Pink tax and justification's effects on product choice and purchase intention (#238638)

Author(s)
This pre-registration is currently anonymous to enable blind peer-review.
It has 2 authors.

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
This study examines how female consumers react to gender-based price differences (the "pink tax") and whether providing different types of justifications for price differences influences their product choices and purchase intentions.

Specifically, we will compare female consumers' product choice between women's and men's shampoos and purchase intentions for the women's and men's versions under seven different conditions: Equal price (control), Pink tax (women's version with higher price), and Pink tax with justification conditions (five conditions, with one justification for each).

To measure the "pink tax" reaction, we will test whether female consumers are more likely to 1) choose women's shampoo over men's shampoo, and 2) indicate higher purchase intentions for women's shampoo when it is priced equally to men's shampoo (control condition) compared to when women's shampoo is priced higher without justification (pink tax condition).

We are also interested in the potential effects of providing female consumers with different types of price difference justifications. A potential explanation of the pink tax in personal care products is product differentiation, which may lead to higher production costs than men's versions. For instance, women's shampoo may be more expensive due to more sophisticated package design, ingredients with more nourishing functions and fragrance, etc. Marketers may strategically employ these product differentiations to justify higher prices for women's products. Nevertheless, it remains unknown whether female consumers will be persuaded by these justifications and show higher purchase intentions for women's products even though they are more expensive once they realize the product differentiation. If we find that explicitly justifying the price difference from some aspects may lead to higher purchase intentions for women's shampoo among female consumers, it may be beneficial for marketers to clearly communicate these types of product differentiations in their marketing messages. If female consumers show no significant difference between the pink tax and the pink tax with justification conditions regarding purchase intentions for women's shampoo, it may suggest that the product differentiations in some aspects are ineffective in justifying the price difference in the first place.

3) Describe the key dependent variable(s) specifying how they will be measured.
There are two focal dependent variables in this study. The first is the choice of whether to buy the women's shampoo or not. Participants will choose one of 3 options: 1) to buy the women's shampoo, 2) to buy the men's shampoo, or 3) to buy neither of them. The second measure is the difference in purchase intention ratings between the women's shampoo and men's shampoo, each rated using two 7-point Likert scale questions: "I would like to buy this women's/men's shampoo for my shopping" (1 = Strongly Disagree, 7 = Strongly Agree).

We will also measure potential mediators that may explain the pink tax and price justifications' impacts on product choice and purchase intentions. Specifically, we will measure perceived price fairness through eight 7-point Likert scale questions, adapted from Bearden et al. (2012). There will also be one 7-point Likert scale question that measures perceived product similarity between women's and men's shampoos (1 = Very Different, 7 = Very Similar) and two open-ended questions that ask female participants to estimate the production costs (in US$) for the women's shampoo and men's shampoo.

4) How many and which conditions will participants be assigned to?
Participants will be randomized into one of the seven conditions: 1) Control - Equal price for women's shampoo and men's shampoo (N = 200), 2) Pink tax - Women's shampoo has a higher price than men's shampoo (N = 200), 3) Pink tax with justification - Package design difference (N = 100), 4) Pink tax with justification - Package color difference (N = 100), 5) Pink tax with justification - Product ingredient difference (N = 100), 6) Pink tax with justification - Product fragrance difference (N = 100), and 7) Pink tax with justification - Marketing message difference (N = 100). Specifically, the price for women's shampoo and men's shampoo will be equal ($13.99) for the control condition, while the women's shampoo will have a higher price ($13.99) than men's shampoo ($9.99) in both the pink tax condition and the pink tax with justification conditions.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will use a logistic regression where the dependent variable is female participants' choice to buy women's shampoo (women's shampoo = 1, men's shampoo or none of them = 0) and the independent variable is whether there is a pink tax (yes = 1, no = 0). To compare the pink tax condition to each of the five conditions that feature pink tax with justification separately, we will also perform logistic regressions using the observations under the pink tax conditions, where the dependent variable is female participants' choice to buy women's shampoo (women's shampoo = 1, men's shampoo or none of them = 0) and the independent variable is whether there is a pink tax justification regarding one specific aspect (e.g., ingredient difference) (yes = 1, no = 0).

We will conduct separate linear regression analyses where the dependent variable is the difference in purchase intention between women's shampoo and men's shampoo, and the independent variable is the product pricing condition (pink tax condition = 1, control condition = 0). To compare the pink tax condition with the pink tax with justification condition, the same linear regression analyses will be conducted with different independent variables (pink tax with justification condition = 1, pink tax condition = 0).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Participants who fail the attention check at the beginning of the survey will not be allowed to continue. We will also exclude participants who did not complete the survey or fail the manipulation check of the price difference (i.e., incorrectly identifying which product costs more). If participants attempt to take the survey twice (as measured by duplicate IP address), we will keep only their first response. We will run additional robustness checks to exclude participants showing suspicious response patterns (e.g., straight-lining all scale items and ignoring the reverse-coded questions).

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will recruit 1000 female participants through Prolific (before exclusion), targeting approximately 900 participants after exclusions.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Exploratory: We will perform the same logistic regression and linear regressions as indicated above to compare the effects of the control condition and the pink tax with the justification conditions on product choice and purchase intentions as an exploratory analysis.

Exploratory: We will also run separate linear regressions to compare the effects of the pink tax condition and the pink tax with the justification condition on perceived product similarity, estimated costs, and perceived price fairness, controlling for participants' income (as it may affect cost perceptions and price sensitivity). The purpose is to examine whether providing the price difference justification from specific aspects can potentially result in lower perceived product similarity, larger differences in estimated costs, and higher perceived price fairness.

Exploratory: We will test three separate mediation models for each group of five comparisons (i.e., pink tax vs. pink tax with justification from each of the five aspects) using Hayes' PROCESS macro (Model 4) with bootstrap confidence intervals (5000 samples) to examine whether the condition effect on product choice and purchase intention is mediated by a) Model 1: Condition → Perceived product similarity → Product choice/Purchase intention, b) Model 2: Condition → Estimated costs → Product choice/Purchase intention, and c) Model 3: Condition → Perceived price fairness → Product choice/Purchase intention. For product choice, we will use logistic regression within the mediation framework. For purchase intention, we will use linear regression. Mediation will be established if the bootstrap confidence intervals for the indirect effects exclude zero. The coding of the condition will follow that the Pink tax condition = 0, the Pink tax with justification condition = 1.

Manipulation checks: Apart from the manipulation check that verifies the perceived price difference in each condition, participants in each condition will also be asked to write down the product description they saw, as we want to ensure the manipulation of price difference justification is successful. We will code and evaluate whether participants correctly recall the justification content (e.g., mentioning specific product differences, ingredients, or features that justify the price difference).