A theoretical description and experimental exploration of tri-reference point theory with respect to food choice

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A B S T R A C T

Recent findings within behavioural decision-making suggest that individuals make use of a tri-reference point set when making choices. This implies that choices and preference formation among competing products that are considered acceptable, but differ in desirability, are formed differently along the continuum from bottom line to target level. This study examined whether personal goals, as multiple reference points in relation to food product choice, inherit the properties of a value function. It was posited that goals as cognitive constructs are translated through the target object (the product) and through judgement and context into a representation of identified product preferences. The types of preferences that characterise the different goal levels were then analysed using data collected in an in-store, non-hypothetical consumer experiment with a random sample of 236 consumers. The existence of tri-reference point dependence was strongly supported, with the data indicating that product choices and preferences were moderated by transitions across reference states. Moreover, during transitions notable relative changes in evaluation of the product were identified. These results have normative implications for food product marketing in terms of targeting consumer needs. More importantly, they have strong methodological implications for studies on consumer preferences.

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Introduction

It is a well-recognised that people's behaviour, including that relating to their role as consumers, is goal-orientated (Baumgartner & Pieters, 2008). When food consumers decide which product to buy and in what quantity in relation to what they eat or drink, they do so based on deliberate or automatic goals that they aim to pursue. Such goals may be activated by situational and contextual stimuli, but can also be stereotypical and automatically activated through a well-learned set of associations (Verplanken & Aarts, 1999). To this end, a body of literature relating to motivational and goal-related concepts in food choice has developed based on the mean-end chain theory (Gutman, 1997; Olson & Reynolds, 2001). In such research, consumer product perception is established with a chain from product attributes through to more abstract mental representations in the form of desirable or undesirable consequences and to the attainment of personal values.

Goal-setting theory defines goals in relation to their motivational meaning as desired end-states (Kruglanski et al., 2002). By being associated in this way with their means of attainment, goals extend into behavioural plans and courses of action (Aarts, Dijksterhuis, & De Vries, 2001; Ferguson & Bargh, 2004; Kruglanski et al., 2002). Goals can relate to external factors such as a valuable object, or to a specific level of performance that is not accompanied by a discrete, tangible extrinsic reward as the "mere" goal (Heath, Larrick, & Wu, 1999). Either way, mental consideration of the desirability of a goal leading to its means generates a value component and an expectancy of attainment, which together define subjective utility. This in turn determines the persistence of goal-directed strivings (Atkinson, 1964). There is growing evidence that consumer goals affect utility judgements (Bettman, Luce, & Payne, 1998; Chernev, 2004; Heath et al., 1999). The value reflected by goals therefore refers to states such as a bundle of goods, a product, a state of mind or a certain need. Hence, goals can be ordered on a range from low value to higher value within the range defined based on what is considered to be desirable. A self-regulation mechanism then operates so that individuals select and implement the appropriate means to their goals (Kopetz, Kruglanski, Arens, Etkin, & Johnson, 2012). Together this implies that as goals become altered along the goal gradient by

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some extrinsic or intrinsic stimuli, the configuration of associated means can be expected to change and affect the valuation of the means (Fishbach, Shah, & Kruglanski, 2004). In goal-setting theory, it is assumed that the magnitude of value changes is directly proportional to the value attached to the goal (Kopetz et al., 2012).

This goal-mean approach is supported by findings in neurobiology of sequential use of two distinct behavioural decision systems (Matsumato, Matsumato, & Abe, 2006). First, in a new decision environment, such as when a consumer forms preferences for a new product, behaviour can be expected to be under the control of a goal-based action selection process, where the consumer forms an anticipatory representation of a goal and then selects an action that seeks to attain the goal. Second, after a transition period which is mediated by the goal-setting process, utility-based action behaviour comes into play (ibid).

For the resolution of goal conflicts or choice between multiple goals (perhaps among competing goals given a desirable end-state, or transitions between goals of different desirability), it is necessary to consider transitions between states and focus on value changes. One widely accepted characteristic of decision-making behaviour is that of sensitivity to change. An example of this is when the individual considers giving something up and replacing it with something else. In such instances, preferences between options, or means, have been found to vary in relation to the base position against which alternatives are viewed. This property is called reference dependence (Tversky & Kahneman, 1991). With reference to the substitution of a single goal, Heath et al. (1999) suggest that the goal value function around the reference point would theoretically inherit the properties of loss aversion from prospect theory (Kahneman & Tversky, 1979). The initial goal reference point would then divide the goal gradient into a positive and a negative region. This implies that an initial goal set to operate as a reference point is capable of explaining behavioural aspects such as inertia and habit formation, which are pervasive phenomena in food choice (Verplanken & Aarts, 1999).

Faced with the existence of multiple goals, some of which may be competing, within the boundaries of what is desirable, a growing number of studies suggest that individuals make use of a larger set of reference points in their decision making. Research on foraging behaviour and goal setting has shown that humans and animals consider multiple thresholds along an outcome range in making decisions about risky choices (e.g. Hurly, 2003).

While there have been numerous contributions to the literature on motivational and goal-related concepts, it is interesting to note that the manner in which goals operate on food behaviour and food product choice has been largely unexplored in previous consumer research. The first research issue explored in the present study therefore lies at the intersection of goal-setting theory (multiple reference points in food choice) and product research in the form of preference formation for food products. It is posited that goals are translated through the target object (the product) into a value representation of identified product preferences (as means). Hence, it follows that product evaluation can be expected to relate to the desired end-state which the product is expected to represent. The present study then examined the types of goals that characterise different kinds of identified preferences in order to determine whether the effect of goal pursuit in food choice is consistent with the predictions of a multiple-reference value function. This part of the study questioned the widely held assumption of direct proportionality between goal valuation and the instrumentality of the means to goal attainment.

From a consumer and product research perspective, it is important to determine the manner by which goals as reference points operate on consumer behaviour and how preferences in relation to a food product are formed and influenced by the mental representation of the reason for choosing that product. This is also important from a product development perspective, as it has methodological implications for consumer preference studies. The reference-dependent goal-mean approach developed in this study is also relevant in food choice research, because it integrates the choice itself with the reason or purpose for which the choice was made or considered. The comparative and evaluative aspect of consumer information processing induced by multiple reference points has implications that can be exploited within practical marketing when positioning a new product or re-positioning an existing product in order to maximise market penetration.

Theoretical background and present study

Goal-setting theory

Conventional goal-setting theory portrays a process of conscious or subliminally motivated action and treats a goal within a goal-mean configuration plan (Fig. 1), so that momentarily activated and adopted goals initiate a process where the means of attainment and other subsequently activated goals lead individuals to select and implement appropriate means to achieve their goals (Kruglanski et al., 2002). For example, a single goal such as having refreshment may be considered in relation to multiple means (e.g. various beverage options or different attributes related to a given product). Alternatively, multiple associated goals may be related to a single means. Means are here taken in the broadest sense to include instruments perceived as likely to contribute to goal attainment (Markman, Brendl, & Kim, 2007). In parallel to the choice process within prospect theory (Kahneman & Tversky, 1979), once goals have been activated, a two-phase cognitive motivational process is in action: an early stage of editing and a later stage of evaluation. The editing stage consists of an initial analysis of means associated with the goal. In the next stage, the edited goal-means associations are evaluated and the course of action related to the highest value is chosen as the route towards maximisation of the likelihood of goal attainment.

Tri-reference point dependence

Tri-reference point (TRP) theory on decision making (Koop & Johnson, 2012; Wang & Johnson, 2012) predicts that people in a comprehensive evaluation of objective outcomes not only draw on changes in subjective values from their base level (status quo (SQ)), but also strive to reach a target goal level (G), while simultaneously seeking to avoid reaching a bottom line (here referred to as the minimum requirement, MR). The G and MR levels serve as self-set, non-binding, boundary conditions of the means consideration set.

TRP theory predicts that if x represents a subjective desired end-state along the goal gradient, an order of MR < SQ < G should exist so that the goal gradient is divided into four regions (Fig. 2): Success ($x > G$), gain ($x > SQ$), loss (MR < x < SQ) and failure ($x <$ MR) (Wang & Johnson, 2012). The three goal levels then qualify as reference points that influence choice behaviour, as they represent thresholds against which the mental value of changes in desired end-states is assumed to be assessed. Additional criteria for the identification of goals as multiple reference points are that they reflect the mental values of specific end-states rather than general desires and that they depend on the choice environment.

For TRP goals to inherit the properties of a value function, it is necessary: (a) for the value of outcomes to be altered by the goals, (b) for the goals to involve emotions so that people react affectively to their performance or that product choice internalises affective responses along the goal gradient, and (c) for the goals to be sensitive to changes in values (Förster, Liberman, & Friedman, 2007).