Buy Less, Buy Luxury:

Understanding and Overcoming Product Durability Neglect for Sustainable Consumption

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ABSTRACT

The authors propose that purchasing luxury can be a unique means to engage in sustainable consumption because high-end products are particularly durable. Six studies examine the sustainability of high-end products, investigate consumers' decision making when considering high-end versus ordinary goods, and identify effective marketing strategies to emphasize product durability, an important and valued dimension of sustainable consumption. Real-world data on new and secondhand accessories demonstrate that high-end goods can be more sustainable than mid-range products because they have a longer life cycle. Furthermore, consumers engage in more sustainable behaviors with high-end goods, owning them for longer and disposing of them in more environmentally friendly manners. Nevertheless, many consumers prefer to concentrate their budget on multiple ordinary goods in lieu of fewer high-end products partly because of product durability neglect, a failure to consider how long a product will last. Although consumers generally believe that high-end products last longer, they fail to take such a notion into account when making purchases. Finally, this research offers actionable strategies for marketers to help consumers overcome product durability neglect and nudge them toward concentrating their budget on fewer high-end, durable products.

Keywords: product durability neglect, sustainable consumption, sustainable luxury, sustainability

The proof that you did something good is the fact that you can use it again and again.
—Miuccia Prada, head designer of Prada (Palmer 2005)

Luxury and sustainability are one and the same.
—François-Henri Pinault, chief executive officer of Kering (2019)

The rise of fast-fashion retailers such as H&M and Zara has enabled consumers to increasingly adopt a habit of buying disposable clothing and accessories. More than half of fast-fashion products are worn for less than a year, contributing to a 36% decrease in the average number of times an item is worn compared with 15 years ago (Ellen MacArthur Foundation 2017). Although fast fashion offers consumers access to trendy, albeit short-lived, attire at affordable prices, it also exacts high environmental costs, not only in the production phase but also in the postproduction stages of use and disposal. Indeed, the fashion industry has become one of the largest polluters (Gordon and Hill 2015), contributing to 10% of global carbon emissions as well as 20% of global wastewater (United Nations Economic Commission for Europe 2018).

Faced with this reality, several trends have emerged over the past decade to counterbalance fast fashion. Notable examples include the rise of sustainable luxury consumption (Amatulli et al. 2017), the concepts of "buy less, buy better" (Cline 2016) and "slow-fashion" (Pierre-Louis 2019), and the trend of celebrities wearing identical outfits at multiple ceremonies (Cantor 2020). Consumers advocating such lifestyles strive to purchase fewer, higher-end products that will last longer, rather than many inexpensive products that will be quickly thrown away. However, these trends and movements still represent niche segments, as products with expensive price tags do not fit the stereotype of sustainable consumption generally associated with restraint and moderation (Beckham and Voyer 2014).

Focusing on the clothing and accessories industries, this research explores three aspects of sustainable luxury consumption: (1) whether high-end[1] products are more sustainable by virtue of their longer product life cycles, (2) how consumers process information regarding the durability of these high-end products, and (3) how marketers can help consumers overcome a failure to consider product durability and promote the purchase of fewer, higher-end products that will last longer.

Across six studies, including one in which we examine real-world data on new and secondhand shoes and bags, we demonstrate that high-end goods can be more sustainable than ordinary products because of their longer life span and environmentally friendly ways in which they are disposed of. Yet we find that many consumers prefer to allocate the same budget on multiple lower-end products instead of purchasing fewer, higher-end products. We show that these preferences are due to product durability neglect, a failure to consider how long a product will last. In addition to deepening the theoretical under- standing of durability as an important dimension of sustainable consumption (Haws, Winterich, and Naylor 2014; Luchs et al. 2010; White, Habib, and Hardisty 2019), the present research also provides actionable strategies for marketers of high-end brands to emphasize the durability of their products and, thus, nudge consumers toward a more sustainable world with fewer, higher-end products that last longer. Given that the clothing and accessories industries are among the top-polluting businesses (Gordon and Hill 2015), the present work focuses on apparel goods (e.g., shoes, bags, clothes); however, as we elaborate in the "General Discussion" section, the insights from this research can be applied to many other industries as well.

[1] The article uses the terms "luxury" and "high-end" interchangeably (Pandelaere and Shrum 2020, p. 58) and examines both top luxury brands and high-quality premium brands.

Theoretical Background and Hypotheses

Durability as a Dimension of Sustainable Consumption

In general, sustainability in consumption refers to "the consumption of goods and services that meet basic needs and quality of life without jeopardizing the needs of future generations" (Organisation for Economic Co-operation and Development 2002). Building on prior work in operations and marketing that addresses sustainability from various stages of the product cycle (Cronin et al. 2011; Seuring and Muller 2008), our conceptualization identifies three key dimensions of sustainability: (1) sourcing of materials in the supply chain; (2) production and manufacturing processes, including labor practices; and (3) durability and life span of products, including use and disposal.

We focus on the third dimension of sustainability: product durability and life span. This dimension has mostly been over- looked, with a vast amount of research on sustainability focused on the first two dimensions related to the sourcing of raw materials and the manufacturing processes (for a review, see White, Habib, and Hardisty 2019). Consistent with extant literature that identifies both the functional and stylistic elements of durability (Cooper 2010; Levinthal and Purohit 1989), we define a product as durable if it provides extended functional benefits (e.g., it does not deteriorate after a few washes in the case of apparel goods), as well as stylistic benefits (e.g., it does not quickly go out of style, reflecting its timelessness).

Product durability not only contributes to less waste production, but also offers tangible benefits to both consumers and companies. First, given that consumers not only want to be sustainable but also be mindful of personal financial resources (Haws, Winterich, and Naylor 2014), they can achieve both by selectively purchasing fewer products. By extending the life span of their purchases (i.e., using selectively purchased products for longer duration, and

reselling or donating them), consumers can make strategic use of their financial budget, while actively participating in the sustainability movement. The online retailer Farfetch (2021) underscores these benefits when promoting its "Second Life" consignment service, proposing that "by selling your pre-loved bag, you're extending its life and helping the environment."

Second, product durability can benefit companies as well: it is a timely attribute from a managerial standpoint that is highly consistent with the aforementioned trends of sustainable luxury and "slow-fashion" that have gained traction in recent years (Cline 2016). In fact, many high-end entrepreneurial brands, such as Pivotte, Everlane, and Cuyana, as well as more established premium and luxury brands, such as Patagonia, Brunello Cucinelli, and Loro Piana, promote the use of high-quality, durable materials that reduce downstream environmental impact while online luxury retailers like Net-a-Porter allow shoppers to filter the products by their sustainability (for examples, see Web Appendix W1). Given that some consumers purchase more expensive green products to signal status (Griskevicius, Tybur, and Van den Bergh 2010), promoting the durability of the product can be an appealing strategy for high- end brands to promote not only the luxuriousness of their products, but also the sustainable nature of their goods. Thus, we propose that encouraging the purchase of fewer, high-end durable products can be a win for both consumers and companies.

Durability as a Dimension of Luxury

Luxury products not only embody high prestige and rarity, but also entail longer life spans and durability (Kapferer 2010; Wiedmann, Hennigs, and Siebels 2007). More specifically, we conceptualize luxury in line with Wiedmann, Hennigs, and Siebels (2007), which proposes that luxury goods score high on the following four dimensions: financial dimension (e.g., price,

resale price), functional dimension (e.g., durability, quality, reliability), individual dimension (e.g., hedonism, self-identity), and social dimension (e.g., conspicuousness, status signaling). Thus, durability—both its functional and stylistic elements—is central to the definition of luxury (Amatulli et al. 2017; Athwal et al. 2019). Given that sustainable consumption and luxury overlap on the product durability dimension, we argue that the consumption of fewer, high-end goods can be an effective means to engage in sustainability.

Product Durability Neglect

Although both extant literature and industry reports reveal that luxury products and sustainability share some common traits, such as durability, many consumers disregard the sustainable nature of high-end products (Beckham and Voyer 2014). In fact, we propose that consumers may outright neglect product durability when contemplating high-end purchases because durability is not a salient attribute when considering these products. Such overlooking is consistent with prior work demonstrating that consumers are prone to making decisions based on easily accessible cues and background context (Feldman and Lynch 1988; Tverksy and Kahneman 1974) and often fail to consider attributes that are not readily salient (Legrenzi, Girotto, and Johnson-Laird 1993). For instance, when consumers choose between two stereo systems, they may focus on comparing readily available attributes, such as price and the technical specifications (e.g., watt per channel) while neglecting nonsalient, yet important, opportunity costs considerations (Frederick et al. 2009). Our product durability neglect hypothesis is also related to prior work showing that consumers dis-regard the frequency of usage when contemplating purchases of various appliances (e.g., microwaves, monitors, phones)

because such information is not readily available (Friedman and Dhar 2021; Goodman and Irmak 2013; Mittelman, Gonçalves, and Andrade 2019).

Although previous work has explored various neglect biases, none has directly considered product durability. We propose that when consumers think of high-end luxury apparel, product durability may not be readily salient because they imagine other, more exemplary instances of luxury consumption (e.g., wearing high-end clothing for status signaling, splurging on a particular item for indulgence). In other words, high-end products are particularly susceptible to product dur-ability neglect because consumers spontaneously focus more on the individual (e.g., hedonism, self-identity) and social (e.g., conspicuousness, status signaling) aspects of luxury goods (Kapferer, Klippert, and Leproux 2014; Wiedmann, Hennigs, and Siebels 2007). Accordingly, when choosing between diferent options, thinking of such prototypical occurrences related to high-end goods may crowd out consumers' ability to consider the relatively longer-lasting nature of these products in the consideration set. This theorizing is also consistent with the accessibility-diagnosticity model (Lynch et al. 2015) and the scope insensitivity bias (Chang and Pham 2018), suggesting that the accessibility of a given input (e.g., the associations of high-end products with hedonism and status signaling) increases the likelihood that such input will be used to form judgments.

Therefore, we predict that, even when holding the total spending and the time horizon constant, consumers considering different product options will prefer to spend their budget on multiple ordinary items in lieu of fewer, high-end goods because, at least in part, they neglect product durability. More formally, we hypothesize:

> **H_1**: Holding the total budget and time horizon of consumption constant, consumers prefer to purchase multiple mid-range products over fewer high-end products.
>
> **H_2**: The effect specified in H_1 is mediated by product durability neglect.

Marketing Durability for a Better World

With growing concerns about environment preservation, many luxury brands are increasingly embracing sustainability. Executives at leading luxury brands and conglomerates, such as LVMH Louis Vuitton Moët Hennessy and Kering, have announced initiatives to make sustainability and the production of sustainable luxury products a top priority (Keinan, Crener, and Goor 2020; Paton 2017). We propose that focusing on the durability aspect of sustainability can be an effective marketing strategy for high-end brands to promote their products, while at the same time nudging consumers toward buying fewer, better goods. That is, emphasizing product durability may shape consumers' actual purchase behavior while promoting an attribute central to luxury brands.

Work by behavioral economists and marketing researchers on nudging and choice architecture has found that careful message framing and product positioning can be an effective intervention to prompt behavioral change (Klotz et al. 2018; Thaler and Sunstein 2008). With specific regards to product choices, making an overlooked attribute more salient or emphasizing explicit cues can help individuals overcome their neglect of various product attributes or decision factors (Frederick et al. 2009; Mittelman, Gonçalves, and Andrade 2019). For example, explicitly stating that buying a cheaper stereo system will leave more money available for other purchases helps consumers overcome opportunity cost neglect (Frederick et al. 2009). Accordingly, we predict that making product durability salient when choosing among different options will nudge consumers toward selecting fewer high-end products over multiple ordinary ones. More formally, we hypothesize the following:

> **H_3**: Increasing the salience of product durability encourages the choice of fewer high-end products over multiple mid-range products.

Overview of Studies

With real-world evidence grounded in actual consumption con-texts and responses from real product owners, Studies 1 and 2 demonstrate that high-end products can be sustainable because they have longer life spans. In particular, Study 1 provides empirical evidence from the web, with data from over 4,600 new and secondhand shoes and handbags scraped from online stores, and demonstrates that high-end goods are more sustainable than mass-market goods because they are more likely to be sold again as secondhand products. Study 2 finds that consumers engage in more sustainable behaviors with high-end goods (vs. low-end goods), as they desire to keep these items for a longer duration and engage in sustainable behaviors after use (i.e., resell or donate the products) instead of disposing of them. Despite the sustainable nature of high-end goods, Studies 3 and 4 demonstrate that consumers prefer to buy multiple ordinary items over fewer high-end items because, at least in part, they fail to consider the durability of the high-end products. Complementing these findings, the last set of studies also explores the managerial implications of the present research for marketers. Specifically, Study 4 identifies an effective strategy for marketers of high-end products to make durability salient and encourage the sustainable consumption of durable products. Finally, Studies 5a and 5b examine consumers' revealed preferences in two choice-based conjoint surveys, one of which was conducted in collaboration with a clothing company (Pivotte). When consumers have to consider durability and cannot neglect it by design, our results show that they do value durability as an important product attribute relative to other attributes, such as price and style (Study 5a), and that durability can be marketed as a valuable dimension of sustainability (Study 5b).

Study 1: The Prevalence of High-End Goods on Secondhand Markets

The objective of the preregistered Study 1 is to provide evidence in favor of the premise that high-end goods can be more sustainable than ordinary goods because they are more durable. To this end, we collect data on more than 4,600 secondhand and new products sold online and examine the presence of luxury products in secondhand markets. In line with our pro-position that high-end goods are more durable than ordinary products, we expect to observe a prevalence of high-end brands on websites for secondhand products.

Method

The preregistration detailing the methods and the analysis is available at https://aspredicted.org/blind.php?x=uj7k8h. To acquire relevant data in an objective manner, we identified the most frequently searched online retailers of clothing accessible to U.S. consumers through organic results on Google Search. Next, we constructed a list of the top 20 online retail stores for secondhand products and new products (for a detailed description of the methods, see Web Appendix W2). The top retailers for secondhand products based on the total tallied count were eBay, Grailed, Poshmark, Swap, The RealReal, thredUP, Tradesy, Vestiaire Collective, and Vinted. The top retailers for new products were Anthropologie, Boohoo, Charlotte Russe, Macys, MissGuided, NastyGal, Nordstrom, Target, Walmart, Zappos, and Zaful. Given that some retailers of new clothes only listed a small number of items, we scraped for information from a slightly larger number of retailers selling new clothes (11) than secondhand retailers (9) to have a similar number of items collected for each type of apparel (i.e., at least 2,000 products for each category). Moreover, to provide a more conservative test of our hypotheses, we wanted

to perform robustness analyses in the absence of products from Target and Walmart (two retailers known for their affordable products) and have the same number of retailers in each list.

After we compiled the list of retailers, automated web crawler scripts scraped information from the 20 websites on both shoes for men and women, and handbags for women. We selected these categories given our focus on apparel and accessories. For each product, we collected the following information (if available): current price, original price, brand name, and detailed product category (e.g., kitten heels). For each website, the crawler collected information on the first 100 available products listed in men's shoes, women's shoes, and women's handbags categories. If a particular retailer listed fewer than 100 products or did not have a specific category of goods (e.g., did not sell handbags), information on all avail-able products was collected. Web Appendix W3 reports summary statistics on the total number of items scraped, organized by product category and type. We collapse the data for shoes and bags for ease of exposition and report the pooled results below; analyzing data by separate product categories does not change the results (all reported in Web Appendix W4).

We collected data for 4,694 secondhand and new shoes and bags from 812 brands. To test our prediction that high-end goods are more prevalent on secondhand retailers than in new product retailers, we asked 1,800 Amazon Mechanical Turk (MTurk) respondents from the United States (60% = female; M_{age} = 37.4 years) to classify the brands of the scraped products as high-end, mid-end, or low-end (or unfamiliar, if they did not know the brand). Each participant rated a random set of 20 brands; we converted the ratings into a numerical brand status score by assigning high-end a value of 3, mid-end a value of 2, and low-end a value of 1. Of the 812 brands, we constructed status scores for 268 brands based on respondents' familiarity with the brands, leading to a total of 2,990 ratings.

To test the prevalence of high-end branded products on secondhand markets, we examined the average status scores of the brands in the new and secondhand product categories. As we predicted, the respondents perceived the average status of the brands listed on secondhand retailers as higher-end than those listed on new product retailers ($M_{2ndhand}$ = 2.47 vs. M_{new} = 2.05; t(2,988) = 28.90, $p < .001$, d = 1.06). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.47 vs. M_{new} = 2.09; t(2,658) = 24.07, $p < .001$, d = .94). As an additional test, we confirm that respondents perceived the brands listed on the secondhand websites as higher-end than the midpoint (2) of the high/low scale ($M_{2ndhand}$ = 2.47; t(1,429) = 41.62, $p < .001$, d = 1.10).

To examine these results at a more granular level and test the robustness of our prediction, we also evaluated the average status scores by percentiles of price (Web Appendix W5). Specifically, we observed that the average status of secondhand branded products was higher than the average status of new products across different percentiles of price. Thus, the significant difference in the average status scores of the secondhand and new products was not simply driven by the large differences in the extreme ends of the data set (i.e., differences in a small number of the most and least expensive items for these secondhand and new products). Consistent with our prediction, the results indicate that secondhand products had higher status than new products across all price points.

The average price for new shoes and bags was $247.28 (SD = $506.71), and for secondhand shoes and bags was $92.64 (SD = $189.91). Because the price distribution was skewed to the right, we logged the price to deal with outliers: the average logged price for new products was 1.68 (SD = .44) and for secondhand products was 2.01 (SD = .59). As expected, the products from secondhand retailers were listed at higher prices than those from new product

retailers ($M_{2ndhand}$ = 2.01 vs. M_{new} = 1.68; t(4,692) = 22.02, p < .001, d = .65). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.01 vs. M_{new} = 1.76; t(4,092) = 15.60, p < .001, d = .49; for additional robustness checks, see Web Appendix W6).

Alternative Explanations. Ancillary analyses cast doubt on several alternative explanations. One might wonder whether these results could be driven by secondhand products being unique or having better aesthetics, leading to a higher average brand status and price relative to the new products. To rule out these possibilities, we scraped the photos of ten products from each category from each of the 20 websites, for a total of 500 product images. Then, we recruited 1,000 U.S. respondents (74% female; M_{age} = 34.5 years) on MTurk to rate these product images on uniqueness and liking. Specifically, each respondent looked at two randomly chosen product images and answered the following questions for each product on a seven-point Likert scale: (1) "How unique does the product look to you?" (1 = "Not unique at all" to 7 = "Very unique [one-of-a-kind]") and (2) "How much do you like the design of the product?" (1 = "Do not like at all" to 7 = "Like it very much"). The new and secondhand products were rated similarly in terms of uniqueness (M_{new} = 4.75 vs. $M_{2ndhand}$ = 4.75; t(498) = .00, n.s.). The respondents liked the new products more than the secondhand products (M_{new} = 4.37 vs. $M_{2ndhand}$ = 4.06; t(498) = 2.35, p = .019, d = .21), which was opposite of what the results would have been had the alternative account been at play. Importantly, controlling for these factors by conducting an analysis of variance with average brand status scores as the dependent variable, product type as the main factor, and uniqueness and liking ratings as two covariates revealed that product type (new vs. secondhand) was the only significant factor (F(1, 319) = 95.78, p < .001, η^2 = .23),

whereas the two covariates had no significant effect (uniqueness: $F(1, 319) = .02$, n.s.; liking: $F(1, 319) = 3.58$, n.s.)[2].

Discussion

By directly scraping field data from 20 retailers selling secondhand products, our preregistered Study 1 provides correlational support for the notion that high-end products have a longer life cycle because they are more prevalent on online secondhand retailers than ordinary goods. One may wonder whether the presence of high-end goods on secondhand markets is a mere by-product of a higher starting original price. That is, perhaps more high-end products are listed on secondhand retailers just because they are more expensive. While this is a possibility, if high-end apparels were merely expensive but not long-lasting, our thesis that these high-end products are more sustainable by virtue of their durability would not be supported. On the contrary, the evidence stemming from this data set suggests that, in addition to possibly being more costly, high-end goods also last for a long time and make it to additional life cycles in the market.

Study 2: Sustainability of Luxury Goods

To find further support for the notion that high-end goods can be more sustainable than lower-end items because high-end products are used for more extended periods and are discarded in more environmentally friendly manners, we directly asked owners of high- and low-end

[2] An identical analysis of variance with log price as the dependent variable also revealed that product type was the only significant factor ($F(1, 496) = 41.73$, $p < .001$, $\eta^2 = .08$), whereas the two covariates were not significant (uniqueness: $F(1, 496) = .33$, n.s.; liking: $F(1, 496) = 1.88$, n.s.).

accessories to provide information about some of their belongings. We predict that the more high-end an owned item is, the longer the intended duration of ownership, and the lower the intention to throw it away instead of engaging in sustainable disposal behaviors, such as reselling, donating, or giving away the product to someone else. In line with Study 1, we expect that high-end items will be more durable and discarded more sustainably than ordinary goods.

Method

We recruited 340 wealthy women from the United States on Qualtrics (M_{age} = 30.4 years; $M_{income} \geq \$121{,}000$[3]) for an online study. We purposely recruited female respondents with high annual income to control for gender and financial background and to increase the likelihood that they would own products from diverse price ranges. We randomly assigned respondents to one of two between-subjects conditions (high-end vs. low-end) and asked them to provide information about both a pair of shoes and a bag that they owned (order counterbalanced). In the case of shoes, for example, respondents were told: "Please think about a high-end[4] [low-end] pair of shoes that you own." If they did not own any products that fit the description, respondents in the high-end condition thought of the most expensive products they owned, whereas those in the low-end condition thought of the least expensive products they owned: "If you do not have any pair of high-end [low-end] shoes, please think about the most [least] expensive pair of shoes you own." We used identical phrases to collect information about the respondents' bags.

Then, respondents answered a series of questions about their owned products, including (1) purchase price ("How much did you pay for the pair of shoes/bag?"), (2) length of planned

[3] We chose the $121,000 cutoff because previous research on status (Bellezza and Berger 2020; e.g., Adler et al. 2000) has identified this level as the highest income bracket.
[4]Across all studies, we always use the term "high-end" instead of "luxury" in the stimuli read by respondents to avoid potential negative stereotypes and associations linked to the term "luxury."

ownership ("How long do you plan on wearing your shoes/using your bag before you no longer want them [it]?" on a seven-point Likert scale: 1 = "0–6 months," 2 = "6 months–1 year," 3 = "1 year–1 year and 6 months," 4 = "1 year and 6 months–2 years," 5 = "2 years–2 years and 6 months," 6 = "2 years and 6 months–3 years," and 7 = "> 3 years–specify"), and (3) disposal ("What will you do with the pair of shoes/bag when you no longer want them/it?" with the options "sell it," "give it to someone else," "throw it away," "donate it," "keep it even though I will not wear it," and "other–specify"). We recoded the disposal responses as a binary dependent variable depending on whether the answer was a sustainable behavior (1 if the respondent indicated selling it, giving it to someone else, donating it, or keeping it) or an unsustainable behavior (0 if the respondent indicated throwing it away). No value was assigned for "other—specify" (1% of responses). We also collected a series of ancillary variables on these products (e.g., physical product condition, who bought them). Controlling for all these variables in the analyses does not change the results.

Results

Price check. The average price of shoes across the two conditions (high-end and low-end) was \$183.67 (SD = \$535.54).We found a significant difference between high-end and low-end conditions in purchase price of the owned shoes (M_{high} = \$242.90 vs. M_{low} = \$127.17; $F(1, 338) = 4.00$, $p = .046$, $\eta^2 = .01$). The average price of bags was \$264.18 (SD = \$624.62). Similar to shoes, we found a significant difference between the two conditions in purchase price (M_{high} = \$385.19 vs. M_{low} = \$148.74; $F(1, 338) = 12.59$, $p < .001$, $\eta^2 = .04$). The significant differences between the purchase prices of the high-end and low-end products confirm that respondents indeed thought of a high-end or a low-end pair of shoes and a bag depending on the condition to

which they were randomly assigned (high-end vs. low-end). Note that the average prices for the low-end products were not trivial (e.g., $148.74 for "low-end" bags). This was likely a by-product of recruiting high-income respondents and provides a more stringent test of the durability of high-end products.

Expected length of ownership. For ease of exposition, we collapse the data for shoes and bags. However, all results are also significant when analyzing the two product categories separately. Consistent with our prediction, we found that the expected duration of ownership was significantly longer for the high-end products than the low-end products (M_{high} = 5.05 vs. M_{low} = 4.13; $F(1, 678) = 39.74$, $p < .001$, $\eta^2 = .06$).

Disposal. As predicted, there was a significant difference in the overall responses by condition ($\chi^2(1) = 17.77$, $p < .001$, $\varphi = .16$). Specifically, owners of the high-end products displayed a greater willingness to engage in sustainable disposal behaviors ($\%_{high}$ = 91.10) compared with the owners of the low-end products ($\%_{low}$ = 79.54); the owners of the low-end products were more likely to throw away the products than the owners of the high-end products ($\%_{low}$ = 20.46 vs. $\%_{high}$ = 8.90).

Discussion

Study 2 provides further empirical support that high-end goods are more sustainable than low-end products because consumers who own high-end goods intend to own them for longer and dispose of them in more sustainable ways. One potential weakness of Study 2 could be that the owners of high-end products were motivated to justify their purchases and, thus, stated that they would use these products for longer. To address this possible issue of postpurchase justification, in the next studies, we (1) directly explore consumers' preferences between high-

end and lower-end apparel before making a purchase and (2) test the premise that high-end goods last longer regardless of ownership status. The next two studies also directly test our proposed product durability neglect account.

Study 3: Product Durability Neglect

In Study 3, we investigate whether consumers prefer multiple mid-range products over a high-end product (H1) because they neglect product durability (H2). The study aims to provide evidence on the process in two ways. First, building on established methods to detect neglect biases in research (e.g., Goodman and Irmak 2013; Mittelman, Gonçalves, and Andrade 2019; Sela and LeBoeuf 2017), we test whether product durability neglect underlies consumers' preferences toward relatively less sustainable product choices by examining respondents' thoughts as they decide between different options. Second, we assess whether consumers' differing intertemporal preferences make certain consumers more susceptible to product durability neglect than others. Given that the benefits of sustainable consumption are often realized over a long time horizon, those who are more patient and have a more future-oriented mindset tend to engage in more sustainable consumption behaviors compared with myopic consumers, who have a stronger present bias (Arnocky, Milfont, and Nicol 2014; Joireman, Van Lange, and Van Vugt 2004). In the case of product durability, consumers who have a more future-oriented mindset should recognize that durable products yield benefits in the future because these products have longer life spans. Thus, if product durability neglect is indeed at play, we expect consumers with relatively lower intertemporal discount rates (Frederick,

Loewenstein, and O'Donoghue 2002) to favor fewer high-end products (vs. multiple mid-range products) compared with consumers with higher intertemporal discount rates.

Method

We recruited 201 U.S. respondents for a paid online survey on MTurk (44% female; Mage = 34.7 years). To increase the generalizability of our findings and confirm that our results are not driven by the specifics of the product category, we tested two products, different price points, and different time horizons. To this end, all respondents were randomly assigned to one of two between-subject replicates (product type: shoes vs. winter coat) and asked to make a purchase decision about shoes or winter coat. For shoes, respondents read, "Imagine that you typically have a shoes budget of $400[5] per year. You have two options regarding how you want to spend the $400. Which would you prefer?" Then, respondents selected either "buy one high-end pair of shoes for $400" or "buy four mid-end pairs of shoes for $100 each" (the order of appearance of the two options was randomized). Similarly, for winter coats, respondents read, "Imagine that you have a winter coat budget of $2,000[6] for the next ten years. You have two options regarding how you want to spend the $2,000. Which would you prefer?" Next, respondents chose either "buy one high-end winter coat for $2,000 this year" or "buy one mid-end winter coat for $200 every year" as their response (order of appearance randomized).

Then, all respondents listed at least one and up to five thoughts about the decision that they just made about the shoes or the winter coats ("In the form below, please list at least one reason why you decided to choose that option"; open-ended). To assess the presence of

[5] We calibrated the price of a high-end pair of shoes using the average prices of shoes from Tod's, Church's, and Stuart Weitzman; for mid-range shoes, we used average prices from Zara, J.Crew, H&M, and Banana Republic.
[6] We calibrated the price of a high-end winter coat using the average prices of coats from Moncler, Fay, and Loro Piana; for mid-range winter coats, we used average prices from Zara, J.Crew, H&M, and Banana Republic.

durability-related content, we developed a corpus of words that contained the following durability-related roots: “last” and “dura” (allowing to detect relevant terms such as “long-lasting,” “last,” “durability,” and “durable”). Then, we counted the number of times these key terms appeared in the comments using the function grepl() in R. For instance, if a particular respondent mentioned the word “durable” in a given comment, this was tallied once. Finally, all respondents completed the Dynamic Experiments for Estimating Preferences (Toubia et al. 2013), which involved 12 rounds of adaptive questions related to one’s time preferences (i.e., a choice between a smaller, immediate gain and a larger, later gain). The data were analyzed using a hierarchical Bayesian approach to estimate individual-level parameters in the quasihyperbolic time discounting model, including the estimates of beta, delta, and the discount rate r (O’Donoghue and Rabin 2001; Toubia et al. (2013).

Results

Choice. Choice. Regarding shoes, 78.85% of respondents preferred to buy multiple mid-range products, whereas only 21.15% of respondents preferred to buy one high-end product. Similarly, regarding winter coats, 76.29% indicated that they would prefer multiple mid-range products, whereas only 23.71% indicated that they would like one high-end product. As in previous studies, we collapse the two products—and report the results in aggregate (separate analyses of each category led to similarly significant results). Across the two products, 77.61% of respondents preferred to buy multiple mid-range products, whereas only 22.39% of respondents indicated that they would like to buy one high-end product. Thus, the majority of respondents preferred to consume multiple mid-range products ($\chi^2(1) = 61.30$, $p < .001$, h = 1.17).

Thoughts generated. Respondents generated a total of 647 comments, with an average of 3.22 thoughts per person. A two sample t-test revealed no significant difference in the average number of thoughts generated between those who chose the high-end option and those who chose the mid-range option (M_{high} = 3.09 vs. M_{mid} = 3.26; t(199) = .65, n.s.). Only 6.96% of all comments containing durability-related content, regardless of their product choice. However, a two-proportions z-test revealed that a significantly higher proportion of respondents who chose the high-end option mentioned durability in their thoughts ($\%_{high}$ = 14.39) compared with respondents who chose the mid-range option ($\%_{mid}$ = 4.92, $\chi^2(1) = 13.69$, $p < .001$, h = .33). In support of our predictions, these results suggest that those who chose to allocate their budget on multiple mid-range products neglected product durability to a greater extent. In contrast, durability considerations were relatively more accessible for those who opted to concentrate their budget on one high-end option.

Intertemporal preferences. To test our account through intertemporal preferences, we ran a logistic regression with choice as the dependent variable (coded as 1 for choice of one high-end product and as 0 for choice of multiple mid-range products), discount rate r as the predictor, and product type (shoes vs. winter coat) as a covariate. The discount rate r was a negative and significant predictor of choice ($\beta = -100.01$, $\chi^2(1) = 4.96$, $p = .026$). As expected, respondents with a lower discount rate were more likely to choose the high-end option instead of the ordinary options. The product type did not predict choice ($\beta = -.11$, $\chi^2(1) = .11$, n.s.). Given that the higher discounting rate r indicates a greater present bias, and less patience, these results are consistent with product durability neglect and demonstrate that having a present-bias may impede consumers in recognizing the value of durability.

Replication. To increase statistical conclusion validity (Lynch et al. 2015), we replicated the main findings in another study involving 248 respondents (33% female; M_{age} = 19.5 years; see Web Appendix W7) recruited at the behavioral lab of a U.S. university.

Follow-up study. Although the lack of durability-related content in respondents' open comments suggests that consumers neglect product durability, it is possible that instead of neglecting product durability, consumers simply do not believe that high-end products are more durable and, thus, are reluctant to choose them. To address this possibility, we recruited 200 respondents in the lab at a U.S. university (57% female; M_{age} = 19.5 years) and asked them to rate, between-subjects, the durability of a high-end or a mid-range pair of shoes. If the alternative account—that consumers are doubtful that high-end products can be more durable—were supported, we would find no significant differences in the life span estimates of the high and mid-range products. Our results go against such an account: respondents indicated that the high-end item would last for a significantly longer time than the mid-range item, in support of the lay belief that high-end products are more durable (M_{high} = 4.84 vs. M_{mid} = 3.05; t(198) = 7.48, p < .001, d = 1.06; see Web Appendix W8).

Discussion

Study 3 demonstrates that when presented with two options, most respondents preferred to spend the same amount of money on multiple ordinary goods instead of on one high-end good (H1) because, at least in part, they did not consider the durability of the high-end product (H2). Consistent with our account, product durability neglect was stronger for respondents who chose multiple mid-range products (vs. one high-end product). Moreover, those who had a higher discount rate r tended to prefer multiple mid-range products.

Although these results support our product durability neglect hypothesis, there remain other potential alternative accounts. For instance, it is possible that the respondents opting for multiple goods, in addition to neglecting durability, were also driven by variety-seeking motives or risk aversion. It is also conceivable that the respondents opting for high-end goods may have mentioned durability for self-presentation motives (Ferraro, Kirmani, and Matherly 2013) or as a justification for choosing a more indulgent product (Keinan, Kivetz, and Netzer 2016). Because these motives may be concurrently at play, the next study shows more unequivocally that product durability neglect underlies part of the observed effects by experimentally manipulating the salience of durability in a marketing-relevant context.

Study 4: Nudging Product Durability for a Better World

The purpose of Study 4 is twofold. First, consistent with previous research on neglect biases (Frederick et al. 2009), we manipulate the salience of durability to further establish product durability neglect as the process underlying the preference for multiple mid-range products (vs. fewer high-end products). In doing so, we also control for potential alternative explanations such as variety seeking. Second, we explore the effectiveness of a marketing-relevant intervention to nudge consumers toward more durable products using realistic stimuli embedded in online product pages.

Method

The preregistration detailing the methods and the analysis is available at https://aspredicted.org/blind.php?x=yy6z3y. We recruited 421 U.S. respondents (51% female;

M_{age} = 32.2 years) on Prolific Academic for a paid online survey. We randomly assigned respondents to one of two conditions between subjects (control vs. durability). Respondents considered two product pages—one for a high-end item priced at $80 and another for a mid-range item priced at $20[7]—featuring a black sweater sold by two fictitious brands, "Luyana" and "Cooper."

We opted for fictitious brand names to control for preexisting brand associations with well-established brands (Bousch and Loken 1991). To rule out potentially confounding effects of different models, styles, and brand names used in the stimuli, we created two versions—A and B—of the ad for all the conditions described next. In one version, a particular model, style, and brand name, "Cooper," was used in the high-end condition. In another version, another model, style, and brand name, "Luyana," was used in the high-end condition. This design serves as a between-subjects replicate, and we expect to observe the predicted results for both versions of the stimuli. In addition, to account for variety seeking, we embedded the focal product in a product page featuring three different colors (i.e., black, pink, and camel) to prime the notion that one could opt for multiple items of various colors. We also priced the items so that one could opt for several ordinary products with the same budget of one high-end item. Finally, we matched respondents' gender to the gender of the model featured to increase relevance. For ease of exposition, we report stimuli and results consistent with version A, in which Luyana was the mid-range retailer and Cooper was the high-end retailer.

All respondents read the following information about the two retailers: "Luyana is a retailer that offers mid-range clothing. Luyana typically sells sweaters priced around $10–$20. Cooper is a retailer that offers high-end clothing. Cooper typically sells sweaters priced around

[7] We calibrated the price of a high-end sweater using the average prices from Everlane, Naadam, and Cuyana; for the mid-range sweater, we used average prices from Zara, Madewell, and H&M.

$70–$80." Then, they saw two product pages, each with an ad copy promoting the products. In the control condition, the high-end option read, "A high-end sweater with long sleeves, and ribbing at neckline and hem." The mid-range option read, "A mid-range sweater with long sleeves, and ribbing at neckline and hem." In the durability condition, the high-end option read, "A high-end, durable sweater. You can think of this sweater as a one-time purchase in one product that will last for many years"[8] (see Web Appendix W15 for a complete set of the stimuli). The mid-range option read the same as in the control condition. Then, to check whether our manipulation increased the salience of durability and to ensure that respondents were actually paying attention, we asked, "In the box below, please type about 2– 3 keywords from the webpage above." On the next page, all respondents read, "Imagine that this year, you have a clothing budget of $80 to spend on sweaters. You have two options regarding how you want to spend the $80." Then, respondents saw the following two options, buying "one high-end sweater for $80 at Cooper" or buying "four mid-range sweaters for $20 each at Luyana," and were asked, "Which would you prefer?" As in Study 3, all respondents listed at least one and up to five thoughts about the choice that they just made and we counted the number of times durability related terms appeared in the comments.

Manipulation check. Confirming the success of the durability salience manipulation, an analysis of the keywords that the respondents wrote down as they were looking at the two images (i.e., an ad for Cooper and an ad for Luyana) revealed that those in the durability condition mentioned durability-related words ($\%_{durability} = 42.28$) more than those in the control condition ($\%_{control} = 0$, $\chi^2(1) = 223.19$, $p < .001$, h = 1.42).

[8] For the high-end product stimuli in the durability condition, we purposely removed the words, "with long sleeves, and ribbing at neckline and hem," so that the two products' stimuli had a comparable number of words in the text.

Results

We ran a logistic regression with choice as the dependent variable (coded as 1 for choice of one high-end product and as 0 for choice of multiple mid-range products) and with condition (control vs. durability) and version (A vs. B) as the independent variables. As predicted, respondents chose the high-end option significantly more in the durability condition than in the control condition ($\%_{durability}$ = 27.36 vs. $\%_{control}$ = 15.79, β = .70, $\chi^2(1)$ = 8.14, p = .004). Importantly, we observed the predicted effect of the durability manipulation even when variety seeking is potentially at play (given the three colors and the possibility of buying up to four items with the same budget). Although not central to our hypothesis, there also was a significant effect of version such that respondents were more likely to choose the high-end option for the brand and style of Cooper ($\%_A$ = 25.59 vs. $\%_B$ = 17.62, β = -.48, χ^2 (1) = 3.91, p = .048).[9]

Respondents generated a total of 1,209 thoughts, with an average of 2.87 thoughts generated per person. A two-sample t-test revealed no significant difference between the average number of thoughts generated by those who chose the high-end option and those who chose the mid-range options (M_{high} = 2.97 vs. M_{mid} = 2.85; t(419) = .84, n.s.). Replicating results from Study 3, the vast majority of respondents, regardless of their product choice, did not mention any durability-related content in their thoughts, with only 7.28% of all comments containing such content. At the same time, a two-proportions z-test revealed that the magnitude of neglect was higher for those opting for multiple mid-range products (3.41% of all comments related to durability) over those choosing the high-end product (20.74%, $\chi^2(1)$ = 90.80, p < .001, h = .57).

[9] As a further check, we also ran the same regression including the interaction term between condition and version and confirm the significance of condition as a predictor of choice (β = .67, χ^2 (1) = 4.29, p = .038).

Mediation analysis. We performed a mediation analysis (PROCESS Model 4, Hayes 2013) with choice as the dependent variable, condition (control vs. durability) as the independent variable, and the number of durability-related thoughts generated as the mediator. As predicted, the extent to which a consumer chose the high-end option was mediated by the number of durability-related thoughts generated (indirect effect = .64; 95% confidence interval [$CI_{95\%}$] = [.41, .94]).

Discussion

By manipulating the salience of product durability, preregistered Study 4 provides additional support for the underlying process of product durability neglect and offers an effective strategy in online communication to promote high-end products. The findings suggest that making product durability more salient by mentioning the word "durable" is an effective and actionable intervention to encourage the sustainable consumption of fewer, better goods.

Studies 5a-b: The Importance of Durability and How to Promote It

Studies 3 and 4 demonstrate that consumers tend to neglect product durability unless this attribute is made salient. However, even when durability is brought to consumers' attention, some important questions remain for marketers: Do consumers neglect durability because it is not on their radar at the time of purchase or because it is actually irrelevant to their product choice? Study 4 provides some evidence in favor of the former, but how much do consumers value durability relative to other important product attributes, such as price or design? And with specific regard to sustainability, can durability be legitimately framed as an aspect of sustainability?

Conjoint analysis is particularly suitable for answering these questions. By including durability as one of the product attributes (Study 5a) or as one of the levels (Study 5b) in the design of the study, respondents cannot neglect durability and are forced to make trade-offs revealing their true preferences with regard to this particular product dimension. In other words, we explore how much consumers value durability relative to other product features when they are forced to consider it. In addition, in these studies, we further investigate managerially relevant ways to emphasize durability. In Study 5a, we frame durability as a standalone product attribute, independent from sustainability, enabling us to understand how consumers value different levels of durability when they are made concrete (e.g., a product that lasts five years vs. ten years). Further, we are able to understand the value of durability, compared with other attributes such as price, style, and the dimensions of sustainability (i.e., sourcing and manufacturing). In Study 5b (in collaboration with Pivotte, a U.S.-based clothing company), we explicitly frame durability as a dimension of sustainability, enabling us to determine whether durability can effectively be positioned as an aspect of sustainability. Taken together, Study 5a sheds light on how durability framings can appeal to a broader segment of consumers, independent of sustainability messaging and Study 5b demonstrates how durability can be positioned as a dimension of sustainability and used to target a specific segment of green consumers.

Method: Study 5a

We recruited 162 (41% female; M_{age} = 27.8 years) graduate students at a U.S. university who completed the survey for course credit. To evaluate consumers' revealed preferences regarding durability with explicit trade-offs relative to other important product attributes (e.g.,

price, style), we employed a choice-based conjoint (CBC) survey using Sawtooth Software. We chose Moncler coats as the stimuli for this study given that Moncler was a popular, desirable high-end brand among the sample population (35% of respondents reported that they owned at least one Moncler product or expressed a desire to buy one in the future; 61% had heard of the brand before).

We created a CBC survey with five attributes—price, style, color, durability, and sustainability—with three levels within each attribute. The durability attribute had the following three levels: low-level ("The textile used to make the coat will last about 5 years"), mid-level ("The textile used to make the coat will last about 10 years"), and high-level ("The textile used to make the coat will last about 15 years"). Importantly, with this configuration of attributes, we made the durability information explicitly concrete to emphasize the total life span (i.e., 5 years, 10 years, and 15 years). In addition, the sustainability attribute entailed the following three levels: the sourcing of materials ("Made with down feather meeting strict Down Integrity System and Traceability [D.I.S.T.] requirements for animal welfare"), the production process ("Manufactured at Fair Trade Certified™ facilities with fair wage and labor practices"), and use and disposal ("Certified to meet bluesign® criteria for advanced waste-reduction technologies to minimize carbon footprint after disposal"; for a full description of all the other attributes and levels, see Web Appendix W9).

Each respondent completed 12 choices in random order and chose the most preferred option out of three Moncler coats based on their price, style, color, durability, and sustainability. To generate the choice sets, we used a full profile, complete enumeration design, producing the most orthogonal design for each respondent with respect to the main effects. After the choice task, we collected measures regarding awareness ("Have you ever heard of the brand, Moncler,

before?"; yes/no) and ownership ("Do you currently own any Moncler coat(s) or have you ever considered purchasing one?" with options "No, I don't own and I don't plan on owning any Moncler coats," "I currently don't own a Moncler coat, but I'm thinking of purchasing one," and "Yes, I do own Moncler coat(s). Please indicate how many."). Controlling for these factors does not impact the significance of the following results.

We used Sawtooth's HB-Reg Module, which estimates a hierarchical random coefficients model, to calculate partworth utilities of different attributes, a widely used approach in marketing research (Chakravarti et al. 2013). We followed the approach outlined by Orme and Chrzan (2017) to computed the degree of confidence with which an attribute level is preferred to another attribute level (for calculations, see Web Appendix W10).

Results: Study 5a

Focusing on durability, we found significant differences among the part-worth utilities of each level from low-level ($M_{utility}$ = -1.74), to mid-level ($M_{utility}$ = .55) to high-level ($M_{utility}$ = 1.19) durability. The mid- and high-levels of durability were preferred to the low-level with 100% confidence. The high level of durability was preferred to the mid-level with 99.84% confidence. Thus, respondents significantly preferred higher levels of durability compared with lower levels. For ease of interpretation, we also present the increase in part-worth utility from one level of durability to another in monetary ($) terms.[10] An increase from the low-level (5 years) to the mid-level (10 years) of durability equates to an increase of $296.35 in the value of a

[10] Note that these dollar-equivalent estimates across different levels of durability are for ease of interpretation only; we did not use a market simulation approach, and these values should not be interpreted as estimated market value of the willingness to pay (Orme 2001; for detailed calculations, see Web Appendix W11).

product. Similarly, an increase from the mid-level (10 years) to the high-level (15 years) equates to an increase of $76.97 in the value of a product (for calculations, see Web Appendix W11).

Looking at product profiles holistically, the relative importance weights indicated that style was the most important attribute (43.94% ; $CI_{95\%}$ = [40.65, 47.22]). As Figure 1 shows, price (21.59% ; $CI_{95\%}$ = [19.31, 23.87]) and durability (18.87% ; $CI_{95\%}$ = [16.96, 20.79]) were the second-most important attributes and did not significantly differ from each other. Finally, color (10.09% ; $CI_{95\%}$ = [8.27, 11.92]) and sustainability (5.51% ; $CI_{95\%}$ = [4.88, 6.13]) were the least important attributes. Overall, these results indicate that, when respondents were obliged to consider it, the durability of the textile was as important as price. Thus, durability emerged as a key factor in respondents' purchase decisions that was second only to style. In contrast, the sustainability of the product was not a particularly important attribute, and significantly less important than durability as a standalone attribute.

========= INSERT FIGURE 1 =========

Method: Study 5b

We recruited 106 (89% female; M_{age} = 37.3 years) real consumers of Pivotte from the company's email listserv for a paid online survey. To evaluate their preferences, we employed a CBC survey with four attributes (i.e., price, style, color, and sustainability) with three levels within each attribute. Note that in this study, durability is not an attribute by itself but is framed as one of the levels within the sustainability attribute. Consistent with our conceptualization of the three dimensions of sustainability, as well as the company's existing strategy, the sustainability attribute, labeled as "textile" in the survey, consisted of three levels: the eco-friendly sourcing of materials ("Made with eco-friendly fabric with advanced waste reduction

technologies"), manufacturing process with fair labor practices ("Made in N.Y.C. by top manufacturers with impeccable labor practices"), and the durability of the clothing ("Made with durable, 4-way stretch, stain-resistant fabric that will last for years"; for a screenshot of what respondents saw, including all attributes and levels, see Web Appendix W13).

Results: Study 5b

Similar to Study 5a, we used Sawtooth's HB-Reg Module to estimate the models. Confirming the relevance of durability, we found that the part-worth utility of the durability message was highest ($M_{utility}$ = .23), followed by sourcing of materials ($M_{utility}$ = .10) and manufacturing process ($M_{utility}$ = -.33).[11] The respondents preferred the durability level of sustainability to the manufacturing level, with 99.30% confidence, and to the sourcing level, with 72.82% confidence. Thus, there was a significant difference between the part-worth utilities of durability and manufacturing levels, but not between durability and sourcing levels.

We also examined the relative importance weights across all attributes; the weights indicated that style was the most important attribute (44.63% ; $CI_{95\%}$ = [40.37, 48.88]), followed by sustainability (20.43% ; $CI_{95\%}$ = [16.92, 23.94]), color (17.98% ; $CI_{95\%}$ = [15.58, 20.39]), and price (16.96% ; $CI_{95\%}$ = [14.68, 19.23]). These results indicate that, in the case of Pivotte pants, style was significantly more important than the other three attributes. Notably, information about the sustainability of the product was as important as the product's price and color, suggesting that when durability was framed as a level of sustainability, sustainability emerged as an important and valued attribute for consumers.

[11] Note that a negative value reflects that the manufacturing process is valued less relative to the two other dimensions, not that respondents value it negatively.

Replication. In Study 5b, we purposely labeled the sustainability attribute as "textile" to diminish potential demand effects. To increase the label's face validity, we also replicated Study 5b explicitly naming the attribute as "sustainability" on Prolific Academic (n = 150; 100% female; M_{age} = 36.4 years; $M_{income} \geq$ \$100,000). These results enable us to confirm that durability is an important dimension of sustainability independent of the specific label (see Web Appendix W12).

Discussion

Study 5a shows that when consumers have to trade off between durability and other product attributes, durability emerges as an important attribute that is second only to style and just as valued as price. Study 5b demonstrates that durability can be effectively positioned as a dimension of sustainability. In particular, when durability was compared with the other two dimensions of sustainability (i.e., sourcing and manufacturing), it was strictly preferred to fair manufacturing processes and comparable to eco-friendly sourcing of raw materials.

In conclusion, Studies 5a and 5b offer additional managerial insights regarding durability and how to promote it. Findings from Study 5a suggest that, whenever possible, marketers of high-end brands should provide concrete estimates of products' life spans (e.g., three vs. five years) and promote the durable nature of their goods. The results of Study 5b highlight that marketers can position durability as an appealing sustainability dimension that consumers genuinely value.

General Discussion

The present research finds that purchasing luxury can be a unique means to engage in sustainable consumption because high-end products are more durable. Yet consumers prefer to concentrate their budget on multiple ordinary goods over fewer high-end products. We demonstrate that this effect is, in part, driven by consumers' product durability neglect. Although consumers generally believe that more expensive products last longer, they fail to take such a notion into account when making purchases. Focusing on the domains of clothing and accessories, our studies explore durability as a central dimension of sustainability. Given that 10% of global carbon emissions arise from the fashion industry, nudging consumers toward fewer purchases of long-lasting, high-end apparel could lead to a reduction of emissions, thereby reducing a key factor driving global warming (United Nations Economic Commission for Europe 2018).

Marketing Implications

Our findings show that high-end products can be more sustainable than mid-range products by virtue of their longer life cycle (Studies 1 and 2), and as Studies 4, 5a, and 5b indicate, durability can be strategically used to make high-end products more appealing. As such, the present research offers actionable strategies for marketers of high-end brands and products.

Educating consumers. One potential challenge for marketers of high-end brands is to understand how to best educate their potential consumers in discerning the intrinsic high quality and durability of their goods. When we entered the term "product durability," into the search engine AlsoAsked,[12] we found that two related queries included "Why is durability important in a product?" and "How do you check durability?" (see Web Appendix W14), suggesting that

[12] AlsoAsked is a website that uses data from "People Also Asked" section of Google Search results and generates a tree diagram of related queries.

there is a demand to learn more about evaluating product durability. Marketers can take advantage of this opportunity to educate consumers through tutorials and advertisements or by making durability claims more concrete, as we did in Studies 4 and 5a. In fact, some luxury and premium brands have dedicated pages on their websites that specifically address this notion. For instance, Loro Piana underscores the exceptional durability of its Pecora Nera wool (https://ii.loropiana.com/en/our-world/pecora-nera) while Cuyana promises to deliver products that will "last for years to come" (https://www.cuyana.com/sustainability.html). Presumably, consumers who understand and can identify the characteristics that make products more durable should be more prone to choosing fewer high-end goods.

In addition, government agencies and policy makers can take an active role in educating consumers about product durability. Public campaigns might encourage consumers to think of product durability and recognize long-lasting materials when making purchases. For example, the French national anticounterfeiting committee CNAC, in collaboration with many high-end brands (e.g., Van Cleef & Arpels, Chanel), has conducted a campaign to educate consumers about the downsides of purchasing counterfeit luxury products, such as the inferior quality of these goods leading to shorter-term use (Diderich 2012). Luxury brands and government agencies can collaborate to educate consumers about purchasing fewer, better goods that benefit the consumers and the environment.

The sharing economy. Product durability may be a vital element in the emerging sharing economy for luxury products. Companies such as Rent the Runway, DressYouCan, and Verstolo are revolutionizing how millennials consume high-end clothing and accessories. Rental models allow for maximum use of physical products, giving multiple consumers access to the same products over a prolonged period, while mitigating potential concerns such as dissatisfaction or

satiation with the purchase. Durability becomes even more important in these contexts as the products must be able to sustain multiple uses.

Slowing the fashion cycle. Marketers and brands also have an active role in determining how quickly goods are consumed, as the speed with which brands launch new products influences how quickly the existing goods become old-fashioned and discarded (Bellezza, Ackerman, and Gino 2017). Indeed, many new lines and collections are designed to have quick turnovers as certain trends and aesthetics are meant to evolve from season to season (Desmichel et al. 2020; Kapferer and Bastien 2012). Some fast-fashion brands, such as Zara and H&M, launch new items at two-week cycles. Recently, however, some high-end brands have started to challenge this notion and advocate for slower fashion cycles. Louis Vuitton, Off-White, Gucci, and Dries Van Noten are actively trying to slow down their fashion cycles by creating collections with "less unnecessary products" and a focus on fewer, longer-lasting pieces that "can remove the idea that just because it's last season, it's devalued" (Friedman 2020; Indvik 2020). High-end brands slowing down the pace of the new collections may send a positive signal to consumers that they should buy less frequently and value the long-lastingness of the products.

The dark sides of luxury. Pertinent to our focal product category of luxury are the questionable and unethical practices often associated with the sourcing and production processes. For instance, certain luxury brands are known to use materials that may impede on consumers' desire to protect animal rights (e.g., inhumane sourcing of animal skin) or are produced by exploiting workers during the production process and devastate the local community (e.g., blood diamonds, products created by sweatshop laborers; Paharia 2020; Paharia, Vohs, and Deshpandé 2013). Recognizing these darker sides of luxury, we acknowledge that product durability alone may not lead to comprehensively sustainable business practices.

Consumer welfare. Durability is ultimately a consumer-centric attribute that directly affects consumers' pocketbooks, as consumers decide for how long to keep their belongings and whether to resell them when no longer wanted. Further, owning and reselling durable products can positively influence consumers' happiness and feelings of empowerment (Donnelly et al. 2017; Turunen, Cervellon, and Carey 2019). Although there may be a risk of dissatisfaction shortly after a purchase or satiation over time, these issues can be uniquely addressed through return policies, resale markets (as Study 1 demonstrates), product warranty and guarantees, or innovative business models such as rental subscriptions.

Theoretical Implications

By establishing product durability as a critical dimension of both sustainability and luxury, we hope that this article is the first step toward a deeper understanding of durability in marketing research. Future research could address several theoretical aspects related to product durability.

Different types of durability. As previously discussed, we conceptualize durability in terms of both functional and stylistic benefits (Levinthal and Purohit 1989). Indeed, some high-end brands prominently advertise the long-lastingness and sturdiness of their products, as seen in the "Buy Less, Demand More" campaign by Patagonia (see Web Appendix W1). At the same time, others focus more on promoting the stylistic durability of their offerings, such as Farfetch's "forever wardrobe" advertisement, which maintains that Farfetch's collection of products will not go out of trend and can be timeless, long-lasting staples (see Web Appendix W1). From a theoretical standpoint, is there a hierarchy between the functional and stylistic elements of durability, or do they contribute equally to the construct of product durability? Is one of the two

benefits a sufficient condition for product durability, or are both necessary for an item to be perceived as truly durable?

Durability and frequency. As previously mentioned, some work suggests that consumers exhibit usage frequency neglect when choosing between different appliances, such as microwaves, ice cream makers, and monitors (Mittelman et al. 2019). In this case, the overlooked decision factor is the frequency of use (i.e., how often a consumer uses the product). When should we expect to see product durability neglect versus frequency neglect? Given that durability is directly related to both how physically sturdy a product is as well as how timeless its style is, one hypothesis is that product durability neglect may apply to categories in which both functional and stylistic benefits are particularly relevant, such as apparel consumption (our focus) and possibly more hedonic products in general. In contrast, it is plausible that frequency neglect may be more relevant in utilitarian product categories, such as kitchenware.

Other industries. The present research has focused on the domains of clothing and accessories. Although we predict that our findings and insights will likely generalize to different industries and product categories, it may be a worthwhile pursuit to document consumers' choices and product durability neglect in other domains. For example, it is plausible that for product categories that are often bought in installments (e.g., dishwashers, refrigerators) or for which data on depreciation and maintenance is readily accessible (e.g., cars, phones), consumers may be more apt to open mental accounts and compute the costs per usage of these transactions (Gourville and Soman 1998; Prelect and Loewenstein 1998) than for products that are typically paid in full at the time of purchase. Consistent with our results, if consumers can readily anticipate long-time use of a potential purchase, they may be less prone to product durability

neglect and thus opt for the high-end option. Another potentially interesting industry to analyze is furniture. For instance, would IKEA be the equivalent of the fast-fashion brand, H&M? In line with the present research, it is plausible that product durability neglect also drives preferences for frequent purchases of inexpensive furniture in lieu of long-term investments in high-end furniture that will last many years.

Future Research Directions

Our research can be further applied to explore additional aspects of sustainability and luxury brands.

High-end and luxury brands. The present research examines high-end, luxury goods and lower-end, ordinary goods in the context of apparel consumption. To broaden the scope of our inquiry, we have not distinguished between high-end, premium brands (e.g., Patagonia, Woolrich) and top luxury brands (e.g., Hermès, Louis Vuitton). However, these brands vary significantly on the luxury spectrum (Kapferer 2010). Thus, future research might adopt a more nuanced approach and explore the meaning of durability at a more granular level for different types of high-end brands. For instance, when the top luxury watchmaker Patek Philippe promotes product durability, it may have to make a strong claim to justify the purchase (i.e., an intergenerational claim implying that the watch will last across three generations, spanning over a century; see Web Appendix W1). However, it is possible that other watchmakers that are positioned as premium brands may be able to make effective product durability appeals with shorter life span claims.

Negative perceptions of luxury consumption. Despite certain benefits associated with luxury consumption, such as attribution of status, preferential treatment, and affiliation with

desirable social groups and mates (Bellezza and Berger 2020; Griskevicius et al. 2007; Veblen 1899), recent work documents many social costs associated with the consumption of high-end, expensive products. For example, consumers who own luxury goods are considered less warm and authentic and more driven by impression-management motives than consumers who do not own them (Cannon and Rucker 2019; Ferraro, Kirmani, and Matherly 2013; Garcia, Weaver, and Chen 2018; Goor et al. 2020). These negative perceptions may also be driven by a failure to consider the durability of high-end products at the observers' end. In fact, our preliminary data (available upon request), which explore how others judge luxury shoppers, demonstrate that high-end consumers who spend the same amount of money as consumers opting for more ordinary goods across the same time horizon are perceived as more wasteful and materialistic, even though they ironically purchase fewer products. Given this finding, future work could further explore the negative nuances associated with perceptions of high-end buyers and uncover how such perceptions may be ameliorated.

Functional alibi. If some avoid purchasing high-end products because of the aforementioned wasteful and materialistic perceptions associated with such goods, would highlighting product durability possibly help consumers justify these purchases to themselves and others? If so, they may be able to use product durability as a functional alibi for purchasing high-end items and increase their willingness to buy these goods (Keinan, Kivetz, and Netzer 2016).

Conceptions of waste. How consumers define and conceptualize the term "waste" is also a topic that may further enhance our understanding of sustainability. While some may define "waste" purely in financial terms of wasting money (i.e., buying one expensive sweater when cheaper ones are available), others define waste in physical terms of wasting material objects

(i.e., buying many inexpensive sweaters). From a financial perspective, it may seem more wasteful to spend more on a single item. However, from a sustainability perspective, it may seem more wasteful to purchase an abundance of cheaper clothing that will deteriorate quickly and be thrown away. One hypothesis that warrants further investigation is whether having different conceptions of waste (i.e., overspending financially vs. overconsuming physically) lead to different consumption behaviors. For instance, some consumers may not consider spending money on high-end purchases negatively but, instead, penalize a "quantity over quality" mentality. Indeed, in a follow-up study (available upon request), we found that those who were more averse to wasting physical objects (vs. wasting money) judged high-end consumers (who own fewer items) less negatively than consumers of multiple mid-range items.

Conclusion

We propose that luxury goods possess a unique, sustainable trait as they can have a longer life span than lower-end products. Despite the long-lasting nature of high-end goods, sustainable luxury can be a paradoxical concept for consumers, as many of them neglect the durability inherent in luxury products. With growing concerns about sustainable consumption, many luxury brands are increasingly becoming more committed in their efforts to embrace sustainability. Focusing on and promoting product durability could be an effective strategy to align a sustainability dimension with a high-end positioning while encouraging consumers to engage in a more sustainable consumption lifestyle for a better world.

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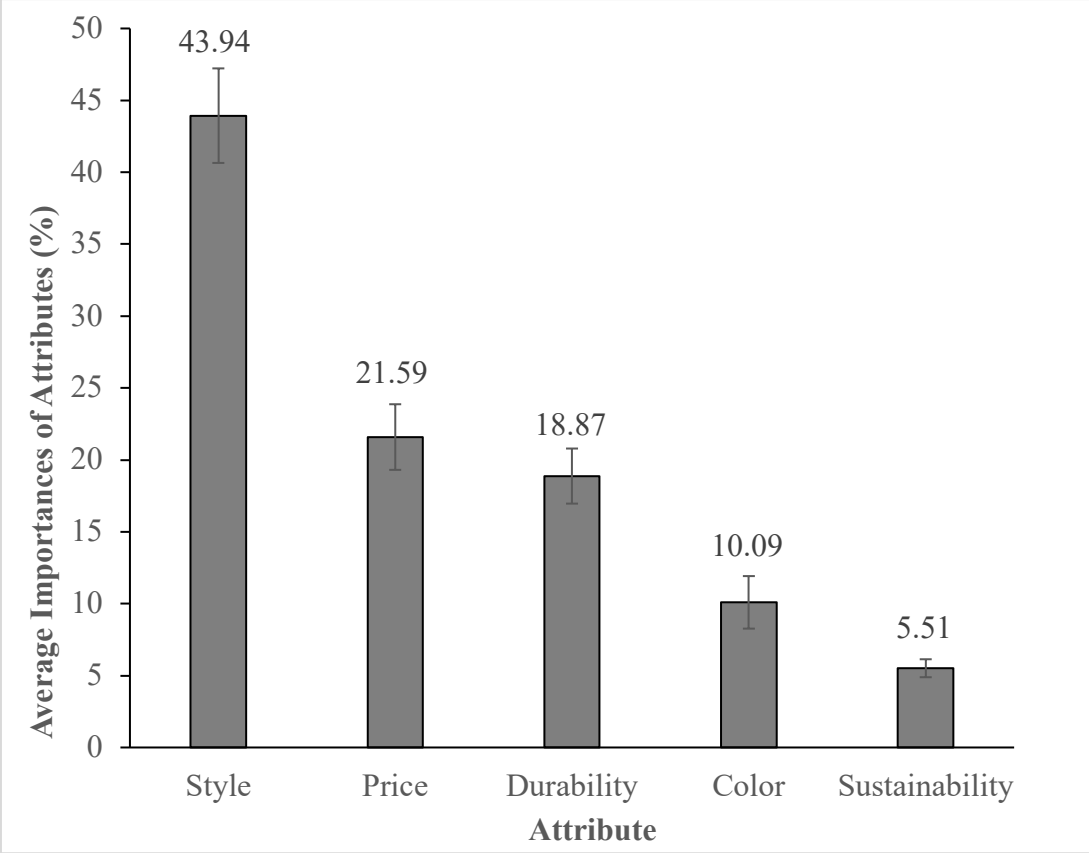
FIGURE 1

Study 5a: Relative Importance of Attributes (%)



Notes: The error bars denote 95% Confidence Intervals.

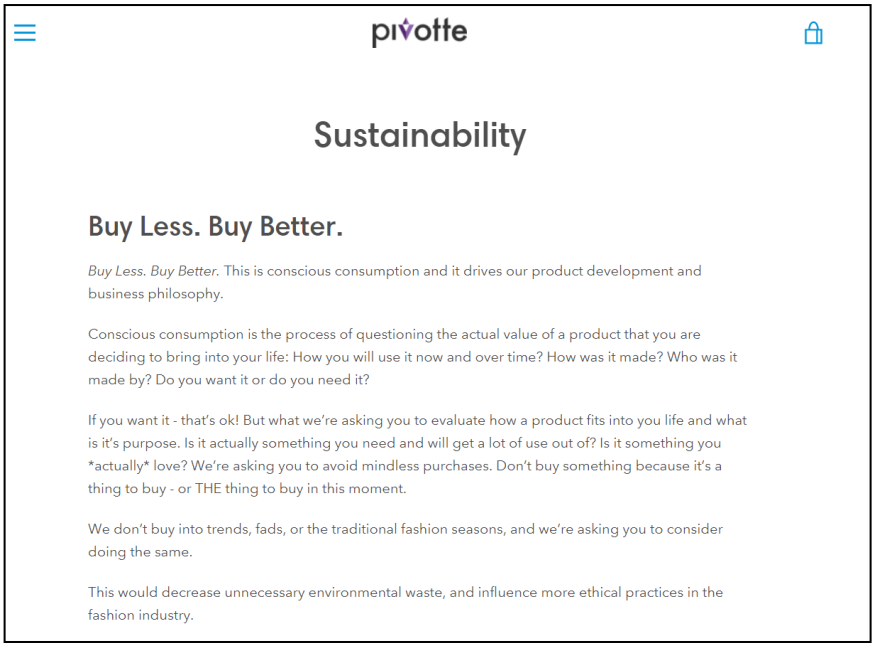
WEB APPENDIX

Table of Contents

WEB APPENDIX W1

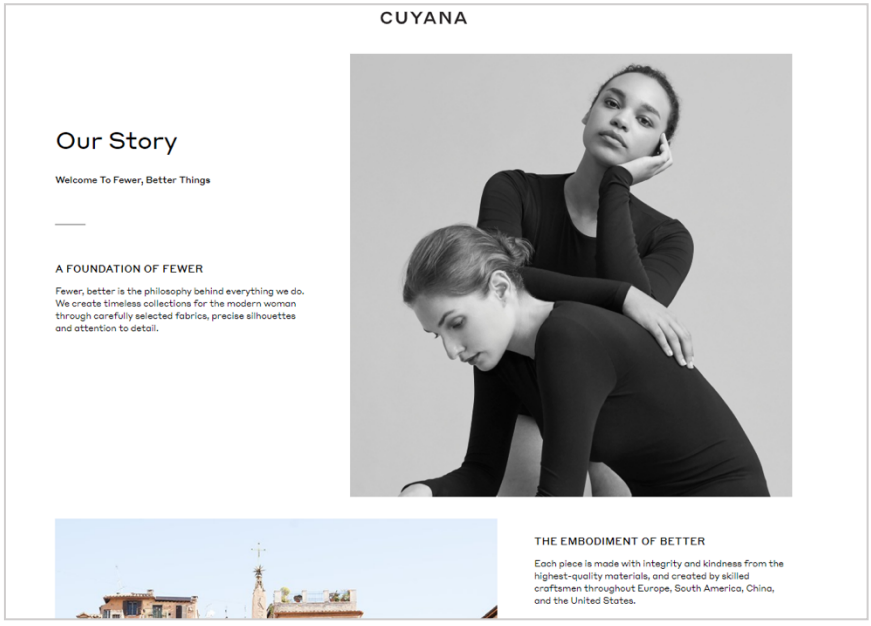
Examples of Advertisements and Campaigns Emphasizing Durability

Pivotte's "Buy Less, Buy Better" message



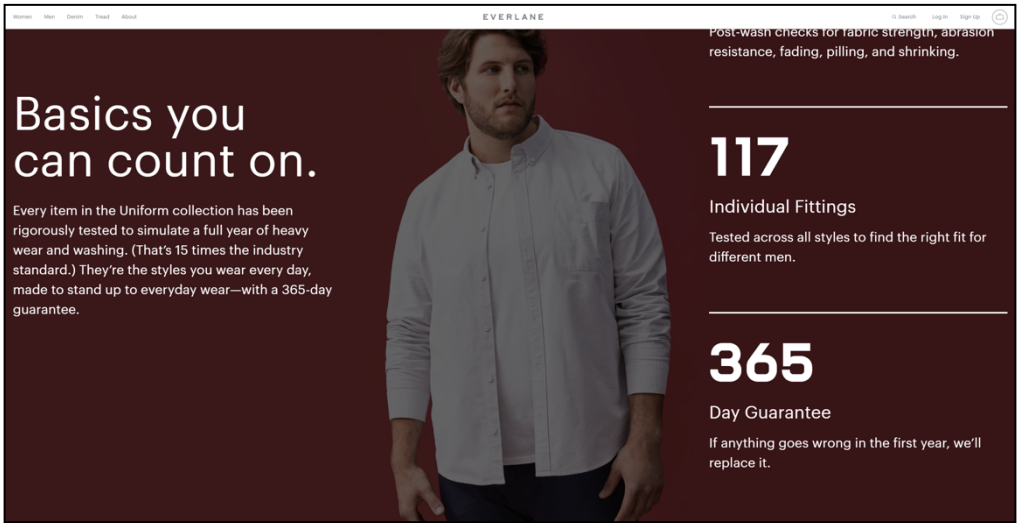
Source: https://www.pivottestudio.com/pages/sustainability

Cuyana's "Buy Few, Better Things" message



Source: https://www.cuyana.com/about-us

Everlane's 365 Guarantee

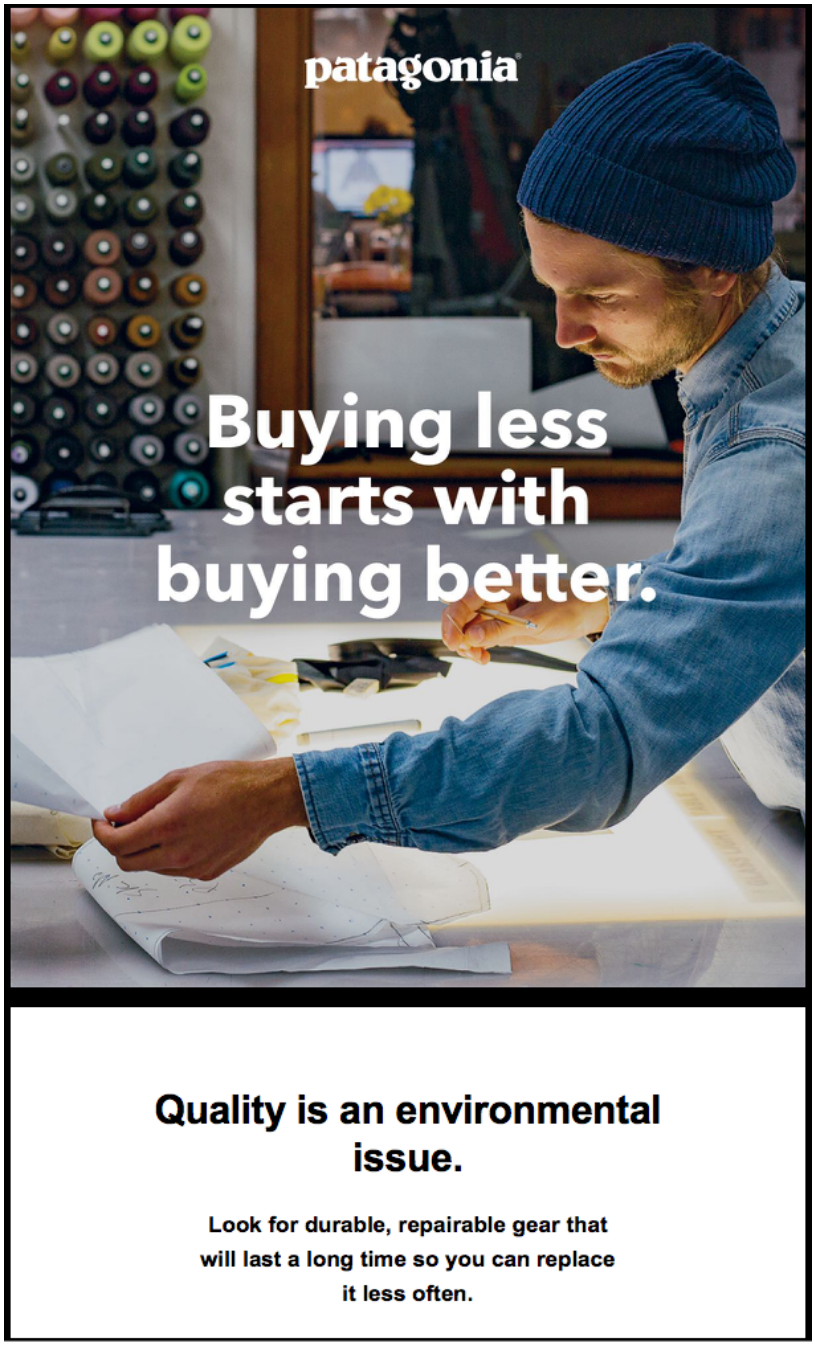


Source: https://www.everlane.com/uniform

Farfetch's "Wear-Forever Wardrobe" Campaign

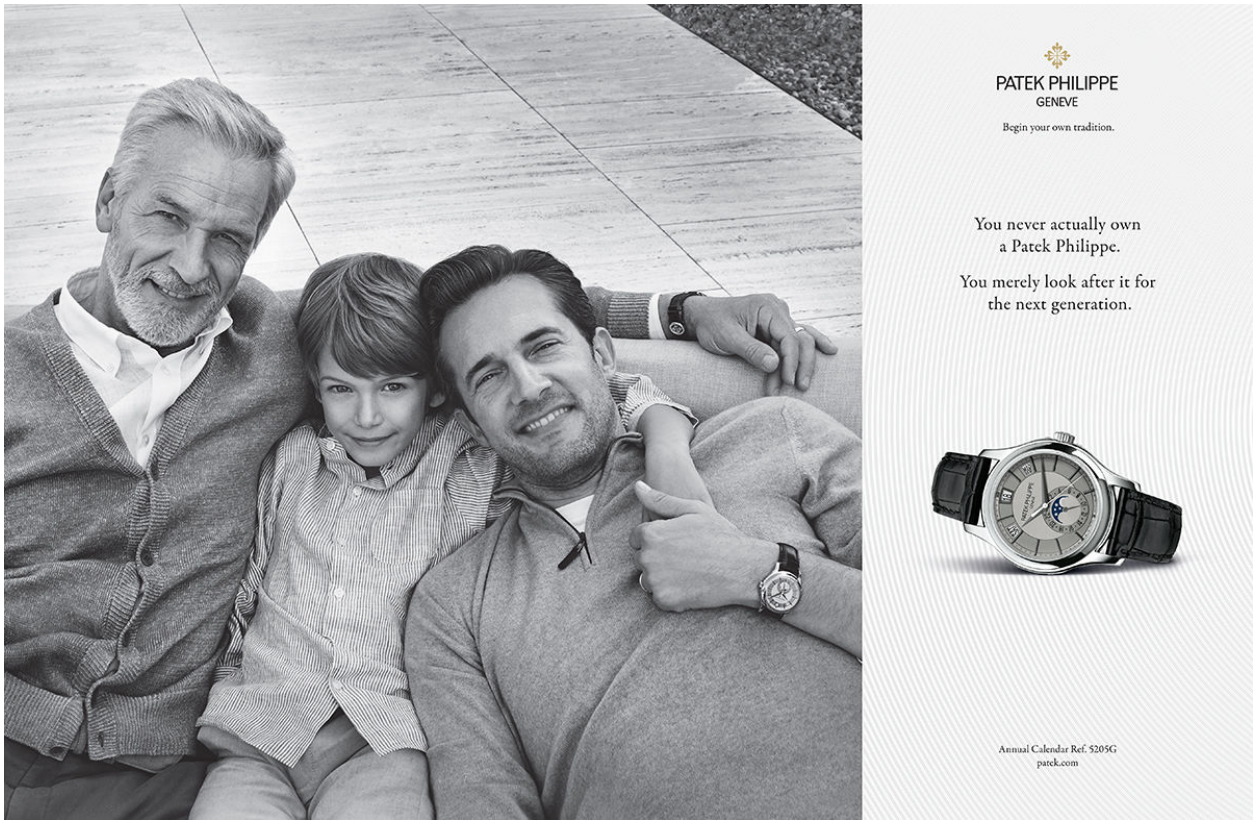
Source: https://milled.com/farfetch/buy-now-wear-forever-plus-free-shipping-now-on-Iis3b007_-cnyNHS

Patagonia's "Buy Less, Demand More" Advertisement



Source: Patagonia advertisement on November 30, 2020
https://www.patagonia.com/buy-less-demand-more/?utm_source=em&utm_medium=email&utm_campaign=113020_cyber_monday

Patek Philippe's *Generations* Campaign



Source: Patek Philippe's *Generations* advertisement in 2017
http://www.lebook.com/creative/patek-philippe-generations-advertising-2017

WEB APPENDIX W2

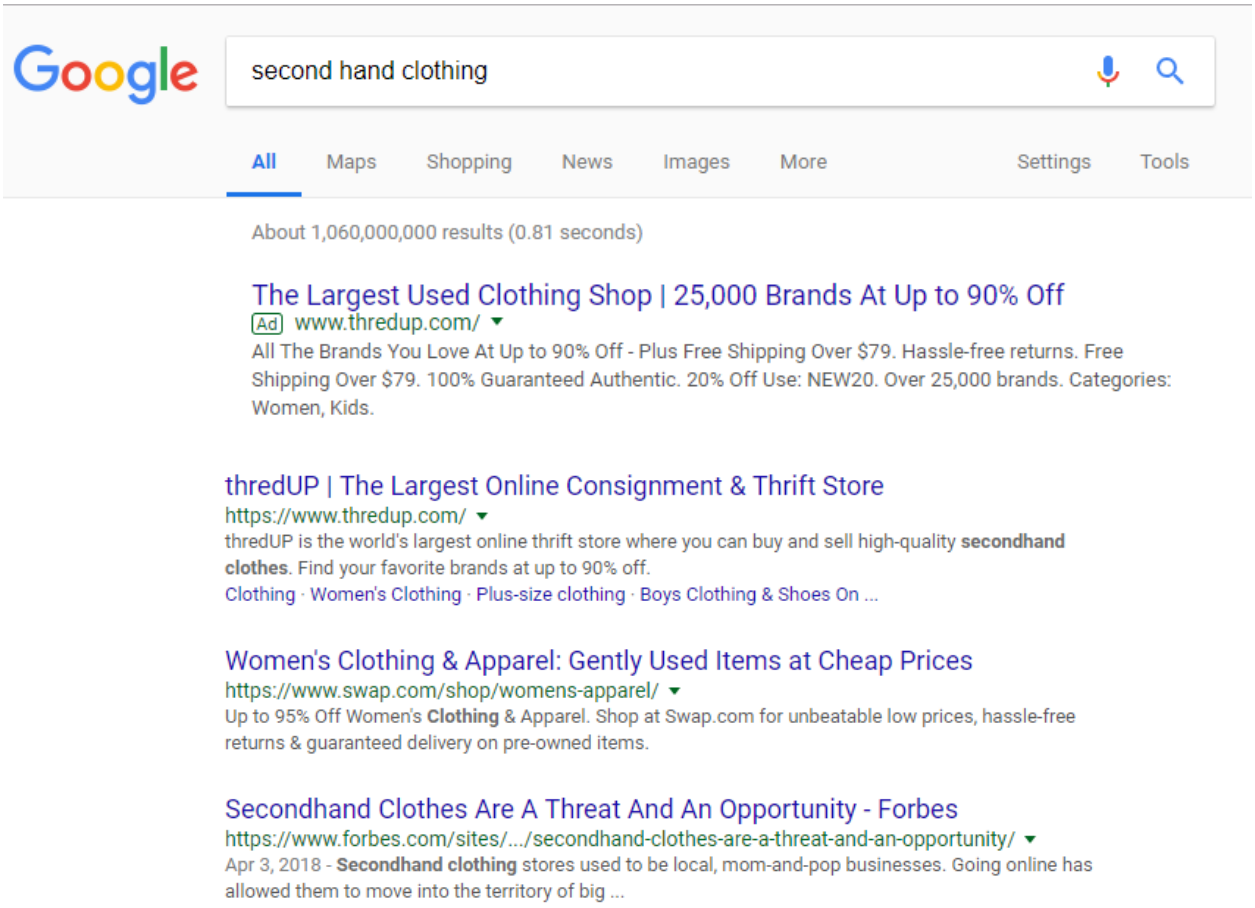
Study 1: Creating a list of new and secondhand products websites

To construct a dataset comprised of new and secondhand products, we first sought methods to select search terms associated with secondhand and new products as objectively as possible. To identify retailers of secondhand goods, we used four terms that generated the highest number of search results associated with secondhand clothing according to Google search results: “secondhand clothing” (1,870,000,000 results), “used clothes” (1,340,000,000 results), “secondhand online” (951,000,000 results), and “secondhand fashion” (666,000,000 results). To identify retailers of new, unused goods, we used four terms with the highest number of results on Google search: “fashion” (5,790,000,000 results), “clothing” (4,090,000,000 results), “clothes” (3,880,000,000 results), and “online clothes” (747,000,000 results).

For each search term, we reviewed the first 30 links generated from organic search results (i.e., we did not consider promoted ads on Google). Every time a particular online retail store selling new or secondhand products was mentioned in the search, we tallied the name of the website. For example, if the search term “clothing” generated a direct link to Anthropologie, we counted the brand once. If a website generated from the search term “clothing” was an article or a fashion blog post with an aggregated, recommended list of online retail stores, we included all recommended stores mentioned on the webpage in the tally (see “Screenshot of a Google Search Page” for an illustrative example of the search and tally process). After going through all the search results, we created two lists of the most mentioned online retail marketplaces or stores, one for secondhand and another for unused products. We restricted our search to markets and stores that are accessible from the U.S. (i.e., a consumer living in the U.S. will be able to visit the website and purchase the products scraped for in our dataset).

After this search, we selected the top 20 websites for secondhand products and new products. The top nine retailers for secondhand products based on the total tallied count were eBay, Grailed, Poshmark, Swap, The RealReal, thredUP, Tradesy, Vestiaire Collective, and Vinted. The top 11 websites for new clothing items were Anthropologie, Boohoo, Charlotte Ruse, Macys, MissGuided, NastyGal, Nordstrom, Target, Walmart, Zappos, and Zaful. The pre-registration detailing the methods and the analysis plan can be viewed at https://aspredicted.org/blind.php?x=uj7k8h.

Screenshot of a Google Search Page



The screenshot of a Google search page illustrates how we created the list of secondhand and new product retail stores for the pilot study. In this search page, ThredUP and Swap will be tallied once, along with any other websites mentioned in the Forbes article.

WEB APPENDIX W3

Study 1: Frequency of Total Items Collected

Type of Product	Gender	Product Category		Total
		Bags	Shoes	
New	Male	0	600	600
	Female	1,014	1,043	2,057
Secondhand	Male	0	700	700
	Female	645	692	1,337
Total		**1,659**	**3,035**	**4,694**

WEB APPENDIX W4

Study 1: Analysis of Data on Shoes and Bags

We report the results of Study 1 when the dataset is analyzed separately by product category (i.e., shoes and bags).

Results—Shoes. We collected data for 3,035 secondhand and new shoes from 585 brands. Because some shoes did not have information about the brand, we had 2,000 new and secondhand shoe ratings from 224 brands. We examined the average brand status scores and, as expected, the respondents perceived the average status of the brands listed on secondhand retailers as higher-end than those listed on new product retailers ($M_{2ndhand}$ = 2.36 vs. M_{new} = 2.02; t(1,998) = 20.45, $p < .001$, d = .92). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.36 vs. M_{new} = 2.05; t(1,756) = 17.03, $p < .001$, d = .82). As an additional test, we confirmed that respondents perceived the brands listed on the secondhand websites as higher-end than the midpoint (2) of the high/low scale ($M_{2ndhand}$ = 2.36; t(953) = 26.56, $p < .001$, d = .86). Moreover, we evaluated the average status scores by percentiles of price (Web Appendix W5) and observed that the average status of secondhand branded products was higher than the average status of new products across different percentiles of price.

The average price for new shoes was $82.92 (*SD* = $119.15), and for secondhand shoes was $173.99 (*SD* = $223.48). Because the price distribution was skewed to the right, we logged the price to deal with outliers: the average logged price for new products was 1.71 (*SD* = .39) and for secondhand products was 1.94 (*SD* = .53). As expected, the shoes collected from secondhand retailers were listed at higher prices than those from new product retailers ($M_{2ndhand}$ = 1.94 vs. M_{new} = 1.71, t(3,033) = 13.60, $p < .001$, d = .50). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 1.94 vs. M_{new} = 1.80; t(2,633) = 7.90, $p < .001$, d = .31).

Alternative Explanations—Shoes. The new and secondhand shoes were rated similarly in terms of uniqueness (M_{new} = 4.75 vs. $M_{2ndhand}$ = 4.75, t(318) = .00, n.s.) and respondents liked the new shoes more than the secondhand shoes (M_{new} = 4.46 vs. $M_{2ndhand}$ = 4.09, t(318) = 2.28, p = .023, d = .26), which was opposite of what the results would have been had the alternative account been at play. Importantly, controlling for these factors by conducting an ANOVA with average brand status scores as the dependent variable, product type as the main factor, and uniqueness and liking ratings as two covariates revealed that product type (new vs. secondhand) was the only significant factor (F(1, 212) = 46.27, p < .001, η^2 = .18), whereas the two covariates had no significant effect (uniqueness: F(1, 212) = .38, n.s.; liking: F(1, 212) = 3.35, n.s.). An identical ANOVA with log price as the dependent variable also revealed that product type was the only significant factor (F(1, 316) = 13.03, p < .001, η^2 = .04), whereas the two covariates were not significant (uniqueness: F(1, 316) = .91, n.s.; liking: F(1, 316) = .62, n.s.).

Results—Bags. We collected information on 1,659 secondhand and new women's bags from 316 brands. Again, because some bags did not have information about the brand, we had 990 bags with brand status ratings from 117 brands. Similar to the analysis of shoes, to test the prevalence of high-end branded products on secondhand markets, we examined the brand status scores. As expected, respondents perceived the average status of the brands on secondhand websites as higher than those on the new product websites ($M_{2ndhand}$ = 2.70 vs. M_{new} = 2.12; t(988) = 22.89, p < .001, d =1.46). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.70 vs. M_{new} = 2.17; t(900) = 19.75, p < .001, d = 1.32). Again as expected, respondents perceived the average status of the brands on secondhand websites as higher than the midpoint (2) of the scale ($M_{2ndhand}$ = 2.70; t(475) = 42.77, p < .001, d = 1.96). In addition, we examined average status scores by percentiles of the price (Web Appendix W5) and confirmed

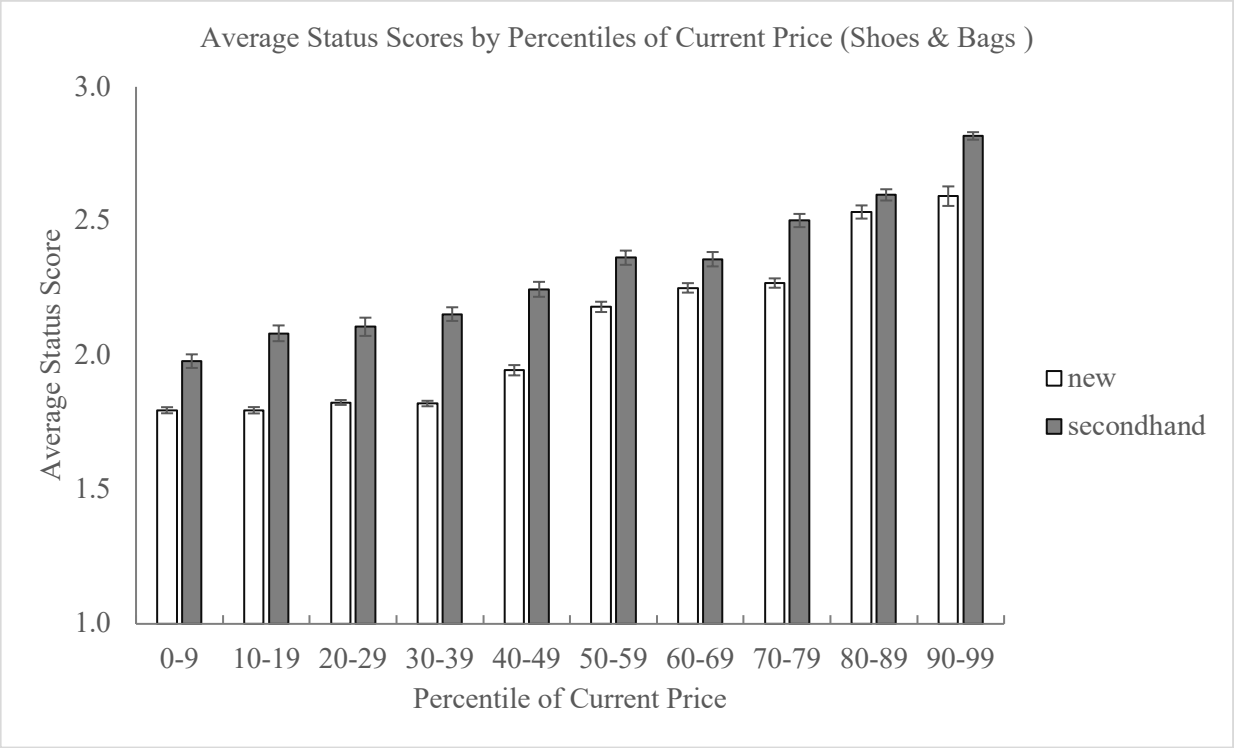
that secondhand branded products had higher average status than new products across different percentiles of price.

The average price of bags was $108.41 (*SD* = $266.74) for new products and $405.46 (*SD* = $816.82) for secondhand products. Again to deal with outliers, we logged the price. The average logged price for new products was 1.63 (*SD* = .50) and for secondhand products was 2.16 (*SD* = .67). The logged prices from secondhand online markets were higher than those from new goods markets ($M_{2ndhand}$ = 2.16 vs. M_{new} = 1.63, t(1,657) = 18.39, $p < .001$, d = .93). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.16 vs. M_{new} = 1.69; t(1,457) = 14.91, $p < .001$, d = .79).

Alternative Explanations—Bags. Importantly, our results were robust even after controlling for uniqueness and liking of the products. The new and secondhand bags were rated similarly in terms of uniqueness (M_{new} = 4.75 vs. $M_{2ndhand}$ = 4.75, t(178) = .00, n.s.) and liking (M_{new} = 4.22 vs. $M_{2ndhand}$ = 4.01, t(178) = .98, n.s.). Moreover, an ANOVA with brand status as the dependent variable, product type as the main factor, and uniqueness and liking ratings as two covariates revealed that product type was the only significant factor (F(1, 103) = 61.26, $p < .001$, η^2 = .37) whereas the two covariates had no significant effect (uniqueness: F(1, 103) = 1.22, n.s.; liking: F(1, 103) = 1.37, n.s.). An identical ANOVA with log price as the dependent variable revealed that product type was the only significant factor (F(1, 176) = 32.71, $p < .001$, η^2 = .16), whereas the two covariates had no significant effect on the log price (uniqueness: F(1, 176) = .02, n.s.; liking: F(1, 176) = 1.28, n.s.). These results help ruling out potential alternative accounts that the significantly higher status scores and log prices of secondhand products could have been due to the uniqueness and liking of the products.

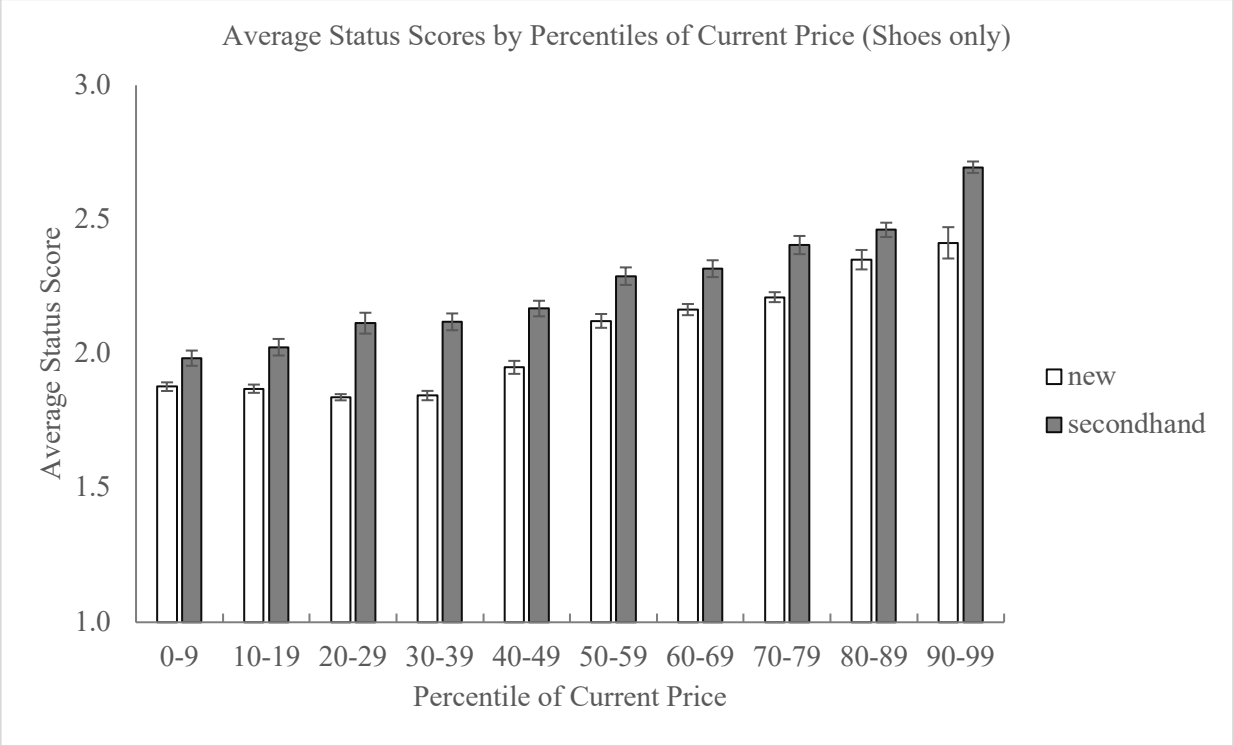
WEB APPENDIX W5

Study 1: Average Status Scores by Percentiles of Current Price (Shoes & Bags)

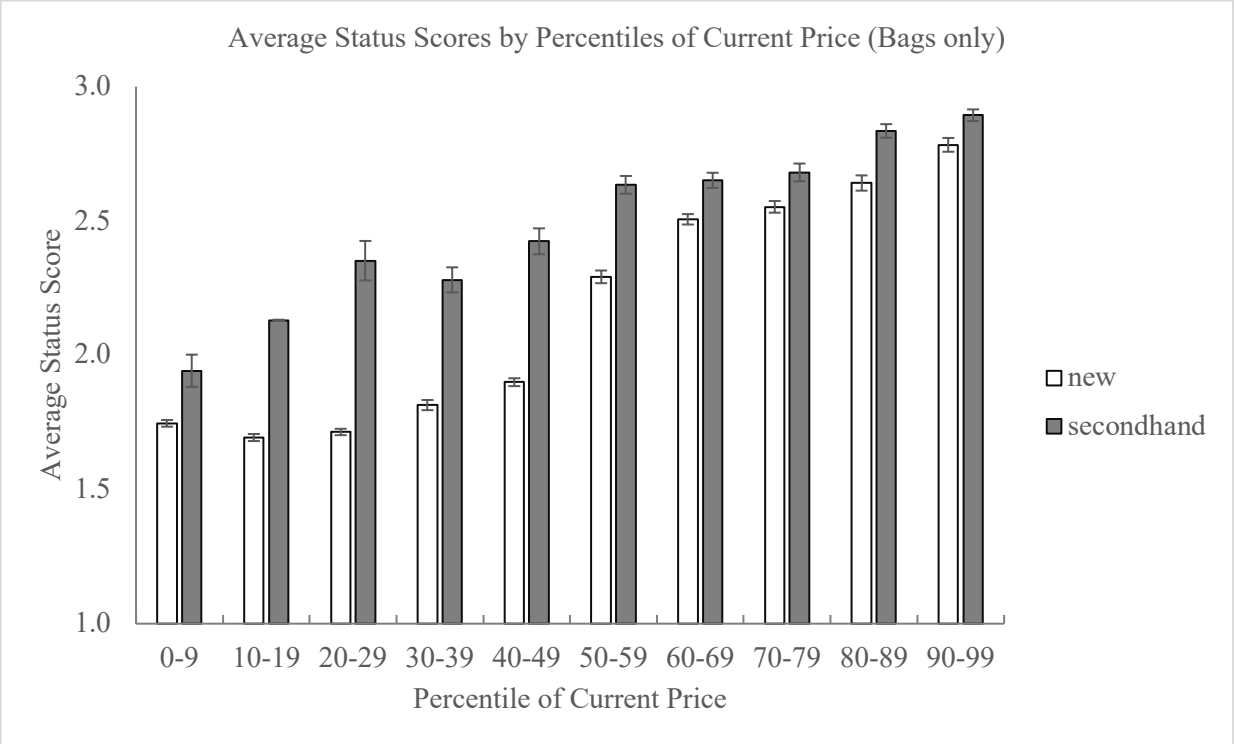


The average brand status score is on the y-axis, and the percentile of the current price is on the x-axis. Consistent with our hypothesis, most secondhand products have an average status score above 2, the midpoint. In fact, all items in the 10th percentile or above have an average score higher than 2. On the other hand, only items in the 50th percentile or above have an average score higher than 2 for new products. Errors bars denote standard errors.

Study 1: Average Status Scores by Percentiles of Current Price (Shoes only)



Study 1: Average Status Scores by Percentiles of Current Price (Bags only)



WEB APPENDIX W6

Study 1: Robustness Analyses

Comparison with Top Two Retailers

As an additional test on price, we compared the prices of secondhand shoes and bags ($M_{2ndhand}$ = 2.01) to the prices of goods from the two highest-end retailers in the list, Nordstrom and Anthropologie. The logged prices of new products were significantly higher than the secondhand items ($M_{NordAnthro}$ = 2.17 vs. $M_{2ndhand}$ = 2.01; t(2,536) = 5.82, $p < .001$, d = .29). However, importantly, a similar analysis on average status scores revealed that the scores of the secondhand products were significantly higher than those of Nordstrom and Anthropologie ($M_{2ndhand}$ = 2.47 vs. $M_{NordAnthro}$ = 2.35; t(1,719) = 4.80, $p < .001$, d = .31). In the subsequent sections, we report the identical analyses of the two product categories, shoes and bags, separately.

Results—Shoes. We compared the prices of secondhand shoes ($M_{2ndhand}$ = 1.94) to the prices of shoes from the two highest-end retailers in the list, Nordstrom and Anthropologie, and found that the logged prices were in the same range as the secondhand items ($M_{NordAnthro}$ = 2.13; t(1,690) = 6.06, $p < .001$, d = .39). However, importantly, a similar analysis on average status scores revealed that the scores of the secondhand shoes were significantly higher than those of Nordstrom and Anthropologie ($M_{2ndhand}$ = 2.36 vs. $M_{NordAnthro}$ = 2.27; t(1,147) = 2.95, $p = .003$, d = .23).

Results—Bags. We also compared the prices of secondhand items ($M_{2ndhand}$ = 2.16) with the prices of new products from Anthropologie and Nordstrom, the two highest-end retailers in the list, and found that the two did not differ significantly from each other ($M_{NordandAnthro}$ = 2.23; t(844) = 1.37, n.s.). A similar analysis on status scores revealed that the status scores of the

secondhand items were, in fact, significantly higher than those of Nordstrom and Anthropologie ($M_{2ndhand}$ = 2.70 vs. M_{new} = 2.50; t(570) = 4.96, $p < .001$, d = .56).

Analysis of Original Prices

For secondhand products, the original price refers to the price of the item when it was initially purchased in an unused, new condition. For new products, original price refers to the price that was listed when an item was put on sale for the first time, before any sales, discount, or promotional offers. We collected data on the original price if such information was available. The comparison of original prices of the secondhand and new products yield results consistent with our expectations.

That is, the original logged price of secondhand items tended to be significantly higher than the original price of the new products ($M_{2ndhand}$ = 2.33 vs. M_{new} = 1.72, t(2,015) = 34.53, $p < .001$, d = 1.60). The difference was also significant without Target and Walmart ($M_{2ndhand}$ = 2.33 vs. M_{new} = 1.75; t(1,825) = 31.44, $p < .001$, d = 1.50). Again, we found identical results when the product categories were analyzed separately. The original logged price of secondhand products was significantly higher than that of the new products for both shoes ($M_{2ndhand}$ = 2.28 vs. M_{new} = 1.78, t(1,219) = 25.05, $p < .001$, d = 1.48) and bags ($M_{2ndhand}$ = 2.40 vs. M_{new} = 1.64, t(794) = 24.43, $p < .001$, d = 1.83). The differences were also significant without Target and Walmart for both shoes ($M_{2ndhand}$ = 2.28 vs. M_{new} = 1.80; t(1,127) = 23.34, $p < .001$, d = 1.41) and bags ($M_{2ndhand}$ = 2.40 vs. M_{new} = 1.67; t(696) = 21.64, $p < .001$, d = 1.69).

WEB APPENDIX W7

Study 3: Replication

We conducted a replication of Study 3 on a different sample and measured product durability neglect via text analysis.

Method. We recruited 248 respondents from the behavioral lab of a U.S. university (33% female, M_{age} = 19.5). All respondents were asked to make two purchase decisions about shoes and winter coats (order counterbalanced). Thus, we tested the two products within-subjects (instead of between-subjects as in Study 3).

We used identical question and choice options that we used in Study 3 regarding shoes and winter coats. Similarly, we then asked all respondents to list at least one and up to five thoughts on how they arrived at their decision. To assess the prevalence of durability-related content, we measured product durability neglect using an identical corpus of words used in Study 3 and counted the number of times such key terms appeared in the comments.

Results. As in Study 3, we collapse the two product categories in our analyses (we obtain the same significant effects when the data is analyzed separately for shoes and winter coats). We found that across both shoes and winter coats, significantly more respondents preferred to buy multiple, mid-range products (69.76%) over one high-end product (30.24%) ($\chi^2(1) = 77.45$, $p < .001$, h = .81). There were a total of 668 thoughts generated by all respondents, with an average of 2.69 thoughts generated per person. A two-sample t-test revealed that there were no significant differences between the average number of thoughts generated between those who chose the high-end option and those who chose the mid-range option (M_{High} = 2.57 vs. M_{Mid} = 2.75, t(246) = 1.05, n.s.).

The vast majority of respondents, regardless of their product choice, did not mention any durability-related content in their thoughts, with only 7.49% of all comments containing such content. At the same time, the magnitude of neglect was higher for those who preferred to buy multiple mid-range goods over one high-end product. Specifically, a two-proportion z-test revealed that the respondents who indicated that they preferred to buy multiple mid-range products demonstrated product durability neglect, with only 2.13% of all comments related to durability. On the other hand, this percentage was significantly higher among respondents who indicated that they preferred one high-end product ($\%_{High} = 20.20$, $\chi^2(1) = 63.14$, $p < .001$, h = .64).

Discussion. The findings replicate Study 3 and demonstrate that when presented with two options, the majority of respondents preferred to spend the same amount of money on multiple ordinary goods in place of one high-end good as they did not consider the durability of the high-end product. Consistent with our account, product durability neglect was stronger for those who chose multiple mid-range products than for those who chose one high-end product.

WEB APPENDIX W8

Study 3: Follow-up Study

In Study 3, we show that consumers exhibit product durability neglect. It could be that consumers are neglecting to consider durability, or that they simply do not believe high-end products are more durable and thus will be less likely to choose these products. In fact, despite the findings from Studies 1 and 2, consumers may believe that high-end products are more expensive based on brand status value alone, and not based on durability and lifespan considerations.

To confirm that consumers share the lay belief that high-end products are more durable and have longer lifespans, we recruited 200 respondents (57% female, M_{age} = 19.5) from a behavioral lab of a U.S. university. We randomly assigned to all respondents to one of two (price: $400 vs. $100) between-subject conditions. The respondents were asked, "How long would a pair of shoes that cost $400 [$100] last?" (1 = "less than a year," 2 = "1–2 years," 3 = "2–3 years," 4 = "3–4 years," 5 = "4–5 years," 6 = "5–6 years," 7 = "6–7 years," 8 = "more than 7 years").

Consistent with our prediction, those in the high-end condition believed the $400 pair of shoes would last significantly longer (M = 4.84) compared to those in the mid-range condition who thought the $100 pair of shoes would last for a shorter time horizon (M = 3.05; t(198) = 7.48, $p < .001$, d = 1.06). These findings are also consistent with popular proverbs and aphorisms, such as "buy cheap, buy twice" or "buy the best and cry once," reflecting the lay belief that it is worth spending more on fewer, longer-lasting items than on multiple, short-lived products.

WEB APPENDIX W9

Study 5a: Attributes and Levels

Attributes	*Level 1*	*Level 2*	*Level 3*
Price	$1,000	$1,250	$1,500
Style			
Color	Black	Navy	Gray
Durability of Textile	The textile used to make this coat will last about 5 years	The textile used to make this coat will last about 10 years	The textile used to make this coat will last about 15 years
Sustainability	Made with down feather meeting strict Down Integrity System and Traceability (DIST) requirements for animal welfare	Manufactured at Fair Trade Certified™ facilities with fair wage and labor practices	Certified to meet bluesign® criteria for advanced waste-reduction technologies to minimize carbon footprint after disposal

WEB APPENDIX W10

Studies 5a: Calculating Degree of Confidence in Significant Differences Between Attribute Levels

We follow the approach outlined by Orme and Chrzan (2017) to compute the degree of confidence that an attribute level is preferred to another attribute level. To calculate the degree of confidence, we used the 10,000 draws of alpha estimates of part-worth utilities and directly compared the estimates for different attribute levels. Specifically, we counted the number of times, out of 10,000 draws, that the alpha estimate of a particular attribute level (e.g., low-level of durability with the textile lasting about 5 years) was higher than that of another attribute level (e.g., mid-level of durability with the textile lasting about 10 years). Then, we divided the total frequency count by 10,000 to arrive at the degree of confidence (%).

For instance, focusing on durability, there were significant differences among the part-worth utilities of each level from low-level ($M_{utility}$ = –1.74), to mid-level ($M_{utility}$ = .55) to high-level ($M_{utility}$ = 1.19) of durability. The mid- and high-levels of durability were preferred to low-level of durability with 100% confidence (i.e., 10,000 times out of all 10,000 alpha draws). The high level of durability was preferred to the mid-level with 99.84% confidence. Thus, we determined that respondents significantly preferred higher levels of durability compared to lower levels.

WEB APPENDIX W11

Study 5a: Dollar-equivalent Estimates of Part-worth Utility Increases Across Levels of Durability

To estimate and assign dollar values to increases in levels of durability, we took the approach recommended by Orme (2001). We first took the linear difference between the lowest and the highest price levels (e.g., $1,000 and $1,500) and divided it by the differences between the two part-worth utilities of each price level to arrive at the dollar increase ($) per one unit of part-worth utility for each individual in our dataset.

Then, we multiplied the value to the difference between part-worth utilities for low- and mid-levels of durability, and the difference between mid- and high-levels of durability for the same individual. Thus, we were left with two dollar values that indicated the increase in part-worth utility in dollar amount going from (1) low- to mid-level of durability and (2) mid- to high-level of durability for each respondent.

To illustrate the calculation method with an example, imagine a respondent in our study had a part-worth utility of 33.61 for the price level of $1,000 and –91.65 for the price level of

$1,500. Based on our calculation, a one unit increase in the part-worth utility for this respondent equates to an increase of $3.99. (i.e., $\frac{1500-1000}{33.61-(-91.65)} = 3.99$). This respondent had a part-worth utility of –34.12 for the low-level of durability, –47.95 for the mid-level, and 82.07 for the high-level. Thus, the difference between part-worth utilities for low- and mid-levels of durability was –13.83 and the difference between mid- and high-levels was 130.02 for the respondent. We multiplied these two values by $3.99—the dollar amount increase per a unit increase in part-worth utility calculated in the previous paragraph—to arrive at the increase in part-worth utility in dollar amount going from (1) low- to mid-level of durability (i.e., –55.21) and (2) mid- to high-level of durability (i.e., 519.01) for this particular respondent.

We took the median value for each of the two conversions to report our results in aggregate. An increase from a low-level of durability, with the textile lasting about five years, to a mid-level of durability, with the textile lasting about 10 years, equates to an increase of $296.35 in the value of a product. Similarly, an increase from mid-level to high-level, with the textile lasting about 15 years, equates to an increase of $76.97 in the value of a product.

We report median values, not average values, as a more conservative approach as some respondents have very low price sensitivities, which would lead to very large estimates and inflate our estimates. The average values are directionally identical to the median values. In fact, given that using average values is a less conservative test, estimates calculated using average values demonstrate more significant support for our claim with an increase from low- to mid-level of durability equating to an increase in monetary utility of $413.19 and an increase from mid- to high-level equating to an increase in monetary utility of $119.48.

Note that we used zero-scaled part-worth utility values to calculate these dollar-equivalent estimates. Using raw part-worth utility values lead to directionally identical

conclusions, with an increase from low- to mid-level of durability equating to an increase in monetary utility of $316.50 and an increase from mid- to high-level equating to an increase in monetary utility of $93.30, when using median values. Similarly, an increase from low- to mid-level of durability equates to an increase in monetary utility of $406.12 and an increase from mid- to high-level equating to an increase in monetary utility of $115.31, when using average values.

Also, it is important to note that these dollar-equivalent estimates across different levels of durability are for ease of interpretation only. We did not use a market simulation approach, and these values should not be interpreted as the estimated market value of the willingness-to-pay (Orme 2001).

WEB APPENDIX W12

Replication of Study 5b

The main objective of this study is to replicate the key result of Study 5b, that consumers find durability to be an appealing product trait when it is framed as a dimension of sustainability.

Method. We recruited 150 (100% female, M_{age} = 36.4) respondents with an average household income of more than $100,000 on Prolific Academic for a paid online survey. Consistent with the C.B.C. survey employed in Study 5b, there were a total of four attributes (i.e., price, style, color, and sustainability) with three levels within each attribute. The attributes and the levels were identical to Study 5b except for the sustainability attribute, which was explicitly labeled as “sustainability” unlike in Study 5b, in which the identical attribute was labeled as “textile.”

Results. Similar to Study 5b, we used Sawtooth’s HB-Reg Module, to estimate the models. Confirming the relevance of durability, we found that the part-worth utilities of the

durability message ($M_{utility}$ = .17) and sourcing of materials ($M_{utility}$ = .17) were higher than that of the manufacturing process ($M_{utility}$ = –.34)[13]. The respondents preferred the durability level of sustainability to the manufacturing level, with 97.77% confidence, and to the sourcing level, with 50.79 % confidence. Thus, there was a significant difference between the part-worth utilities from the durability and the manufacturing levels, but not between the durability and the sourcing levels.

We also examined the relative importance weights across all attributes; the weights indicated that style was the most important attribute (35.43%; $CI_{95\%}$ = 31.81 to 39.05), followed by price (23.59%; $CI_{95\%}$ = 20.86 to 26.33), sustainability (23.33%; $CI_{95\%}$: 20.05 to 26.62), color (17.65 %; $CI_{95\%}$ = 15.16 to 20.14). These results show that style was a significantly more important attribute compared to the other three attributes. Replicating the results from Study 5b, we found that the information about the sustainability of the product was as important as the product's price and color, suggesting that when durability was framed as a dimension of sustainability, sustainability emerged as an important and valued attribute for consumers.

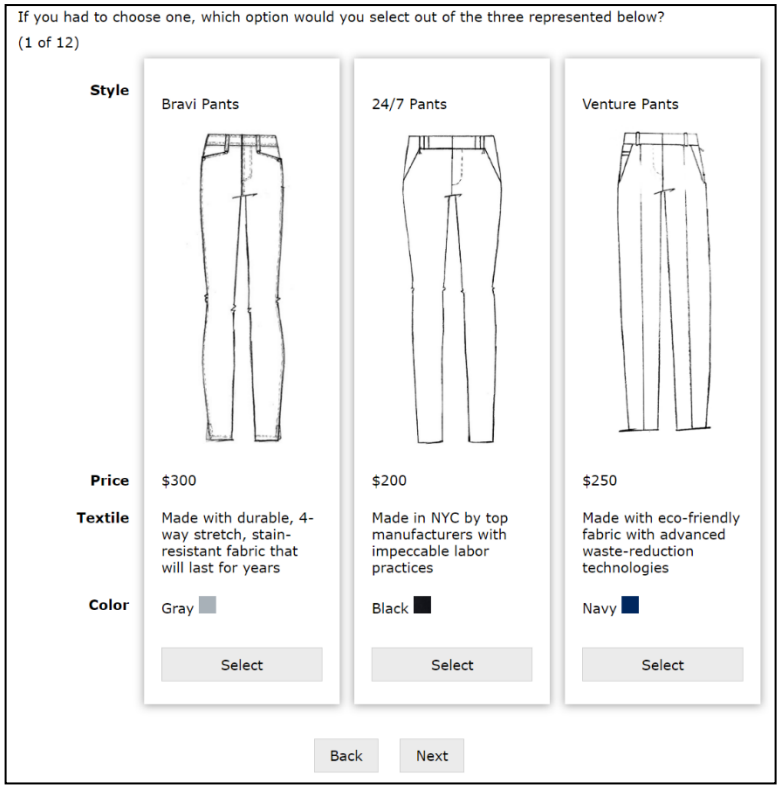
Discussion. In this study, we explicitly linked durability and sustainability by directly labeling the sustainability attribute as "sustainability" in order to provide face validity to the key finding of Study 5b that durability is an essential and valued dimension of sustainability. In particular, when durability was compared with the other two dimensions of sustainability (i.e., sourcing and manufacturing), it was strictly preferred to fair manufacturing processes and comparable to eco-friendly sourcing of raw materials. Therefore, marketers may position durability as an attractive sustainability dimension that consumers appreciate.

[13] A negative value reflects that the manufacturing process is valued less importantly relative to the two other dimensions, not that respondents value it negatively.

WEB APPENDIX W13

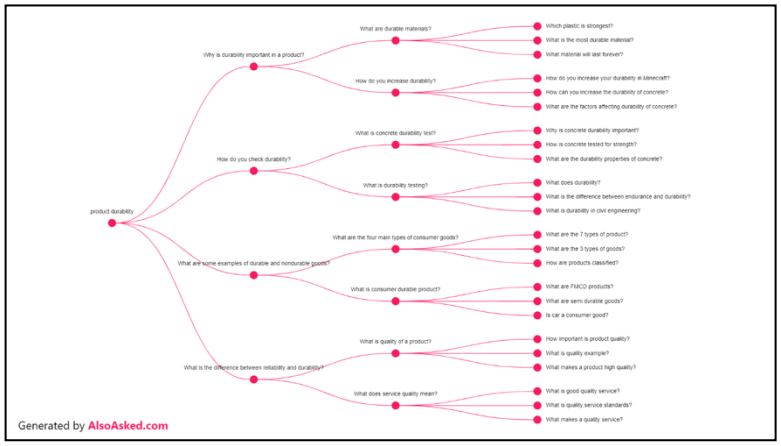
A Conjoint Study in Collaboration with Pivotte (Study 5b)

A screenshot of a CBC evaluation



WEB APPENDIX W14

Queries Related to Product Durability Generated on AlsoAsked.com



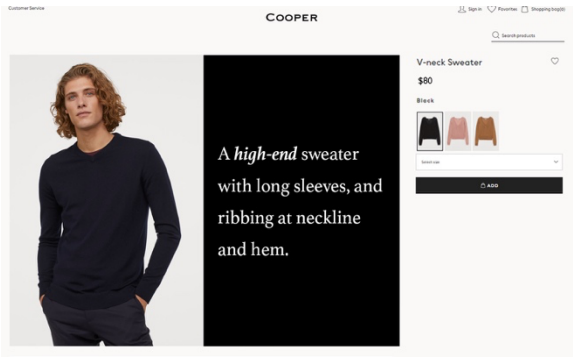
Source: https://alsoasked.com/?search=product%20durability&language=en&region=us

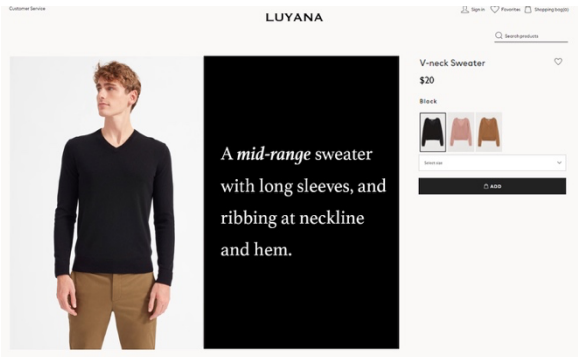
WEB APPENDIX W15

Study 4: All Stimuli Used

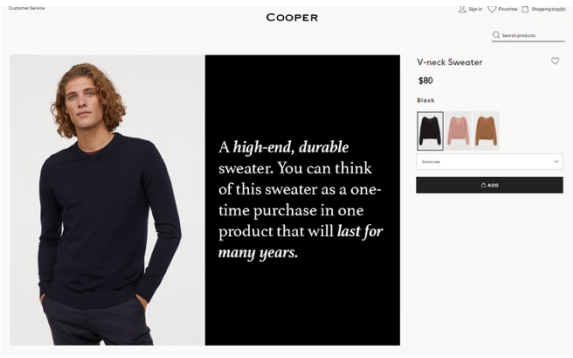
Male, Version A

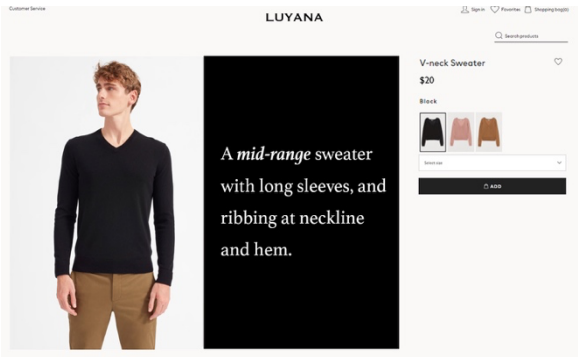
Control Condition: High-end Option vs. Mid-range Option





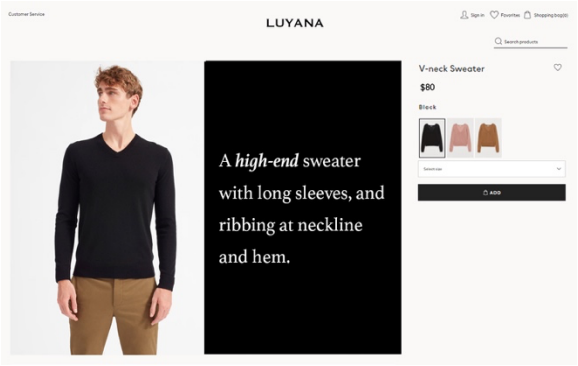
Durability Condition: High-end Option vs. Mid-range Option

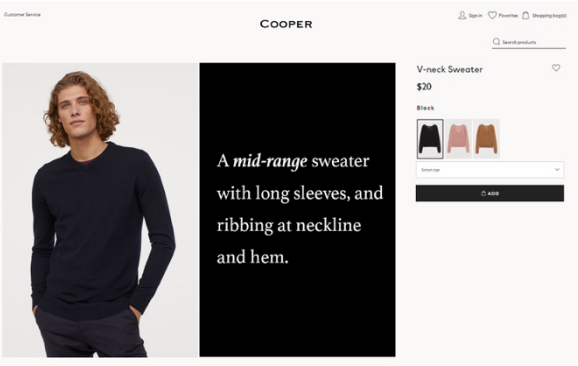




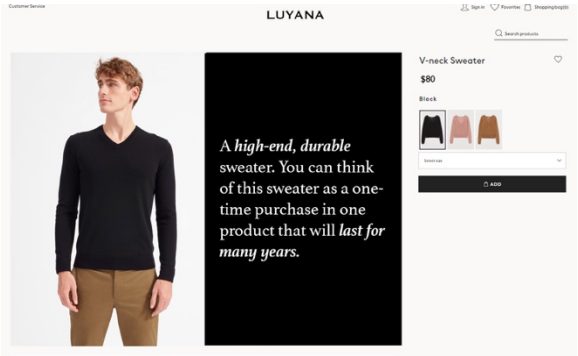
Male, Version B

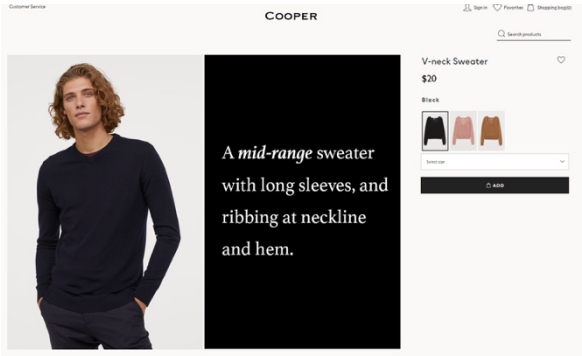
Control Condition: High-end Option vs. Mid-range Option





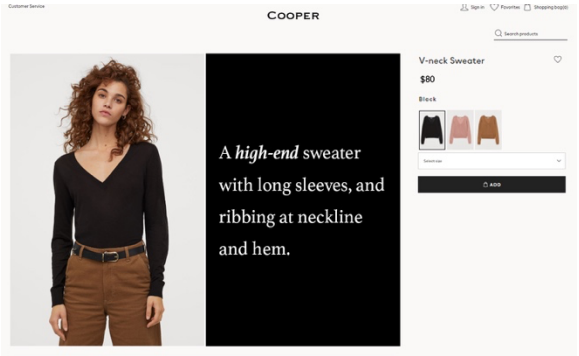
Durability Condition: High-end Option vs. Mid-range Option

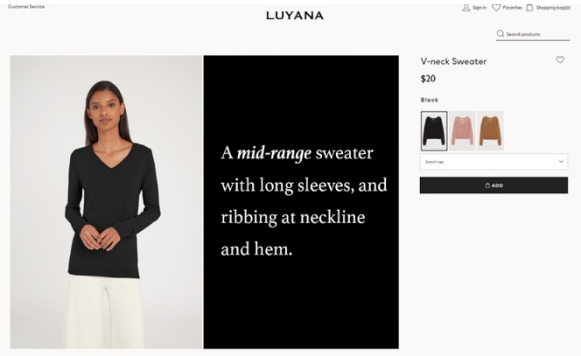




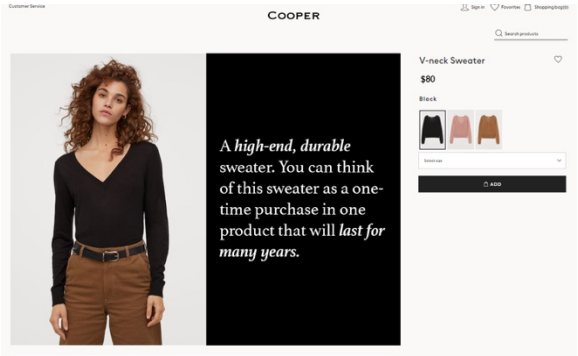
Female, Version A

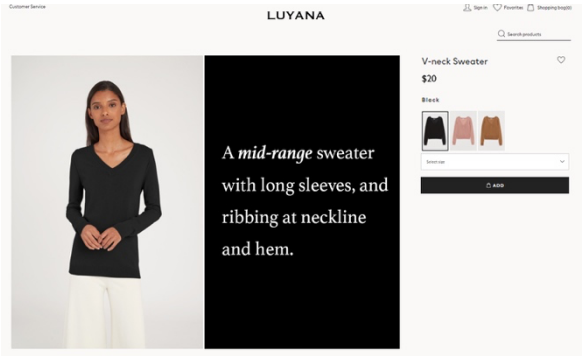
Control Condition: High-end Option vs. Mid-range Option





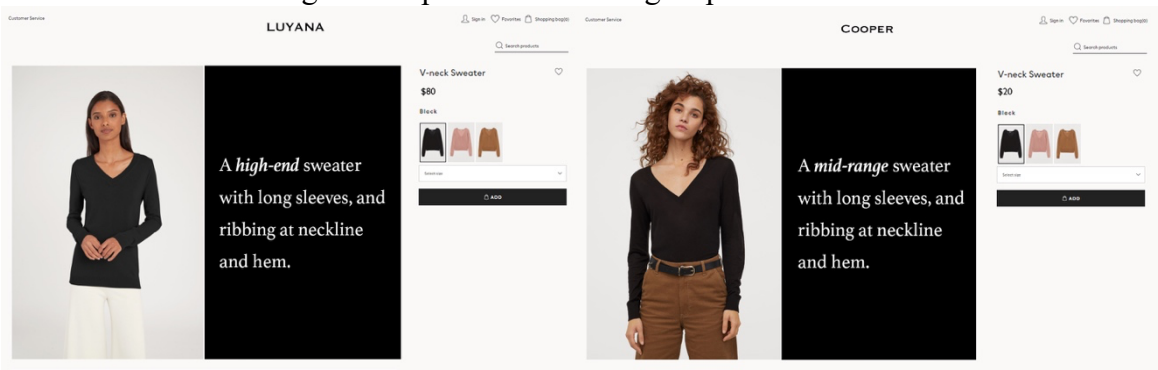
Durability Condition: High-end Option vs. Mid-range Option





Female, Version B

Control Condition: High-end Option vs. Mid-range Option



Durability Condition: High-end Option vs. Mid-range Option