Pink tax (volume difference) and justification's effects on product choice (#241948)

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 aims to replicate our previous findings on how female consumers react to gender-based price differences (the "pink tax") and how providing different types of justifications for price differences influences their product choices and purchase intentions.

Specifically, we will continue to 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 unit price), and Pink tax with justification conditions (five conditions, with one justification for each). We predict a replication of the previous results: that female consumers are more likely to choose women's shampoo over men's shampoo and indicate higher purchase intentions for women's shampoo when it is priced equally to men's shampoo compared to when the men's shampoo is priced lower without justification (holding constant the price of the women's shampoo). In the "pink tax" conditions of the current study, we aim to manipulate the pink tax differently by presenting participants with equally priced women's shampoo and men's shampoo, but with the men's version having a higher volume (i.e., raised to 35 fluid oz vs. 25 fluid oz in the control) than the women's version (i.e., 25 fluid oz in all conditions). This study will test whether participants are less likely to choose or indicate lower buying intentions for women's shampoo when it has a smaller size (i.e., higher unit price) than men's shampoo.

We also found that while design, color, and fragrance differences did not justify the price premium on women's shampoo and may even backfire on purchase intentions among participants in the prior study, the ingredient and pro-social marketing message (i.e., donation to organizations that promote gender equality) significantly increased participants' product choice and purchase intentions for women's shampoo. We will test whether these differences across the justifications replicate.

3) Describe the key dependent variable(s) specifying how they will be measured.
As in the previous study, 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, as measured in the previous study. 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. As additional mediators, we will also measure the perceived brand prosociality of women's shampoo and men's shampoo through one 7-point Likert scale question (1 = Very non-prosocial, 7 = Very prosocial), as well as a similar measure for the brands' perceived support of the participant's values.

Apart from the mediators, we are also interested in the potential for moderation of the reactions to same vs. different unit prices by attitudes toward gender equality in the marketplace (e.g., gender-based product differentiation) and price sensitivity. We would like to examine whether higher consumer gender equality awareness predicts fewer product choices and lower purchase intentions for women's shampoo when there is a pink tax. We will use four 7-point Likert scale questions to measure attitudes toward gender equality in the marketplace, including items such as "Gender-based product differentiation is unnecessary when products serve the same function" (1 = Strongly disagree, 7 = Strongly agree), with a scale reliability test. We will also test whether higher price sensitivity predicts fewer product choices and lower purchase intentions for women's shampoo when there is a pink tax. Therefore, we will also include the price sensitivity measure adapted from Goldsmith et al. (2003) with four 7-point Likert scale questions, which contain items such as "I am less willing to buy a product if I think that it will be high in price" (1 = Strongly disagree, 7 = Strongly agree).

4) How many and which conditions will participants be assigned to?
Participants will be randomized into one of seven conditions: 1) Control - Equal price for women's shampoo and men's shampoo (N = 200), 2) Pink tax - Equal price for women's shampoo and men's shampoo, but smaller volume and higher unit price for women's shampoo (25 oz, $0.56/oz) than men's shampoo (35 oz, $0.40/oz) (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). Note that we intentionally set a lower sample size for the justifications

because we will compare each justification to conditions 1 and 2. Specifically, the price and the volume 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 smaller volume (25 oz) and higher unit price ($0.56/oz) than men's shampoo (35 oz, $0.40/oz) 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 a similar set of logistic regressions, comparing the control condition to each of the five justification conditions.

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 (and control condition) with the pink tax with justification conditions, 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 failed the manipulation check of the unit price difference (i.e., incorrectly identifying which product costs more for the unit price). If participants attempt to take the survey twice (as measured by duplicate IP address), we will keep only their first response.

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 also run separate linear regressions to compare the effects of the pink tax condition and the pink tax with the justification condition on potential mediators, including perceived product similarity, perceived brand prosociality and support for one's values, estimated costs, and perceived price fairness, controlling for participants' income (as it may affect cost perceptions and perceived price fairness).

Exploratory: We will test five 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 perceived product similarity, perceived brand prosociality, brand value alignment, estimated costs, and perceived price fairness. For product choice, we will use logistic regression within the mediation framework. For purchase intention, we will use linear regression.

Exploratory: To examine potential moderating effects of attitudes toward gender equality in the marketplace and the price sensitivity, we will conduct moderated regression analyses by incorporating gender equality attitudes and price sensitivity as additional predictors in all main analyses. Specifically, we will add these variables as main effects along with their interaction terms with the treatment conditions (pink tax presence or justification types) in both logistic regression models predicting product choice and linear regression models predicting purchase intention differences to examine the potential boundary conditions.