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Guiltless Gluttony: the Asymmetric Effect of Size Labels on Size Perceptions and Consumption

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We have proposed and demonstrated that size labels can be used as a semantic heuristic in making size judgments. A series of three laboratory and one field experiments show that size labels influence not only size perception but also actual and perceived consumption; and that their effect is most pronounced under conditions of limited cognitive resources and increased concern for accuracy. Among our results we demonstrate that consumers are more likely to accept a larger item being labeled as small by the marketer compared to a smaller item being labeled as large, an asymmetric effect that we call “guiltless gluttony”.

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EXTENDED ABSTRACT

Obesity is now seen as one of the leading public challenges of our time. General consensus holds that the increase in food portions is one factor contributing to the obesity epidemic in the U.S. Standard portions, as defined by the federal government are considerably smaller than portions typically consumed by the public. This discrepancy makes it difficult for people to relate the amounts they eat to recommended amounts and contributes to people's uncertainty about the appropriate amount to eat. In this context of large portion sizes and uncertainty about appropriate portion sizes, we propose that size labels that manufacturers choose to use on their food products can have a major impact on consumers' purchase and consumption behavior.

The basic conceptual question we ask in this research is "how do people integrate different cues to form size judgments?" In the context of food and drink categories, judgments of size estimations can be made using multiple inputs coming from the stimulus: *visual* cues from the stimulus itself, *semantic* cues in the form of size labels (and other written information), and *sensory* cues from post-consumption judgments. Furthermore, information coming from these multiple sources can be inconsistent. For example, a product can be (intentionally) mislabeled by the marketer as a "large" when it is actually "small" within the context of similar products in the category, and vice versa. We explore to what extent people rely on the visual size versus the size label in forming size estimations, which will then affect their actual consumption.

We build on the Heuristic-Systematic Model (HSM) from the information processing paradigm as a framework to explain this information integration. The model suggests two different modes of information processing: *systematic* processing (with a more comprehensive and analytic orientation) and *heuristic* processing (with a more limited, less effortful orientation). We propose and demonstrate that size labels can be used as a semantic heuristic in making size judgments for everyday food and drink consumption, since people may find it difficult to estimate absolute sizes of products from visual product stimuli.

A series of three laboratory experiments and a field study show that size labels influence not only size perception but also actual and perceived consumption; and that their effect is most pronounced under conditions of limited cognitive resources and increased concern for accuracy.

Study 1 uses a 2 ("size label": inconsistent, consistent) x 2 (actual "serving size": six, eight pretzels) mixed-subjects design to test the effect of size labels on size perceptions, with sixty one participants. Snack plates with mini-pretzels are used as the stimuli. Each participant is presented with two snack plates sequentially with size labels attached and is asked to indicate pre- and post-consumption size estimations for both plates. ANOVA tests with pre-consumption and post-consumption perceived size as the two dependent variables show a significant interaction between serving size and size label (consistent vs. inconsistent), and planned contrasts are in expected directions. Accordingly, we demonstrate the biasing influence of size labels over visual stimuli in this study.

Studies 2 and 3 establish the conditions of *when* the biasing effect of size labels are most pronounced. Study 2 tests for cognitive

load and uses a 2 ("size label": small, large) x 2 ("actual size": small, large) x 2 ("cognitive load": load, no load) between-subjects design, with one hundred and sixty participants. Mini-sandwich bowls, which also include nutrition information, are used as the stimuli in this experiment. We establish that under load, participants are subject to the biasing effect of size labels, while in the absence of load, they can correct for the bias. As a second moderator, Study 3 tests for concern for accuracy, operationalized through measuring nutrition consciousness. It uses a 2 ("size label": small, large) x 2 ("actual size information given": 30 gr., 50 gr.) x 2 ("nutrition consciousness": high, low) between-subjects design, with two hundred participants. We find that when consumers care less about their nutrition and energy intake estimation accuracy, they are more likely to rely on size labels as a simplifying heuristic.

Finally Study 4 explores the effects of size labeling on actual and perceived consumption in the field. Packed portions of eggs are used as the stimuli for this experiment during a breakfast of thirty three Rotary Club members as participants. We find that the mere use of different size labels for the same product affects the amount people consume (without knowing). This indicates that actual behavior can also be influenced by the use of labeling. Further, consumers may not even be aware of the effect of the size label on their consumption behavior.

The studies together also suggest an asymmetry in the biasing effect of size labels. Since obesity-prone consumers are inclined to consume large quantities, they are more open and willing to accept a larger item being labeled small, and not feel guilty of increased consumption. However, when the reverse happens, when a smaller item is labeled large, consumer skepticism takes a hold, and they are suspicious that the marketer is trying to signal better value for a smaller product. As such, the size label has a smaller effect on size perceptions in the latter case. We call this asymmetric effect "guiltless gluttony".

In sum, since size labels can (mis)lead food perceptions of consumers, marketers need to be careful in their adoption of new labels; mislabeling (unwittingly using a size label that connotes a different size perception from what the actual product is perceived to be) could result in serious negative consequences for the firm if recognized by public policy officials, consumers or the media. For the wellbeing of consumers, it is critical to use size labels ethically. Since consumers are increasingly faced with the dangers of obesity, a more educated view of size labels and serving sizes is critical for each consumer. Public policy officials need to be vigilant about marketers mislabeling products to unfairly influence consumer purchase behavior.

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