

## ABSTRACT

If you know that chocolate is Fair-Trade, does it enhance your enjoyment? Does it affect how healthy you think the chocolate is? Does it influence how much you think the chocolate costs? Is there a relationship between mood and chocolate enjoyment? We performed a chocolate tasting study to address these questions. One hundred and sixteen undergraduate students at Georgian Court University tasted chocolate that was either designated as Fair-Trade or conventional (no mention of Fair-Trade) and then completed a survey measuring enjoyment of, estimated price of, and perceived healthiness of the chocolate in addition to a mood questionnaire. Across both conditions – Fair-Trade and conventional, there were no differences in enjoyment, price, or perceived healthiness. We did find a significant relationship between mood and enjoyment with an increasing positive mood correlated with enjoyment of the chocolate. These findings are discussed with respect to a lack of knowledge about the Fair-Trade designation.

## INTRODUCTION

Fair trade products are those that are ethically and sustainably grown, where the workers and growers receive fair compensation for the product. In the chocolate industry, farmers receive a very small percentage of the profits of chocolate merchandise (van Vliet et al., 2021). Research has demonstrated that Fair-Trade labels increase liking of various products, including chocolate (e.g., Berry & Romero, 2021; Lotz et al., 2013; Schouteten et al., 2021). Fair-Trade labels also increase perceptions of the healthiness of the chocolate (e.g., Berry & Romero, 2021).

The present study reports on a confidential survey. Participants tasted rondos of chocolate that were labeled either as Fair-Trade or conventional. They rated their enjoyment of the chocolate, how healthy they thought it was, and they indicated what they thought a fair price would be. Then they completed a measure of positive and negative affect

## HYPOTHESES

- H1: We expect that participants will enjoy fair trade chocolate more than conventional chocolate.  
 H2: We expect that participants will rate fair trade chocolate as more expensive than conventional chocolate.  
 H3: We expect that fair trade chocolate will be perceived as more healthy than conventional chocolate.  
 H4: We expect positive mood to predict greater enjoyment of the chocolate.

## METHOD

### Participants

The participants were 116 undergraduate students at Georgian Court University. They were volunteers, but some received extra credit for completion of the study. All were over 18. The fair-trade group included 49 participants with a mean age of 22.22 ( $SD = 7.346$ ). The conventional group included 67 participants with a mean age of 21.63 ( $SD = 5.621$ ). The fair-trade group consisted of 32.7% men and 67.3% women; the conventional group consisted of 35.8% men and 62.7% women. One individual did not indicate gender identity.

### Reported chocolate consumption frequency

	<1/month	<1/week	<1/day	Daily
Fair-Trade	9	11	24	5
Conventional	13	25	22	7

### Materials - Chocolate

The chocolate used in this experiment was Felchlin Madagascar couverture with a 64% cocoa mass. These were packaged in plastic baggies with five rondos allotted to each participant, a total of approximately 8 grams. The chocolate and instructions were packaged into envelopes. Gloves were worn during packaging to prevent contamination and sat for a week before distribution to minimize any COVID risk. There was a warning placed on the top of the directions that provided possible allergens in the chocolate.

### Measures

Each chocolate package was accompanied by a survey. On the top of the survey was a symbol that was either the Fair-Trade logo or a chocolate bar to signify conventional chocolate. The Fair-Trade logo was accompanied by the following description:



This bittersweet couverture chocolate is manufactured in Switzerland by a modern company using cacao grown in Madagascar. The cacao is purchased through a Fair-Trade consortium. The Fair-Trade designation indicates that the cacao is ethically and sustainably grown, and that the workers and growers receive fair wages and a fair price for the product.

The conventional chocolate image was accompanied by the following description:



This bittersweet couverture chocolate is manufactured in Switzerland using cacao grown in Madagascar. The cacao is processed in a modern factory in central Switzerland, which produces chocolate and related products.

After the taste-testing experience, the participants were asked to rate their enjoyment of the chocolate on a scale of 0 to 10 (ten indicating enjoyed immensely), how much they thought it cost, how much they normally consume chocolate, how healthy the chocolate seemed on a scale of 0 to 10 (ten indicating very healthy), and their age and gender identity.

Finally, participants completed the Positive and Negative Affect Survey (PANAS-GEN), which measures affective state. Some of the 20 affects include: excited, guilty, proud, and irritable. These are rated on a 5-point scale with 5 indicating feeling it most extremely.

## Procedure

Students in the PS345 Honors Special Topics: Chocolate class distributed the envelopes to the participants. Each envelope contained a consent form, a survey, and the chocolate.

After signing the consent form, participants were instructed to taste the chocolate. The instructions were to take one rondo and let the chocolate first melt in their mouths and then take a second rondo and chew it. Following the chocolate tasting, participants then completed the survey.

## RESULTS

### Effect of Fair-Trade label on Enjoyment of Chocolate

The dependent measure for this analysis was the chocolate enjoyment rating. The comparison was made across conditions (Fair-Trade; conventional). In order to determine if there is an enjoyment difference between chocolate labeled Fair-Trade and convention, we conducted an independent-samples *t*-test. We found that, contrary to our hypothesis, Fair-Trade chocolate ( $M = 6.00$ ,  $SD = 2.40$ ) was not enjoyed more than conventional ( $M = 6.12$ ,  $SD = 2.50$ ) [ $t(114) = 0.26$ ,  $p = .796$ ].

### Effect of Fair-Trade label on Estimated Price of Chocolate

The dependent measure for this analysis was the chocolate's estimated price. The comparison was made across conditions (Fair-Trade; conventional). In order to determine if there is an estimated price difference between chocolate labeled Fair-Trade and convention, we conducted an independent-samples *t*-test. We found that, contrary to our hypothesis, Fair-Trade chocolate ( $M = \$2.86$ ,  $SD = \$1.46$ ) was not rated as more expensive than conventional ( $M = \$2.70$ ,  $SD = \$1.38$ ) [ $t(112) = 0.59$ ,  $p = .555$ ].

### Effect of Fair-Trade label on Perceived Healthiness of Chocolate

The dependent measure for this analysis was the chocolate's perceived healthiness. The comparison was made across conditions (Fair-Trade; conventional). In order to determine if there is a perceived healthiness difference between chocolate labeled Fair-Trade and convention, we conducted an independent-samples *t*-test. We found that, contrary to our hypothesis, Fair-Trade chocolate ( $M = 6.43$ ,  $SD = 1.85$ ) was not perceived as healthier than conventional ( $M = 6.03$ ,  $SD = 1.92$ ) [ $t(114) = 1.12$ ,  $p = .263$ ].

### Relationship of Mood and Chocolate Enjoyment

The dependent measures for this analysis were the chocolate enjoyment and positive mood. In order to determine if there is a positive relationship between enjoyment and mood, we conducted a Pearson Correlation. We found that there was a significant positive correlation [ $r(116) = .28$ ,  $p = .002$ ].

## DISCUSSION

We predicted that the Fair-Trade logo would significantly affect chocolate enjoyment, estimated price, and perceived healthiness. We were not able to confirm any of these hypotheses as none were statistically significant. In our sample, there is no difference between Fair-Trade and conventional chocolate in enjoyment, estimated price, or perceived healthiness.

We were able to demonstrate a relationship between positive mood and chocolate enjoyment such that the more positive the mood, the more the participant enjoyed the chocolate. We cannot be certain about the direction of causality in this relationship, however, given the nature of correlational analyses and the fact that we did not measure mood before the study began.

One of the major limitations of this study rests with our sample's knowledge about Fair-Trade products. Although those in the Fair-Trade condition were given a very brief description of the Fair-Trade designation, it remains very likely that our student sample was not familiar with Fair-Trade policies and were, therefore, not as likely to consider the label in ranking enjoyment, estimated price, and rating perceived healthiness. Future research should explicitly ask about the participant's knowledge and understanding of Fair-Trade products.

Despite this, it is interesting to note that mood is associated with chocolate enjoyment. It will be interesting, in future research, to try to establish the direction of this relationship. Does enjoying chocolate boost your mood or does a good mood boost your enjoyment of the chocolate? Further, what is the relationship between consumption of Fair-Trade products, mood, and enjoyment?

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## AUTHOR NOTE

We have no known conflicts of interest to disclose.

Correspondence concerning this poster should be addressed to Alexis N. Hahn, [ah62985@georgian.edu](mailto:ah62985@georgian.edu), Jane H. Paschen, [jp62537@georgian.edu](mailto:jp62537@georgian.edu) or Joseph R. Sauchelli, [js66443@georgian.edu](mailto:js66443@georgian.edu). Mailed correspondence should be addressed to Susan E. O. Field, Department of Psychology and Counseling, Georgian Court University, 900 Lakewood Avenue, Lakewood, NJ 08701, United States. Email: [sfield@georgian.edu](mailto:sfield@georgian.edu) or Karen J. Kelly, Department of Psychology and Counseling, Georgian Court University, 900 Lakewood Avenue, Lakewood, NJ 08701, United States. Email: [kkelly@georgian.edu](mailto:kkelly@georgian.edu)