How Squeeze Tubes Affect Consumption Volume  
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Convenient packagings have been increasingly added to product assortments. Two studies show that consumers use less of a product when it comes in a squeeze tube versus a traditional container. A third study shows that the ease of consumption monitoring drives the effect which is more prominent for unrestrained eaters.

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EXTENDED ABSTRACT

Introduction

Nowadays, food products come in various types of packaging differing in level of convenience. For example, squeeze tubes were launched to increase convenience in terms of ease of handling the package. We investigate whether consumers use more or less of a product when it comes in a more versus less convenient packaging.

The relevance of this research question is particularly clear when we consider the alarming obesity rates worldwide. As packaging is often the first product attribute to which consumers are exposed, the effect of packaging on consumer responses has already received extensive research attention. Up till now, research has examined the impact of different packaging features such as imagery and size on consumer behavior. These previous studies note differences on consumer related to the visual attributes of the packaging. However, to the best of our knowledge, no research to date has investigated the effect of convenient packaging on consumer behavior. This is surprising as it seems likely that the convenience of packaging does affect consumption behavior. We argue that squeeze tubes will affect consumption behavior and propose two rival hypotheses.

Theoretical background

Motor fluency

Previous research illustrates that motor fluency - the fluency arising from the motor system - can impact judgments ([1]; [7]). For example, holding a pencil in the mouth in a way that facilitates or inhibits smiling musculature influences the affective responses ([9]). More specifically, motor fluency means that easily performed actions give rise to positive feelings that spill over to the object of attention as the feeling of ease results from bodily feedback.

The motor fluency effect thus explains why products that are easy to interact with are liked better by consumers. In this paper, we focus on easy to handle, convenient packagings like squeeze tubes. As there is no need to use cutlery, squeeze tubes are very easy to interact with and consumers can simply squeeze the package to obtain the product. We predict that consumers will use more of the product when it comes in a convenient packaging like squeeze tubes (H1).

Ease of consumption monitoring

Previous research has already shown that consumption monitoring is a key determinant of how much one eats ([2]; [3]). We believe that easy packagings like squeeze tubes may affect the ease of consumption monitoring. As the volume of the product one is going to consume is steadily increasing, consumers might find it easier to monitor their behavior and define the portion they want to consume. As it may enable consumers to monitor their consumption more easily and accurately it may reduce their consumption volume (H2).

Restrained eating

Will a convenient packaging effect always occur? Probably not. Previous research has already shown that consumption is influenced by how concerned consumers are about their weight (e.g.,[4]). As restrained eaters restrict their food intake to avoid gaining weight and thus already pay a lot of attention to how much they consume, we do not expect a big difference between how much they consume from a convenient versus less convenient packaging. However, for unrestrained eaters who are less concerned with their weight, we expect that the convenient packaging will have a larger effect on their consumption (H3).

Study 1

We created a between-subjects design with two conditions to which they were randomly assigned (baking butter squeeze tube vs. baking butter pack). A one-way ANOVA shows that participants using the squeeze tube used less of the baking butter than participants using the standard butter pack providing preliminary evidence for H1.

Although Study 1 provides preliminary evidence for H1, it has three shortcomings. Firstly, the convenient packaging contained fluid butter, whereas the less convenient package contained solid butter. Secondly, respondents’ healthiness perception of solid versus fluid butter may differ which also could have induced a bias. Thirdly, although both products contained the same amount of baking butter, the fact that the squeeze tube has a vertical shape while the butter pack has a horizontal shape, could have led to a bias as previous research has shown that people only use the vertical dimension to estimate portions ([6]; [8]).

Study 2

In Study 2, we use mayonnaise as the product substance is exactly the same in the convenient as in the less convenient condition and both packagings have a vertical shape.

A manipulation check shows that participants perceived the squeeze tube as more convenient than the jar. A one-way ANOVA shows that participants used less mayonnaise with the squeeze tube than with the jar, providing additional evidence for H1. Also, participants’ healthiness perception of the mayonnaise did not differ between the two conditions.

Study 3

The objective of Study 3 is to provide experimental evidence that the ease of monitoring mediates the relationship between packaging and consumption while ruling out the motor fluency explanation. In addition, we demonstrate that the effect of packaging on consumption through the ease of consumption monitoring is stronger for unrestrained than restrained eaters. We created a between-subjects design with three conditions to which participants were randomly assigned: (1) the convenient condition (i.e., mayonnaise in a regular squeeze tube), (2) the less convenient condition (i.e., mayonnaise in a jar) and (3) a third condition in which we adapted the convenient packaging and made the opening bigger. In that way, we hold the motor fluency experience constant across condition 1 and 3 but impede the ease of consumption monitoring.

A one-way ANOVA shows that participants using the regular squeeze tube used less mayonnaise than participants using the jar and the adapted squeeze tube. A moderated mediation analysis shows that the ease of monitoring mediates the effect of packaging on consumption volume and this effect is more pronounced for unrestrained eaters:

Our three experiments provide consistent evidence that convenient packagings like squeeze tubes reduce consumption volume. Our studies underscore that the ease of consumption monitoring is...
a key driver of this effect and that restrained eating is a boundary condition.

REFERENCES