luxury fashion brands. Thus, H3a was partially supported. There were no statistically significant interaction effects between luxury fashion–tech collaboration and luxury fashion brand prestige in terms of consumer desires for the luxury item ($F(1, 53) = .302$, $p = .585$) or perceptions of the luxury fashion brand's image ($F(1, 53) = 2.889$, $p = .095$). Thus, H3b and H3c were rejected.

The two-way MANCOVA also showed that luxury fashion–tech collaborative products (vs. luxury products without a tech component) had no statistically significant impact (Wilks' Lambda = .884, $F(3, 51) = 2.220$, $p = .097$). To be specific, it had no statistically significant impact on consumers' perceptions of status-signaling of the luxury item ($F(1, 53) = .043$, $p = .837$), desire for the luxury item ($F(1, 53) = 3.699$, $p = .060$), or perceptions of the luxury fashion brand's image ($F(1, 53) = .126$, $p = .724$). Thus, H1 was rejected.

The two-way MANCOVA also demonstrated that the luxury item from a top-tier luxury fashion brand (vs. a luxury item from an accessible luxury fashion brand) had significant effects (Wilks' Lambda = .843, $F(3, 51) = 3.157$, $p < .05$) and resulted in a higher rating in relation to perceptions of the status-signaling of the luxury item ($F(1, 53)$

= 6.222, $p < .05$; $M_T = 5.78$, $M_A = 4.71$), consumer desires for the luxury item ($F(1, 53) = 6.577$, $p < .05$; $M_T = 5.02$, $M_A = 4.06$), and perceptions of the luxury fashion brand's image ($F(1, 53) = 5.176$, $p < .05$; $M_T = 5.79$, $M_A = 4.55$). Thus, H2a, H2b, and H2c were supported.

Table 4. *Two-Way MANCOVA Results*

Sources	Wilks' Lambda	Dependent Variables	*F*	*p*
Luxury fashion–tech collaboration status	0.884	Perceptions of the status-signaling of the luxury fashion–tech collaborative products	0.043	0.837
		Desire for the luxury fashion–tech collaborative products	3.699	0.060
		Perceptions of the luxury fashion brand's image	0.126	0.724
Luxury fashion brand prestige	0.843	Perceptions of the status-signaling of the luxury fashion–tech collaborative products	6.222	< .05
		Desire for the luxury fashion–tech collaborative products	6.577	< .05
		Perceptions of the luxury fashion brand's image	5.176	< .05
Luxury fashion–tech collaboration status x Luxury fashion brand	0.602	Perceptions of the status-signaling of the luxury fashion–tech collaborative products	30.515	< .001
		Desire for the luxury fashion–tech collaborative products	0.302	0.585

prestige	Perceptions of the luxury fashion brand's image	2.889	0.095

3.3.4.2. Mediation Effect of Perceptions of Status-Signaling of the Luxury Items

A linear regression was conducted to test the impact of perceptions of status-signaling of the luxury items on the dependent variables. The results showed that it had positive impacts on desire for the luxury items ($t(1, 56) = 2.112$, $p < .05$), with an R^2 of .074 and perceptions of the luxury fashion brand's image ($t(1, 56) = 6.853$, $p < .001$), with an R^2 of .456. Thus, H4a and H4b were supported. Figure 3 reveals the results of the two-way MANCOVA and the linear regression.

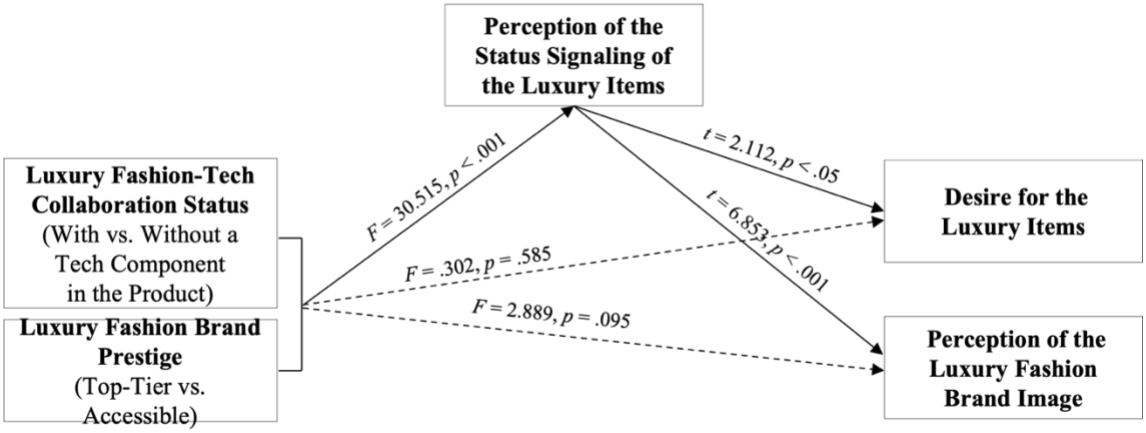

Figure 3. Results of the interaction (Study 1). Results of the interaction effect between luxury fashion-tech fashion–tech collaboration status and luxury fashion brand prestige and the effect of perceptions of status-signaling of the luxury items.

Simple mediation analyses were conducted with the PROCESS macro (Model 4; bootstrap: 10,000; Hayes, 2017) to test the indirect effects of the independent variable, luxury fashion-tech collaboration status, on the two dependent variables through the mediator, controlling for wristwatch involvement, technology involvement, and luxury

fashion involvement. Table 5, Figure 4, and Figure 5 illustrate the results of the mediation analyses. The mediation effect was nonsignificant for consumer desires for the luxury items (Effect = −.01, Boot *SE* = .06, 95% CI = −.15 to .10) and perceptions of the luxury fashion brand's image (Effect = −.04, Boot *SE* = .17, 95% CI = −.38 to .31), rejecting H5.

Table 5. *Mediation Analysis Results*

Dependent Variables	Mediator	Effect	Boot *SE*	95% Bias-Corrected Bootstrap CI
Desire for the luxury items	Perception of status-signaling of the luxury items	−.01	.06	[−.15, .10]
Perception of the luxury fashion brand's image		−.04	.17	[−.38, .31]

Note. 10,000 bootstrap samples. Boot *SE* = bootstrap *for* standard error. CI = confidence interval.

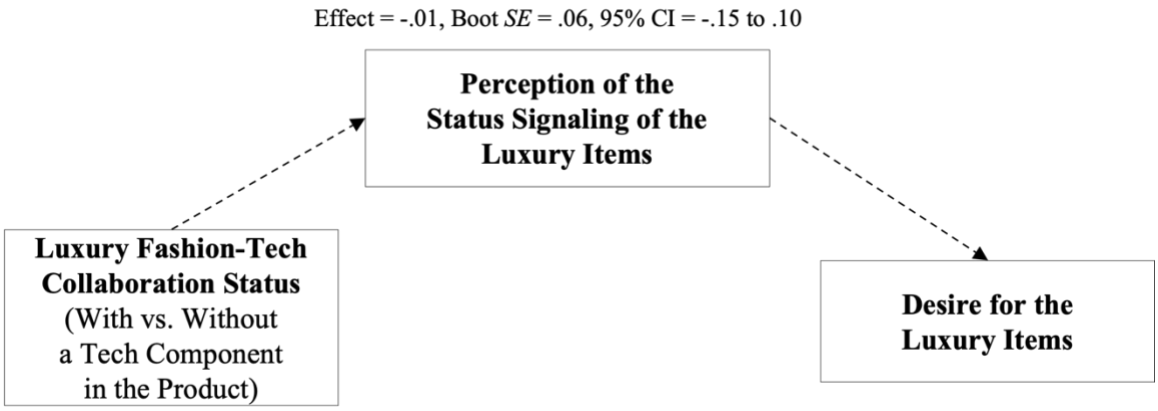

Figure 4. Results of the mediation effect of perception of status-signaling of the luxury items on desire for the luxury items.

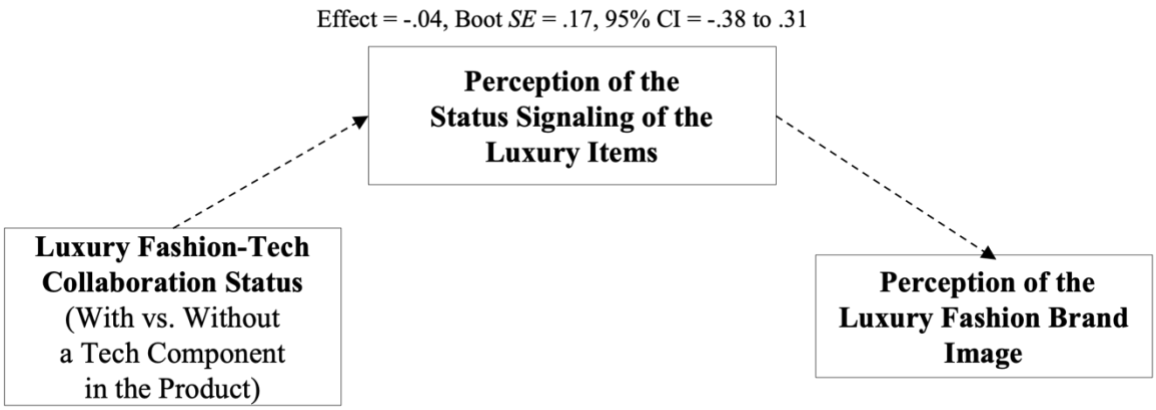

Figure 5. Results of the mediation effect of perception of status-signaling of the luxury items on perception of the luxury fashion brand's image.

3.3.5. Discussion

Study 1 aimed to test the impacts of luxury fashion–tech collaboration status and luxury fashion brand prestige on perceptions of status-signaling of the luxury items, desire for the luxury items, and perceptions of the luxury fashion brand's image.

Although the collaboration status had no statistically significant impact on consumer responses, the interaction effect between luxury fashion–tech collaboration and luxury fashion brand prestige on perceptions of the status-signaling of the luxury item showed that, for the top-tier luxury fashion brand, participants perceived the regular wristwatch as more status-signaling than the one with the tech component. In contrast, for the accessible luxury fashion brand, participants perceived the one with the tech component as more status-signaling than the regular wristwatch. Thus, it was demonstrated that the effects of a luxury fashion–tech collaboration on perceptions of the status-signaling of the luxury item would be beneficial to accessible luxury fashion brands. The perceptions of the status-signaling of the luxury item were lower for the luxury fashion–tech collaborative products compared to the regular luxury item in the

case of the top-tier luxury fashion brand, which was an unexpected result. One possible explanation may be that collaboration and collaborative products, themselves, inherently connote a short-term marketing strategy as an event and fashionable and non-classic products. The scenarios used in Study 1 did not provide any information on whether the collaboration had been conducted for years or it would continue in the future, just like, for example, Apple Watch Hermès series has been marketed for years. Consumers expect values such as artisanry, heritage, a long-lasting product lifespan, and a representative product line (e.g., Hermès Birkin bags) and products that can be handed down across generations or even as investment objects (Morley & McMahon, 2011), especially concerning top-tier luxury fashion brands. Those values and products are a core part of the perceptions of status-signaling of a luxury item from top-tier luxury fashion brands compared to those from accessible luxury fashion brands (Kim et al., 2018; Truong et al., 2009). In addition, unlike any other collaborative ally such as artwork or fast fashion, technology is constantly evolving. Thus, luxury items with a tech component may have a short lifecycle (Choi & Kim, 2016), which may dilute the aforementioned values according to this study.

The interaction effect was too weak to produce a significant effect concerning the other two consumer responses—consumer desires for the luxury item and perceptions of the luxury fashion brand's image—which are more active or in-depth consumer responses compared to the perception of the luxury items. The inherent characteristics of collaboration and a tech component would also play roles in the relationship between the collaboration status according to luxury fashion brand prestige and the other two responses.

Meanwhile, as expected, the perceptions of status-signaling of the luxury items had positive impacts on the desire for the luxury items and perceptions of the luxury fashion brand's image. These results are in line with those of Kapferer and Valette-Florence (2016), who found that class and status were demonstrated to be antecedents of luxury brand desirability and that class and status reflect a brand's standing above other brands and endow buyers with class and status. Despite these positive relationships, the aforementioned interaction effect on perceptions of status-signaling of the luxury item was not carried over to the other two consumer responses. Although perceptions of status-signaling of the luxury items had significant positive impacts on the consumer responses, its R^2 was small, especially for the consumer desires for the luxury item. This small R^2 could explain why the significant interaction effect between collaboration status and luxury fashion brand prestige is not necessarily extended to the other two consumer responses. Other factors, such as perception of quality/uniqueness of the luxury items, could play a role in combination with perceptions of status-signaling of the luxury items for a direct impact of the interaction on the other two consumer responses.

As expected, a luxury item from a top-tier luxury fashion brand (vs. a luxury item from an accessible luxury fashion brand) resulted in a higher rating in terms of consumer responses, and these results are in line with Truong et al. (2009) in that consumers' perceived prestige was higher for top-tier luxury fashion brands compared to accessible luxury fashion brands. The importance of brand prestige in luxury branding was demonstrated again in this current study.

The current study aimed to verify the sole mediating impact of collaboration status, not in combination with luxury fashion brand prestige, on the two consumer

responses, which was the first attempt to test the mediator in the relevant literature. The mediation effect was nonsignificant for both responses, and there was no statistically significant direct impact of the collaboration status on the perceptions of status-signaling of the luxury items. It seems that the addition of the tech component alone does not determine the perception of status-signaling of the luxury items. As the significant interaction effect on the perception of status-signaling in this current study suggests, luxury fashion brand prestige is another factor that should be considered while discussing the impact of collaboration status on the status-signaling aspect of the luxury items. There could be other factors, such as a retail channel where the luxury fashion–tech collaborative products are sold, which warrants further research. The same reasoning would be true when discussing the nonsignificant direct impact of the collaboration status on the two other consumer responses—consumer desires for the luxury item and perceptions of the luxury fashion brand's image. In addition, future research could include other possible mediators, such as perceptions of the quality/uniqueness of the luxury items (Helm & Özergin, 2015; Washburn et al., 2000), in a research model and verify their mediating impacts.

Chapter 4. Study 2

4.1. Study 2

This section describes the study design, stimuli development, instruments, data collection, and experimental procedures for Study 2. It also reveals the results of the hypothesis testing for Study 2.

4.1.1. Study Objective and Design

Study 2 aimed to test the impact of (a) brands that carry luxury fashion–tech collaborative products and (b) the retail channel on consumer desire for luxury fashion–tech collaborative products and perceptions of the luxury fashion brand's image. Study 2 also aimed to test the mediation effect of perceived status signaling for luxury fashion–tech collaborative products. Study 2 used a 2 x 2 (brands that carry luxury fashion–tech collaborative products: luxury fashion brand vs. tech brand) x (retail channel: physical vs. online) mixed design where brands that carry luxury fashion–tech collaborative products was a between-subject factor and retail channel was a within-subject factor.

4.1.2. Stimuli Development

Not all luxury fashion–tech collaborative products are stocked by both a luxury fashion brand and a tech brand; some are offered solely by either a luxury fashion brand or a tech brand. For example, often, a tech brand that has partnered with a fashion brand engages in business-to-business commercial transactions—not business-to-consumer transactions—and does not operate independent stores (Felman, 2020). A retailing strategy is needed when both the luxury fashion brand and tech brand in such a partnership operate their own physical or online stores that could carry the co-branded products. Accordingly, Study 2 tested which brand and retail channel should offer the

products in such a case via one of the experimental conditions used in Study 1 (i.e., the "with a tech component and from a top-tier luxury fashion brand" condition). This condition, not "with a tech component and from an accessible luxury fashion brand" condition, was selected because top-tier luxury fashion brands have actively co-branded with tech brands while accessible luxury fashion brands have not. The only addition to the scenario was brief information about where the smartwatch was available.

4.1.2.1. Selection of Retail Channels

The present study investigated currently available luxury fashion–tech collaborative products' retail channels using an Internet search. Four main retail channels have been largely used to sell the products: luxury fashion brands' (a) physical and (b) online stores and tech brands' (c) physical and (d) online stores (Nieroda et al., 2018). Consumers may be able to purchase luxury fashion–tech collaborative products using other channels, for example, a reseller's channel or individual online sellers of used items (Purewal, 2016). However, to limit the scope of the current study to the most used channels, the current study only considers the four most prominent retail channels and compares both luxury fashion and tech brands' online and in-store retail channels.

4.1.2.3. Manipulation of Brands That Carry Luxury Fashion–Tech Collaborative Products and Retail Channels

The smartwatch also was used in Study 2 for the same reasons mentioned in Study 1. Four hypothetical scenarios for brands that carry the smartwatch and retail channels were created to reflect the following four conditions: luxury fashion brand physical store, luxury fashion brand online store, tech brand physical store, and tech brand online store. The descriptions of each scenario explained whether the smartwatch

was offered by a luxury fashion brand or a tech brand and whether it was carried in physical or online stores, thereby manipulating Study 2's two factors.

The first factor, brands that carry luxury fashion–tech collaborative products (luxury fashion brand vs. tech brand), was a between-subject variable. Meanwhile, the retail channel (physical store vs. online store) was a within-subject variable. Thus, each participant was exposed to two scenarios among the four scenarios in Study 2. The comparison of a luxury fashion brand and a tech brand offering the same products is prominent, and participants can detect the difference between these brands with ease (Nieroda et al., 2018). However, participants could fail to distinguish between two types of retail channels (physical store vs. online store) in reading the scenario descriptions if they focus only on which brand (luxury fashion vs. tech) carries the products. To solve this problem, one participant evaluated two types of retail channels (physical store vs. online store), allowing participants to respond by (sub)consciously comparing the two types of retail channels more accurately in an online survey (Charness et al., 2012). In addition, as mentioned in Study 1, less variance due to participant disposition is another advantage of using the within-subjects factor (Greenwald, 1976).

The four conditions differed in only two respects. First, the brand offering the smartwatch varied (luxury fashion brand vs. tech brand). Second, each brand's retail channel varied; the description of the physical store condition explained that the smartwatch was carried in a physical store, while the description of the online store condition explained that the smartwatch was carried in an online store.

As with Study 1, the amount of information between the scenarios in Study 2 should ideally be equivalent to control for the amount of information's effect on

consumers' responses to the scenarios (Goodwin & Etgar, 1980). A pretest checked whether participants perceived the amount of information in each scenario to be relatively equivalent using a seven-point Likert scale ("very little information"–"very much information"). Specifically, scenarios were presented to a total of 30 participants, all men (n = 19) and women (n = 11) between 18 and 35 years of age, on Amazon MTurk, for an incentive of $0.50 per person. Results from a one-way ANOVA showed that there were no statistically significant differences between the amount of information in the four scenarios ($F(3, 116) = .41$, $p = .75$). Therefore, the scenarios were used for the main study. See Appendix F for the whole questionnaire for the pretest.

The following four scenarios were used for Study 2:

1) Scenario 1: Luxury fashion brand with a physical store

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women and that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** brick-and-mortar store but not its online store.

Now, please evaluate the product and answer the following questions.

2) Scenario 2: Luxury fashion brand with an online store

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** online store but not its brick-and-mortar store.

Now, please evaluate the product and answer the following questions.

3) Scenario 3: Tech brand with a physical store

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** brick-and-mortar store but not its online store.

Now, please evaluate the product and answer the following questions.

4) Scenario 4: Tech brand with an online store

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women and that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** online store but not its brick-and-mortar store.

Now, please evaluate the product and answer the following questions.

Before conducting the main study, two manipulation checks were conducted to test whether participants definitively detected through which brand and retail channel the luxury fashion–tech collaborative product was offered in the scenarios. First, regarding the brand that carries luxury fashion–tech collaborative products, a manipulation check asked participants in which brand's stores the product was available, using a binary scale ("luxury fashion brand" vs. "tech brand"). As with one of the manipulation checks in Study 1, participants were exposed to one scenario at a time, and the manipulation check question followed on the next page. They could not return to the scenario to find the answer to the question. The second manipulation check determined whether participants detected the retail channel; participants were asked in which retail channel the product is carried, using a binary scale ("physical stores" vs. "online stores"). All the manipulation checks were conducted by showing all four scenarios to a total of 30 people, all men (n = 17) and women (n = 13) between 18 and 35 years of age, on Amazon MTurk, for an

incentive of $0.50 per person. A binary logistic regression was performed for both manipulation checks.

Regarding the first manipulation check, the logistic regression model was statistically significant ($\chi^2(1) = 50.12$, $p < .001$). The model explained 45.7% (Nagelkerke R^2) of the variance in participants' noticing the brand that carries luxury fashion–tech collaborative products and correctly classified 80.8% of cases. The results indicated that the scenarios notified most participants which brand carries the products.

Regarding the second manipulation check, the logistic regression model was also statistically significant ($\chi^2(1) = 65.03$, $p < .001$), and the model explained 55.8% (Nagelkerke R^2) of the variance in participants' noticing the retail channel and correctly classified 85% of cases. The results indicated that the scenarios notified most participants about the retail channel that carried the product. All the manipulations were revealed to be successful, and the current study used the scenarios for the main study. See Appendix G for the whole questionnaire for the manipulation checks.

4.1.3. Instruments

Study 2 employed the same measurement items as Study 1. The dependent variables for Study 2 were consumers' desire for luxury fashion–tech collaborative products and perceptions of luxury fashion brand image. Like Study 1, Study 2 used the perceived status-signaling of luxury fashion–tech collaborative products as a mediator. The same covariates—wristwatch involvement, technology involvement, and luxury fashion involvement—were controlled for in Study 2. Likewise, Study 2 used the same measurements for dependent, mediating, and covariates, as well as demographic questions. The only difference between the two sub-studies concerned the measurements

for the two manipulation checks: (a) a manipulation check for brands that carry luxury fashion–tech collaborative products and (b) another manipulation check for retail channels. Table 6 presents instruments for these two manipulation checks.

Table 6. *Instruments*

Instrument	Items	Scale	Source
Manipulation Check Questions	Brands that carry the luxury fashion–tech collaborative products: In which brand's stores is the product available? Please select one.	Binary scale (luxury fashion brand/tech brand)	Self-developed
	Retail channel: In which retail channels is the product carried of those listed? Please select one.	Binary scale (physical stores/online stores)	Self-developed

4.1.4. Data Collection

Study 2 enrolled 59 participants, all between 18 and 35 years of age, who currently have lived in the United States for at least the past five years. These participants were recruited from among Amazon MTurkers, and each participant was paid $1.50 as an incentive.

Those who took part in Study 1 were not be allowed to participate in Study 2 because they were already debriefed that the product and brands described in a scenario were made up by a researcher at the end of the experiment for Study 1. Thus, a screening question (i.e., “Have you previously responded to a survey about a wristwatch/luxury fashion–tech collaborative smartwatch?”) asked whether participants had done Study 1 and was used to filter out the participants of Study 1. The same screening question used in Study 1 asked participants whether they had heard about or experienced using a smartwatch to determine participants’ eligibility. For all the experimental conditions, four other screening questions (i.e., “Do you know what a luxury fashion brand’s physical store looks like?,” “Do you know what a luxury fashion brand’s online store looks like?,” “Do you know what a technology brand’s physical store looks like?,” and “Do you know what a technology brand’s online store looks like?”) asked whether participants had knowledge about any luxury fashion brand’s and technology brand’s physical or online stores. A luxury fashion brand’s and technology brand’s physical or online stores vary meaningfully from each other (Dion & Borraz, 2017), and participants already needed to be aware of what each kind of retail channel in Study 2 looks like to reliably indicate their responses to Study 2’s four stimuli. Those screening questions filtered out participants with no knowledge whatsoever about those distinctive retail channels.

4.1.5. Experimental Procedures

For Study 2, participants volunteered to participate in an online experiment that was created using Qualtrics. Individuals were informed that the study concerned consumer responses to products. Participants read a consent form and started the survey, and by proceeding to the survey questions, they indicated their consent to take part in the study.

Participants saw either (a) the first two of four scenarios for products offered in luxury fashion brand's physical or online stores or (b) the remaining two scenarios for products carried in a tech brand's physical or online stores. The order of the presentation of the two scenarios in one questionnaire was randomized to reduce the carryover effects. After exposure to each stimulus, participants were asked to indicate their level of desire for the luxury fashion–tech collaborative products described in the scenario, the perception of luxury fashion brand image, and the perceived status-signaling of the luxury fashion–tech collaborative products. Attention check questions followed.

Subsequently, participants indicated their level of wristwatch involvement, technology involvement, and luxury fashion involvement. At the end of the online questionnaire, they were asked to provide the following demographic information: age, gender, ethnicity, household income, smartwatch usage, and purchase history of luxury fashion items. Last, participants were debriefed with an explanation that the brands and products were manipulated for the study and were not for sale. See Appendix H for the entire questionnaire for Study 2.

4.2. Results

4.2.1. Demographic Characteristics of Sample

Before testing the proposed hypotheses, the data were arranged and cleaned up. All participants whom the screening question had disqualified were excluded. Regarding the first manipulation check, a binary logistic regression was performed to ascertain the likelihood that participants noticed which brand carried the luxury fashion–tech collaborative products (luxury fashion brand vs. technology brand). The logistic regression model was statistically significant ($\chi^2(1) = 163.278$, $p < .001$). The model explained 100% (Nagelkerke R^2) of the variance in participants' noticing the brand and correctly classified 100% of cases. Regarding the second manipulation check, the logistic regression model was also statistically significant ($\chi^2(1) = 163.583$, $p < .001$), and the model explained 100% (Nagelkerke R^2) of the variance in participants' noticing the retail channel (physical stores vs. online stores) and correctly classified 100% of cases. This current study made sure the manipulations were successful for the main study, and those who gave wrong answers to the attention check questions were removed so only the responses of those who were considered to have thoroughly read the scenarios would be analyzed, as in Study 1. Insincere participants who answered the same way for each question were also removed. Fifty-nine Amazon MTurkers were included in the following analyses.

The mean age of the participants (men: $n = 23$, 38.98%; women: $n = 36$, 61.02%) was 30.13. The sample included consumers from a variety of backgrounds concerning ethnicity and annual household income. Most participants were Caucasian ($n = 45$, 76.27%), and the rest were Black or African American ($n = 5$, 8.47%), Asian or Pacific

Islander (n = 5, 8.47%), Hispanic or Latino (n = 2, 3.39%), or Mixed/Other (n = 2, 3.39%). Most (79.66%) participants' annual household income (before taxes) was between $20,000 and $100,000. Participants spent less than $1,000 ($n$ = 30, 50.84%), $1,000–$3,000 (n = 18, 30.51%), or $3,000–$10,000 (n = 11, 18.64%) on luxury fashion products every year. When asked how long the participants had used a smartwatch (e.g., Apple Watch or Fitbit Versa) in the survey questionnaire, 10.17% had used their smartwatch for less than six months, 10.17% had used it for between six months and one year, 13.56% had used it for one to two years, 22.03% had used it for two to three years, and 18.68% had used it for more than three years. Fifteen participants (25.42%) indicated that they had never used a smartwatch, although they had heard about the product.

4.2.2. Validity and Reliability Testing for Measurement

A factor analysis was conducted, including all the covariates, wristwatch involvement, technology involvement, and luxury fashion involvement, for discriminant validity and convergent validity. Principal components for extraction and varimax for rotation were used, and measurement items whose factor loadings were not satisfactory (i.e., below 0.4) were removed (Matsunaga, 2010). The Cronbach's α value for each scale was satisfactory (i.e., more than 0.70) according to internal consistency reliability tests (Hinton et al., 2004). Final factor loadings and Cronbach's α values are presented in Table 7.

To be specific, two measurement items of the perception of the status-signaling of the luxury fashion–tech collaborative products scale ("The product in the description shows others that I am wealthy," and "The product in the description is appropriate for expressing my social status and success") were removed because of low factor loadings,

with the Cronbach's α equal to 0.875 for the three remaining items. All measurement items of the desire for luxury fashion–tech collaborative products were classified as one factor, and the Cronbach's α was 0.912. Three items of the perceptions of the luxury fashion brand's image scale ("After reading the description of the product above, I think the luxury fashion brand will help me to make a good impression on others," "After reading the description of the product above, I think the luxury fashion brand is admirable," and "After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out") were removed because of low factor loadings, with Cronbach's α equal to 0.781 for the three remaining items. Regarding the covariates, a measurement item of wristwatch involvement ("Unappealing–Appealing") was removed because of low factor loading, with Cronbach's α equal to 0.946 for the nine remaining items. All measurement items of technology involvement were classified as one factor. The initial value of Cronbach's α was 0.814 for the factor. The value of Cronbach's α increased to 0.850 after removing one of the measurement items ("In general, I am not hesitant to try out new technologies"). Five measurement items about luxury fashion involvement ("Boring–Interesting," "Unexciting–Exciting," "Unappealing–Appealing," "Mundane–Fascinating," and "Worthless–Valuable") were removed because of low factor loadings. The initial value of Cronbach's α was 0.869 for the factor. The value of Cronbach's α increased to 0.897 after removing one of the measurement items ("Not needed–Needed").

Table 7. *Results of Reliability and Factor Analyses*

Variable	Cronbach's α	Measurement item	Factor loading
Perception of the status-signaling of the luxury items	0.875	The product in the description shows others that I am sophisticated.	0.677
		Owning the product in the description lets me differentiate myself from other people.	0.557
		It says something to people around me when I use the product in the description.	0.622
Desire for the luxury items	0.912	I desire the product in the description.	0.573
		If I had enough money, I would like to have the product in the description.	0.511
Perception of the luxury fashion brand's image	0.781	After reading the description of the product above, I think the luxury fashion brand signals high status.	0.839
		After reading the description of the product above, I think the luxury fashion brand signals wealth.	0.795
		After reading the description of the product above, I think the luxury fashion brand signals sophistication.	0.645

Wristwatch involvement	0.946	Unimportant–Important	0.748
		Boring–Interesting	0.751
		Irrelevant–Relevant	0.800
		Unexciting–Exciting	0.792
		Means nothing–Means a lot to me	0.785
		Mundane– Fascinating	0.768
		Worthless–Valuable	0.821
		Uninvolving–Involving	0.882
		Not needed–Needed	0.785
Technology involvement	0.850	If I heard about a new information technology, I would look for ways to experiment with it.	0.818
		Among my peers, I am usually the first to try out new technologies.	0.692
		I like to experiment with new technologies.	0.843
Luxury fashion involvement	0.897	Unimportant–Important	0.585
		Irrelevant–Relevant	0.555
		Means nothing–Means a lot to me	0.626
		Uninvolving–Involving	0.731

4.2.3. Preliminary Analyses

Before proceeding to hypothesis testing, preliminary analyses were conducted to increase the precision of the testing. First, Chi-squared tests were conducted to test whether participants' demographic characteristics affected the independent variables (i.e., four conditions). There were no statistically significant differences among the conditions according to gender (X^2 (1) = 1.242, p = 0.265), household income (X^2 (4) = 1.411, p = 0.842), smartwatch usage (X^2 (6) = 6.554, p = 0.477), or purchase history of luxury fashion items (X^2 (6) = 10.101, p = 0.183).

The current study checked that Levene's test of equality of error variances was not statistically significant for the mediator and dependent variables ($p > .05$). The homogeneity of variance assumption was satisfied.

Correlation analyses were conducted to check the multicollinearity problem among dependent variables, perception of the status-signaling of the luxury fashion–tech collaborative products, desire for the luxury fashion–tech collaborative products, and perception of the luxury fashion brand's image (Mansfield & Helms, 1982). Table 8 shows the correlation coefficients. It was found that correlations among the dependent variables were not above 0.85, and there was no multicollinearity problem (Schroeder et al., 1990). Thus, the study proceeded with the hypothesis testing.

Table 8. *Correlation Analysis Results*

	Perception of the status-signaling of the luxury fashion–tech collaborative products	Desire for the luxury fashion–tech collaborative products	Perception of the luxury fashion brand's image
Perception of the status-signaling of the luxury fashion–tech collaborative products		0.554**	0.479**
Desire for the luxury fashion–tech collaborative products	0.554**		0.434**
Perception of the luxury fashion brand's image	0.479**	0.434**	

**$p < .01$.

4.2.4. Hypothesis Testing

4.2.4.1. Interaction Effect between Brand That Carries Luxury Fashion–Tech Collaborative Products and Retail Channel

The study conducted a two-way MANCOVA with SPSS 27.0, as in Study 1. Table 9 reveals the results of the two-way MANCOVA. There was no statistically significant interaction effect between the brand that carries luxury fashion–tech collaborative products and the retail channel (Wilks' Lambda = .963, $F(1, 52) = .664$, $p = .578$) in terms of perceptions of status-signaling of the luxury fashion–tech collaborative products ($F(1, 54) = .062$, $p = .805$), consumer desires for the luxury fashion–tech collaborative products ($F(1, 54) = 1.542$, $p = .220$), or perceptions of the luxury fashion brand's image ($F(1, 54) = .305$, $p = .583$). Thus, H7 was rejected.

One of the independent variables, a brand that carries luxury fashion–tech collaborative products (Wilks' Lambda = .848, $F(3, 52) = 3.105$, $p = .034$), had a significant impact on consumers' perceptions of status-signaling of the luxury fashion–tech collaborative products ($F(1, 54) = 9.455$, $p < .01$). Thus, H6a was supported. Products carried by a luxury fashion brand evoked higher perceptions of status-signaling of the luxury fashion–tech collaborative products ($M = 5.77$) than those carried in a tech brand ($M = 5.02$). There were no statistically significant effects on the desire for the luxury fashion–tech collaborative products ($F(1, 54) = 2.674$, $p = .108$) or perceptions of the luxury fashion brand's image ($F(1, 54) = 3.588$, $p = .064$). Thus, H6b and H6c were rejected.

Table 9. *Two-Way MANCOVA Results*

Sources	Wilks' Lambda	Dependent Variables	*F*	*p*
Brand that carries luxury fashion–tech collaborative products	.848	Perception of status-signaling of the luxury fashion–tech collaborative products	9.455	<.01
		Desire for the luxury fashion–tech collaborative products	2.674	0.108
		Perception of the luxury fashion brand's image	3.588	0.064
Brand that carries luxury fashion–tech collaborative products x retail channel	.963	Perception of status-signaling of the luxury fashion–tech collaborative products	0.062	0.805
		Desire for the luxury fashion–tech collaborative products	1.542	0.220
		Perception of the luxury fashion brand's image	0.305	0.583

4.2.4.2. Mediation Effect of Perception of Status-Signaling of the Luxury Fashion–Tech Collaborative Products

Linear regression was conducted to test the impact of perception of status-signaling of luxury fashion–tech collaborative products on the dependent variables. The results showed that it had positive impacts on desire for the luxury fashion–tech collaborative products ($t(1, 57) = 5.553$, $p < .001$), with an R^2 of .351, and perceptions of the luxury fashion brand's image ($t(1, 57) = 7.225$, $p < .001$), with an R^2 of .478. Thus, H8a and H8b were supported. Figure 6 depicts the results of the two-way MANCOVA and the linear regression.

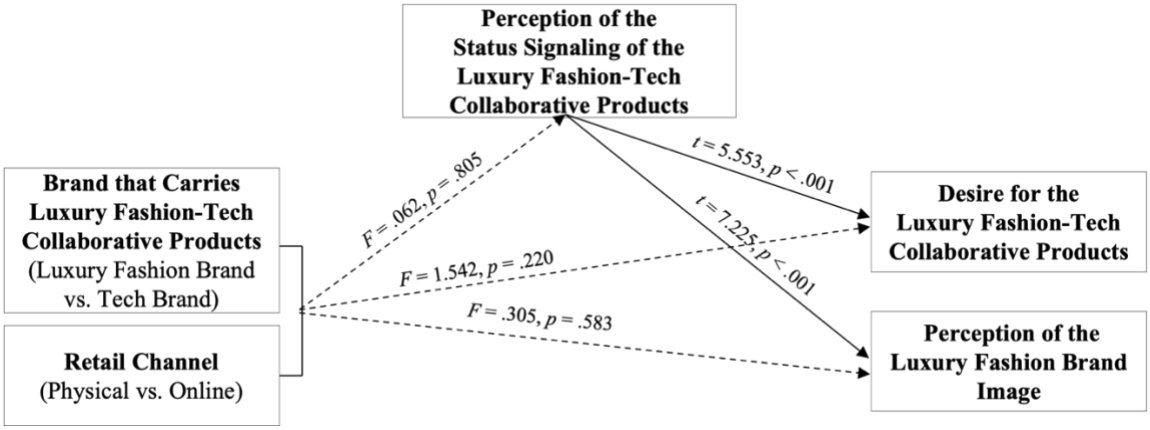

Figure 6. Results of the interactional effect (Study 2). Results of the interactional effect between the brand that carries luxury fashion–tech collaborative products and the retail channel and the effect of perception of status-signaling of the luxury fashion–tech collaborative products.

Simple mediation analyses were conducted with the PROCESS macro (Model 4; bootstrap: 10,000; Hayes, 2017) to test the indirect effects of the independent variable, the brand that carries luxury fashion–tech collaborative products, on the two dependent variables through the mediator, controlling for wristwatch involvement, technology involvement, and luxury fashion involvement. Table 10, Figure 7, and Figure 8 illustrate the results of the mediation analyses. The mediation effect was significant for consumer desires for the luxury fashion–tech collaborative products (Effect = .24, Boot *SE* = .13, 95% CI = .04 to .52) and perceptions of the luxury fashion brand's image (Effect = .34, Boot *SE* = .13, 95% CI = .11 to .60), supporting H9a and H9b.

Table 10. *Mediation Analysis Results*

Dependent Variables	Mediator	Effect	Boot *SE*	95% Bias-Corrected Bootstrap CI

Desire for the luxury fashion–tech collaborative products	Perception of status-signaling of the luxury fashion–tech collaborative products	.24	.13	[.04, .52]
Perception of the luxury fashion brand's image		.34	.13	[.11, .60]

Note. 10,000 bootstrap samples. Boot *SE* = bootstrap *for* standard error. CI = confidence interval.

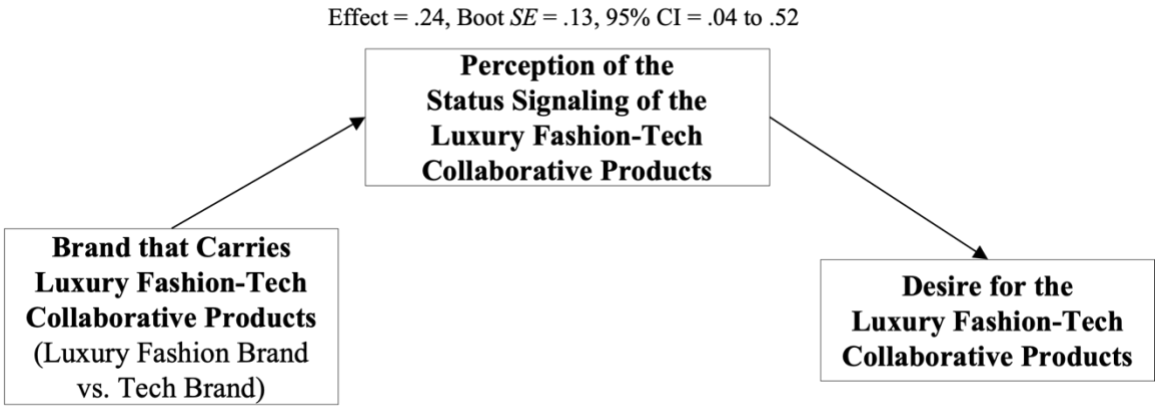

Figure 7. Results of the mediation effect of perception of status-signaling of the luxury fashion–tech collaborative products on desire for the luxury fashion–tech collaborative products.

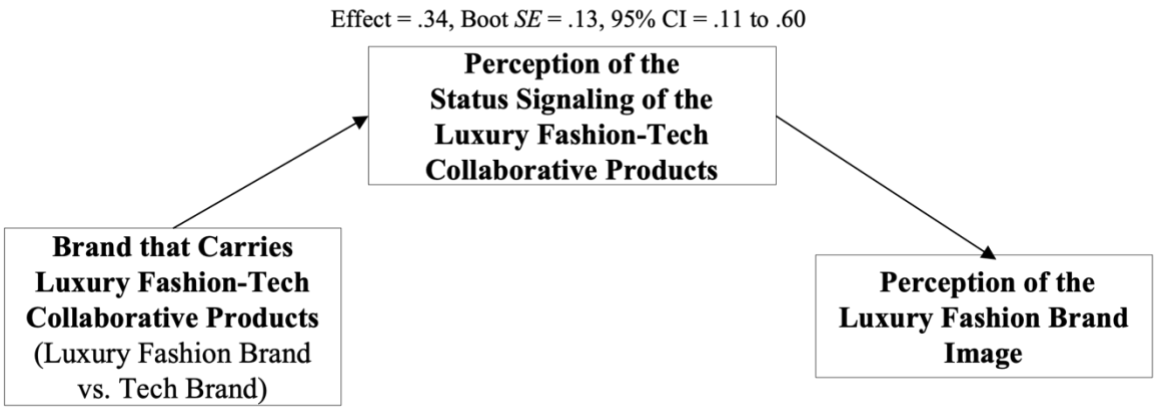

Figure 8. Results of the mediation effect of perception of status-signaling of the luxury fashion–tech collaborative products on perception of the luxury fashion brand's image.

4.2.5. Discussion

Study 2 aimed to test the impacts of brands that carry luxury fashion–tech collaborative products and retail channels on perception of status-signaling of the luxury fashion–tech collaborative products, desire for the luxury fashion–tech collaborative products, and perception of the luxury fashion brand's image. Study 2 also aimed to test the mediating effect of perception of status-signaling of the luxury fashion–tech collaborative products in retailing the luxury fashion–tech collaborative products.

As expected, products carried in luxury fashion brands evoked higher perceptions of status-signaling of the luxury fashion–tech collaborative products compared with those carried in a tech brand. This result is in line with Dion and Borraz (2017), who discussed the luxury fashion brand's stores and perception of status-signaling of their products. Meanwhile, as in Study 1, perception of status-signaling of the luxury fashion–tech collaborative products had positive effects on the desire for luxury fashion–tech collaborative products and perceptions of the luxury fashion brand's image, as expected. These results are in line with Berger and Ward (2010) and Kapferer and Valette-Florence

(2016). Despite these positive relationships, the aforementioned main effect of the brand that carries luxury fashion–tech collaborative products on perceptions of status-signaling of the luxury products was not carried over to the other two consumer responses. As in Study 1, R^2 was relatively small, and the significant main effect was not necessarily extended to the other two consumer responses.

Regarding the nonsignificant interaction effect between brands that carry luxury fashion–tech collaborative products and retail channels, there were small mean distinctions between physical and online stores concerning all three variables—perception of status-signaling of the luxury fashion–tech collaborative products, consumer desires for the products, and perceptions of the luxury fashion brand's image. Indeed, although it was not initially proposed as a hypothesis for Study 2, the main effect of the retail channel (physical vs. online) on all the following three variables was nonsignificant: perceptions of status-signaling of the luxury fashion–tech collaborative products ($F(1, 54) = .740$, $p = .394$; $M_P = 5.44$, $M_O = 5.39$), consumer desires for the luxury fashion–tech collaborative products ($F(1, 54) = 2.290$, $p = .136$; $M_P = 4.75$, $M_O = 4.75$), and perceptions of the luxury fashion brand's image ($F(1, 54) = .472$, $p = .495$; $M_P = 5.43$, $M_O = 5.36$). The nonsignificant interaction effect is ascribable to the nonsignificant impact of the retail channel (physical vs. online), and these results are not in line with the findings of Koschmann and Isaac (2018); physical stores had a relatively high-priced image while online stores were associated with a relatively low-priced image in their study.

A possible explanation may be the change in participants' perception of the online stores (vs. physical stores) during the COVID-19 pandemic, when the experiment of the

current study was conducted. Research on the impact of the pandemic on retailing has just begun to be published, and it has been reported that retailers have improved their online stores and worked on online retailing/marketing during and post-pandemic (Abe & Mugobo, 2021). More consumers across generations got to enjoy a brand's online store's goods and services as much as the ones from physical stores of the same brand (Abe & Mugobo, 2021). Consumer perceptions of the differences between physical versus online stores became even more blurry in the post-COVID-19.

Another possible explanation may be due to the product used in the experiment. The example of luxury fashion–tech collaborative products used in the current study was a smartwatch. There are fewer disparities between purchasing the smartwatch in physical stores and online stores compared to buying other types of luxury fashion–tech collaborative products, such as a handbag with built-in flexible screens (e.g., LV screen bag); consumers usually want to test its fit (Wang et al., 2012). These possibilities could lead to nonsignificant differences in consumer response to the luxury fashion–tech collaborative products carried in two retail channels: physical versus online.

The mediation effect of brands that carry luxury fashion–tech collaborative products was significant for both consumer desires for the luxury fashion–tech collaborative products and perceptions of the luxury fashion brand's image. In other words, the current study verified the indirect effects of the independent variable on the two dependent variables as proposed in H9a and H9b, although there were no direct effects of the independent variable, as shown through H6b and H6c. This suggests that only when the perception of status-signaling of the products mediates the relationships would the independent variable affect the dependent variables. The current study

demonstrated a mediator that induces changes in the dependent variables. The current study demonstrated the importance of perception of status-signaling of the luxury fashion–tech collaborative products in marketing those products in terms of retailing.

Chapter 5. General Discussion

Chapter 5 provides a summary of studies 1 and 2, conclusions, and theoretical and managerial implications of the research. Limitations of the research and future research suggestions follow.

5.1. Summary of Studies 1 and 2 and Conclusions

The current study aimed to investigate the impact of luxury fashion–tech collaborations and their retail channels on consumers' desires for luxury items and perceptions of luxury fashion brand image via status-signaling perceptions. Two research models were built based on signaling theory, and two experiments tested the causal effects of two independent variables in each sub-study—luxury fashion–tech collaboration status and luxury fashion brand prestige (in Study 1) and brands that carry luxury fashion–tech collaborative products and retail channels (in Study 2).

Regarding Study 1, a luxury item from a top-tier luxury fashion brand (vs. an accessible luxury fashion brand) resulted in a higher rating concerning consumer responses. Although the collaboration status alone had no statistically significant impact on consumer responses, the interaction effect showed that the effect of the luxury fashion–tech collaboration on perceptions of status-signaling of the luxury item were more beneficial to accessible luxury fashion brands compared with top-tier luxury fashion brands. However, this positive impact did not extend to the other two consumer responses—namely, consumer desires for the luxury item and perceptions of the luxury fashion brand's image. As expected, perceptions of status-signaling of the luxury items had positive effects on the two consumer responses. There was no statistically significant mediating effect of the perceptions of status-signaling of the luxury item.

Regarding Study 2, the luxury fashion–tech collaborative products carried by a luxury fashion brand evoked higher perceptions of status-signaling of the luxury fashion–tech collaborative products compared with those carried by a tech brand. There were no statistically significant differences between carrying the products in physical stores versus online stores in terms of perceptions of status-signaling of luxury fashion–tech collaborative products and the other two consumer responses. The current study could not decide the order of which combination of brand and retail channel is the most effective distribution channel for the luxury fashion–tech collaborative products. The mediation effect was significant for both consumer desires for the luxury fashion–tech collaborative products and perceptions of the luxury fashion brand's image. In other words, the current study demonstrated the indirect effect of the brand that carries luxury fashion–tech collaborative products through the mediator—perceptions of status-signaling of the luxury fashion–tech collaborative products.

The current study questioned whether a luxury brand's co-branding activities with non-luxury brands (i.e., tech brands) increases or dilutes the status-signaling perception of a co-branded product and whether status-signaling perceptions of a product increase the desire for the product or improve the image of a luxury fashion brand that sells the product. In summary, the addition of the tech component to the luxury item because of the luxury fashion–tech collaboration enhanced perceptions of status-signaling of the item and benefited only accessible luxury fashion brands. The current study suggests that luxury fashion–tech collaborations should be conducted and assessed according to a luxury fashion brand's prestige (top-tier vs. accessible).

Regarding the retail channel, the current study suggests that luxury fashion brands should carry the luxury fashion–tech collaborative products in luxury fashion brands' physical and online stores rather than those of the tech brands. The enhanced perceptions of status-signaling of the luxury fashion–tech collaborative product will enhance consumers' desires for the luxury fashion–tech collaborative product and perceptions of the luxury fashion brand's image. Tables 11 and 12 show the hypotheses and results of studies 1 and 2.

Table 11. *Summary of Study 1*

	Hypotheses	Results
H1	Luxury fashion–tech collaborative products (vs. luxury products without a tech component) will positively influence consumers' (a) perceptions of status-signaling of the luxury item, (b) desire for the luxury item, and (c) perceptions of the luxury fashion brand's image.	(a) Not supported (b) Not supported (c) Not supported
H2	A luxury item from a top-tier luxury fashion brand (vs. a luxury item from an accessible luxury fashion brand) will result in a higher rating in (a) perceptions of status-signaling of the luxury item, (b) consumer desires for the luxury item, and (c) perceptions of the luxury fashion brand's image.	(a) Supported (b) Supported (c) Supported
H3	The positive effects of the luxury fashion–tech collaboration on (a) perceptions of status-signaling of the luxury item, (b) consumer desires for the luxury item, and (c) perceptions of the luxury fashion brand's image will be stronger for accessible luxury fashion brands compared to top-tier luxury fashion brands.	(a) Partially supported (b) Not supported (c) Not supported
H4	The perceived status-signaling of luxury items will positively influence (a) consumer desire for luxury items and (b) perceived luxury fashion brand image.	(a) Supported (b) Supported

H5	The effect of luxury fashion–tech collaboration status (with vs. without a tech component in the product because of the collaboration) on consumers' (a) desire for the luxury items and (b) perceptions of luxury fashion brand image would be mediated by perceptions of status-signaling of the luxury items.	(a) Not supported (b) Not supported

Table 12. *Summary of Study 2*

	Hypotheses	Results
H6	Luxury fashion–tech collaborative products carried by a luxury fashion brand, rather than by a technology brand, will positively influence consumers' (a) perceptions of status-signaling of the luxury fashion–tech collaborative product, (b) desire for the luxury items, and (c) perceptions of the luxury fashion brand's image.	(a) Supported (b) Not supported (c) Not supported
H7	Consumer response to the luxury fashion–tech collaborative products regarding (a) perception of status-signaling, (b) desire for the luxury fashion–tech collaborative products, and (c) perception of the luxury fashion brand image will be rated from high to low in the following order when the products are carried: in the luxury fashion brand's physical store, in the luxury fashion brand's online store, in the tech brand's physical store, and in the tech brand's online store.	(a) Not supported (b) Not supported (c) Not supported
H8	Perceptions of status-signaling of luxury fashion–tech collaborative products will positively influence (a) consumers' desires for the luxury fashion–tech collaborative products and (b) perceptions of the luxury fashion brand's image.	(a) Supported (b) Supported

H9	The effect of brands (luxury fashion brands vs. technology brands) that carry luxury fashion–tech collaborative products on consumers' (a) desires for luxury fashion–tech collaborative products and (b) perceptions of the luxury fashion brand's image will be mediated by consumers' perceptions of status-signaling of luxury fashion–tech collaborative products.	(a) Supported (b) Supported

5.2. Implications

5.2.1. Theoretical Implications

The current study has several theoretical implications. Regarding signaling theory, brands send signals, informational cues, to receivers to induce desired brand performance (Certo, 2003). The alliance partner can signal the quality that an original brand cannot signal by itself (Rao et al., 1999). Thus, co-branding has been used by brands to signal their product quality to their customers (Rao et al., 1999). The co-branding literature has shown that the collaboration of a luxury fashion brand and a tech brand has the potential to change consumers' perception of quality (e.g., McCarthy & Norris, 1999). Implications of the current study lie in its demonstration of collaboration as a means of changing consumers' perception, particularly regarding the status-signaling of their products. This is an aspect of products that differs from quality. The current study also demonstrated that the alliance of luxury fashion and tech brands could maximize the signaling function through the retailing strategy, which had not previously been empirically tested in the co-branding literature.

Meanwhile, the literature on co-branding has consistently tested the mechanism of perceived quality and shown that all brands engaged in co-branding can increase the perceived quality of co-branded products and benefit from brand alliances (e.g., Chien et al., 2014; Helm & Özergin, 2015*;* Washburn et al., 2000). The current study tested the impact of the perception of status-signaling and investigated whether a luxury fashion brand's co-branding activities with brands of another category, technology, increases or dilutes the status-signaling perception of a co-branded product for the first time, as well as whether they improve consumers' desire for the luxury item and the image of a luxury fashion brand. The current study extends the co-branding literature by taking a luxury fashion brand's perspective for the first time concerning a luxury fashion–tech collaboration. It showed that accessible luxury fashion brands, but not top-tier luxury fashion brands, can benefit from the collaboration in terms of the status-signaling perception. In addition, the current study contributes to the co-branding literature in that the research identified for the first time which brand (luxury fashion vs. tech) should preferably carry the luxury fashion–tech collaborative products to enhance consumer responses. Finally, it identified the mechanism of this response—namely, perception of status-signaling of the luxury items.

The current study also contributes to the wearable tech literature in that it has addressed new aspects—the symbolic aspect of wearable tech, the desire for wearable tech, and a fashion brand's image as it launches and carries wearable tech products.

5.2.2. Managerial Implications

The current study has several practical implications in that it provides guidance for marketing strategies for luxury fashion brands for the first time when partnering with

technology brands. The current study showed that the brand image of a luxury fashion brand was not diluted after co-branding with a technology brand. Thus, luxury fashion brands could safely continue to launch luxury fashion–tech collaborative products, show tech-savvy aspects to their customers, and keep pace with technological advancement. The current study suggests practical implications for both types of luxury fashion brands for different levels of prestige, including top-tier and accessible brands, regarding whether each brand could benefit from the luxury fashion–tech collaboration, and if so, it suggests how each brand could benefit from the collaboration.

To be specific, top-tier luxury fashion brands have actively co-branded with tech brands, while accessible luxury fashion brands have not. As expected, a luxury item from a top-tier luxury fashion brand (vs. an accessible luxury fashion brand) resulted in a higher rating of perceptions of status-signaling of the luxury item, consumer desires for the luxury item, and perceptions of the luxury fashion brand's image. Although the luxury fashion brand's existing brand prestige revealed to be a crucial factor concerning consumer responses, it does not mean top-tier luxury fashion brands always prevail. The current study provided a suggestion for accessible luxury fashion brands: Such brands could actively use the luxury fashion–tech collaboration strategy and increase consumers' perception of status-signaling of their luxury items to ultimately increase the desirability of their luxury fashion–tech collaborative products and brand image.

In the case of top-tier luxury fashion brands, there is a possibility that collaborating with a tech brand could dilute the status-signaling perception of their items. They should maintain their collaboration with tech brands for years, launching series with updates on functionality or aesthetics. The continuity of the collaboration and their

collaborative products could preserve the top-tier luxury fashion brand's distinctive characteristics (e.g., heritage) and prevent the possible adverse impact on the perception of status-signaling of their products (Harrigan, 1988). Alternatively, keeping pace with technological advancement in this technophile era, luxury fashion brands could continue to self-develop wearable tech, which implies the continuity of selling those products and updates on the technology of their products. Just like updating a smartphone's operating system regularly with just one click, luxury fashion brands could make their wearable tech users update the product with one click within the product and cover up the short life cycle of the current technology and short life cycle of the product.

Regarding the retail channel, practitioners should preferably categorize and market luxury fashion–tech collaborative products as luxury fashion rather than technology products, as Nieroda et al. (2018) suggested. Moreover, an alliance of luxury fashion and tech brands could carry their luxury fashion–tech collaborative products with a luxury fashion brand rather than a tech brand to increase perceptions of status-signaling of the products. Luxury fashion brands could safely use both physical and online stores. For example, an alliance of luxury fashion and tech brands could open a pop-up shop, just like luxury fashion brands have done for their collaborations with another fashion brand (e.g., pop-up shop for the North Face X Gucci outerwear collection). The brands could encourage consumers to experience their luxury fashion–tech collaborative products in the luxurious atmosphere of the pop-up shop (Taube & Warnaby, 2017). The enhanced perceptions of status-signaling of the luxury fashion–tech collaborative product will lead to consumers' desires for the product and perceptions of the luxury fashion brand's image, as the results of mediation analyses in Study 2 showed.

5.3. Limitations and Future Research Suggestions

Despite the promising implications, the current study has limitations. The current study used written descriptions of luxury items and their retail channels throughout the scenarios. Participants' experience with products in a laboratory or in real luxury fashion or tech brand stores could make differences in the perception of the status-signaling of the products more prominent (Zhang & Adipat, 2005) and make differences in the two other consumer responses—consumer desire for the products and perceptions of the luxury fashion brand's image—accordingly. Future research could use real sales data, employ data mining, and investigate real consumer reactions to luxury fashion-tech collaborations in order to detect consumer responses more precisely.

The current study used a fictitious tech brand in the scenarios for the experiments and did not provide information about the prestige of the tech brand or the quality of the technology. The research postulated that the impact of the tech brand's brand prestige would be naturally controlled. The current study also assumed that luxury fashion brands collaborate with high-quality tech brands, as happens in reality. Just like luxury fashion brands, tech brands could be categorized as high prestige (e.g., Apple) versus low prestige (e.g., Fitbit; Ashcroft, 2015). A tech brand's prestige and resulting perception of the quality of the luxury fashion–tech collaborative products from the perspective of consumers could play a role in inducing consumer desire for the products and perceptions of the luxury fashion brand's image. Future research could include the tech brands' brand prestige as well as research on the luxury fashion–tech collaboration.

The current study has another limitation in that the sample size for each experimental condition was at the bare minimum of 30. With a larger sample size, the

likelihood of the occurrence of Type I and Type II errors reduces, and the larger sample size also increases the significance level of research findings (Akobeng, 2016). The sample size issue might have contributed to the nonsignificant relationships between the variables in studies 1 and 2.

Fashion brands have played an important role in the hybrid market by adding aesthetic and symbolic aspects to wearable tech (Nieroda et al., 2018). To take a more primary role in the hybrid market, luxury fashion brands have started to self-develop technology for wearable tech. Examples include the aforementioned LV smartwatch, the Tambour Horizon connected watch, and screen bag. Nevertheless, little is known about the outcome of the innovation happening in the luxury fashion industry. Such innovations could have three benefits for luxury fashion brands. First, these brands can improve their image to appear more tech savvy; catering to a tech-savvy consumer culture promptly could ultimately increase brand advocacy (Blasberg, Vishwanath, & Allen, 2008). Second, luxury fashion brands could extend their businesses by partnering with tech brands (Shen et al., 2017). Luxury fashion–tech collaborations have taken place in several product categories, such as accessories, wireless earphones, and smartphones. Such collaborations can enable luxury fashion brands to absorb the customers of their allied brands (Shen et al., 2017). Luxury fashion brands can diversify at a much lower cost than would be involved in launching a new tech-oriented brand (CB Insights, 2018). Finally, luxury fashion brands are unlikely to lose their existing customers (Reddy et al., 2009). By developing a smartwatch, LV could accommodate existing LV customers' needs while taking business from frontrunners in the smartwatch market, such as Apple, and maintain customer loyalty.

Along with the robust advancements in the fashion industry, research is needed on whether stereotypes or fashion brands' existing reputations hinder fashion brands from self-developing technologies for their products and moving into completely different product categories (i.e., wearable tech). For example, future research could compare a luxury fashion brand's collaboration with a tech brand and a luxury fashion brand's self-developing technologies for wearable tech and investigate consumers' responses in terms of perceived quality and status-signaling of the product, thereby suggesting how well luxury fashion brands could be tech savvy and accommodate consumer needs.

The current study focused on the perspective of the luxury fashion brand in terms of the luxury fashion-tech collaboration. This perspective was seen as a research gap in the co-branding literature. Future research could investigate the performance of the tech brand, including consumer perception of the tech brand's image after the collaboration along with that of the luxury fashion brand's. This investigation has the potential to provide further insight in regard to the co-branding literature.

The current study used the hypothetical brands in order to control for any potential unintended effects from participants' attitudes toward an existing brand as well as potential bias toward a product or stereotype from a specific luxury or tech brand (Chuah et al., 2016). Nonetheless, future research could perform a comparison using hypothetical luxury fashion and tech brands versus using real-life luxury fashion and tech brands in one study. This could be done by repeating the same experiments in order to provide further insight on both the impact of an existing brand's prestige and reputation and the consumers' attitude towards the real-life brands.

In addition, the current research controlled for participants' technology involvement in the analyses. This demonstrated that luxury fashion and tech brands should ideally carry their collaborative products in the luxury fashion brand's stores. However, some consumers could patronize a certain (brand's) store; this can be seen in the example of a tech geek who—regardless of the product's status-signaling perception—may prefer to visit the stores of a tech brand where s/he usually purchases tech gadgets (Kokku, 2021). Future research on luxury fashion-tech collaboration and the status-signaling aspect could take individual differences into consideration; such differences could include a consumer's technology involvement. In addition, the need for status-signaling in the area of impression management is another individual difference; this could cause differences in the current study's results. Consumers show distinctive luxury consumption behavior according to their need for status (Han et al., 2010). Consumers who are not interested in status-signaling in regard to their daily luxury consumption could potentially show different responses than the general public. For example, if the current study included the need for status as a moderator in Study 2, the perception of the status-signaling of the products might not show a significant mediation impact between brands that carry luxury fashion-tech collaborative products and the two consumer responses, particularly among those who are not as concerned with status-signaling.

The current study used a smartwatch as an innovative luxury item. Changes tend to occur rapidly in the innovation industry; compared to the time that the current study was conceptualized, the smartwatch has become increasingly widespread (Torrence, 2021). At present, luxury fashion-tech collaborative products include a wide range of

product types, including jackets, backpacks, and earbuds. Further investigation is needed in order to generalize the current study's findings and test whether the results of the current study would apply to other types of luxury fashion-tech collaborative products or to other types of consumers.

The current study was conducted only among participants in the United States. Concerning the status-signaling aspect of an item, a global context should be considered; Üstüner and Holt (2010) argued that we should understand luxury and social distinctions in a global context because the level of industrialization varies among nations. Future studies could investigate the non-Western market to test the impacts of a luxury fashion–tech collaboration, luxury fashion brands' prestige, and effective retail channels.

References

Aaker, D. A. (1992). The value of brand equity. *Journal of Business Strategy, 13*(4), 27–32.

Aaker, D. A. (2003). The power of the branded differentiator. *MIT Sloan Management Review*, *45*(1), 83–88.

Abe, I., & Mugobo, V. (2021). The post-COVID-19 retail landscapes. *Harvard Deusto Business Research*, *10*(2), 337–345.

Agarwal, R., & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, *9*(2), 204–215.

Ahn, J., Park, J. K., & Hyun, H. (2018). Luxury product to service brand extension and brand equity transfer. *Journal of Retailing and Consumer Services*, *42*, 22–28.

Akobeng, A. K. (2016). Understanding type I and type II errors, statistical power and sample size. *Acta Paediatrica*, *105*(6), 605–609.

Albrecht, C. M., Backhaus, C., Gurzki, H., & Woisetschläger, D. M. (2013). Drivers of brand extension success: What really matters for luxury brands. *Psychology & Marketing*, *30*(8), 647–659.

Anderson, G., & Lee, G. (2008). Why consumers (don't) adopt smart wearable electronics. *IEEE Pervasive Computing*, *7*(3), 10–12.

Arbore, A., Soscia, I., & Bagozzi, R. P. (2014). The role of signaling identity in the adoption of personal technologies. *Journal of the Association for Information Systems*, *15*(2), 86–110.

Ashcroft, S. (2015, August 5). Misfit outsells Fitbit in China. *Wareable*. Retrieved from https://www.wareable.com/fitbit/misfit-outsells-fitbit-in-china-1479

Avins, J. (2014, June 26). Why fashion collaborations aren't working for wearable tech. *Quartz*. Retrieved from https://qz.com/225780/why-fashion-collaborations-arent-working-for-wearable-technology/

Baek, T. H., Kim, J., & Yu, J. H. (2010). The differential roles of brand credibility and brand prestige in consumer brand choice. *Psychology & Marketing*, *27*(7), 662–678.

Barkho, G. (2019, August 12). The wearable tech industry is expected to hit $54 billion by 2023. *Observer*. Retrieved from https://observer.com/2019/08/wearable-tech-industry-hit-54-billion-by-2023/

Barnes, L., & Lea-Greenwood, G. (2010). Fast fashion in the retail store environment. *International Journal of Retail & Distribution Management*, *38*(10), 760–772.

Belk, R. W. (1978). Assessing the Effects of Visible Consumption on Impression Formation. *Advances in Consumer Research*, *5*(1), 39–47.

Berger, J., & Heath, C. (2007). Where consumers diverge from others: Identity signaling and product domains. *Journal of Consumer Research*, *34*(2), 121–34.

Berger, J., & Ward, M. (2010). Subtle signals of inconspicuous consumption. *Journal of Consumer Research*, *37*(4), 555–569.

Berglund, M. E., Duvall, J., & Dunne, L. E. (2016). A survey of the historical scope and current trends of wearable technology applications. In *Proceedings of the 2016 ACM International Symposium on Wearable Computers* (pp. 40–43). New York, NY: Association for Computing Machinery.

Blasberg, J., Vishwanath, V., & Allen, J. (2008). Tools for converting consumers into advocates. *Strategy & Leadership, 36*(2), 16–23.

Bloch, P. H., Commuri, S., & Arnold, T. J. (2009). Exploring the origins of enduring product involvement. *Qualitative Market Research, 12*(1), 49–69.

Borah, A., & Tellis, G. J. (2016). Halo (spillover) effects in social media: Do product recalls of one brand hurt or help rival brands?. *Journal of Marketing Research*, *53*(2), 143–160.

Boulding, W., & Kirmani, A. (1993). A consumer-side experimental examination of signaling theory: Do consumers perceive warranties as signals of quality?. *Journal of Consumer Research, 20*(1), 111–123.

Bowe, T. (2019, August 12). The current state of wearables, explained. *Gear Patrol.* Retrieved from https://gearpatrol.com/2019/08/12/state-of-wearables/

Brun, A., Castelli, C. M., Kluge, P. N., & Fassnacht, M. (2015). Selling luxury goods online: Effects of online accessibility and price display. *International Journal of Retail & Distribution Management, 43*(10/11), 1065–1082.

Burnes, D. (2019, August 19). Is your apparel brand tech–savvy enough for Gen Z? *Fashion Manuscript.* Retrieved from https://www.mannpublications.com/fashionmannuscript/2019/08/19/is-your-apparel-brand-tech-savvy-enough-for-gen-z/

Buss, D. M. (1988). The evolution of human intrasexual competition: Tactics of mate attraction. *Journal of Personality and Social Psychology, 54*(4), 616–628.

CB Insights (2018, February 8). The future of luxury: 7 trends reshaping the luxury industry. *Research Briefs*. Retrieved from https://www.cbinsights.com/research/future-luxury-trends/

Cecchinato, M. E., Cox, A. L., & Bird, J. (2015, April). Smartwatches: The good, the bad and the ugly?. In B. Begole, J. Kim, K. Inkpen, & W. Woo (Eds.), *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 2133–2138). New York, NY: Association for Computing Machinery.

Certo, S. T. (2003). Influencing initial public offering investors with prestige: Signaling with board structures. *Academy of Management Review*, *28*(3), 432–446.

Chandler, J., Mueller, P., & Paolacci, G. (2014). Nonnaïveté among Amazon Mechanical Turk workers: Consequences and solutions for behavioral researchers. *Behavior Research Methods*, *46*(1), 112–130.

Charlton, A. (2020, March 13). The samsung galaxy watch active2 under armour edition is the perfect smartwatch for your next run. *T3*. Retrieved from https://www.t3.com/us/news/the-samsung-galaxy-watch-active2-under-armour-edition-is-the-perfect-smartwatch-for-your-next-run

Charness, G., Gneezy, U., & Kuhn, M. A. (2012). Experimental methods: Between–subject and within–subject design. *Journal of Economic Behavior & Organization*, *81*(1), 1–8.

Chien, S., Yu, C., Wang, Y., & Kuo, P. L. (2014). Improving the perceived quality of private brands using co–branding: The role of brand equity and store image. *International Journal of Management and Sustainability, 3*(9), 540–551.

Child, D. (2006). *The essentials of factor analysis* (3rd ed.). London, England: A & C Black.

Cho, E., Fiore, A. M., & Russell, D. W. (2015). Validation of a fashion brand image scale capturing cognitive, sensory, and affective associations: Testing its role in an extended brand equity model. *Psychology & Marketing*, *32*(1), 28–48.

Choi, J., & Kim, S. (2016). Is the smartwatch an IT product or a fashion product? A study on factors affecting the intention to use smartwatches. *Computers in Human Behavior*, *63*, 777–786.

Chuah, S. H. W., Rauschnabel, P. A., Krey, N., Nguyen, B., Ramayah, T., & Lade, S. (2016). Wearable technologies: The role of usefulness and visibility in smartwatch adoption. *Computers in Human Behavior*, *65*, 276–284.

Clifton, L., Clifton, D. A., Pimentel, M. A., Watkinson, P. J., & Tarassenko, L. (2012). Gaussian processes for personalized e–health monitoring with wearable sensors. *IEEE Transactions on Biomedical Engineering*, *60*(1), 193–197.

Clow, K. E., & James, K. E. (2013). *Essentials of marketing research: Putting research into practice*. Thousand Oaks, CA: SAGE publications.

Cooke, S., & Ryan, P. (2000). Brand alliances: From reputation endorsement to collaboration on core competencies. *Irish Marketing Review*, *13*(2), 36–41.

Corneo, G., & Jeanne, O. (1997). Conspicuous consumption, snobbism and conformism. *Journal of Public Economics*, *66*(1), 55–71.

Cramer, J. S. (1957). A dynamic approach to the theory of consumer demand. *The Review of Economic Studies*, *24*(2), 73–86.

Crane, D. (1965). Scientists at major and minor universities: A study of productivity and recognition. *American Sociological Review*, *30*(5), 699–714.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Germany: SAGE publications.

Cronk, L. (1994). Evolutionary theories of morality and the manipulative use of signals. *Zygon*, *29*(1), 81–101.

Cuellar, S. S., & Brunamonti, M. (2014). Retail channel price discrimination. *Journal of Retailing and Consumer Services*, *21*(3), 339–346.

Dalman, M. D., & Puranam, K. (2017). Consumer evaluation of ingredient branding strategy. *Management Research Review*, *40*(7), 768–782.

Danziger, P. (2017, November 06). Luxury market begins to tap the millennial engine of growth, Bain & Company reports. *Forbes*. Retrieved from https://www.forbes.com/sites/pamdanziger/2017/11/06/luxury-market-begins-to-tap-the-millennial-engine-of-growth-bain-company-reports/?sh=5a17a803559c

Davis, D. F., Golicic, S. L., & Marquardt, A. (2009). Measuring brand equity for logistics services. *The International Journal of Logistics Management*, *20*(2), 201–212.

De Barnier, V., Falcy, S., & Valette-Florence, P. (2012). Do consumers perceive three levels of luxury? A comparison of accessible, intermediate and inaccessible luxury brands. *Journal of Brand Management*, *19*(7), 623–636.

de Faultrier, B., Boulay, J., Feenstra, F., & Muzellec, L. (2014). Defining a retailer's channel strategy applied to young consumers. *International Journal of Retail & Distribution Management*, *42*(11/12), 953–973.

Desai, K. K., & Keller, K. L. (2002). The effects of ingredient branding strategies on host brand extendibility. *Journal of Marketing, 66*(1), 73–93.

Desmichel, P., Ordabayeva, N., & Kocher, B. (2020). What if diamonds did not last forever? Signaling status achievement through ephemeral versus iconic luxury goods. *Organizational Behavior and Human Decision Processes*, *158*, 49–65.

Dickinson, S., & Heath, T. (2006). A comparison of qualitative and quantitative results concerning evaluations of co–branded offerings. *Journal of Brand Management, 13*(6), 393–406.

DiMingo, E. (1988). The fine art of positioning. *The journal of business strategy*, *9*(2), 34–38.

Dion, D., & Borraz, S. (2017). Managing status: How luxury brands shape class subjectivities in the service encounter. *Journal of Marketing, 81*(5), 67–85.

Doherty, N. F., Ellis-Chadwick, F., & Hart, C. A. (1999). Cyber retailing in the UK: The potential of the Internet as a retail channel. *International Journal of Retail & Distribution Management*, *27*(1), 22–36.

Dubois, B., Laurent, G., & Czellar, S. (2001). *Consumer rapport to luxury: Analyzing complex and ambivalent attitudes* (Paper No. 736). HEC School of Management, Paris.

Dubois, D., Rucker, D. D., & Galinsky, A. D. (2012). Super size me: Product size as a signal of status. *Journal of Consumer Research*, *38*(6), 1047–1062.

Dunham, B. (2011). The role for signaling theory and receiver psychology in marketing. In G. Saad (Ed.) *Evolutionary psychology in the business sciences* (pp. 225–256). Berlin, Germany: Springer.

Erdem, T., & Swait, J. (1998). Brand equity as a signaling phenomenon. *Journal of Consumer Psychology*, *7*(2), 131–157.

Eren–Erdogmus, I., Akgun, I., & Arda, E. (2018). Drivers of successful luxury fashion brand extensions: Cases of complement and transfer extensions. *Journal of Fashion Marketing and Management: An International Journal*, *22*(4), 476–493.

Erickson, G. M., & Johansson, J. K. (1985). The role of price in multi–attribute product evaluations. *Journal of Consumer Research*, *12*(2), 195–199.

Felman, A. (2020, March 26). Louis Vuitton is making earphones with Master & Dynamic. *Essential Homme*. Retrieved from https://www.essentialhommemag.com/louis-vuitton-is-making-earphones-with-master-dynamic/

Frank, R. H. (1985). *Choosing the right pond: Human behavior and the quest for status*. New York, NY: Oxford University Press.

Garcia, T. (2021, May 5). Under Armour average selling price in shoes is outperforming Nike. *MarketWatch*. Retrieved from https://www.marketwatch.com/story/under-armour-average-selling-price-in-shoes-is-outperforming-nike-11620227745

Gartner (2021). End–user spending on wearable devices worldwide from 2019 to 2022, by category. In Statista - The Statistics Portal. Retrieved from https://www-statista-com. statistics/1065271/wearable-devices-worldwide-spending/

Geylani, T., Inman, J. J., & Hofstede, F. T. (2008). Image reinforcement or impairment: The effects of co-branding on attribute uncertainty. *Marketing Science*, *27*(4), 730–744.

Giannatasio, N. A. (1999). Threats to validity of research designs. In G. Miller & M. L. Whicker (Eds.), *Handbook of research methods in public administration* (pp. 145–166). New York, NY: Marcel Dekker.

Gintis, H., Smith, E. A., & Bowles, S. (2001). Costly signaling and cooperation. *Journal of Theoretical Biology*, *213*(1), 103–119.

Giovannini, S., Xu, Y., & Thomas, J. (2015). Luxury fashion consumption and Generation Y consumers. *Journal of Fashion Marketing and Management*, *19*(1), 22–40.

Godart, F., & Seong, S. (2015). Is sustainable luxury fashion possible? In M. A. Gardetti & A. L. Torres (Eds.), *Sustainable luxury: Managing social and environmental performance in iconic brands* (1st ed., pp. 12–27). London, England: Routledge.

Goffman, E. (1959). The presentation of self in everyday life. In D. M. Newman & J. O'Brien (Eds.), *Sociology: Exploring the architecture of everyday life readings* (7th ed., pp. 120–129). Los Angeles, CA: Pine Forge Press.

Goldman, A. (1982). Short product life cycles: Implications for the marketing activities of small high-technology companies. *R&D Management*, *12*(2), 81–90.

Gomes, M. (2020, May 10). *Hot in pursuit: 5 most extravagant police cars from around the globe. Lifestyle Asia*. Retrieved from https://www.lifestyleasia.com/ind/gear/motoring/hot-in-pursuit-5-most-extravagant-police-cars-from-around-the-globe/

Gonzales, E. (2021, November 2). Miley Cyrus is already wearing those $995 Louis Vuitton airpods. *Bazaar*. Retrieved from

https://www.harpersbazaar.com/celebrity/latest/a26111041/miley-cyrus-louis-vuitton-airpods/

Goodwin, L. D. (1999). The role of factor analysis in the estimation of construct validity. *Measurement in Physical Education and Exercise Science, 3*(2), 85–100.

Goodwin, S., & Etgar, M. (1980). An experimental investigation of comparative advertising: Impact of message appeal, information load, and utility of product class. *Journal of Marketing Research*, *17*(2), 187–202.

Grecia, A. (2012, June 7). How to use technology to gain a competitive advantage. *Business Tech*. Retrieved from http://www.dynamicbusiness.com.au/

Greenwald, A. G. (1976). Within–subjects designs: To use or not to use?. *Psychological Bulletin*, *83*(2), 314–320.

Gurven, M., & Hill, K. (2009). Why do men hunt? A reevaluation of "man the hunter" and the sexual division of labor. *Current Anthropology*, *50*(1), 51–74.

Han, Y. J., Nunes, J. C., & Drèze, X. (2010). Signaling status with luxury goods: The role of brand prominence. *Journal of Marketing*, *74*(4), 15–30.

Harrigan, K. R. (1988). Joint ventures and competitive strategy. *Strategic management journal*, *9*(2), 141–158.

Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, *48*(1), 400–407.

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression–based approach* (2nd ed.). New York, NY: Guilford Press.

Helm, S. V., & Özergin, B. (2015). Service inside: The impact of ingredient service branding on quality perceptions and behavioral intentions. *Industrial Marketing Management, 50*, 142–149.

Hennighausen, C., Hudders, L., Lange, B. P., & Fink, H. (2016). What if the rival drives a Porsche?: Luxury car spending as a costly signal in male intrasexual competition. *Evolutionary Psychology*, *14*(4), 1–13.

Henson, R. K. (2001). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development*, *34*(3), 177–189.

Hinton, P., Brownlow, C., McMurray, I., & Cozens, B. (2004). *SPSS explained.* London, England: Routledge.

Ho, H. C., Lado, N., & Rivera-Torres, P. (2017). Detangling consumer attitudes to better explain co-branding success. *Journal of Product & Brand Management*, *26*(7), 704–721.

Homburg, C., Schwemmle, M., & Kuehnl, C. (2015). New product design: Concept, measurement, and consequences. *Journal of Marketing*, *79*(3), 41–56.

Horne, R., Hankins, M., & Jenkins, R. (2001). The Satisfaction with Information about Medicines Scale (SIMS): A new measurement tool for audit and research. *BMJ Quality & Safety*, *10*(3), 135–140.

Hsieh, M. H., Pan, S. L., & Setiono, R. (2004). Product-, corporate-, and country-image dimensions and purchase behavior: A multicountry analysis. *Journal of the Academy of Marketing Science*, *32*(3), 251–270.

Hudders, L., De Backer, C., Fisher, M., & Vyncke, P. (2014). The rival wears Prada: Luxury consumption as a female competition strategy. *Evolutionary Psychology*, *12*(3).

Huettl, V., & Gierl, H. (2012). Visual art in advertising: The effects of utilitarian vs. hedonic product positioning and price information. *Marketing Letters*, *23*(3), 893–904.

Hussein, R., & Hassan, S. (2018). Antecedents of global brand purchase likelihood: Exploring the mediating effect of quality, prestige and familiarity. *Journal of International Consumer Marketing*, *30*(5), 288–303.

Jackson, T., & Shaw, D. (2009). *Mastering fashion marketing*. London, England: Palgrave Macmillan.

Jindal, R. P., Sarangee, K. R., Echambadi, R., & Lee, S. (2016). Designed to succeed: Dimensions of product design and their impact on market share. *Journal of Marketing*, *80*(4), 72–89.

Kapferer, J. N. (1994). *Strategic brand management: New approaches to creating and evaluating brand equity*. New York, NY: Simon and Schuster.

Kapferer, J. N., & Bastien, V. (2012). *The luxury strategy: Break the rules of marketing to build luxury brands*. London, England: Kogan Page.

Kapferer, J. N., & Valette-Florence, P. (2016). Beyond rarity: The paths of luxury desire. How luxury brands grow yet remain desirable. *Journal of Product & Brand Management, 25*(2), 120–133.

Kapferer, J. N., & Valette–Florence, P. (2018). The impact of brand penetration and awareness on luxury brand desirability: A cross country analysis of the relevance of the rarity principle. *Journal of Business Research, 83,* 38–50.

Karasek III, R., & Bryant, P. (2012). Signaling theory: Past, present, and future. *Academy of Strategic Management Journal*, *11*(1), 91–144.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1–22.

Keller, K. L. (1998). *Strategic brand management: Building, measuring, and managing brand equity*. Hoboken, NJ: Prentice Hall.

Keller, K. L., & Aaker, D. A. (1992). The effects of sequential introduction of brand extensions. *Journal of Marketing Research*, *29*(1), 35–50.

Keren, G. (1993). Between-or within-subjects design: A methodological dilemma. In G. Keren & C. Lewis (Eds.), *A handbook for data analysis in the Behaviorial Sciences.* (pp. 257–272). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Kim, J., & Lee, H. H. (2011). The impact of shopping orientations on US consumer's retail channel choice behavior toward luxury goods purchases. *Journal of Global Fashion Marketing*, *2*(4), 188–199.

Kim, J. C., Park, B., & Dubois, D. (2018). How consumers' political ideology and status-maintenance goals interact to shape their desire for luxury goods. *Journal of Marketing*, *82*(6), 132–149.

Kim, J. E., Lloyd, S., Adebeshin, K., & Kang, J. Y. M. (2019). Decoding fashion advertising symbolism in masstige and luxury brands. *Journal of Fashion Marketing and Management: An International Journal*, *23*(2), 277–295.

Kim, W. G., Lee, S., & Lee, H. Y. (2007). Co-branding and brand loyalty. *Journal of Quality Assurance in Hospitality & Tourism*, *8*(2), 1–23.

Kokku, R. (2021). Omni and multi–channel: Relationship with utilitarian/hedonic benefits, shopping value and channel patronage. *International Review of Management and Marketing*, *11*(2), 11–22.

Kollmann, T., Kuckertz, A., & Kayser, I. (2012). Cannibalization or synergy? Consumers' channel selection in online–offline multichannel systems. *Journal of Retailing and Consumer Services*, *19*(2), 186–194.

Koschmann, A., & Isaac, M. S. (2018). Retailer categorization: How store-format price image influences expected prices and consumer choices. *Journal of Retailing*, *94*(4), 364–379.

Koubaa, Y. (2008). Country of origin, brand image perception, and brand image structure. *Asia Pacific Journal of Marketing and Logistics*, *20*(2), 139–155.

Kressmann, F., Sirgy, M. J., Herrmann, A., Huber, F., Huber, S., & Lee, D. J. (2006). Direct and indirect effects of self–image congruence on brand loyalty. *Journal of Business Research*, *59*(9), 955–964.

Kung, F. Y., Kwok, N., & Brown, D. J. (2018). Are attention check questions a threat to scale validity?. *Applied Psychology*, *67*(2), 264–283.

Lado, N., Cesaroni, F., Maydeu-Olivares, A., & Ho, H. C. (2015). Co-branding strategies of high-tech products and luxury brands: A cross-cultural perspective. In M. W. Obal, N. Krey, & C. Bushardt (Eds.) *Let's get engaged! Crossing the threshold of marketing's engagement era* (pp. 401–402). Heidelberg, Germany: Springer.

Lantos, G. P. (2014). Marketing to Millennials: Reach the largest and most influential generation of consumers ever. *Journal of Consumer Marketing*, *31*(5), 401–403.

Lee, H. C., Chen, W. W., & Wang, C. W. (2015). The role of visual art in enhancing perceived prestige of luxury brands. *Marketing Letters*, *26*(4), 593–606.

Lee, H. M., Lee, C. C., & Wu, C. C. (2011). Brand image strategy affects brand equity after M&A. *European Journal of Marketing*, *45*(7/8), 1091–1111.

Leedham, R. (2020, April 21). Thom Browne's Samsung Galaxy Z Flip is crazy expensive and totally unique. *GQ*. Retrieved from https://www.gq-magazine.co.uk/lifestyle/article/samsung-galaxy-z-flip-review

Liu, S. C., & Choi, T. M. (2009). Consumer attitudes towards brand extensions of designer-labels and mass-market labels in Hong Kong. *Journal of Fashion Marketing and Management: An International Journal*, *13*(4), 527–540.

Lou, Y. C., Tsai, M. C., & Yan, X. H. (2007). Ingredient branding alliances: An investigation of brand awareness and feedback effects. In S. Borghini, M. A. McGrath, & C. Otnes (Eds.), *E – European Advances in Consumer Research* (Vol. 8, pp. 232–233) Duluth, MN.: Association for Consumer Research.

Lunney, A., Cunningham, N. R., & Eastin, M. S. (2016). Wearable fitness technology: A structural investigation into acceptance and perceived fitness outcomes. *Computers in Human Behavior*, *65*, 114–120.

Lynn, M. (1989). Scarcity effects on desirability: Mediated by assumed expensiveness?. *Journal of Economic Psychology*, *10*(2), 257–274.

Ma, S., Lin, J., & Zhao, X. (2016). Online store discount strategy in the presence of consumer loss aversion. *International Journal of Production Economics*, *171*, 1–7.

MacKenzie, I. S. (2013). Within–subjects vs. between–subjects designs: Which to use? Retrieved from https://www.yorku.ca/mack/RN-Counterbalancing.html

Mamtani, K. (2017, April). Wearable technology market by device (smart watch, fitness & wellness devices, smart glasses, smart clothing), by product type (wrist wear, eyewear, hearables, neckwear, bodywear) and geography – Global opportunity analysis and industry forecast, 2014–2022. *Allied Market Research.* https://www.alliedmarketresearch.com/wearable-technology-market

Mandel, N., Petrova, P. K., & Cialdini, R. B. (2006). Images of success and the preference for luxury brands. *Journal of Consumer Psychology, 16*(1), 57–69.

Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality, 48*, 61–83.

Mansfield, E. R., & Helms, B. P. (1982). Detecting multicollinearity. *The American Statistician, 36*(3a), 158–160.

Martinez, E., & Pina, J. M. (2003). The negative impact of brand extensions on parent brand image. *Journal of Product & Brand Management, 12*(7), 432–448.

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods, 44*(1), 1–23.

Matsunaga, M. (2010). How to Factor-Analyze Your Data Right: Do's, Don'ts, and How-To's. *International Journal of Psychological Research, 3*(1), 97–110.

Mazzocco, P. J., Rucker, D. D., Galinsky, A. D., & Anderson, E. T. (2012). Direct and vicarious conspicuous consumption: Identification with low-status groups increases the desire for high-status goods. *Journal of Consumer Psychology, 22*(4), 520–528.

McCarthy, M. S., & Norris, D. G. (1999). Improving competitive position using branded ingredients. *Journal of Product & Brand Management, 8*(4), 267–285.

Mihajlović, V., Grundlehner, B., Vullers, R., & Penders, J. (2014). Wearable, wireless EEG solutions in daily life applications: What are we missing?. *IEEE Journal of Biomedical and Health Informatics*, *19*(1), 6–21.

Miner, C. S., Chan, D. M., & Campbell, C. (2001, March). Digital jewelry: Wearable tech for everyday life. In *Extended abstracts of CHI'01 on human factors in computing systems* (pp. 45–46). New York, NY: Association for Computing Machinery.

Moon, H., & Sprott, D. E. (2016). Ingredient branding for a luxury brand: The role of brand and product fit. *Journal of Business Research*, *69*(12), 5768–5774.

Morley, J., & McMahon, K. (2011). Innovation, interaction, and inclusion: Heritage luxury brands in collusion with the consumer. *Fashion & luxury: between heritage & innovation: The 13th Annual Conference for the International Foundation of Fashion Technology Institutes*. Paris, France: Institut Francais de la Mode.

Mrad, M., Farah, M. F., & Haddad, S. (2019). From Karl Lagerfeld to Erdem: A series of collaborations between designer luxury brands and fast–fashion brands. *Journal of Brand Management*, *26*(5), 567–582.

Nelissen, R. M., & Meijers, M. H. (2011). Social benefits of luxury brands as costly signals of wealth and status. *Evolution and Human Behavior*, *32*(5), 343–355.

Nelson, P. (1970). Information and consumer behavior. *Journal of Political Economy*, *78*(2), 311–329.

Netemeyer, R. G., Krishnan, B., Pullig, C., Wang, G., Yagci, M., Dean, D., Ricks, J., & Wirth, F. (2004). Developing and validating measures of facets of customer-based brand equity. *Journal of Business Research, 57*(2), 209–224.

Nieroda, M. E., Mrad, M., & Solomon, M. R. (2017). Sporty, Posh or… What type of wearable fits you? A conceptual framework for consumer's adoption of wearable devices: An abstract. In N. Krey & P. Rossi (Eds.), *Back to the future: Using marketing basics to provide customer value. AMSAC 2017. Developments in marketing science: Proceedings of the Academy of Marketing Science* (pp. 457–458). Cham, Switzerland: Springer.

Nieroda, M. E., Mrad, M., & Solomon, M. R. (2018). How do consumers think about hybrid products? Computer wearable tech have an identity problem. *Journal of Business Research, 89*, 159–170.

O'Cass, A., & Choy, E. (2008). Studying Chinese generation Y consumers' involvement in fashion clothing and perceived brand status. *Journal of Product & Brand Management, 17*(5), 341–352.

O'Hara, A. (2018, October 25). Hermès Apple Watch Series 4 review: Apple's luxury wearable impresses. *AppleInsider*. Retrieved from https://appleinsider.com/articles/18/10/25/Hermès-apple-watch-series-4-review-apples-luxury-wearable-impresses

Okonkwo, U. (2007). *Luxury fashion branding: Trends, tactics, techniques*. New York, NY: Palgrave Macmillan.

Okonkwo, U. (2010). *Luxury online: Styles, systems, strategies*. New York, NY: Palgrave Macmillan.

Park, C. W., Jaworski, B. J., & MacInnis, D. J. (1986). Strategic brand concept-image management. *Journal of Marketing*, *50*(4), 135–145.

Park, J. K., & John, D. R. (2018). Judging a book by its cover: The influence of implicit self-theories on brand user perceptions. *Journal of Consumer Psychology*, *28*(1), 56–76.

Passariello, C. (2006, October 9). Louis Vuitton tries modern methods on factory lines. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/SB116035785257486463

Peluso, A. M., Pino, G., Amatulli, C., & Guido, G. (2017). Luxury advertising and recognizable artworks. *European Journal of Marketing*, *51*(11/12), 2192–2206.

Phau, I., & Prendergast, G. (2000). Consuming luxury brands: The relevance of the 'rarity principle.' *Journal of Brand Management*, *8*(2), 122–138.

Pina, J. M., Riley, F. D. O., & Lomax, W. (2013). Generalizing spillover effects of goods and service brand extensions: A meta-analysis approach. *Journal of Business Research*, *66*(9), 1411–1419.

Pinar, M., & Trapp, P. S. (2008). Creating competitive advantage through ingredient branding and brand ecosystem: The case of Turkish cotton and textiles. *Journal of International Food & Agribusiness Marketing*, *20*(1), 29–56.

Pino, G., Guido, G., & Nataraajan, R. (2017). Iconic art infusion in luxury retail strategies: Unveiling the potential. *Journal of Global Scholars of Marketing Science*, *27*(2), 136–147.

Purewal, S. J. (2016, September 8). The best ways to sell or trade in your Apple Watch. *CNET*. Retrieved from https://www.cnet.com/how-to/the-best-ways-to-sell-or-trade-in-your-apple-watch/

Rajagopal, P., & Burnkrant, R. E. (2009). Consumer evaluations of hybrid products. *Journal of Consumer Research*, *36*(2), 232–241.

Rao, A. R., & Ruekert, R. W. (1994). Brand alliances as signals of product quality. *Sloan Management Reviews, 36*(1), 87–97.

Rao, A. R., Qu, L., & Ruekert, R. W. (1999). Signaling unobservable product quality through a brand ally. *Journal of Marketing Research*, *36*(2), 258–268.

Rauschnabel, P. A., Brem, A., & Ivens, B. S. (2015). Who will buy smart glasses? Empirical results of two pre-market-entry studies on the role of personality in individual awareness and intended adoption of Google Glass wearables. *Computers in Human Behavior*, *49*, 635–647.

Reddy, M., Terblanche, N., Pitt, L., & Parent, M. (2009). How far can luxury brands travel? Avoiding the pitfalls of luxury brand extension. *Business Horizons*, *52*(2), 187–197.

Richins, M. L. (1994). Special possessions and the expression of material values. *Journal of Consumer Research*, *21*(3), 522–533.

Rooney, J. A. (1995). Branding: A trend for today and tomorrow. *Journal of Product & Brand Management, 4*(4), 48–55.

Rooney, B. J., & Evans, A. N. (2018). *Methods in psychological research* (4th ed). Los Angeles, CA: SAGE Publications.

Ross, J., Zaldivar, A., Irani, L., & Tomlinson, B. (2009). Who are the Turkers? Worker demographics in Amazon Mechanical Turk. *Social Code Report 2009–01*. Retrieved from https://soundideas.pugetsound.edu/faculty_pubs/1013/

Roth, M. S. (1995a). The effects of culture and socioeconomics on the performance of global brand image strategies. *Journal of Marketing Research*, *32*(2), 163–175.

Roth, M. S. (1995b). Effects of global market conditions on brand image customization and brand performance. *Journal of Advertising*, *24*(4), 55–75.

Rucker, D. D., Galinsky, A. D., & Dubois, D. (2012). Power and consumer behavior: How power shapes who and what consumers value. *Journal of Consumer Psychology*, *22*(3), 352–368.

Saad, G. (2007). *The evolutionary bases of consumption*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Salonga, B. (2021, October 28) Are designer NFTs and digital clothing the new chic? *Forbes*. Retrieved from https://www.forbes.com/sites/biancasalonga/2021/10/28/are-designer-nfts-and-digital-clothing-the-new-chic/?sh=12a0a63e4a86

Sanborn, H. C. (1927). The function of clothing and of bodily adornment. *The American Journal of Psychology*, *38*(1), 1–20.

Schmitt, N., & Stuits, D. M. (1985). Factors defined by negatively keyed items: The result of careless respondents?. *Applied Psychological Measurement*, *9*(4), 367–373.

Schriesheim, C. A., Eisenbach, R. J., & Hill, K. D. (1991). The effect of negation and polar opposite item reversals on questionnaire reliability and validity: An

experimental investigation. *Educational and Psychological Measurement*, *51*(1), 67–78.

Schroeder, M. A., Lander, J., & Levine-Silverman, S. (1990). Diagnosing and dealing with multicollinearity. *Western Journal of Nursing Research*, *12*(2), 175–187.

Seock, Y. K. (2009). Influence of retail store environmental cues on consumer patronage behavior across different retail store formats: An empirical analysis of US Hispanic consumers. *Journal of Retailing and Consumer Services*, *16*(5), 329–339.

Shen, B., Choi, T. M., & Chow, P. S. (2017). Brand loyalties in designer luxury and fast fashion co–branding alliances. *Journal of Business Research*, *81*, 173–180.

Shen, B., Jung, J., Chow, P. S., & Wong, S. (2014). Co-branding in fast fashion: The impact of consumers' need for uniqueness on purchase perception. In T.-M. Choi (Ed.) *Fashion branding and consumer behaviors* (pp. 101–112). New York, NY: Springer.

Shin, H., Eastman, J. K., & Mothersbaugh, D. (2017). The effect of a limited–edition offer following brand dilution on consumer attitudes toward a luxury brand. *Journal of Retailing and Consumer Services*, *38*, 59–70.

Simonin, B. L., & Ruth, J. A. (1998). Is a company known by the company it keeps? Assessing the spillover effects of brand alliances on consumer brand attitudes. *Journal of Marketing Research*, *35*(1), 30–42.

Sine, W. D., Shane, S., & Gregorio, D. D. (2003). The halo effect and technology licensing: The influence of institutional prestige on the licensing of university inventions. *Management Science*, *49*(4), 478–496.

Sirgy, M. J. (1985). Using self–congruity and ideal congruity to predict purchase motivation. *Journal of Business Research*, *13*(3), 195–206.

Sivanathan, N., & Pettit, N. C. (2010). Protecting the self through consumption: Status goods as affirmational commodities. *Journal of Experimental Social Psychology*, *46*(3), 564–570.

Skjong, I., & Roberts, A. (2021, November 04). The best fitness trackers. *Wirecutter*. Retrieved from https://www.nytimes.com/wirecutter/reviews/the-best-fitness-trackers/

Solomon, M. R. (2010). Digital identity management: Old wine in new bottles. *Critical Studies in Fashion & Beauty*, *1*(2), 173–180.

Solomon, M. R. (2018, June 21). Fashion or functionality? Consumers try to make sense of wearable technology. *Forbes.* Retrieved from https://www.forbes.com/sites/michaelrsolomon/2018/06/21/how-will-consumers-make-sense-of-wearable-technology/#6b66893c6e9b

Solomon, M. R., & Schopler, J. (1982). Self–consciousness and clothing. *Personality and Social Psychology Bulletin*, *8*(3), 508–514.

Sonderegger, A. (2013). Smart garments—The issue of usability and aesthetic. *Proceedings of the 2013 ACM Conference on Pervasive and Ubiquitous Computing Adjunct Publication* (pp. 385–392). New York, NY: Association for Computing Machinery.

Sousa, R., & Voss, C. A. (2006). Service quality in multichannel services employing virtual channels. *Journal of Service Research*, *8*(4), 356–371.

Spence, M. (1978). Job market signaling. In P. Diamond & M. Rothschild (Eds.), *Uncertainty in economics* (pp. 281–306). Cambridge, MA: Academic Press.

Spreng, R. A., & Olshavsky, R. W. (1993). A desires congruency model of consumer satisfaction. *Journal of the Academy of Marketing Science*, *21*(3), 169–177.

Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2014). Business research design: Exploratory, descriptive and causal designs. In S. Sreejesh, S. Mohapatra, & M. R. Anusree (Eds.), *Business research methods: An applied orientation* (pp. 25–103). Cham, Switzerland: Springer.

Stafford, T. (2017, August 3). Louis Vuitton's first smartwatch has the one thing most other smartwatches don't. *GQ*. Retrieved from https://www.gq.com/story/louis-vuitton-tambour-horizon-smartwatch-review

Streiner, D. L. (2003). Starting at the beginning: An introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment*, *80*(1), 99–103.

Sung, Y., Choi, S. M., Ahn, H., & Song, Y. A. (2015). Dimensions of luxury brand personality: Scale development and validation. *Psychology & Marketing*, *32*(1), 121–132.

Swaminathan, V. & Reddy S. K. (2000). Affinity partnering. In J. N. Sheth & A. Parvatiyar (Eds.), *Handbook of relationship marketing* (pp. 381–406). Thousand Oaks, CA: SAGE Publications.

Taube, J., & Warnaby, G. (2017). How brand interaction in pop-up shops influences consumers' perceptions of luxury fashion retailers. *Journal of Fashion Marketing and Management 21*(3), 385–399.

Tiwari, D., & Patil, A. (2020, April). Smartwatch market by product (extension, standalone, and classical), application (personal assistance, wellness, healthcare, sports, and others), and operating system (WatchOS, Android, RTOS, Tizen, and others): Global opportunity analysis and industry forecast, 2020–2027. *Allied Market Research*. Retrieved from https://www.alliedmarketresearch.com/smartwatch-market

Torrence, R. (2021, December 6). Providers still skeptical about wearable accuracy, integration abilities. *Fierce Healthcare*. Retrieved from https://www.fiercehealthcare.com/tech/providers-still-skeptical-about-wearable-accuracy-integration-abilities

Truong, Y., McColl, R., & Kitchen, P. J. (2009). New luxury brand positioning and the emergence of masstige brands. *Journal of Brand Management, 16*(5–6), 375–382.

Tsao, H. Y., Pitt, L. F., & Berthon, P. (2006). An experimental study of brand signal quality of products in an asymmetric information environment. *Omega, 34*(4), 397–405.

Tynan, C., McKechnie, S., & Chhuon, C. (2010). Co–creating value for luxury brands. *Journal of Business Research, 63*(11), 1156–1163.

Üstüner, T., & Holt, D. B. (2010). Toward a theory of status consumption in less industrialized countries. *Journal of Consumer Research, 37*(1), 37–56.

Vaidyanathan, R., & Aggarwal, P. (2000). Strategic brand alliances: Implications of ingredient branding for national and private label brands. *Journal of Product & Brand Management, 9*(4), 214–228.

Van Voorhis, C. R. W., & Betsy, L. (2007). Morgan. 2007. Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, *3*(2), 43–50.

Varadarajan, R., Srinivasan, R., Vadakkepatt, G. G., Yadav, M. S., Pavlou, P. A., Krishnamurthy, S., & Krause, T. (2010). Interactive technologies and retailing strategy: A review, conceptual framework and future research directions. *Journal of Interactive Marketing*, *24*(2), 96–110.

Veblen, T. (1994). *The theory of leisure class*. New York, NY: MacMillan. (Original work published 1899)

Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of Retailing*, *91*(2), 174–181.

Vogel, A. T., Cook, S. C., & Watchravesringkan, K. (2019). Luxury brand dilution: Investigating the impact of renting by Millennials on brand equity. *Journal of Brand Management*, *26*(4), 473–482.

Voss, K. E., & Tansuhaj, P. (1999). A consumer perspective on foreign market entry: Building brands through brand alliances. *Journal of International Consumer Marketing*, *11*(2), 39–58.

Wang, L., Villamil, R., Samarasekera, S., & Kumar, R. (2012). Magic mirror: A virtual handbag shopping system. In *2012 IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops (CVPR Workshops)* (pp. 19–24). Washington, DC: IEEE Computer Society.

Wang, S. C., Soesilo, P. K., & Zhang, D. (2015). Impact of luxury brand retailer co-branding strategy on potential customers: A cross-cultural study. *Journal of International Consumer Marketing*, *27*(3), 237–252.

Wang, S. C., Soesilo, P. K., Zhang, D., & Di Benedetto, C. A. (2012). The impact of luxury brand-retailer co-branding strategy on consumers' evaluation of luxury brand image: The case of Taiwan. In K. S. Swan & S. Zou (Eds.), *Interdisciplinary approaches to product design, innovation, & branding in international marketing*. Bingley, United Kingdom: Emerald Publishing Limited.

Washburn, J. H., Till, B. D., & Priluck, R. (2000). Co-branding: Brand equity and trial effects. *Journal of Consumer Marketing*, *17*(7), 591–604.

Washburn, J. H., Till, B. D., & Priluck, R. (2004). Brand alliance and customer-based brand-equity effects. *Psychology & Marketing*, *21*(7), 487–508.

Wilcox, K., Kim, H. M., & Sen, S. (2009). Why do consumers buy counterfeit luxury brands?. *Journal of Marketing Research*, *46*(2), 247–259.

Wilson, M. (2021, October 29). NewStore: Nordstrom, DSW, Louis Vuitton are omnichannel leaders. *CSA*. Retrieved from https://chainstoreage.com/newstore-nordstrom-dsw-louis-vuitton-are-omnichannel-leaders

Wood, S., & Hoeffler, S. (2013). Looking Innovative: Exploring the Role of Impression Management in High-Tech Product Adoption and Use. *Journal of Product Innovation Management*, *30*(6), 1254–1270.

Yalcinkaya, G. (2019, May 16). Louis Vuitton premieres "cutting–edge" bags with flexible screens. *Dezeen*. Retrieved from https://www.dezeen.com/2019/05/16/louis-vuitton-oled-screen-bags/

Yang, K. C. (2005). Exploring factors affecting the adoption of mobile commerce in Singapore. *Telematics and Informatics*, *22*(3), 257–277.

Yurchisin, J., & Johnson, K. K. (2004). Compulsive buying behavior and its relationship to perceived social status associated with buying, materialism, self-esteem, and apparel-product involvement. *Family and Consumer Sciences Research Journal*, *32*(3), 291–314.

Zahavi, A. (1995). Altruism as a handicap: The limitations of kin selection and reciprocity. *Journal of Avian Biology*, *26*(1), 1–3.

Zaichkowsky, J. L. (1994). The personal involvement inventory: Reduction, revision, and application to advertising. *Journal of advertising*, *23*(4), 59–70.

Zaiţ, A., & Bertea, P. S. P. E. (2011). Methods for testing discriminant validity. *Management & Marketing Journal*, *9*(2), 217–224.

Zhang, D., & Adipat, B. (2005). Challenges, methodologies, and issues in the usability testing of mobile applications. *International Journal of Human–Computer Interaction*, *18*(3), 293–308.

Zhang, M., Luo, M., Nie, R., & Zhang, Y. (2017). Technical attributes, health attribute, consumer attributes and their roles in adoption intention of healthcare wearable technology. *International Journal of Medical Informatics*, *108*, 97–109.

Appendix A

Materials for Pretest 1 of Study 1

Please respond to the following questions.

Items	
How much do you agree that *Lux.ly* indicates the name of a brand that would be associated with luxury fashion?	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
How much do you agree that *L.u.x.a.r.a* indicates the name of a brand that would be associated with luxury fashion?	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
How much do you agree that *Luxella* indicates the name of a brand that would be associated with luxury fashion?	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
How much do you agree that *Techlance* indicates the name of a brand that would be associated with technology?	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**

   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino

④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Note: The brand names are fictitious.

Your answers have been recorded. Thank you for participating in the survey.

Appendix B

Materials for Pretest 2 of Study 1

Please carefully read the following FOUR DIFFERENT scenarios, responding to the included questions for each.

Scenario 1

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **Luxella** and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches and recently *collaborated with Techlance*, which is a tech brand, for the smartwatch.

Item	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 2

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **L.u.x.a.r.a** and Techlance.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches and recently *collaborated with Techlance*, which is a tech brand, for the smartwatch.

Item	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 3

Please imagine that you are shown wristwatches. It is a new, *luxury fashion exclusive* by **Luxella**.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches.

Item	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 4

Please imagine that you are shown a wristwatch. It is a new, *luxury fashion exclusive* by **L.u.x.a.r.a**.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches.

Item	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**

   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino
④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.

Appendix C

Materials for Pretest 3 of Study 1

Please answer the following questions.

Which of the following come to mind when you think of top-tier luxury fashion brands? Please choose FOUR from the following list:

① Chanel ② Louis Vuitton ③ Hermès ④ Dior ⑤ Burberry ⑥ Prada
⑦ Gucci ⑧ Tiffany & Co. ⑨ Cartier ⑩ Armani

Which of the following come to mind when you think of accessible, non-top-tier luxury fashion brands? Please choose FOUR from the following list:

① Kate Spade New York ② Coach ③ Hugo Boss ④ Michael Kors
⑤ DKNY ⑥ Tory Burch ⑦ Ralph Lauren ⑧ Isabel Marant
⑨ Rebecca Minkoff ⑩ Marc Jacobs ⑪ Vivienne Westwood

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**

① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino
④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Your answers have been recorded. Thank you for participating in the survey.

Appendix D

Materials for Manipulation Check 1 and 2 of Study 1

Please carefully read the following FOUR DIFFERENT scenarios, responding to the included questions for each.

Scenario 1

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **Luxella** and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches and recently *collaborated with Techlance,* which is a tech brand, for the smartwatch.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Scenario 2

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **L.u.x.a.r.a** and Techlance.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches and recently *collaborated with Techlance*, which is a tech brand, for the smartwatch.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Scenario 3

Please imagine that you are shown a wristwatch. It is a new, *luxury fashion exclusive* by **Luxella**.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Scenario 4

Please imagine that you are shown a wristwatch. It is a new, *luxury fashion exclusive* by **L.u.x.a.r.a**.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**

   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino

④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.

Appendix E

Materials for Main Study of Study 1

Have you lived in the U.S. in the past five years?
① Yes → Please move on to the next section.
② No → Please stop the questionnaire. Thank you.

Please read the product description in the box below and respond to the questions that follow it. It is important to remember that there are no right or wrong answers to these questions; selecting the choice that best represents your feelings and opinions is what matters.

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **Luxella** and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a **top-tier luxury fashion brand**, such as **Gucci**, **Prada**, **Louis Vuitton**, and **Chanel**.

Luxella has traditionally offered wristwatches and recently *collaborated with Techlance*, which is a tech brand, for the smartwatch.

Now, please evaluate the product and answer the following questions.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	

The product in the description shows others that I am sophisticated.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Owning the product in the description lets me differentiate myself from other people.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It says something to people around me when I use the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description shows others that I am wealthy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description is appropriate for expressing my social status and success.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
I desire the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
If I had enough money, I would like to have the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand is admirable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals high status.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals wealth.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals sophistication.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following questions about the product.

What type of product was depicted in the product description?

① Smartphone ② Wristwatch ③ Smartwatch ④ Tablet ⑤ Handbag
⑥ I am not sure

What was the luxury fashion brand of this product?

① Louis Vuitton ② L.u.x.a.r.a ③ DKNY ④ Luxella ⑤ Techlance
⑥ I am not sure

Please read the next product description in the box below and respond to the questions that follow it. These are the same questions that you answered about the previous product.

Please imagine that you are shown a smartwatch. It is a new, *luxury fashion–tech exclusive* by **L.u.x.a.r.a** and Techlance.

L.u.x.a.r.a is a luxury fashion brand for both men and women that is comparable with an **affordable luxury fashion brand**, such as **Michael Kors**, **Ralph Lauren**, **Hugo Boss**, and **DKNY**.

L.u.x.a.r.a has traditionally offered wristwatches and recently *collaborated with Techlance*, which is a tech brand, for the smartwatch.

Now, please evaluate the product and answer the following questions.

Items	
Has the luxury fashion brand collaborated with any tech brand for a wristwatch?	Yes / No
The luxury fashion brand seems to have a top-tier reputation.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
The product in the description shows others that I am sophisticated.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Owning the product in the description lets me differentiate myself from other people.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It says something to people around me when I use the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description shows others that I am wealthy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description is appropriate for expressing my social status and success.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
I desire the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
If I had enough money, I would like to have the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand is admirable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals high status.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals wealth.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals sophistication.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following questions about the product.

What type of product was depicted in the product description?

① Smartphone ② Wristwatch ③ Smartwatch ④ Tablet ⑤ Handbag ⑥ I am not sure

What was the luxury fashion brand of this product?

① Louis Vuitton ② L.u.x.a.r.a ③ DKNY ④ Luxella ⑤ Techlance ⑥ I am not sure

The following section asks you to respond about your attitudes. It is important to remember that there are no right or wrong answers to these questions; selecting the choice that best represents your feelings and opinions is what matters.

Please express your attitudes toward a "wristwatch (whether it is a classic wristwatch or a smartwatch)" in your daily life using the following scales. You should mark the scale 10 times (once for each row).

	1	2	3	4	5	6	7	
Unimportant	o	o	o	o	o	o	o	Important
Boring	o	o	o	o	o	o	o	Interesting
Irrelevant	o	o	o	o	o	o	o	Relevant
Unexciting	o	o	o	o	o	o	o	Exciting
Means nothing	o	o	o	o	o	o	o	Means a lot to me
Unappealing	o	o	o	o	o	o	o	Appealing
Mundane	o	o	o	o	o	o	o	Fascinating
Worthless	o	o	o	o	o	o	o	Valuable
Uninvolving	o	o	o	o	o	o	o	Involving
Not needed	o	o	o	o	o	o	o	Needed

Please express your interest in "technology in general" in your daily life.

Items	
If I heard about a new information technology, I would look for ways to experiment with it.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Among my peers, I am usually the first to try out new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
In general, I am not hesitant to try out new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I like to experiment with new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

A "luxury fashion item" is a fashion item with a high quality and high price. Examples include exclusive ready-to-wear items and fashion accessories produced by high-status fashion houses.

Please express your attitude toward "luxury fashion items in general" in your daily life. You should mark the scale 10 times (once for each row).

	1	2	3	4	5	6	7	
Unimportant	o	o	o	o	o	o	o	Important
Boring	o	o	o	o	o	o	o	Interesting
Irrelevant	o	o	o	o	o	o	o	Relevant
Unexciting	o	o	o	o	o	o	o	Exciting
Means nothing	o	o	o	o	o	o	o	Means a lot to me
Unappealing	o	o	o	o	o	o	o	Appealing
Mundane	o	o	o	o	o	o	o	Fascinating
Worthless	o	o	o	o	o	o	o	Valuable
Uninvolving	o	o	o	o	o	o	o	Involving
Not needed	o	o	o	o	o	o	o	Needed

Have you heard about or experienced a luxury fashion brand?
① Yes ② No

Have you heard about or experienced a technology brand?
① Yes ② No

Have you heard about or experienced using a smartwatch (for example, an Apple Watch or Fitbit Versa)?
① Yes ② No

The following questions ask about you. They will be used for demographic purposes only and your information will remain completely confidential.

1. **What is your age?** ( )

2. **What is your sex?**

   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino
④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

4. **What is your annual household income (before taxes)?**

① Less than $20,000 ② $20,000-$59,999 ③ $60,000-$99,999
④ $100,000-$199,999 ⑤ $200,000 and above

5. **How long have you used a smartwatch (for example, Apple Watch or Fitbit Versa)?**

① I have never used a smartwatch ② Less than 6 months
③ Between 6 months and 1 year ④ 1 to 2 years ⑤ 2 to 3 years ⑥ 3 to 4 years ⑦ 4 to 5 years ⑧ More than 5 years

Please answer the following questions about your luxury fashion item experience.

6. **On average, how much do you spend on luxury fashion items every year?**

   ① $0 ② Less than $500 ③ $500 to $999 ④ $1,000 to $1,999
   ⑤ $2,000 to $2,999 ⑥ $3,000 to $4,999 ⑦ $5,000 to $6,999
   ⑧ $7,000 to $9,999 ⑨ $10,000 or more

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.

Appendix F

Materials for Pretest 1 of Study 2

Please carefully read the following FOUR DIFFERENT scenarios, responding to the included questions for each.

Scenario 1:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance. Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel. Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** brick-and-mortar store but not its online store.

Items	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 2:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** online store but not its brick-and-mortar store.

Items	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 3:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** brick-and-mortar store but not its online store.

Items	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Scenario 4:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** online store but not its brick-and-mortar store.

Items	
Please rate the amount of information in the scenario.	Very little info 1 2 3 4 5 6 7 Very much info

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**
   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino
④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.

Appendix G

Materials for Manipulation Check 1 and 2 for Study 2

Please carefully read the following FOUR DIFFERENT scenarios, responding to the included questions for each.

Scenario 1:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** brick-and-mortar store but not its online store.

Items	
In which brand's stores is the product available? Please select one.	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Scenario 2:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** online store but not its brick-and-mortar store.

Items	
In which brand's stores is the product available? Please select one.	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Scenario 3:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** brick-and-mortar store but not its online store.

Items	
In which brand's stores is the product available? Please select one.	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Scenario 4:

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Techlance***'s** stores but not Luxella's. It is available through the **tech brand's** online store but not its brick-and-mortar store.

Items	
In which brand's stores is the product available? Please select one.	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Please answer the following demographic questions.

1. **What is your age?** ( )

2. **What is your sex?**

① Male ② Female ③ Non-binary/Third gender

3. What is your ethnic background?

① Caucasian ② Black or African American ③ Hispanic or Latino

④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.

Appendix H

Materials for Main Study of Study 2

Have you previously responded to a survey about a wristwatch/luxury fashion-tech collaborative smartwatch?
① Yes → Please stop the questionnaire. Thank you.
② No → Please move on to the next question.

Have you lived in the U.S. in the past five years?
① Yes → Please move on to the next section.
② No → Please stop the questionnaire. Thank you.

Please read the product description in the box below and respond to the questions that follow it. It is important to remember that there are no right or wrong answers to these questions; selecting the choice that best represents your feelings and opinions is what matters.

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** brick-and-mortar store but not its online store.

Now, please evaluate the product and answer the following questions.

Items	
In which brand's stores is the product available?	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Items	
The product in the description shows others that I am sophisticated.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Owning the product in the description lets me differentiate myself from other people.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It says something to people around me when I use the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description shows others that I am wealthy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description is appropriate for expressing my social status and success.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
I desire the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
If I had enough money, I would like to have the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand is admirable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals high status.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals wealth.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

After reading the description of the product above, I think the luxury fashion brand signals sophistication.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following questions about the product.

What type of product was depicted in the product description?

① Smartphone ② Wristwatch ③ Smartwatch ④ Tablet ⑤ Handbag
⑥ I am not sure

What was the luxury fashion brand of this product?

① Louis Vuitton ② L.u.x.a.r.a ③ DKNY ④ Luxella ⑤ Techlance
⑥ I am not sure

Please read the next product description in the box below and respond to the questions that follow it. These are the same questions that you answered about the previous product.

Please imagine that you are shown a smartwatch. It is a new, luxury fashion–tech exclusive by Luxella and Techlance.

Luxella is a luxury fashion brand for both men and women that is comparable with a top-tier luxury fashion brand, such as Gucci, Prada, Louis Vuitton, and Chanel.

Luxella has traditionally offered wristwatches and recently collaborated with Techlance, which is a tech brand, for the smartwatch. The smartwatch is available through *Luxella***'s** stores but not Techlance's. It is available through the **luxury fashion brand's** online store but not its brick-and-mortar store.

Now, please evaluate the product and answer the following questions.

Items	
In which brand's stores is the product available?	Luxury fashion brand / Tech brand
In which retail channels is the product carried of those listed? Please select one.	Physical stores / Online stores

Items	
The product in the description shows others that I am sophisticated.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Owning the product in the description lets me differentiate myself from other people.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
It says something to people around me when I use the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description shows others that I am wealthy.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
The product in the description is appropriate for expressing my social status and success.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
I desire the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
If I had enough money, I would like to have the product in the description.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Items	
After reading the description of the product above, I think the luxury fashion brand helps me to make a good impression on others.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand is admirable.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals high status.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand signals wealth.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

After reading the description of the product above, I think the luxury fashion brand signals sophistication.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
After reading the description of the product above, I think the luxury fashion brand provides me with an opportunity to stand out.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Please answer the following questions about the product.

What type of product was depicted in the product description?

① Smartphone ② Wristwatch ③ Smartwatch ④ Tablet ⑤ Handbag
⑥ I am not sure

What was the luxury fashion brand of this product?

① Louis Vuitton ② L.u.x.a.r.a ③ DKNY ④ Luxella ⑤ Techlance
⑥ I am not sure

The following section asks you to respond about your attitudes. It is important to remember that there are no right or wrong answers to these questions; selecting the choice that best represents your feelings and opinions is what matters.

Please express your attitudes toward a "wristwatch (whether it is a classic wristwatch or a smartwatch)" in your daily life using the following scales. You should mark the scale 10 times (once for each row).

	1	2	3	4	5	6	7	
Unimportant	o	o	o	o	o	o	o	Important
Boring	o	o	o	o	o	o	o	Interesting
Irrelevant	o	o	o	o	o	o	o	Relevant
Unexciting	o	o	o	o	o	o	o	Exciting
Means nothing	o	o	o	o	o	o	o	Means a lot to me
Unappealing	o	o	o	o	o	o	o	Appealing
Mundane	o	o	o	o	o	o	o	Fascinating
Worthless	o	o	o	o	o	o	o	Valuable
Uninvolving	o	o	o	o	o	o	o	Involving

Not needed | o o o o o o o | Needed

Please express your interest in "technology in general" in your daily life.

Items	
If I heard about a new information technology, I would look for ways to experiment with it.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
Among my peers, I am usually the first to try out new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
In general, I am not hesitant to try out new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
I like to experiment with new technologies.	Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

A "luxury fashion item" is a fashion item with a high quality and high price. Examples include exclusive ready-to-wear items and fashion accessories produced by high-status fashion houses.

Please express your attitude toward "luxury fashion items in general" in your daily life. You should mark the scale 10 times (once for each row).

	1	2	3	4	5	6	7	
Unimportant	o	o	o	o	o	o	o	Important
Boring	o	o	o	o	o	o	o	Interesting
Irrelevant	o	o	o	o	o	o	o	Relevant
Unexciting	o	o	o	o	o	o	o	Exciting
Means nothing	o	o	o	o	o	o	o	Means a lot to me
Unappealing	o	o	o	o	o	o	o	Appealing
Mundane	o	o	o	o	o	o	o	Fascinating
Worthless	o	o	o	o	o	o	o	Valuable
Uninvolving	o	o	o	o	o	o	o	Involving
Not needed	o	o	o	o	o	o	o	Needed

Have you heard about or experienced using a smartwatch (for example, an Apple Watch or Fitbit Versa)?
① Yes ② No

Do you know what a LUXURY FASHION brand's PHYSICAL store looks like?
① Yes ② No

Do you know what a LUXURY FASHION brand's ONLINE store looks like?
① Yes ② No

Do you know what a TECHNOLOGY brand's PHYSICAL store looks like?
① Yes ② No

Do you know what a TECHNOLOGY brand's ONLINE store looks like?
① Yes ② No

The following questions ask about you. They will be used for demographic purposes only and your information will remain completely confidential.

1. **What is your age?** ( )

2. **What is your sex?**
   ① Male ② Female ③ Non-binary/Third gender

3. **What is your ethnic background?**

① Caucasian ② Black or African American ③ Hispanic or Latino
④ Asian or Pacific Islander ⑤ Native American ⑥ Mixed/ Other _____

4. **What is your annual household income (before taxes)?**

① Less than $20,000 ② $20,000-$59,999 ③ $60,000-$99,999
④ $100,000-$199,999 ⑤ $200,000 and above

5. **How long have you used a smartwatch (for example, Apple Watch or Fitbit Versa)?**

① I have never used a smartwatch ② Less than 6 months

③ Between 6 months and 1 year ④ 1 to 2 years ⑤ 2 to 3 years ⑥ 3 to 4 years ⑦ 4 to 5 years ⑧ More than 5 years

Please answer the following questions about your luxury fashion item experience.

6. **On average, how much do you spend on luxury fashion items every year?**

   ① $0 ② Less than $500 ③ $500 to $999 ④ $1,000 to $1,999

   ⑤ $2,000 to $2,999 ⑥ $3,000 to $4,999 ⑦ $5,000 to $6,999

   ⑧ $7,000 to $9,999 ⑨ $10,000 or more

Note: The researcher created fictitious products and product descriptions for the purposes of this study; the luxury fashion brands and the tech brand depicted are not real, and the products depicted are not real and, thus, not available for sale.

Your answers have been recorded. Thank you for participating in the survey.