The Impact of Food Label Shapes on Perceived Healthiness of Food and Purchase Intentions

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APPENDIX A. Summary of measurement items.

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| **Construct** | **Measurement items (seven-point scales)** | **Reliability** |
| Shape (Jiang et al., 2016) | •I think the shape of the food label is angular. | α = .75 (Experiment 1)  α = .80 (Experiment 2)  α = .79 (Experiment 3) |
| Purchase Intentions (Sweeney et al., 1999) | •I will consider buying this whole wheat bread.  •I am very likely to buy this whole wheat bread.  •I will buy this whole wheat bread. | α = .79 (Experiment 1) |
| Purchase Intentions (Chen & Kim, 2013; Huang et al., 2014; Teresa et al., 2006) | •I would give priority consideration to this product.  •This product is my top choice for purchases in its category.  •The likelihood of my purchasing this product is very high.  •I am willing to pay a higher price for this product. | α = .79 (Experiment 3) |
| Product Evaluation (Förster, 2004) | •I am satisfied with this chocolate.  •This chocolate is appealing to me.  •I rate this chocolate highly. | α = .83 (Experiment 2) |
| Perceived Healthiness of Food (Roininen et al., 1999; Steptoe et al., 1995) | •I believe this product helps me stay healthy.  •I consider the healthiness of this product to be very important. | α = .70 (Experiment 2)  α = .79 (Experiment 3) |
| Product Familiarity (Mead & Richerson, 2018) | •I am very familiar with this product.  •I often eat this product.  •I frequently see this product when shopping. | α = .87 (Experiment 1) |
| Warmth Perception (Bennett & Hill, 2012) | •This label shape gives me a feeling of warmth. | α = .94 (Experiment 3) |
| The self-construal manipulation measure (Kühnen & Hannover, 2000) | •The previous thoughts made me think of myself.  •The previous thoughts made me think of my friends/family. | α = .78 (Experiment 3) |

APPENDIX B. Overview of experiments.

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| Experiment | Sample | Design | Manipulation | DV | Main purposes |
| 1 | 258  participants | 2 (label shapes: angular group vs. circular group) between-subjects design | • shapes: rectangular label for the angular shape group and a circular label for the angular shape group  • product intentions  (3 items) | Whole wheat bread in clear bags | • Individuals exhibit a higher willingness to purchase products with angular food labels(H1). |
| 2 | 231  participants | 2 (label shapes: angular group vs. circular group) between-subjects design | • shapes: rectangular label for the angular shape group and a circular label for the angular shape group  • product evaluation | Non-transparent box chocolates | • Perceived healthiness of food mediate the relationship between the shape of food labels and the willingness to purchase（H2). |
| 3 | 402  participants | 2 (label shapes: angular group vs. circular group) ×2 (self-construal: independent vs. interdependent) two-factor between-subjects design | • shapes: rectangular label for the angular shape group and a circular label for the angular shape group  • Self-construal: measured  • product intentions  (4items) | Canned juice | •Self-construal moderates the impact of food label shape on individual purchase intentions. Specifically, for individuals with independent self-construal, angular (vs. circular) label shapes enhance purchase intentions; for individuals with interdependent self-construal, circular (vs. angular) label shapes enhance purchase intentions. |

APPENDIX C. Experimental Stimulus Selection and Experimental Progression.

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| **Experiment** | **1** | **2** | **3** |
| Sample | 258 participants on Credamo, with an average age of 32.72 years (SD = 10.768), and 64.7% were female. | 231 participants on Credamo, with an average age of 32.59 years (SD = 9.543), and 51.1% were female. | 402 participants on Credamo, with an average age of 31.87 years (SD = 8.379), and 47.8% were female. |
| Experimental design | Label shape: angular vs. circular | Label shape: angular vs. circular | 2 (Label shape: angular vs. circular) x 2 (Self-construal: independent vs. interdependent) |
| Independent variable manipulation | Entire food label, healthy food | Food label itself, unhealthy food | Food label itself, healthy food |
| Dependent variable | Purchase intention for healthy foods and necessities | Purchase intention for unhealthy foods and non-necessities | Purchase intention for healthy foods and non-necessities |
| Stimulus | Whole wheat bread | Chocolate | Blueberry juice |
| Food brand | Real brand | Real brand | Virtual brand |
| Package transparency | Transparent | Opaque | Opaque |
| Product information richness | More | Less | More |
| Packaging material | Plastic | Paper | Can |
| Food type | healthy foods, necessities | unhealthy foods and non-necessities | healthy foods and non-necessities |
| Food state | Solid | Solid | Liquid |
| Experimental progression | In this experiment, the wholegrain bread was a healthy food from a real brand, using transparent packaging with more food information display, and the experiment excluded product familiarity. This was conducted to test H1. | The chocolate in this experiment was an unhealthy food from a real brand, using opaque packaging with less food information display, and the experiment excluded perceived product innovation. Additionally, a product evaluation scale was used to measure the dependent variable. This was conducted to test H1 and H2. | The juice in this experiment was a healthy food from a virtual brand, using opaque packaging with more food information display, and the experiment excluded warmth perception. Also, a purchase intention scale different from that used in Experiment 1 was used to measure the dependent variable. This was conducted to test H3. |

APPENDIX D. Research on the Shape of Food Labels

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| **Literatures** | **Food types** | **Forms of food label shapes** | **Independent Variables** | **Independent Variable Manipulations** | **Dependent Variables** | **Main Conclusions** |
| Salgado-Montejo et al. (2015) | None | Shapeofpackagingdesignelements | Shape of packaging design elements, symmetry, number of elements |  | Taste (sour, sweet) | Circular, symmetrical, and fewer-element label shapes may be categorized by consumers as sweet (and more pleasant tastes), whereas angular, asymmetrical, and more-element label shapes may be categorized as sour (and less pleasant tastes). |
| Gil-Pérez et al. (2019) | Nuts (snacks) | Shapeofpackagingicons | Internal label shape (angular vs. circular) |  | Taste (spicy, roasted) | Angular label shapes with fire icons increase spiciness expectation, while circular label shapes with fire icons increase roasted expectation. |
| Heatherly et al. (2019) | Wine (drinks) | Package label shape | Background label shape (angular vs. circular) |  | Wine odor（Buttery, Smoky, Citrus, Floral, Vegetable） | Wine odor does not elicit stronger cross-modal associations with background image shape (angular vs. circular). |
| Sousa et al. (2020) | Coffee (drinks) | Shape of design elements on packaging labels | Background label shape (angular vs. circular) and label color (green vs. red) |  | Purchase intention, preference | Pairing angular label shapes with green to represent sourness, and circular label shapes with red to represent sweetness, can enhance consumers’ purchase intention and liking. |
| This paper | Whole wheat bread (healthy food) | Food label shape | Outer shape of the text on labels (angular vs. circular) |  | Purchase intention | Angular (vs. circular) label shapes increase purchase intention. |
| Chocolate (unhealthy food) |
| Juice(drinks) |

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