The Chinese University of Hong Kong (Shenzhen)
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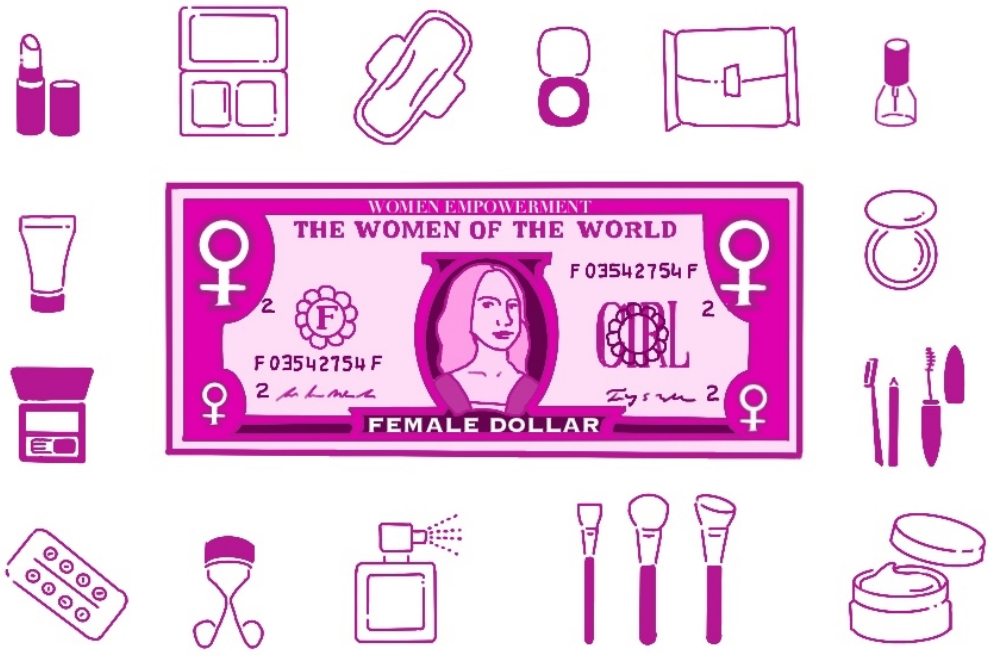

Final Research Report:

'Is It Fairer to Buy Prada Loafers than Loreal Shampoo?':

Comparing Pink Tax's Impact on Female Consumers' Price Fairness Perception and Buying Intention between Luxury and Utilitarian Products

Full Name: YANG, Dingning

Student ID Number: 120020334

Major: Marketing and Communication

Supervisor: Iris W. Hung

Abstract

The pink tax is a gender-based price discrimination in which women are usually charged more than men for products and services with the same efficacy. Previous studies have indicated that women showed significantly lower price fairness perceptions of daily necessities (utilitarian) products with the pink tax than men, which may lead to lower buying intentions. The present study expands the research by examining whether the pink tax's negative effects on female consumers' price fairness perceptions and buying intentions persist for luxury products. Additionally, this study also investigates the pink tax's impacts on women's attitudes toward work. By adopting a 2 (price: pink tax vs. equal) ×2 (product category: utilitarian vs. luxury) mixed design with product category as the repeated variable (N = 228), the current study compared female participants' price fairness perceptions and buying intentions for both utilitarian and luxury products, and their attitudes toward work under the pink tax with those who exposed to equal prices. The findings revealed that though female participants had significantly lower price fairness perceptions and buying intentions for both utilitarian and luxury products under the pink tax, these negative impacts were more prominent for utilitarian than luxury products, indicating the product category's moderating effect. Meanwhile, the results indicated that female participants were more likely to show negative attitudes toward work under the pink tax. This study contributes to a more comprehensive understanding of the pink tax's negative impacts on female consumers' purchase decision-making and work attitudes as employees, calling for companies to engage in practices that eliminate the pink tax and human resource management to narrow the gender pay gap and alleviate the pink tax's economic burden on women.

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1. Introduction

Imagine buying a Loreal Shampoo at Walmart. When standing in front of the male toiletry shelf, the price was $3.92. However, the female shampoo with equivalent efficacy and capacity was $4.96, showing a 26% price premium. In 2014, Journalists from CBC News visited mainstream retail stores (e.g., Walmart, Costco) in America. They found significant price premiums for women among various consumer products: 60% for Gillette razors, 56% for Speed Stick® deodorants, 47% for Jean-Paul fragrances, etc. The finding that girls' toys were priced 37% more than boys' ones indicated the differences were based on gender, despite consumers' age groups (CBC News, 2014). This phenomenon remains ten years later and has expanded to more product categories, including drug products like painkillers. For example, Maxidol with the same capacity (30 capsules) was priced at $16.99 for women and $13.99 for men (CBC News, 2023).

As social media and viral marketing flourished in the Information era, cyber-feminist movements on the Internet have induced unprecedented attention to the 'Pink tax' in recent years. Since the color pink is traditionally related to femininity, the pink tax implies the price premium on female-oriented products, especially those selling male versions with equivalent efficacy at lower prices (e.g., Levis jeans in Figure 1). Previous studies have indicated that the pink tax existed among a wide range of consumer products and services to different extents. For instance, the New York City Department of Consumer Affairs (2015) has investigated the gender price differences in New York among 35 product categories (794 products in total). The results showed that women's products cost more among 30 categories, including personal care products, children and adult clothes, etc. Specifically, female customers paid more than males 42% of the time (Figure 2).

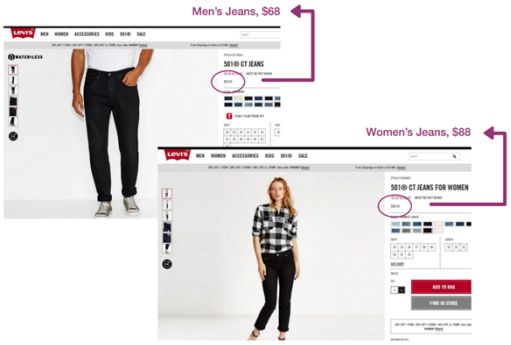

Figure 1 Levis Jeans' pink tax

Total	Number of Times	Incidence
Women pay more	168	42%
Equal	157	40%
Men pay more	72	18%
Total	**397**	**100%**

Figure 2 Gender pricing disparity frequency

As a part of gender-based segmented pricing, the pink tax can be understood as a selective consumption tax (Lafferty, 2019) and a means of segmented pricing, which can help generate more profits for the company by capturing consumer surplus. However, some studies have indicated that the pink tax, as price discrimination, could backfire on female consumers' perceptions of price fairness (e.g., Barrera Bello, 2021; Stevens & Shanahan, 2017), which may result in lower buying intention for specific products (Campbell, 1999). From the perspective of society, Corporate Social Responsibility (CSR) has become more critical for companies to become game-changers in the 21st century, which calls for their action to protect gender equality in the contemporary world. Political and legal efforts have also played an important role in limiting the discriminatory pink tax. For example, California has released a new retail law called the 'Pink Tax Law' (AB-1287) to restrict companies' gender-based pricing that may hurt women's economic health. Companies that violate this law may face a fine ranging from $10,000 to $100,000 per incident (CBS 8, 2023). Thus, it is essential for companies to gain a more comprehensive managerial insight into the research field to enhance brand image and development sustainability while optimizing strategic marketing and pricing strategies in the long term.

Though previous studies have investigated the pink tax's potential negative impact on female consumers' perceptions of price fairness, the selected product categories for research were greatly limited to utilitarian products (i.e., mainly functional and daily necessary products like shampoo, razors, etc.), and the research procedures were relatively simple. Apart from these lower-priced utilitarian products, prior studies also revealed that the pink tax existed among a wide range of luxury products (Table 1, Stokburger-Sauer & Teichmann, 2013).

Table 1 Price premiums of luxury brands for female versus male products

Product category	Brand and product	Price (in Euros) for male product	Price (in Euros) for female product
Clothing	Boss Black suit	399 (standard suit)	508 (standard suit)
	Burberry coat	595 (peacot)	1,495 (peacot)
	Strenesse Gabriele Strehle suit	429–599 (standard suit)	748–928 (standard suit)
Perfumes	Davidoff Cool Water	45 (size: 75 ml)	45 (size: 50 ml)
	Dolce & Gabbana Light Blue	55 (size: 75 ml)	59 (size: 50 ml)
	Givenchy Very Irresistible	50 (size: 50 ml)	63 (size: 50 ml)
Wallets	Armani (wallet, leather with logo)	143	190
	Furla (wallet, veal leather)	80	125
	Joop (wallet, nappa leather)	139	159
	Prada	230 (1 M0204-UZF)	295 (1 M0176-UZF)
Watches	Burberry	325 (Check watch)	395 (Check watch)
	Ebel	1640 (Classic Gent)	2160 (Classic Lady)
	Longines	1490 (Master Collection)	1990 (Master Collection)

Besides, multiple marketing investigations also duplicated the results from previous studies. For instance, Datafiniti (2017) has shown that women's shoes' median prices are much higher than men's among many high-end brands (Figure 3). The situation also exists in the secondary retailer market (e.g., POIZON: China's most reputable shoe retail e-commerce platform). Take Prada's Loafers as an example (Figure 4), both women's and men's Loafers feature elegant black leather and eye-catching Prada triangle badges. However, male consumers can usually enjoy the symbolic and hedonic benefits of Prada Loafers at lower prices than female consumers. One of the pricing reasons may be female consumers' higher purchase intention for luxury brands than men (Stokburger-Sauer & Teichmann, 2013). This segmented pricing can capture the greatest value from high-value consumer segments (i.e., female consumers) while attracting low-value consumers (i.e., males) at lower prices and increasing total sales.

Difference Between Women's and Men's Prices

Difference in Median Prices by Gender for the Most Expensive Brands

Rank	Brand	Women's Median Price	Men's Median Price	Difference
1	Christian Louboutin	$875	$1,173	$298
2	Gianvito Rossi	$750	$469	$281
3	Valentino	$975	$707	$268
4	Jimmy Choo	$695	$450	$245
5	Saint Laurent	$795	$595	$200
6	Maison Margiela	$739	$589	$150
7	Fendi	$650	$700	$50
8	Givenchy	$730	$695	$35
9	Stella McCartney*		N/A	
10	Aquazzura*		N/A	

Green highlighting indicates which gender has the higher median price
*Insufficient data to calculate median prices for men's shoes

Figure 3 Pink tax of shoes among high-end brands

Figure 4 Gender price differences: Prada Loafers

Since a higher willingness to pay and brand loyalty may increase the perceived price fairness (Martin et al., 2009; Stevens & Shanahan, 2017), it is plausible for female consumers to have a higher price fairness perception and buying intention for luxury products than utilitarian ones under the pink tax. However, barely any scholarship has been paid for this issue. Thus, this research compares the pink tax's impact on female consumers' price fairness perceptions and buying intentions between luxury (i.e., hedonic) and utilitarian (i.e., daily necessities) products, aiming to identify the potential moderating effect of product category on the pink tax's impact on perceived price fairness and buying intention.

Meanwhile, since the pink tax can reinforce gender inequality in society as gender-based price discrimination, it is worthwhile to broaden the research perspective from women's identity as

consumers to employees and investigate its impact on their attitudes toward work. Since increased gender-based price discrimination can intensify women's burden from the existing gender pay gap (Bishu & Alkadry, 2017), the pink tax may result in women's negative attitudes toward work under the unfair situation of "Earn less, pay more". Nevertheless, prior studies have indicated that self-efficacy can moderate stereotype activation's impacts on individual behaviors (e.g., Hauser & Bowlds, 1990). Specifically, high self-efficacy people were more likely to employ problem-solving strategies than giving-up behaviors under stereotype activation. Since the pink tax can significantly reinforce gender stereotypes (e.g., women prefer sophisticated things, resulting in price premiums from higher design costs of products that target them), women with high self-efficacy may actively break these stereotypes and increase their work motivation. Thus, a follow-up study was conducted to explore the pink tax's impact on women's attitudes toward work with different self-efficacy.

2. Theoretical Foundations

2.1 Gendered Marketing and Gender-Based Price Differentiation

Entering the mass production era in the early 20th century, the much lower costs made products more affordable for consumers, constructing the mass market and the consumer society. Since the production costs are relatively low, it is easy for products with the same quality and efficacy to compete purely on prices. Thus, product-based differentiation based on consumer preferences is needed to prevent potential price wars (Caplin & Nalebuff, 1986) while helping companies capture consumer surplus by meeting different consumer segments' needs. Employing product-based differentiation strategies, gendered marketing has developed based on different genders' preferences and societal expectations for masculinity and femininity. Meanwhile, the increased female labor force participation after WWII significantly increased women's purchasing power (Fernández, 2013), which was boosted by free competition in the neoliberal era. This shift further reinforced gendered marketing since women have become a more valued and distinct consumer segment than before.

Gendered marketing integrated 4Ps strategies to target consumers of different genders. Product-based differentiation is achieved by appearances and packages, which are well presented by colors, patterns, etc. For example, blue and pink are traditionally associated with boys and girls separately. Different theories have explained these gendered color preferences, which can be divided into essentialist views (e.g., Alexander, 2003; Hulbert & Ling, 2007) and existentialist views (e.g., Bridges, 1993; Davis et al., 2021). While the former supports biological differences in color preferences, the latter aims to break gender stereotypes by claiming gendered color preferences as social constructions based on the "Cultivation theory". This is related to the promotion strategies in gendered marketing, which employ mass media and global consumer culture to convey advertising messages reinforcing societal gender norms (Auster & Mansbach, 2012). For instance, Coco Chanel's (2011) perfume advertising revealed the attractive femininity brought by the product while emphasizing women's independence, appealing to female consumers'

aesthetic and self-improvement needs. In terms of the distribution strategy, separated shelves in retail stores for men and women help enhance gender-based differentiation while preventing consumers' comparison of prices among the same products that target different genders, which is discussed in the following section.

As an essential component of gendered marketing strategies, gender-based pricing is employed as a segmented pricing strategy to maximize companies' profitability. This can be found among a wide range of consumer products and services. Previous studies have indicated great price premiums for women among personal care products (e.g., Michelsson, 2021), while many sports shoes are priced higher for men (e.g., Datafinity, 2017). Though manufacturers claimed that the design cost contributed most to price disparities, it is unjustifiable since the design cost variations can be very mild to ignore for many products. Besides, consumers value utilitarian products' functions more than designs. Products with the same quality and efficacy should have negligible price differences despite designs. A more reasonable explanation for these price disparities could be consumers' preferences and demands for different products. For a long time, women have consumed personal care products more (Barnes & Brounstein, 2022), while sports shoes are viewed as more closely related to men (Dance, 2012). Thus, companies set higher prices for respectively promising segments to capture premiums while using lower prices to attract sales from low-valued segments. This echoes the segmented pricing strategy's working mechanism of value-based pricing. Regarding consumer services, value-based pricing is also widely adopted based on consumers' behavioral features. For instance, hair salon often charges women higher prices since sophisticated hairstyles feature more feminine characteristics. Nightclubs often hold "Ladies' night" that provides women with free drinks to encourage men to bring more women customers and attract traffic, which treats men as a promising segment since they have more demands for short-term mating (Buss & Schmitt, 1993), and stereotypically, they have higher purchasing power. Though gender-based segmented pricing can help generate considerable profitability, it is necessary for companies to cautiously employ this strategy to ensure price fairness and maintain good brand images.

2.2 Pink Tax: The Price Premiums for Women and Impacts on Perceived Price Fairness

As defined before, the pink tax is a typical gender-based segmented pricing strategy since it indicates price premiums for women among products and (or) services with men's versions at the equivalent efficacy. Meanwhile, it utilizes women's higher willingness to pay (WTP) and information asymmetry to enhance the mechanism. According to the signaling theory, consumers tend to increase their WTP for specific products if these products can effectively help boost their status and identities (e.g., Connelly et al., 2011; Griskevicius et al., 2010). Thus, it is reasonable that some women may have higher WTP for feminized products (e.g., products with traditionally feminized colors like pink and purple) since these products reveal femininity's attractiveness, which can boost their female identities in society (Duesterhaus et al., 2011; Stevens & Shanahan, 2017). Thus, companies take advantage of this consumer psychology to provide feminized products with price premiums, capturing higher profitability.

Nevertheless, the price premiums may result in low perceived price fairness among female consumers. Price fairness refers to consumers' judgment of products' value of money and the reasonability of prices they received compared with other consumers (Xia et al., 2004). Specifically, products believed to have a high value of money are more likely to increase perceived price fairness. The value of money is affected by price framing (e.g., price per day instead of the total price), psychological pricing (e.g., odd pricing), anchoring effects (e.g., 'fake' discount at promotion seasons), etc. Marketers can utilize various supplement strategies to increase the perceived value of money. However, when compared with other consumers, consumers' judgment of prices' reasonability is more subjective and varies among the comparative parties. Xia et al. (2004) indicated that transaction similarity negatively affects perceived price fairness. Specifically, when perceived price disparities between transactions are salient, a higher transaction similarity (e.g., products with the same perceived efficacy) results in lower perceived price fairness. This is consistent with previous findings on the pink tax's impacts on lowering price fairness since the transaction similarities (i.e., products' functions and efficacy) among utilitarian products are high.

Regarding luxury products, barely any research has explored the pink tax's impacts on perceived price fairness. Given the fact that the perceived price fairness was high when without the pink tax among utilitarian products, it is plausible to hypothesize that women also have higher perceived price fairness for luxury products when prices are equal compared with the pink tax situation since they tend to have higher WTP for luxury products than men and are already primed with price premiums for luxury goods (Stokburger-Sauer & Teichmann, 2013), which makes the equal prices more like a 'discount' for them. Thus, the first hypothesis of this study is proposed as the following:

H1a: The pink tax has a significant negative impact on female consumers' price fairness perception for both utilitarian and luxury products. Specifically, each dependent variable in the pink tax (X1=1) condition is hypothesized to be lower than the control condition (X1=0).

According to Maxwell's (2002) study, rule-based price fairness could positively affect consumers' willingness to pay. Specifically, when prices are believed to be set in adherence to marketing rules, consumers tend to have higher WTP, which helps generate more purchases. On the other hand, high levels of perceived price unfairness may result in lower buying intentions. Campbell's (2007) study indicated that perceived price unfairness might result in negative attitudes (e.g., anger and disappointment) toward products and brands, which may lead to switching behaviors (Monroe & Xia, 2005), especially when substitutes are abundant, and brand loyalty is low. Since the pink tax may result in low levels of perceived price fairness, it is reasonable to hypothesize that this low price fairness may lead to women consumers' low purchase intentions. Thus, the second hypothesis of this study is proposed as the following:

H1b: The pink tax has a significant negative impact on female consumers' buying intention for both utilitarian and luxury products. Specifically, each dependent variable in the pink tax (X1=1) condition is hypothesized to be lower than the control condition (X1=0).

2.3 Luxury Products' Potential Moderating Effects on the Pink Tax's Impacts

Prior studies have indicated the pink tax's negative impacts on female consumers' perceived price fairness and buying intention by priming utilitarian products' price premiums for women (e.g., Barrera Bello, 2021). However, whether different product categories can reach the same result remains uncertain. Compared with utilitarian products, it is plausible that the luxury goods category may alleviate the pink tax's negative impacts on female consumers' perceived price fairness and buying intention. Specifically, some factors may contribute to this moderating effect:

1) *Women's higher preferences and WTP for luxury products*. Meyers-Levy's (1988) research indicated that sex roles have different impacts on men's and women's cognitive judgment, which may further influence consumer decisions. Specifically, since men are more task-oriented and performance-motivated, they emphasize products' functionality and utilitarian values more. In contrast, women are more people-oriented (i.e., higher social needs), leading them to seek a higher quality of life by exploiting products' hedonic value. According to Grossman and Shapiro (1988), people use luxury goods to show status and prestige, while the difference in functional utility over other goods is significantly negligible. Thus, this can be an important explanation of women's preferences for luxury products compared with men. Besides, from the evolutionary perspective, men showed a high mating preference for good-looking women (Buss, 1989), motivating women to improve their appearances. Since clothing, apparel, and fashion can be viewed as extended selves (Belk, 1988), it is reasonable for women to utilize them to conduct impression management (Amaldoss & Jain, 2005; Singh, 1993). Thus, they may consume more luxury goods than men since they are highly associated with fashion, contributing to higher WTP. Based on Stokburger-Sauer and Teichmann's (2013) study, women showed more positive attitudes and a higher purchase intention of luxury brands. Since higher WTP can increase perceived price fairness even if the price disparity appears unfair (Martin et al., 2009; Urbany et al., 1989), it is likely for female consumers to have higher perceived price fairness and buying intention when the product appears to be a luxury good instead of a utilitarian good under the pink tax.

2) *Transactional similarity*. Based on Xia et al.'s (2004) research, when perceived price disparities between transactions (e.g., the pink tax) are salient, a lower transaction similarity (e.g., products that provide different perceived efficacy) results in higher perceived price fairness. Compared with utilitarian products, luxury products feature lower transactional similarity since women's versions are believed to be more sophisticated and have higher perceived efficacy (e.g., impression management). Besides, different ends of luxury brands (e.g., high-luxury brands like Louis Vuitton and light-luxury brands like Michael Kors) further lower the transactional similarity among female consumers, enhancing their abilities to show uniqueness through luxury goods. Stokburger-Sauer and Teichmann's (2013) study proved that higher uniqueness value contributes to higher consumer identification with the brand, which finally increases brand loyalty and WTP. Thus, it is plausible that female consumers can have higher WTP for luxury products than utilitarian products since they have higher uniqueness value, which may moderate the pink tax's negative impacts on perceived price fairness and buying intention.

3) *Signaling effect*. According to Wilcox et al. (2019), luxury products have considerable value-expressive functions compared to utilitarian products, which allow consumers to express themselves. Based on Belk's (1988) viewpoint of products as extended selves and Connelly et al.'s (2011) signaling theory, women are more willing to pay for luxury products' price premiums since these products can better boost their femininity and attractiveness than utilitarian products, providing great status value that can generally contribute to higher WTP.

4) *Brand loyalty and luxury priming*. Compared with utilitarian products, the switching costs for luxury products are relatively high due to fewer substitutes. Thus, brand loyalty may play an essential role in justifying the pink tax since consumers sometimes cannot distinguish whether the price premiums are based on gender or the product nature of luxury goods (Keller, 2017). Since women tend to have higher brand loyalty for luxury products than utilitarian products, it is reasonable to claim that their WTP for luxury products is also higher than utilitarian ones.

From the above, this study aims to explore the potential moderating effects of product categories on the pink tax's impact on women consumers' perceived price fairness and buying intention. Specifically, this study hypothesizes that when participants are primed with the pink tax, they are expected to have a lower price fairness perception and buying intention for utilitarian products than luxury ones:

H2a: The effect of the pink tax on female consumers' price fairness perception is more negative when the product category is utilitarian than luxury, while there are no significant differences between the two product categories' impact on perceived price fairness under the control condition.

H2b: The effect of the pink tax on female consumers' buying intention is more negative when the product category is utilitarian than luxury, while there are no significant differences between the two product categories' impact on buying intention under the control condition.

2.4 Pink Tax's Impacts on Female Employees' Attitudes Toward Work

The gender pay gap is a presentation of gender inequality in the labor market and workplace. According to the United Nations (2023), women averagely earn 23% less than men, contributing to a huge gender pay gap worldwide. In some geographical areas, the gender pay gap is especially large. For instance, women in Korea earn 32% less than men, achieving the highest gender pay gap in the world (OECD, 2023). The gender pay gap has become especially severe and is expected to widen in 114 countries after the pandemic since women are experiencing more unemployment than men (UN Women, 2022). Prior research has indicated the gender pay gap's negative impacts on women's attitudes toward work. For example, BMG Research (2018) has shown that 56% of female participants reported lower work motivation under the gender pay gap. Since the pink tax can significantly reinforce women's burden from the gender pay gap and make them more difficult to achieve economic independence (Crawford, 2022; Jacobsen, 2018), it is plausible to hypothesize that women tend to have more negative attitudes toward work under the pink tax priming:

H3: The pink tax has a significant negative impact on females' attitudes toward work. Specifically, each dependent variable in the pink tax (X1=1) condition is hypothesized to be lower than the w/o pink tax condition (X1=0).

Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura et al., 1999). While high self-efficacy boosts individuals' positive attitudes toward challenges and improves their performances (Maddux & Gosselin, 2012), low self-efficacy may drive individuals to reflect on their shortcomings and conduct stereotype-consistent behaviors (e.g., females are worse at mathematics). Previous studies have indicated that priming high self-efficacy can moderate stereotype activation's impacts on individuals by enhancing people's beliefs in their capabilities to attain goals (e.g., Hansen & Wänke, 2009). Since the pink tax can significantly reinforce gender stereotypes (e.g., women prefer sophisticated things, resulting in price premiums from higher design costs of products that target them), women with high self-efficacy may actively break these stereotypes and increase their work motivation. Thus, it is reasonable to hypothesize that women with low self-efficacy may have more negative attitudes toward work than those with high self-efficacy under the pink tax priming since they are less likely to employ problem-solving strategies:

H4: The effect of the pink tax on females' attitudes toward work is more negative when participants' self-efficacy is low, while there are no significant differences between self-efficacy's impact on females' attitudes toward work under the control condition.

3. Methodology

3.1 Participants and Data Collection

This research employed a standard sampling method to recruit female participants in the United States through the platform Prolific. The subjects were females aged 18 to 60, which guaranteed their consent to participate in the research as individual consumers. Besides, they were full and (or) part-time employed individuals with disposable income from work to satisfy the research needs on investigating pink tax's impact on females' work motivation and self-efficacy's potential moderating effect. Specifically, the number of participants for online experiments was 249.

3.2 Experiment Design and Procedure

The online experiment was created by Qualtrics and adopted a 2 (price: pink tax vs. equal)× 2 (product category: utilitarian vs. luxury) mixed design with product category as the repeated variable. Specifically, the experiment set a buying scenario that needs different products for an event. After reading the cover story and scenario question, participants were randomized into two different scenarios (pink tax vs. control). In each scenario, participants were asked to buy three different products (utilitarian: shampoo, blurred: t-shirt, and luxury: perfume) for weekend activities. The second product was neither a typical utilitarian nor a luxury one (i.e., a t-shirt) to disguise the experiment's goal. In the control condition, the level factor presented all three products at the same price (shampoo: $9.98, T-shirt: $30, perfume: $110). In the pink tax (experiment) scenario, the level factor presented all three products at different prices. Specifically, $14.99 for ladies' shampoo and $9.98 for men's shampoo, $40 for ladies' T-shirts and $30 for men's T-shirts, $145 for ladies' perfume and $110 for men's perfume. These prices were mirrored from real-time market prices for similar products (see Appendix A).

For each product, they first indicated their buying intention for the specific products. Then, they were asked to state their perceived price fairness by the eight 7-point Likert scale questions from Bruner II (2012), which had already proven the reliability and validity (see Appendix B).

Finally, they confirmed the price difference for manipulation checks. After answering the questions about the three products, participants moved to a second study to indicate their attitudes toward work and self-efficacy. To be specific, the attitudes toward work were measured by four 7-point Likert scale questions by BMG Research (2018) (see Appendix B), while self-efficacy was measured by four 7-point Likert scale questions by Schwarzer and Jerusalem (1995) (see Appendix B). After this study, the participants were asked to indicate the correct option for the attention-check (filtering) question. Finally, they provided their age and monthly income for demographic information.

3.3 Data Analysis

All data was exported from Qualtrics to the Statistic Software SPSS for data analysis. There were 243 valid samples, among which ten samples failed the attention check (filter) question, leaving 233 samples for data analysis. Specifically, there are 117 and 116 samples for the pink tax and control conditions separately. The manipulation-check results indicated 97.85 % successful manipulation among participants, excluding four participants in the pink tax condition and one in the control condition who failed to tell the price difference or indifference. Thus, the valid samples for data analysis were finally 113 and 115 for the pink tax and control conditions. Among 228 valid samples, the average age was 38.9 years (SD = 11.58), indicating a relatively mature consumer and employee profile of these female participants.

4. Results

4.1 Pink Tax and Product Type's Impact on Price Fairness Perceptions (**H1a** and **H2a**)

The independent variable Price was coded into 0 (control) and 1 (pink tax). To test H1a and H2a about female consumers' price fairness perceptions, a repeated measure was conducted with product type (utilitarian vs. luxury) as the within-subjects independent variable and priming condition (pink tax vs. control) as the between-subject factor. During the two-way mixed ANOVA test, the moderator variable Product Type was coded into 1 (utilitarian) and 2 (luxury) based on price fairness for shampoo and price fairness for perfume separately. The dependent variable of Price Fairness was coded into a new variable, which presents the average scores from the eight scales that measure price fairness (four of them were first reverse-coded). Higher values of price fairness indicated a higher perception of price fairness, while lower values implied a lower perception of price fairness.

The two-way mixed ANOVA results showed that there existed a significant main effect of the pink tax on female participants' price fairness perception (M_{pt} = 1.898 vs. M_{ct} = 3.924; F (1, 226) = 218.73; $p < 0.001$). For utilitarian products, female participants' price fairness perception under the pink tax condition (M_{ptu} = 1.365, SD = 0.89) was significantly lower than those under the control condition (M_{ctu} = 3.907, SD = 0.46; $p < 0.001$). For luxury products, female participants' price fairness perception under the pink tax condition (M_{ptl} = 2.431, SD = 1.59) was also significantly lower than those under the control condition (M_{ctl} = 3.941, SD = 1.99; $p < 0.001$). These results showed that the pink tax has a significant negative impact on female consumers' price fairness perception of the product in both product categories, which is consistent with H1a.

The interaction test results indicated a significant interaction effect between the priming condition and product category (F (1, 226) = 18.78, $p < 0.001$). Specifically, under the pink tax, female consumers' price fairness perception was significantly more negative when the product category was utilitarian (M_{ptu} = 1.365, SD = 0.89) than luxury (M_{ptl} = 2.431, SD = 1.59; $p < 0.001$). However, female consumers' price fairness perception had no significance between utilitarian

products (M_{ctu} = 3.907, SD = 0.46) and luxury products (M_{ctl} = 3.941, SD = 1.99) in the control condition since their confidence levels had significantly overlapped with each other. These results showed that the effect of the pink tax on female consumers' price fairness perception was more negative when the product category was utilitarian than luxury, while there were no significant differences between the two product categories' impact on perceived price fairness when without the pink tax, proving that H2a is correct.

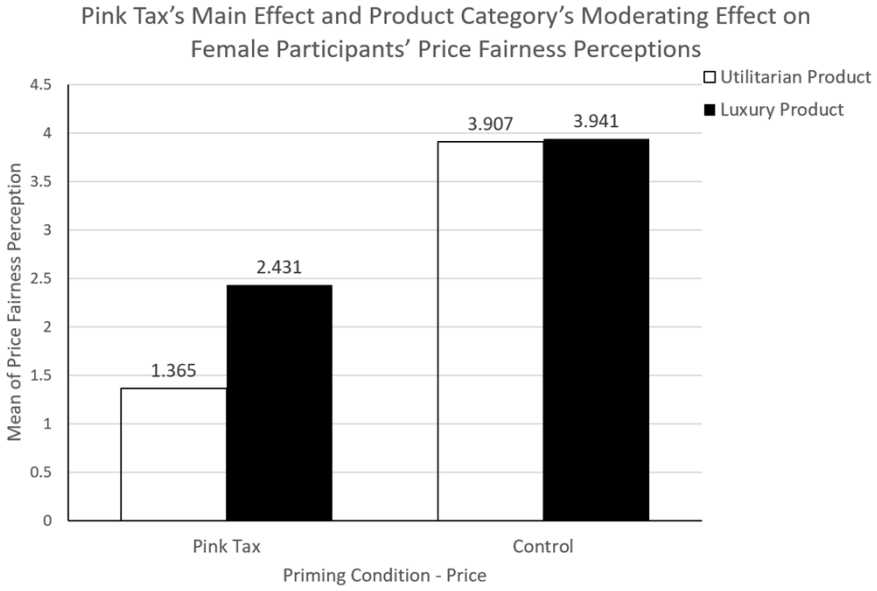

Figure 5 Pink tax's main effect and product category's moderating effect on female participants' price fairness perceptions

4.2 Pink Tax and Product Type's Impact on Buying Intentions (**H1b** and **H2b**)

To test H1b and H2b about female consumers' buying intentions, a repeated measure was conducted with product type (utilitarian vs. luxury) as the within-subjects independent variable and priming condition (pink tax vs. control) as the between-subject factor. During the two-way mixed ANOVA test, the moderator variable Product Type was coded into 1 (utilitarian) and 2 (luxury) based on buying intention for shampoo and buying intention for perfume, separately.

The two-way mixed ANOVA results showed that there existed a significant main effect of the pink tax on female participants' buying intentions (M_{pt} = 2.735 vs. M_{ct} = 4.23; F (1, 226) = 38.527; $p < 0.001$). For utilitarian products, female participants' buying intention under the pink tax condition (M_{ptu} = 2.434, SD = 2.03) was significantly lower than those under the control condition

(M_{ctu} = 4.609, SD = 2.18; $p < 0.001$). For luxury products, female participants' buying intention under the pink tax condition (M_{ptl} = 3.035, SD = 2.15) was also significantly lower than those under the control condition (M_{ctl} = 3.852, SD = 2.20; $p < 0.001$). These results showed that the pink tax has a significant negative impact on female consumers' buying intention of the product in both product categories, which is consistent with H1b.

The interaction test results indicated a significant interaction effect between the priming condition and product category (F (1, 226) = 20.589, $p < 0.001$). Specifically, under the pink tax, female consumers' buying intention was significantly lower when the product category was utilitarian (M_{ptu} = 2.434, SD = 2.03) than luxury (M_{ptl} = 3.035, SD = 2.15; $p < 0.001$). However, female consumers' buying intention was significantly higher when the product category was utilitarian (M_{ctu} = 4.609, SD = 2.18) than luxury (M_{ctl} = 3.852, SD = 1.99; $p < 0.001$) when there existed no pink tax. These results showed that the effect of the pink tax on female consumers' buying intention was more negative when the product category was utilitarian than luxury. In contrast, the effects can reverse without the pink tax, proving that H2b is partially correct while providing new insights as a disordinal interaction.

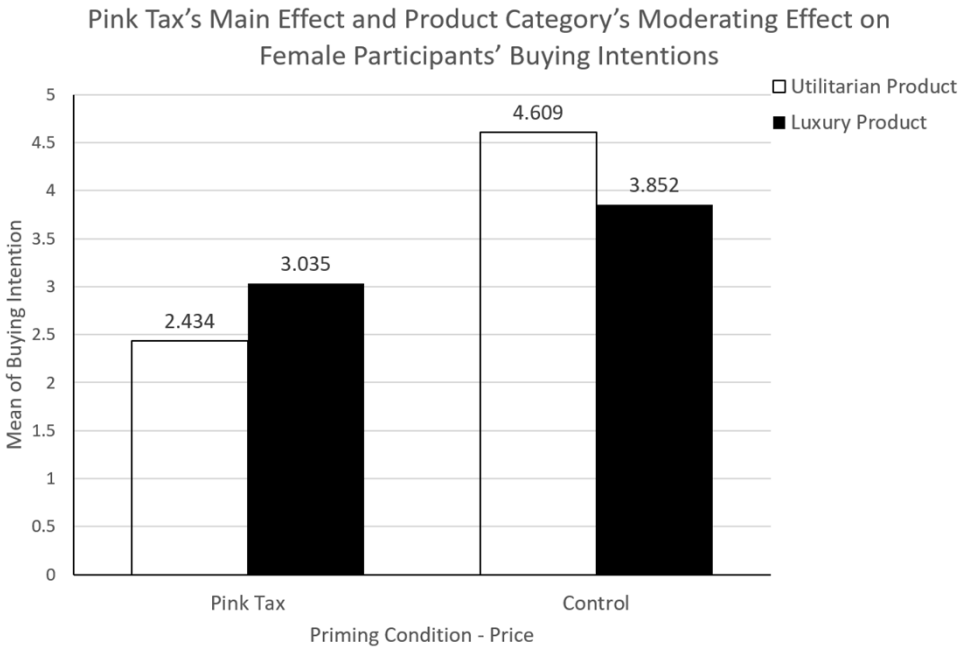

Figure 6 Pink tax's main effect and product category's moderating effect on female participants' buying intentions

4.3 Pink Tax's Impact on Attitudes Toward Work (**H3**)

The dependent variable of Attitude toward Work was coded into a new variable, which presents the average scores from the four scales that measure attitude toward work. Higher values of attitudes toward work indicated a more positive attitude toward work, while lower values of attitudes toward work implied a more negative attitude toward work.

A one-way ANOVA test was conducted to test the pink tax's impact on female participants' attitudes toward work. The result revealed a marginally significant effect of the pink tax on female participants' attitudes toward work (M_{pt} = 4.816 vs. M_{ct} = 5.213; F (1, 226) = 3.316, p = 0.070). Specifically, the accompanying planned contrasts revealed that confirming H3, participants in the pink tax condition (M_{pt} = 4.816, SD = 1.65) had significantly more negative attitudes toward work than those in the control condition (M_{ct} = 5.213, SD = 1.644, t (226) = 1.821, p = 0.070).

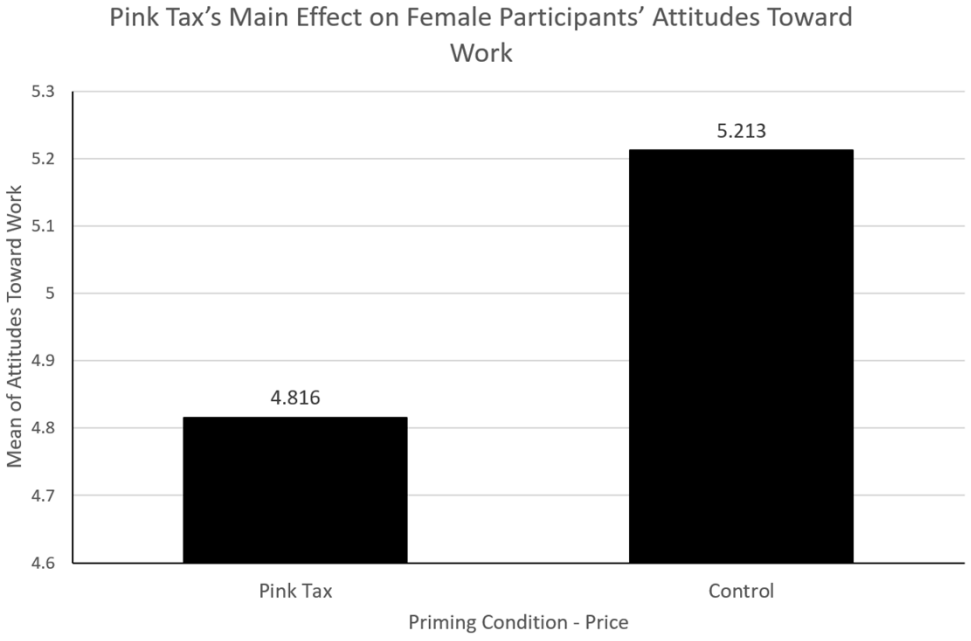

Figure 7 Pink tax's main effect on female participants' attitudes toward work

4.4 Self-Efficacy's Moderating Effect on Attitudes Toward Work (**H4**)

To test self-efficacy's potential moderating effect on female participants' attitudes toward work, a moderation analysis was conducted through SPSS's PROCESS. The model results showed no significant moderating effect of self-efficacy on the pink tax's effect on female participants' attitudes toward work, rejecting the hypothesis that the effect of the pink tax on females' attitudes

toward work is more negative when participants' self-efficacy is low. Nevertheless, the model results indicated a significant main effect of self-efficacy on female participants' attitudes toward work ($t(226) = 6.901$, $p < 0.001$), showing that consistent with previous research (e.g., Maddux & Gosselin, 2012), high self-efficacy may boost individuals' work performances and further increase their positive attitudes toward work.

5. Discussion and Implications

Based on the research results, some hypotheses (**H1a, H1b, H2a, and H3**) were supported, while others were either partially supported (**H2b**) or failed (**H4**). Specifically, compared with the control condition, the priming of the pink tax had significantly negative impacts on female participants' price fairness perceptions and buying intentions for both utilitarian and luxury products. Besides, the priming of the pink tax had significantly more negative impacts on female participants' price fairness perceptions of utilitarian than luxury products, while there was no significant difference between utilitarian and luxury products under the control condition, showing a significant moderating effect of product category on price fairness perceptions. Nevertheless, though the priming of the pink tax had significantly more negative effects on female participants' buying intentions for utilitarian than luxury products, participants under the control condition showed much lower buying intentions for luxury products than utilitarian ones, revealing a significant disordinal interaction effect between product category and price. Lastly, the results indicated that compared with the control condition, the pink tax priming had marginally significant negative impacts on female participants' attitudes toward work, providing new insights for human resource management from the market perspective. The following sections discuss the above research results, further indicating business implications and managerial insights.

5.1 Pink Tax's Main Effect on Female Participants' Price Fairness Perceptions and Buying Intentions

By using shampoo as the stimuli for the utilitarian product category, this study further reinforced the belief that the pink tax significantly lowered female participants' price fairness perceptions of utilitarian products (Barrera Bello, 2021; Stevens & Shanahan, 2017). Several reasons can explain this consistent finding with prior studies. As a gender-based price discrimination, the pink tax can be viewed as an unreasonable price premium that triggers negative price fairness perceptions (Haws & Bearden, 2006; Xia et al., 2004). Since the same functional efficacy is a significant feature of utilitarian and daily necessary products, the unreasonable price

premium can result in females' perceptions of the low value of money. Given that consumers tend to compare with other consumers on price fairness (Bolton et al., 2010), the perceived price unfairness can become more salient when they notice the price disparity between two parties (i.e., men's and women's products).

Different from previous research, the current study expands the research scope from utilitarian products to luxury products. Despite female consumers showing higher WTP and acceptance of price premiums for luxury products, they still revealed significantly lower price fairness perceptions of luxury products under the pink tax. Nevertheless, apart from their tendency to compare with prices enjoyed by their counterparts (i.e., male consumers), an important factor that may drive down their price fairness perception can be luxury products' value-based pricing and hedonic values. Since they are already primed with price premiums for luxury products, the equal prices for men's and women's luxury products under the control condition may be perceived as a price discount that increases female participants' price fairness perceptions, resulting in lower price fairness perceptions under the pink tax under comparison.

The findings that female participants also showed lower buying intentions for both utilitarian and luxury products under the pink tax echoed Maxwell's (2002) study that price fairness perceptions were positively associated with consumers' buying intentions. Under the pink tax, the lower price fairness of women could result in negative attitudes toward products and brands that conduct gender-based price discrimination (Campbell, 2007), ultimately leading to lower buying intentions and switching behaviors (Monroe & Xia, 2005). These companies' profitability and market share can decrease due to consumer backlash and losses in sales, weakening their competitive advantages. Besides, the pink tax practices can also increase companies' operation costs due to legislation and penalties. As awareness of the pink tax grows, governments and consumer protection agencies may introduce potential financial penalties for companies engaging in gender-based price discrimination. This can further drive down the cost advantages of companies.

Conversely, companies perceived as fair and transparent in their pricing strategies are more likely to gain female consumers' higher buying intentions and win their trust and loyalty. The active elimination practices of the pink tax can allow companies to differentiate themselves from competitors. By offering fair pricing to different genders and openly communicating their commitment to gender equality, companies can attract female consumers who highly value corporate social responsibility. Besides, companies can actively engage in innovation and product development that help close the gender-based price gap. For instance, by providing gender-neutral products that meet both genders' needs, companies can effectively narrow the gender-based price disparity while catering to a broader customer base to ensure profitability.

5.2 Product Category's Moderating Effect on Female Participants' Price Fairness Perceptions and Buying Intentions

Based on the results, product category has significant moderating effects on female participants' price fairness perceptions and buying intentions. Female participants under the pink tax showed significantly lower price fairness perceptions for the utilitarian product than the luxury product, while there was no significant difference between female participants' price fairness perceptions for utilitarian and luxury products under the control condition. This finding indicated that women's higher preferences and WTP for luxury products derived from the evolutionary and social functional perspectives (e.g., Belk, 1988; Singh, 1993) may significantly moderate the pink tax's negative effects on their price fairness perceptions, which is consistent with previous studies that higher WTP can increase perceived price fairness despite the unreasonable price discrimination (Martin et al., 2009; Urbany et al., 1989). Luxury products' lower transactional similarity and higher values for social status signaling can also explain women's higher price fairness perceptions for luxury than utilitarian products under the pink tax.

Under the pink tax, female participants also showed significantly higher buying intentions for luxury than utilitarian products, which was consistent with the finding that consumers' price fairness perception is positively associated with buying intentions. This reinforced the mechanism

that perceived price unfairness can result in more negative attitudes toward brands and products, further lowering the buying intentions and long-term sales revenue. Female participants' lower price fairness perceptions and buying intentions for utilitarian than luxury products under the pink tax indicated that they were more price sensitive to utilitarian products. Thus, when gender-based price disparities exist in both utilitarian and luxury products, they are more likely to have stronger perceptions of price unfairness for utilitarian products. Apart from providing gender-neutral products and conducting transparent and fair pricing practices, it is also practical for companies that provide utilitarian products to have regular and moderate sales promotions (e.g., festival price-offs) to face consumers' high price sensitivity and increase their loyalty toward the brands.

Nevertheless, the disordinal interaction indicated that though female participants' price fairness perceptions for luxury and utilitarian products had no significant difference under the control condition, their buying intentions for luxury products were significantly lower than those for utilitarian products. The most prominent reason could be luxury products' much higher absolute prices and buying risks than utilitarian products since it takes much more money and time (i.e., financial and searching costs) for consumers' buying decision-making. Both the financial and mental losses are more severe if consumers experience post-purchase dissonance (i.e., hidden negative aspects of their chosen option or hidden positive aspects of their forgone option) after buying luxury than utilitarian products. Since research has indicated that it was more likely for consumers to experience post-purchase dissonance from luxury than FMCG (utilitarian) products (Hasan & Nasreen, 2012), it is reasonable to conclude that female consumers tend to be more cautious when buying luxury than utilitarian products even if prices are equal for women and men, which can ultimately result in lower buying intentions for luxury than utilitarian daily products due to higher risks. Several tactics during consumers' buying processes could help solve the problem. First, companies can offer product samples and trial periods to allow consumers to try luxury products before the purchase to assess quality and increase their buying intention by reducing perceived risks. Second, companies can also mitigate consumers' perceived risks of luxury products

by providing dedicated customer services and detailed product information during consumers' buying processes to clear their concerns. Last but not least, it is necessary for companies to offer strong product guarantees and extended warranties that align with patient after-sales services to alleviate consumers' concerns. This can also be accompanied by customer-friendly return policies that further demonstrate the high quality of these luxury products.

5.3 Pink Tax's Main Effect on Female Participants' Attitudes Toward Work

Though existing research about the pink tax mainly focused on companies' pricing practices and consumer behavior responses, it is also significant to explore the pink tax's potential effect on women's attitudes toward work since the pink tax can further increase female employees' economic burden from the consumption side given the existing gender pay gap in society. The directional negative impact of the pink tax on female participants' attitudes toward work in this study suggested that priming unreasonable gender-based price disparity may reinforce women's perceptions of unfair positions in the economic market as both consumers and producers (i.e., employees), further resulting in more negative evaluations and attitudes of current work situations.

Several managerial insights could be generated from this finding. Human resource management can spend efforts in two distinct directions. First, HRM can ensure that female employees are compensated fairly and narrow the gender pay gap by implementing transparent wage structures and providing equal opportunities for work promotions. Additionally, HR can extend female employees' benefits to alleviate the financial burden caused by the pink tax. For instance, it may include offering them gift cards and coupons for shopping on festivals (e.g., Women's Day). Second, considering female employees as consumers, HRM can provide information sessions to help female employees be aware of the impact of the pink tax. This can include workshops on budgeting, price negotiation, and informed purchasing decisions, which enhances female employees' abilities to overcome the challenges of the pink tax.

6. Conclusion

As a gender-based price discrimination, the pink tax has significantly reverse impacts on consumer surplus and gender equality, which may lead to negative impacts on consumer loyalty and brand image. The current study has explored the negative impacts of the pink tax on female consumers' price fairness perceptions, buying intentions, and attitudes toward work. The findings contributed to previous studies showing that female consumers had significantly lower price fairness perceptions and buying intentions under the pink tax by including utilitarian and luxury product categories. The current study enriches the understanding of product category's moderating effects on the pink tax's main effect on female consumers' price fairness perceptions and buying intentions, revealing their higher WTP for luxury than utilitarian products. It is necessary for companies to actively engage in practices that eliminate the pink tax to increase consumer loyalty and retain positive brand images while enhancing product innovations to serve a broader consumer base. While it is practical for companies that sell utilitarian products to have more sales promotions to alleviate consumers' high price sensitivity, it is essential for luxury companies to ensure smooth and high-quality consumer buying processes that win consumers' loyalty. Human resource management can also help alleviate the pink tax's burden on female employees by narrowing the gender pay gap and providing educational resources about price negotiation and wise purchasing decisions.

The limitations of this study lie in limited product stimulus within one product category. Besides, the dependent variable of female employees' attitudes toward work may not be specific enough. Future studies will consider more product stimuli within the single product category (e.g., toothpaste for utilitarian stimuli and watches for luxury stimuli) or the same stimulus type for different product categories (e.g., Loreal shampoo for utilitarian stimuli and Chanel shampoo for luxury stimuli). As for female employees' attitudes toward work, more specific scales like work motivation and job satisfaction can be included. It is also interesting to explore different genders' responses to the pink tax and gender's potential moderating effects on consumer behaviors.

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Appendix A

Priming Condition Stimuli

Scenario Instruction

Suppose you are invited to an exciting high-school friends gathering trip this weekend. The trip will be filled with city walks, barbecue parties, dinner dances, and lots of shared experiences over the years. To prepare for your celebratory getaway, you decide to go shopping for a few trip essentials:

1. **A regular brand of shampoo** to pack for clean and fresh-smelling hair each day of the trip without fuss. As an unremarkable but necessary toiletry, you buy a standard size of the shampoo you always use for travel.

2. **A basic but comfortable t-shirt** as an outfit option for casual daytime activities. You choose a loose-fitting and lightweight T-shirt that will keep you comfortable walking around the city on a warm day.

3. **A new luxury perfume** to keep you smell good and become impressive during dinner dances. You may select a perfume from a luxury brand that reflects your elevated style during this celebratory event.

Figure A1

Pink tax condition: Utilitarian product (shampoo)

Ladies 2-in-1 Advanced Nutri-Gloss, 12.6 Fluid Ounce: $14.99

Men's 2-in-1 Advanced Haircare Power Moisture, 12.6 Fluid Ounce: $9.98

Ladies' shampoo $14.99 Men's shampoo $9.98

Figure A2

Pink tax condition: Blurred product (t-shirt)

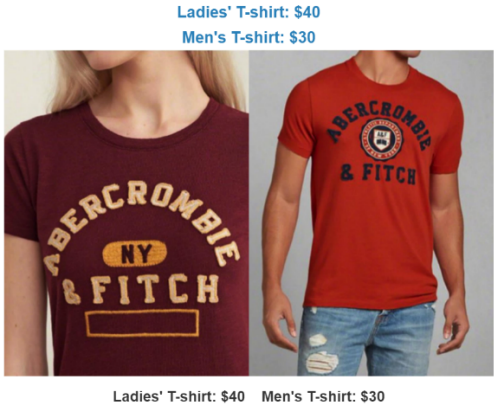

Figure A3

Pink tax condition: Luxury product (perfume)

Figure A4

Control condition: Utilitarian product (shampoo)

Figure A5

Control condition: Blurred product (t-shirt)

Figure A6

Control condition: Luxury product (perfume)

Appendix B

Price fairness perception scales (Bruner II, 2012)

1. I think the prices are justified	Strongly disagree (1) – Strongly agree (7)
2. I think the prices are fair	Strongly disagree (1) – Strongly agree (7)
3. I think the prices are right	Strongly disagree (1) – Strongly agree (7)
4. I think the prices are acceptable	Strongly disagree (1) – Strongly agree (7)
5. I think the prices are unreasonable	Strongly disagree (1) – Strongly agree (7)
6. I think the prices are unfair	Strongly disagree (1) – Strongly agree (7)
7. I think the prices are unacceptable	Strongly disagree (1) – Strongly agree (7)
8. I think the prices are questionable	Strongly disagree (1) – Strongly agree (7)

Attitudes toward work scales (BMG Research, 2018)

1. I wish to remain with my current employer	Strongly disagree (1) – Strongly agree (7)
2. I have a strong commitment towards my employer	Strongly disagree (1) – Strongly agree (7)
3. I have a strong motivation in my work role	Strongly disagree (1) – Strongly agree (7)
4. I feel proud to work for my employer	Strongly disagree (1) – Strongly agree (7)

Self-efficacy scales (Schwarzer & Jerusalem, 1995)

1. I can always manage to solve difficult problems if I try hard enough	Strongly disagree (1) – Strongly agree (7)
2. It is easy for me to stick to my aims and accomplish my goals	Strongly disagree (1) – Strongly agree (7)
3. I can solve most problems if I invest the necessary effort	Strongly disagree (1) – Strongly agree (7)
4. I can usually handle whatever comes my way	Strongly disagree (1) – Strongly agree (7)