

effective stories (Dalkir & Wiseman, 2004). The working definition of a story used in this study is: "A detailed, character-based narration of a character's struggles to overcome obstacles and reach an important goal" (Haven, 2007).

Yet little is known about how climate change related stories affect pro-environmental motivation and behavior. The working hypothesis is that stories have greater persuasive influence on pro-environmental behavior than 'information' alone.

Methodology

The behavioral study is a single-blind design currently being undertaken at a behavioral lab at Aarhus University in Denmark. Participants are randomly assigned to one of three conditions, two treatments and a control group: (A) Written, story-based treatment, (B) Written, information-based treatment, (C) Control group. For each condition behavioral and self-reported measures, are used to gauge the effect of the treatments.

Discussion

Currently, climate-change focused messaging primarily uses statistics, tables, graphs and informational prose for communicating the urgent findings of scientific research. Despite their intellectual credibility within the scientific community, these communication frames have proved mostly ineffectual in motivating costly pro-social behavior in a realistic context of uncertainty and cognitive complexity. This study aims to find different and more effective ways to overcome the many barriers to pro-environmental behavior, which render climate change a 'perfect storm' for our evolutionary vulnerabilities. The suggested approach leverages another human evolutionary vulnerability: our undeniable predilection for stories.

It appears that stories may strengthen the connections between experiential and analytic processing by providing context, coherence and meaning to intellectually compelling information. This study contributes to filling lacunae in the literature by using a novel approach to examining how stories impact pro-environmental behavior. Much more research will obviously be needed to affirm the findings and to shed more light on how stories affect cognition; this is only a first step. It is our hope that we may exploit a greater understanding of how our evolutionary wiring for stories might make us more willing to make sacrifices now for others who will live in an uncertain future.

Consumer response to packaging design: the role of packaging materials and visuals in sustainability perceptions and product judgments

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Introduction

This research investigates whether and how different packaging materials and visual designs influence consumers' perceptions of the packaged product, and how these relate to overall product attitudes. Specific attention is paid to consumer sustainability perceptions, a topic that has garnered increasing managerial and policy-level attention, but that has been left relatively under-represented in marketing research. Previous research on consumer response to packaging has focused chiefly on packaging visuals and verbal elements (labelling) on the packaging (e.g., Celhay & Trinquécoste, 2015; Magnier & Schoormans, 2015), branding effects (e.g., Underwood, 2003; Underwood & Klein, 2002) and holistic design factors (e.g., Orth & Malkewitz, 2008). We aim to contribute to this literature by examining consumer response to packaging materials, which are crucial for the sustainability of a package. Building on theories of cue acquisition and integration (Olson, 1978; Rao & Monroe, 1989; Steenkamp, 1990), we examine the role of packaging design

in (i) consumer cue acquisition and perception, (ii) consumer inferences of (expected) packaged product benefits and (iii) overall attitudes towards the packaged product. In this view, we consider the packaging as providing a series of cues which consumers can perceive and interpret to make inferences about the product's expected benefits, as a basis to inform their overall attitudes towards these products.

Empirical study

We conducted an empirical study among 249 Dutch students. Stimuli consisted of 14 soup packages constructed from 7 material types (glass jar, bioplastic pot, liquid carton, dry carton and bag, plastic pouch, mixed material pouch consisting of plastic with carton wrapping, can) and two visual schemes (designed to be conventional-looking vs. sustainable-looking).

We used an idiosyncratic method of attribute elicitation (based on triadic sorting) that does not impose predefined criteria, but that allows respondents to freely use their own criteria. Specifically, respondents were presented with seven triads of differently packaged soup products and gave short descriptions of their perceptions of these packaged products using their own words. Respondents then profiled each packaged product by indicating the extent to which each of their own descriptions applied to the product, following a "check all that apply" format. Lastly, respondents rated each product on a set of product benefits (i.e., sustainability, convenience, healthiness, naturalness, taste, inexpensive price and quality), obtained from literature, and overall attitude.

Based on a content analysis we categorized 3224 elicited descriptions (cue perceptions) into 28 cue perception categories. Notably, we find a high convergence between respondents own descriptions and the benefit dimensions; each benefit was represented by a corresponding category obtained from elicitation. To provide support for this, multilevel regressions were out carried using the 28 elicitation categories as predictors for the benefits. These regressions indeed show high convergence (all p 's < 0.0001) between the elicitation categories and benefits that were deemed similar. This supports the contention that consumers use packaging cues to infer about relevant benefits – including both sustainability of product and package. Other relevant spontaneous perceptions that were related to benefit dimensions included in particular transparency, packaging flexibility, modernity (vs. traditional), luxuriousness, product preservability and contents per package. These results are also displayed on a perceptual map based on clustering of dominant score patterns.

Visual and material packaging designs significantly contributed to perceived benefits. Visuals most strongly affected perceptions of naturalness ($F(1, 248) = 42.511$, $p < 0.0001$, $\eta^2_p = 0.146$) and sustainability ($F(1, 248) = 27.297$, $p < 0.0001$, $\eta^2_p = .099$) - even though from an objective point of view the product is not affected. Materials affected most strongly (perceived) packaging sustainability ($F(5, 1221) = 38.236$, $p < 0.0001$, $\eta^2_p = .134$), but we also find medium-sized effects on overall sustainability, healthiness, naturalness, taste, price and quality. Differences in packaging materials have consequences for perceived environmental impacts, but are also associated with different benefit perceptions beyond sustainability, such as price ($F(5, 1305) = 19.053$, $p < 0.0001$, $\eta^2_p = .071$) and can "spill over" towards intrinsic product benefits such as taste ($F(5, 1163) = 28.386$, $p < 0.001$, $\eta^2_p = .103$) and healthiness ($F(5, 1159) = 25.604$, $p < 0.0001$, $\eta^2_p = .094$).

A separate regression showed that all benefit dimensions, in turn, were relevant to consumers' overall attitude towards the packaged products (p 's < 0.05).

Discussion

Sustainability can be signalled to consumers using both visual and structural aspects of packaging design. Although actual environmental impacts of the packaging likely are a consequence of the packaging's structural elements, they also affect a wide range of other benefits (e.g., price,

convenience), including perceptions of intrinsic product elements (taste, healthiness). Whether more sustainable packaging design is desirable from a managerial perspective will depend to a large extent on product positioning. This is especially relevant for those brands and products that may be harmed in light of more sustainable positioning, (Luchs, Brower, & Chitturi, 2012; Luchs, Walker Naylor, Irwin, & Raghunathan, 2010). We showed how consumers rely on their intuitions when they are confronted with products differing in packaging design to form inferences about product benefits used to assess the product, and that altering packaging sustainability can change how the packaged product is perceived as a whole.

Special Session Behavioural theories of the firm, entrepreneurship, innovation

7/9/2016 8:30:00 AM: Pomona Room 1+2

Prof. Morris Altman

The Multi-Faceted (Boundedly) Rational Entrepreneur: from Rent-Seeker to Growth Maker

Altman, Morris (University of Newcastle)

I argue that the entrepreneur can be constructively modelled as a boundedly rational or smart, purposeful decision-maker whose behavior can affect economic outcomes in either a positive or a negative manner. The entrepreneur can be the Schumpeterian type or a managerial innovator (a gap-filler as discussed by Leibenstein). In all cases, entrepreneurs play a determining role in organizing and/or managing the economic resources of the firm at varying levels of risk to themselves. This would include facilitating innovation and its adoption by the firm. This facilitator role plays a vital role in generating economic growth, whilst it can also negatively impact on the growth process where the entrepreneurs' innovative activity focuses on rent-seeking behaviour. In this narrative, the entrepreneur is motivated by the incentive environment (inclusive of institutional parameters), peer environment (identity), mental models, the preference function of the entrepreneur. The supply of certain classes of entrepreneurs, and hence the extent of entrepreneurial activity can be affected by formal and informal education. Aspects of this modelling exercise derive from Altman's model of induced technological change wherein environmental pressures on firm decision-makers incentivize them to innovate. The latter is affected by alternatives to positive innovation, such as rent seeking behaviour. Also, the extent of innovative activity is affected by how effective the managerial innovator happens to be. Managerial inefficiency reduces the probability of technological change. *Ceteris paribus*, the less efficiency (more x-inefficiency) is the firm, the less cost effect will the new innovation be. The supply of innovators of all types affects the extent of economic growth, contingent upon the preferences of entrepreneurs, mental model of the entrepreneur, the incentive environment, institutional parameters, and peer environment (identity). The entrepreneur is a key variable in realistically endogenizing technological change. Unlike in the conventional model optimal rates of technological change and related to this the highest reasonably achievable levels of efficiency cannot be assumed to be autonomously and optimally determined by market forces. The latter can generate a wide range of sustainable growth rate, contingent upon the quality and quantity of entrepreneurs and their preferences and their over-arching decision-making environment.