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Salad = success and fries = failure? Conceptualizing and assessing self-control outcome measures in food decision-making research

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ABSTRACT

Researchers studying decisions about food utilize a wide variety of measures to assess self-control outcomes in experimental studies. However, it is often unclear whether or not the chosen dependent variables truly implicate self-regulatory mechanisms in decision making. In the present research, we provide a conceptual framework for evaluating self-control outcome measures, concentrating specifically on the domain of food and eating self-control decisions. We propose and empirically examine the essential characteristics [i.e., (i) recognized as self-control relevant by study population, (ii) related to individual differences in self-control, and (iii) recognized as self-control relevant by individual] of good self-control outcome measures and provide specific methodological recommendations (including the “rank-then-choose” method) for capturing exhibited self-control in the domain of food decision making. Our conceptual developments and recommendations seek to enhance the consistency, efficiency, and effectiveness of food-related decision research. Copyright © 2015 John Wiley & Sons, Ltd.

A myriad of perspectives have been utilized to address the issue of the overconsumption of food and the related epidemic of those who are overweight or obese (Ma *et al.*, 2003; Ogden *et al.*, 2012) as well as the numerous other chronic conditions including increased rates of diabetes and heart disease associated with poor dietary patterns (Schulze and Hu, 2005; Mente *et al.*, 2009). Putting aside physiological and other clearly relevant factors, one perspective that has garnered enormous attention is that of understanding an individual’s propensity to exert or fail to exert self-control in their decisions regarding food. That is, when faced with temptation (e.g., the “chocolate cake”), will an individual tend to succumb and devour the large piece the cake or instead enact more prudent behavior (e.g., choose the “fruit salad” or cease consumption of the cake prior to the revelation of a clean plate). In this research, we acknowledge the important role that self-control may play in food decision making and consumption and take a step back to carefully evaluate how self-control in food consumption is captured. We note the wide-ranging approaches to assessing food self-control (see Table 1 for examples). Accordingly, our primary proposition is that researchers should carefully consider a set of key criteria when conducting food-based research involving self-control decisions in order to better understand how efforts to influence food consumption are impacted by the trade-offs that consumers constantly face.

Considerable diversity exists with respect to how self-control outcomes are assessed in experimental studies, particularly as related to food choices. An important practical question that every researcher must answer when conducting empirical self-control research is “Which outcome(s) should we use to assess self-control?” Self-control research often involves assumptions about how food choices and consumption behaviors reflect internal conflicts between desire and

willpower. Perhaps this explains in part why researchers have used such a wide variety of measures to assess exhibited of self-control.

Given the prevalence and continued growth of research examining self-control in food consumption, in the present research, we suggest that it is imperative to take a step back and carefully consider the theoretical underpinnings of self-control assessments. Consider, for example, a lean marathoner with a high metabolic rate. This elite athlete is unlikely to exhibit self-control failure when she chooses a piece of chocolate cake instead of a fruit salad; in fact, it may be necessary for her to consume calories she has lost during recent training activities. Similarly, someone who dislikes French fries cannot be said to be exerting self-control when he chooses a healthier baked potato instead (vanDellen and Hoyle, 2010). Granted, self-control researchers strive to develop and use reasonable proxies of what would normatively be considered decisions indicative of more or less self-regulated behavior. However, as these examples illustrate, such measures may not capture the motivational tension of the desire–willpower trade-off involved in self-control decisions. While random assignment of participants to experimental conditions may alleviate some concerns with loss of tension, it still does not solve the essential problem of the disconnect between theoretical conceptualization and empirical measurement of self-control outcomes in food decision making. For example, there may be some benefit beyond the typical random assignment procedures that could allow us to further understand the many factors that influence choices to be more or less indulgent.

The present research systematically examines the diverse ways in which self-control outcomes are assessed in food decision-making research, both conceptually and empirically, and suggests experimental approaches that go beyond simple random assignment to better represent and capture personal self-control conflict. We begin by considering past food-related self-control research, honing in on the measures

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Table 1. Examples of recent uses of food-related outcome measures of self-control

Source	Study	Restrained stimuli	Indulgent stimuli	Real food?	Type	Self-control outcome measures
Campbell and Mohr (2011)	Study 1		Candies	Y	Quantity	Number of candies taken as “thank you” gift for participating
	Studies 2–5		Cookies	Y	Quantity	Number of cookies consumed
Dewitte <i>et al.</i> (2009)	Study 2		Chocolate, M&Ms	Y	Quantity	Grams of candy consumed
	Study 4	Fruit salad, potatoes	Ice cream, French Fries	N	Choice	Choice of low or high self-regulation option
Dzhogleva and Lamberton (2014)	Study 1A	Participants circled lunch options with caloric and fat content shown		N	Choice	Grams of fat selected from menu
Ein-Gar and Steinhart (2011)	Study 1		Impulsive grocery purchases	Y	Choice	Buying impulsive items or not
	Study 3		Indulgent grocery items	N	Scale	Likelihood to purchase indulgent items
	Study 4		Salty puffs and chocolate snacks	Y	Quantity	Number of snacks consumed
Finkelstein and Fishbach (2010)	Study 1	Chocolate-raspberry protein bar		Y	Scale	Hunger ratings
	Study 2	Low-calorie bread (healthy) and pretzels		Y	Quantity	Number of pretzels consumed
	Studies 3–4	Chocolate-raspberry protein bar or honey-peanut protein bar		Y	Scale	Hunger ratings after sampling
Gal and Liu (2011)	Studies 1, 3–4	Apple	Chocolate candy bar	Y	Choice	Food chosen
Hung and Labroo (2011)	Study 4	Foods purchased from a snack bar		Y	Choice	Proportion of healthy items purchased
	Study 5	Apple	Chocolate candy bar	Y	Choice	Food chosen
Irmak <i>et al.</i> (2011)	Studies 1, 3	Daily salad special	Daily pasta special	N	Scale	Perceived healthfulness of food item
		(same item primed unhealthy by name)				
	Study 2	Fruit chews	Candy chews	N	Scale	Perceived fullness of food item
Krishnamurthy and Prokopec (2010)	Study 4	Jelly Belly Fruit Sours (primed healthy)	Jelly Belly Fruit Sours (primed indulgent)	Y	Scale quantity	Perceived healthfulness, tastiness, and consumption quantity of candies
	Studies 1–2		Small portion of 5 desserts	N	Choice	Reject or not reject desserts
	Studies 3–4		Fun-size candy bars	Y	Quantity	Number of fun-size candy bars chosen as “thank you” gift for participating
Laran (2010a)	Study 1	Raisins, celery sticks, cheerios, low fat yogurt, baby carrots, granola bar, rice cake, apple	Chocolate bar, cookies, cheese curls, Doritos chips, ice cream, doughnuts, Oreos, fruit roll-ups	N	Choice	Snack choices from list (one snack for present and one for the future)
Laran (2010b)	Study 2	Participants free to specify any snacks		N	Choice	Snacks coded as healthy or fatty
	Studies 1, 3, 4A–B	Same as Laran (2010a)	Same as Laran (2010a)	N	Choice Response time	Indulgent snacks chosen Response times to indulgent and self-control words (Study 4B)
Laran and Janiszewski (2009)	Study 2	Granola bar	Chocolate truffle	N	Choice	Snack choice
	Studies 1–3	Salad, apple, carrot, whole wheat bread, low fat yogurt, cereal, Wheat Thins, rice cake, rice, pear	Hot dog, ice cream, cheese sticks, potato chips, Doritos, pizza, potato skins, fries, doughnuts, apple pie	N	Scale	Food desirability ratings
Laran and Janiszewski (2011)	Study 1A, 2		Skittles M&Ms	Y	Quantity	Amount of candy consumed
Lowe and Haws (2014)	Study 1B		Unhealthy appetizer	N	Scale	Affiliation with hypothetical co-indulger
	Study 3		Chocolate candies	Y	Quantity	Number of candies consumed
	Study 1	Granola	M&Ms	Y	Quantity	Weight of snack food consumed

(Continues)

Table 1. (Continued)

Source	Study	Restrained stimuli	Indulgent stimuli	Real food?	Type	Self-control outcome measures
McFerran <i>et al.</i> (2010)	Study 2		Choice of candies	Y	Quantity	Candies eaten
	Study 3		Ice cream	N	Quantity	Size of ice cream chosen
Mehta <i>et al.</i> (2014)	Study 1		M&Ms	Y	Quantity	Consumption out of 50 M&Ms
Nenkov and Scott (2014)	Study 1		Vanilla ice cream	Y	Quantity	Amount of ice cream scooped
	Study 4	Healthy, less tasty entrée	More fattening, tastier entrée	N	Choice	Entrée choice
Redden and Haws (2013)	Study 1	Peanuts or raisins	M&Ms or Skittles	Y	Scale	Rate of satiation (enjoyment)
	Study 2	Teddy Grahams (primed healthy)	Teddy Grahams (primed indulgent)	Y	Scale	Rate of satiation (enjoyment)
	Studies 3–4	Granola bar	Candy bar	Y	Scale	Rate of satiation (enjoyment), quantity
Sela <i>et al.</i> (2009)	Study 1A	Reduced fat vanilla ice cream	Vanilla ice cream	N	Choice	Type of ice cream chosen
Thomas <i>et al.</i> (2011)	Study 1B	Fruit	Cookies, cakes	Y	Choice	Snack chosen among 12 options
	Study 1		Impulsive vice products in shopping basket	Y	Choice	Average unhealthiness of grocery purchases
	Studies 2–4	List of healthy foods (e.g., Cheerios, diced peaches)	List of unhealthy foods (e.g., Apple pie, Oreo cookies)	N	Choice	Number of impulsive items added to shopping cart
Townsend and Liu (2012)	Study 2	Raisins	Peanut Butter Cup	Y	Choice	Food chosen
	Study 3		Oreo cookies	Y	Choice	Selection of study to consume Oreos or another non-indulgent study
Wang <i>et al.</i> (2010)	Study 2	Granola bars	Candy bars	Y	Choice	Snack choice
	Study 3	Nonfat plain yogurt	Chocolate chip cookie	N	Choice	Snack choice
Wilcox and Stephen (2013)	Study 3	Granola bar	Chocolate chip cookies	N	Choice	Food preference
Wilcox <i>et al.</i> (2011)	Study 5			N	Scale	Frequency of binge eating
	Studies 3 and 4	Salad	French fries	N	Choice	Indulgent choice
Wilcox <i>et al.</i> (2009)	Study 1, 3–4	Salad, baked potato, chicken nuggets	French fries	N	Choice	Choice of the least healthy option (Study 1)
					Response time	Response time to correctly categorizing the word <i>healthy</i> (Study 3)
	Study 2A	Veggie burger, chicken or fish sandwich	Bacon cheeseburger	N	Choice	Choice of least healthy option (bacon cheeseburger) over healthy/neutral options
	Study 2B	100-calorie Oreos Original or Golden Oreos (less unhealthy)	Chocolate-covered Oreos	N	Choice	Choice of least healthy option (chocolate-covered Oreos)
Winterich and Haws (2011)	Study 1	Raisins	M&Ms	Y	Quantity	Grams of both snacks consumed
	Studies 2, 3, and 4	Participants listed snacks they would like to receive for participation in future studies		N	Quantity	Number of unhealthy snacks listed
Zhang <i>et al.</i> (2010)	Study 1		Chocolate chip cookie	Y	Scale	Strength of dieting goal when cookie was present or not present
	Study 3	Bottled water and other control items	Orange sugared soda	Y	Other	Number of calories construed in soda
	Study 4	Raisins	M&Ms	Y	Other	Number of calories construed in snack
					Quantity	Number of snacks eaten

used, and the potential limitations of some of these measures. We then propose a series of criteria that would indicate that a measure is more likely to effectively capture self-control empirically in food choices in a way that is consistent with the theoretical conceptualization, which suggested that a self-control outcome measure should be (i) recognized as self-control relevant by study population, (ii) related to individual differences in self-control, and (iii) recognized as

self-control relevant by individual. Next, we test these criteria in a series of four studies. Through this endeavor, we offer both the theoretical contribution of understanding what it means to capture exhibited self-control and practical new methods for assessing self-control outcomes effectively. Finally, this research naturally suggests several important avenues for additional future research. Ultimately, our goal is to help researchers to develop and utilize improved outcome measures

for assessing food self-control (or lack thereof) in their experimental studies so that theoretical hypotheses and practical interventions can more effectively and efficiently tested.

ASSESSING SELF-CONTROL

Self-control research has exploded in the past two decades, and more so in the domain of food decision making than anywhere else. Its underlying principle is that decision makers seek to achieve goals of being healthy and responsible but struggle to do so in our day-to-day decisions, in the face of the ever-present onslaught of highly palatable and often quite affordable and socially acceptable temptations. The struggle between willpower and desire has become an underlying theme for much research in decision making (e.g., Hoch and Loewenstein 1991; Baumeister 2002; Dholakia *et al.*, 2006; Vohs, 2006; Poynor and Haws, 2009; Hofmann *et al.*, 2012). Consistent with prior research, we define a self-control situation as one in which the individual must choose between a less appealing (or even unpleasant) behavior with longer-term benefits and a more immediately attractive but ultimately less beneficial behavior (Baumeister *et al.*, 1998; Muraven *et al.*, 1998; vanDellen and Hoyle, 2010). Despite some recognition that patterns of behaviors are more telling of ultimate outcomes (Dholakia *et al.*, 2006; Zemack-Rugar *et al.*, 2012; Redden and Haws, 2013), much of the existing food self-control research relies upon using single decision contexts to examine how self-controlled and prudent or indulgent and myopic consumers will be, and as such, we focus our current research on such contexts, while acknowledging the importance of examining the impact of patterns of food decisions over time (Redden and Haws, 2013). We provide details about food-related self-control measures in Table 1. Wide diversity exists in the manner in which exhibited eating self-control (ESC) is assessed, even within a single paper as highlighted in Table 1, and it is unlikely that these measures are all interchangeable.

In many of these studies, researchers are interested in assessing self-control outcomes in response to various environmental or psychological interventions. For example, Wang *et al.*, (2010) examine the impact of trade-off difficulty on subsequent depletion as captured by indulgent self-control outcomes, while Mukhopadhyay *et al.*, (2008) examine the impact of recalling past temptations on current self-control. Wilcox *et al.*, (2009) examine the presence of a healthy option on indulgent choice, while Scott *et al.*, (2008) study the impact of food and package size on amount consumed. Taken together, these examples (and many others; Table 1) suggest that researchers' interest is focused on how much self-control a person exercises following exposure to a manipulation or intervention of interest. Often, the actual outcome measure itself is not the primary emphasis or contribution of the study; rather, it is simply a means to the end of assessing whether the consumer was able to exert self-control in their food decisions successfully or not, under the conditions created by the researchers.

In other cases, self-control related outcomes are assessed in an effort to link them to individual differences in

self-control as the primary question of interest (e.g., Tangney *et al.*, 2004; Hofmann *et al.*, 2012). Further, researchers examine the interaction between individual self-control and situational manipulations (e.g., sharing the food choice with another, Dzhogleva and Lambertson, 2014; attention paid to food consumption, Redden and Haws, 2013). In these studies, the goal is the same: Researchers want to draw conclusions about the conditions under which consumers exhibit more versus less self-control, and the outcome is intended to merely represent the end result of the self-regulatory process clearly. This raises the issue of whether dependent variables are substitutable in self-control research. Will a study involving a choice between an apple and chocolate cake also reveal consistent and significant results if the stimuli are changed to a side salad and French fries or if the measure is changed from binary choice to the quantity of chocolate cake consumed?

Recent research has started to draw attention to the fact that the *one-size-fits-all* approach to measuring self-control outcomes may be limiting in important ways. For example, Myrseth and Fishbach, (2009) posit a two-stage model of self-control in which the first phase consists of identifying that there is in fact a conflict between indulging in the service of current pleasure and restraining in the service of higher-order goals. In a different vein, Hofmann and van Dillen, (2012) highlight the role of desire in self-control, suggesting that desire does not necessarily translate into temptation. Using stimuli that do not produce a temptation for certain individuals as self-control, outcome measures therefore serve to potentially underestimate the strength of the effect of the intervention of interest even when random assignment of subjects to different experimental conditions is carried out. Building on the notion that there are certain *necessary* characteristics of a decision context to have confidence that self-control outcomes are being assessed, we next identify criteria that should be considered when developing and using self-control outcome measures.

CONCEPTUAL FRAMEWORK: CRITERIA FOR CAPTURING SELF-CONTROL

We contend that an outcome used to assess exhibited self-control should subscribe to a series of three interrelated criteria, some of which have been largely overlooked in the extant literature. Thus, we detail a conceptual framework to assess the efficacy of self-control outcome measures. Briefly, these criteria are that self-control conflict should (i) be acknowledged as such by study population, (ii) be associated with individual differences in self-control, and (iii) be acknowledged as such by the individual participant. The first condition is largely met in prior research. We build upon this foundation by describing and examining various approaches to ensuring this criterion is met. The second criterion, association with individual differences in self-control, is sometimes addressed in prior research, whereas the third criterion is scarcely addressed in prior research. In Figure 1, we represent these criteria graphically, showing that the best self-control outcome measures would be ones that are viewed as self-control relevant both by the population and by the

Representation of three key self-control outcome assessment criteria

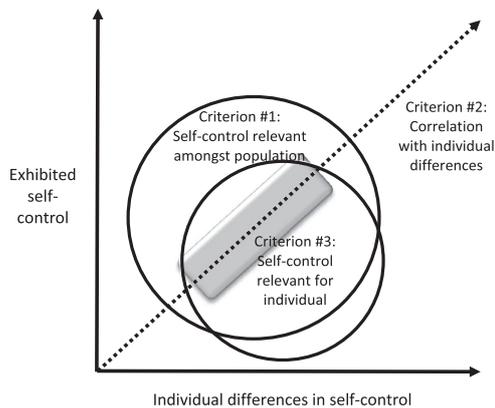


Figure 1. Representation of three key self-control outcome assessment criteria. Note: Shaded area indicates ideal space for self-control outcomes measure in which the measure is viewed as self-control relevant by both the population and the individual, and there is correspondence between exhibited self-control and individual differences in self-control

individual (overlap of criteria #1 and #3) and closely corresponding to a linear relationship between exhibited self-control and individual differences in self-control. We next detail these criteria in more depth and then examine them in a series of empirical studies.

Criterion #1: general recognition as a self-control conflict

A basic starting point for an effective outcome measure of self-control is that consumers should acknowledge the decision as one related to the use of self-control. This criterion appears to be the one that has been widely applied in prior research across a variety of domains. In the domain of time management, for example, Read *et al.*, (1999) use a high-brow versus low-brow movie choice task to examine whether participants will select the more virtuous high-brow movies and therefore exhibit more self-control or the more vice low-brow movies and therefore demonstrate diminished self-control. Others using this particular self-control outcome approach (Khan and Dhar, 2006; Wang *et al.*, 2010) conduct pretests to identify specific stimuli that their study population rate as more low brow or high brow or more of a vice (explained by the authors as “something tempting that may have few long-term benefits. It is something you want but at the same time feel more guilty choosing”) or a virtue (defined as “something that is not very tempting now but may be more beneficial in the long-run. It is something that you feel less guilty choosing but at the same time requires self-control to choose,” Wang *et al.*, 2010, p. 913).

Choice/relative preference measures

Like the high-brow versus low-brow examples just presented, self-control outcomes measures often entail choices (or relative preference using a scaled response) between two options. In an influential self-control paper, Shiv and Fedorikhin, (1999) use a trade-off between chocolate cake (said to be “superior on the affective dimension but inferior on the cognitive dimension”) and fruit salad based on general perceptions of the properties of each food. Khan and Dhar, (2006)

similarly use a pretest rating a Mrs. Field’s cookie and plain fat-free yogurt as “more of a vice” to “more of a virtue,” respectively, to support the use of these food stimuli for a self-control outcome. Other typical trade-offs used in the food domain include raisins versus M&Ms (e.g., Garg *et al.*, 2007; Zhang *et al.*, 2010; Winterich and Haws, 2011), candy bars versus granola bars (e.g., McFerran *et al.*, 2010; Redden and Haws, 2013), candy versus fruit (e.g., Sela *et al.*, 2009; Gal and Liu, 2011; Hung and Labroo, 2011), on so on (Table 1). These stimuli are typically pretested by the authors or simply selected based upon their usage in prior research.

The premise underlying these option sets is that most people (as assumed or as confirmed through pretests) would view one of the options as the more prudent, restrained, or virtuous option and the other as the option that indicates indulgence, less self-control, and vice behavior. In fact, it appears that most prior research utilizes opposing choices that are rather polarized in terms of their general perceptions as more virtuous or vice options, although there are also cases in which the perceptions of healthiness of a single food have been framed as being more or less indulgent (e.g., Wansink and Chandon, 2006; Finkelstein and Fishbach, 2010; Irmak *et al.*, 2011; Redden and Haws, 2013).

Another similar approach is to frame the task as a choice between indulging and restraining: that is, rather than choosing between two tangible options, the choice is between choosing something indulgent or not (Krishnamurthy and Prokopec, 2010; Ein-Gar and Steinhart, 2011; Townsend and Liu, 2012). Regardless of the exact format of these choice or preference-based self-control outcome assessments, a general recognition among target consumers that the available options represent opposite consequences for goal achievement is widely seen as a foundational criterion for self-control outcome assessment.

Quantity of consumption measures

Another common method for assessing self-control for food consumption is to measure the quantity purchased or amount consumed, usually of an indulgent food. The basic notion for such measures is that people exhibiting greater self-control would choose or consume smaller quantities of indulgent foods, and vice versa. Clearly, there are factors likely to influence the quantity of consumption other than self-control, including the person’s current state of hunger, their body mass index, their social environment and how much others around them are eating, their current mood, their liking of the particular food(s), and thoughts about when one might next have the opportunity to eat. However, there is strong consensus in extant research that eating larger quantities of a given indulgent food implies less self-control in general than does consuming a smaller quantity. In studies, indulgent foods such as cookies (Zhang *et al.*, 2010; Campbell and Mohr, 2011; Townsend and Liu, 2012), candies (Dewitte *et al.*, 2009; Laran and Janiszewski 2009; Campbell and Mohr 2011; Lowe and Haws, 2014) or other desserts have been used. Based on the criterion that the decision should typically reflect a self-control issue, it is important that the stimuli used in the empirical study be

perceived as indulgent when quantity of consumption is the focal self-control outcome.

Real versus hypothetical choice measures

Related to the notion that the typical person would view the choice present as a self-control relevant conflict, it is important to consider whether hypothetical choice is sufficient or whether real choice is necessary in testing hypotheses related to food self-control. Past research suggests strong motivational components to self-control decision making, and therefore either hypothetical or real decision contexts should elicit motivational influences expressed by the hot, visceral components of desire that often lead to an inability to delay gratification (Metcalf and Mischel, 1999). Returning to Shiv and Fedorikhin's, (1999) classic example focused on the motivational components associated with conflicts between the "heart and mind," they specifically test the use of photographs and actual foods, finding consistent results in both cases. Relatedly, researchers often use a combination of real choice and hypothetical choice (Dewitte *et al.*, 2009; McFerran *et al.*, 2010; Ein-Gar and Steinhart, 2011), which appears to improve perceptions of credibility by signaling a more painstaking study design and execution compared with using hypothetical choices alone in self-control research. There is no definitive evidence to suggest that participants respond in a misleading or socially desirable way when the choices are hypothetical rather than real, and in fact, papers that report multiple studies using hypothetical and real choices to test the same hypotheses by-and-large find consistent results. As can be seen in Table 1, there is a mix of studies using hypothetical choice or preference and real choice, whereas quantity consumed measures are largely "real" as in real consumption. In the present research, we present ways to enhance the motivational component of both hypothetical and real self-control decisions and suggest that as long as the three proposed criteria are met, self-control outcomes can be more than adequately captured using hypothetical choice.

Criterion #2: relationship of outcome measures with individual differences in self-control

In conjunction with the first criterion, it is also important that a measure intended to assess a self-control outcome should be associated with chronic propensity for self-control, assuming no intervening manipulations have been applied to sever this linkage. Prior literature has extensively examined various outcomes associated with measurable differences in self-control (Tangney *et al.*, 2004; Haws *et al.*, 2012; Hofmann *et al.*, 2012). In many ways, establishing that a particular self-control related outcome can be predicted by an individual difference measure of self-control further validates this criterion by showing that people consider the decision to be relevant to self-control. Although the focus here is not specifically on individual differences in self-control, we draw upon this important criterion for assessing the self-control outcome measures in the present work. Specifically, this criterion is useful for empirically examining the efficacy of the various self-control outcome measures by evaluating the relationship between self-control individual differences and self-control related outcome measures.

Criterion #3: personal relevance of the self-control conflict

A critical component of assessing self-control outcomes that has been largely ignored by prior research is that the decision-making context should explicitly represent a self-control dilemma for the consumer. In particular, we contend that not all individuals will view a choice between chocolate cake and fruit salad as a self-control conflict. As recent research suggests, a desirable stimulus does not lead to temptation unless the behavior associated with consuming it conflicts with the person's higher-order and longer-term (virtuous) values or goals (Hofmann and Van Dillen, 2012; Hofmann *et al.*, 2012). Thus, the basic notion of willpower versus desire inherent in a self-control conflict (Hoch and Loewenstein, 1991) is necessary in order for one's response to such a question to be self-control relevant (Myrseth and Fishbach, 2009). Without the presence of conflict between the immediate desire and the longer-term goal, the decision is simply one of preference, instead of a motivational and emotionally laden choice among options representing conflicting ultimate goals. Therefore, it seems quite unlikely that the same set of indulgent versus prudent options will elicit the requisite self-control conflict across all participants in a given study.

It is important to note that through this discussion, we do not mean to condemn the proxies used to assess self-control in prior literature in any way. Instead, the numerous measures presented in Table 1 attest to the robustness of being able to capture self-control tendencies in response to a wide range of manipulations and contexts. Rather, we suggest that many previously supported effects related to self-control may in fact be even stronger if this criterion of personal relevance is explicitly taken into account and incorporated into study design. Likely, past research has been able to successfully capture self-control outcomes because, in general, certain desirable alternatives tend to be tempting for people (candy, cookies, cake, and French fries) while others are less desirable but better for health (fruit, raisins, granola, and salads). However, given potentially considerable variance in how much conflict is present at the individual level, prior research likely underestimates (or could even distort, experimental randomization notwithstanding) the impact of interventions on the exhibition of self-control and may even lead researchers in some cases to erroneously conclude that certain interventions are ineffective.

Therefore, considering the most commonly used approach of choice between an indulgent and more restrained option, what properties of the options presented to a consumer determine the degree of self-control conflict? Again, the basics of a self-control conflict include the relative attractiveness of immediate hedonic pleasure with potential long-term harm versus a more prudent immediate behavior that has positive long-term benefits. Specifically in the context of food consumption, two primary goals consumers pursue are taste and health (Glanz *et al.*, 1998; Dhar and Simonson, 1999), and these goals are often seen as oppositional in accordance with the commonly held lay theory that unhealthy foods are tastier (Raghunathan *et al.*, 2006). Given this goal conflict, such contexts are often used to represent inherent self-control

trade-offs. However, we acknowledge that while general goals of good health are typically relevant for most consumers, there is variation in individuals' goal pursuit (Shah and Kruglanski, 2000; Van Osselaer and Janiszewski, 2012). For example, imagine that a person simply does not like chocolate cake. They find other indulgences such as fried onion rings and cheesecake perfectly desirable, but chocolate cake simply does not tempt them. Regardless of their precise level of liking of fruit salad, they would gravitate towards selecting fruit salad in a choice scenario because there was no real desire for the chocolate cake researchers intended to elicit temptation (Hofmann and Van Dillen, 2012). As such, the choice is one of preference and not self-control. In other words, the choice option intended to be a temptation should indeed entice the participant.

Now, consider the appeal of the prudent option. Although at times many of us find ourselves forcibly eating broccoli because of its purported powers as a "superfood," we are unlikely to completely abandon our taste goals in service to health goals (for most people, taste goals tend to take priority often; Glanz *et al.*, 1998). Therefore, the choice of chocolate cake over broccoli may have less to do with self-control and more to do with avoidance of eating a repugnant food item. As such, the prudent option in a self-control choice scenario should also be one that is reasonably liked by the consumer in order to best capture a trade-off that involves conflict. Moreover, we live in a food-rich environment where choice abounds and eating very disliked foods by force is largely unnecessary. Overall, we suggest that to the extent possible, choices used to represent self-control conflicts should contain one indulgent option that the individual finds to be tasty and appealing and one more prudent option that the individual perceives as relatively less tasty (but not repulsive) and more associated with health than pleasure.

In relation to the arguments presented, under our first criterion that general perceptions of a choice represent a self-control dilemma for people in general, we emphasize that the same considerations apply for personal relevance: that is, choice and quantity outcomes are both more meaningful when the personal conflict is enhanced for both real and hypothetical behaviors. Importantly, based on our discussion, we recommend incorporating a method to satisfy the criterion of personal self-control relevance when conducting self-control research. There are several potential means of dealing with this issue empirically. One approach is to restrict one's sample to a known population, for example, consumers who are actively engaged in dieting and therefore consider this domain of decision making to be important and have self-control implications. Another option is to enhance the probability that the specific self-control related outcome measure does in fact represent some level of conflict for the individual. We return to these possibilities in our series of studies.

TESTING THE CONCEPTUAL FRAMEWORK

As illustrated by the food self-control outcome examples in Table 1, the nature of the measures used varies considerably, but the most commonly utilized approach seems to be the

choice or relative preference between two options: a virtuous food versus an indulgent food. As such, we focus primarily on these types of outcomes in our studies, also including measures of consumption quantity.

As mentioned in our second criterion, self-control outcome measures should be related to individual differences in self-control. This criterion provides an excellent method for examining the effectiveness of various self-control outcome measures. In the absence of situational manipulations, an outcome intended to assess self-control should be related to individual differences in self-control, that is, someone higher in self-control should be more likely to exercise restraint whereas someone lower in self-control should be more likely to indulge. As such, we assess individual differences in self-control in the current studies primarily to evaluate the effectiveness of self-control outcome measures.

From an individual difference perspective, self-control has been conceptualized as a general resource that applies to many different behavioral domains (Hofmann *et al.*, 2012; Muraven & Baumeister, 2000; Muraven *et al.*, 1998; Tangney *et al.*, 2004). However, there is also extensive evidence that self-control is also domain specific, suggesting that behaviors within one domain are better predicted by the corresponding domain-specific measure of self-control (Rook and Fisher, 1995; Lynch *et al.*, 2010; Haws *et al.*, 2012; Haws *et al.*, 2015). Therefore, we primarily use a validated measure of individual differences in ESC developed by Haws *et al.*, (2015) as a benchmark for testing the efficacy of various ESC outcome measures. The scale items for both general self-control (GSC) and ESC are shown in the Appendix.

Although our overarching purpose is to challenge food decision-making (and self-control more generally) researchers to carefully consider the outcome measures they utilize by considering our conceptual arguments, we also sought to provide empirical evidence testing our assertions. Accordingly, we now report a series of studies examining the various criteria described in our conceptual framework. In the first study, we assess consumers' perceptions of the self-control relevance of a series of commonly used food self-control measures. In Study 2, we utilize a longitudinal approach to examine the relationship between participants' chronic propensity for self-control in the food domain and food-related self-control outcome measures. In Studies 3A and 3B, we use between-subjects and within-subjects approaches respectively to test a new ranking methodology for developing self-control choice and preference outcome measures. Our proposed approach highlights the importance of using simple, but customized versions of self-control outcome measures to better capture exhibited self-control.

STUDY 1

In our first study, we examine a series of previously used ESC outcome measures to assess our criteria (1 and 3) regarding whether people in general and participants specifically examine these outcomes as self-control relevant. As such, in this study, participants do not indicate what action

they would take in a self-control dilemma, but rather they assess the relevance of a series of decisions to self-control. Given that these dilemmas have been used previously to assess exhibited self-control, we expect there to be a general recognition that such decisions present a reasonable level of self-control conflict for people in general. However, when applied to themselves personally, we expect those higher in self-control to be less likely to indicate that the situation represents a self-control conflict, given their tendency to struggle less with these trade-offs (as per criteria #2). This study also allows for comparison across three primary forms of food self-control decisions: two-food choice decisions, indulge versus restrain decisions, and decisions about the quantity of consumption.

Method

A total of 231 participants from an online research panel managed by a large US-based marketing research company (73.4% female, average age = 49.8 years) completed this study in return for a small payment. Participants were first shown a brief definition of self-control and an explanation of self-control dilemmas (see the Appendix for full passage). Drawing upon prior research, we next presented eight different ESC outcome measures in a randomized order. The measures were all based on prior research as described in Table 1. Our objectives were to both test a variety of measures and try to determine which measures were more likely to be viewed as relevant to self-control.

First, four of the measures involved a choice between healthy and unhealthy alternatives (apple vs. candy bar, fruit

salad vs. chocolate cake, side salad vs. French fries, and more healthy vs. less healthy restaurant entrée). Given their prevalent use in prior research, we wanted to ensure that these outcomes were well represented. Second, two measures similarly used a food choice context, but rather than a choice between two food options, the choices were between indulging and refraining (whether to order dessert or not and whether to supersize your meal or not). Third, the remaining two measures involved consumption quantity (how many raisins to eat and how many M&Ms to eat Table 2).

Following each measure, we asked participants to assess how much the situation represented a self-control dilemma for people in general and for themselves, as follows: (i) in general, how much do you think that this situation represents a self-control dilemma for a typical person? And (ii) how much do you think that this situation represents a self-control dilemma for you personally? Responses for these questions were anchored on a scale of 1 = "not at all" to 7 = "very much so." The first question captured the GSC relevance of the measure, while the second question assessed personal self-control conflict. High perceptions of both general and personal relevance to self-control are desirable for the eight measures.

To separate the dependent measures of self-control from individual difference measures of self-control, participants completed an unrelated filler task in which they rated their enjoyment of several photographs. After the task, we measured both GSC (Tangney *et al.*, 2004) and ESC (Haws *et al.*, 2015) and collected demographic information (gender, age, and household income) for control purposes.

Table 2. Study 1 results

Panel A: Mean responses (<i>p</i> -values for midpoint ($H_0 = 4$))								
	Apple vs. candy bar	Fruit salad vs. chocolate cake	How many raisins to eat	How many M&Ms or other candies to eat	Whether or not to order dessert	Healthier vs. less healthy entrée at a restaurant	Side salad vs. French fries	Whether or not to supersize a meal
Typical person self-control dilemma	4.63*	4.48*	2.81*	4.19 (<i>p</i> = 0.17)	4.31 (<i>p</i> < 0.02)	4.77*	4.55*	4.31 (<i>p</i> < 0.02)
Personal self-control dilemma	3.68 (<i>p</i> < 0.03)	3.71 (<i>p</i> < 0.05)	2.25*	3.62 (<i>p</i> < 0.01)	3.46*	3.95 (<i>p</i> = 0.72)	3.55 (<i>p</i> < 0.01)	3.06*
<i>t</i> -Value for difference between typical person and self	7.65*	6.02*	5.82*	4.60*	6.51*	6.57*	7.64*	8.79*
Panel B: Correlations with ESC and GSC								
	Apple vs. candy bar	Fruit salad vs. chocolate cake	How many raisins to eat	How many M&Ms to eat	Whether or not to order dessert	Healthier vs. less healthy entrée at a restaurant	Side salad vs. French fries	Whether or not to supersize a meal
Typical person and ESC/GSC	-0.10/-0.14	-0.05/-0.13	0.04/-0.15	0.07/-0.04	-0.07/-0.16	-0.09/-0.11	-0.04/-0.10	-0.02/-0.08
Self and ESC/GSC	-0.31/-0.29	-0.26/-0.26	-0.01/-0.24	-0.26/-0.23	-0.24/-0.27	-0.32/-0.29	-0.16/-0.23	-0.23/-0.33

Note: Correlations at 0.13 and above are significant at $p < 0.05$, and at 0.17 and above are significant at $p < 0.01$.

ESC, eating self-control; GSC, general self-control.

* $p < 0.001$.

Results

For any effective self-control outcome measure, we expected responses to our two questions to, at a minimum, have a mean greater than the midpoint (4) of our 1 (not at all) to 7 (very much so) scales, indicating the perceptions that the measure implied at least an average level of self-control. Table 3A shows a summary of mean responses.

With respect to perceptions that situations represented self-control conflicts for people in general (criterion #1), all but the quantity of raisins, which was significantly lower than the midpoint (2.81 vs. 4.00, $t(230) = -9.74$, $p < 0.0001$), met this threshold. Note that raisins are typically considered a virtuous food (Garg *et al.*, 2007; Winterich and Haws, 2011), and therefore, this result suggests that consumers are less likely to consider consumption quantity of “healthy” foods as a self-control conflict. However, quantity of M&Ms (4.19 vs. 4.00, $t(230) = 1.38$, $p = 0.17$) consumed was slightly (but not significantly) higher than the midpoint of the scale and a significantly greater self-control conflict than raisin consumption (4.19 vs. 2.81, $t(230) = 10.34$, $p < 0.0001$). Choices between vice and virtue options elicited the most significant self-control dilemmas ($p < 0.001$) with the highest mean (4.77 vs. 4.00, $t(230) = 6.70$, $p < 0.0001$) being that for deciding whether to order a healthier or less healthy entrée. Choices between indulging and not indulging were also significantly higher than the midpoint ($p < 0.02$) but with lower overall means. Next, we compared the remaining measure of quantity of M&Ms consumed (a clearly indulgent product) with an

index of the four two-food choice variables ($\alpha = 0.86$, $M = 4.61$) and an index of the two indulgent versus not variables ($\alpha = 0.71$, $M = 4.31$) to generally determine whether one type of dependent variable is more indicative of self-control dilemmas than the others. The binary (vice or virtue) decisions were significantly more reflective of a typical person’s self-control dilemma than either the quantity of M&Ms consumed ($t(230) = 3.89$, $p < 0.0001$) or the choices to indulge or refrain ($t(230) = 4.69$, $p < 0.0001$). These findings suggest that choice between an indulgent food and a healthy food best reflects a self-control dilemma.

Interestingly, however, the results were different when the questions were related to oneself (as per criterion #3). Our general observation is that participants feel that the self-control situations we presented to them are more representative of self-control dilemmas for other people than for themselves. Overall, participants viewed most of the scenarios as moderately representative of a personal self-control dilemma, perhaps because respondents feel that their resolve is stronger than that of others. As with the prior measure for people in general, the quantity of raisins consumed was the lowest ($M = 2.25$) while deciding whether to order a healthier or less healthy entrée at a restaurant was the highest ($M = 3.95$). We also examined the differences between the assessments for others and oneself using paired sample *t*-tests, which indicated that in all cases, “a typical person” was more likely to view the situation as a self-control conflict than was the person himself or herself ($t(230)$ ranges from 4.60 – 8.79, $p < 0.0001$ for all eight scenarios, see Table 2A). Given these

Table 3. Study 2 results

Panel A: Correlations among self-control dependent variables (preference scale/binary choice)

	Time 1: cake vs. fruit salad	Time 2: fries vs. side salad	Time 3: M&Ms vs. raisins	Time 4: order vs. don't order dessert
Time 1: Cake vs. fruit salad				
Time 2: Fries vs. side salad	0.27/0.20			
Time 3: M&Ms vs. raisins	0.20/0.19	0.09/0.10		
Time 4: Order vs. don't order dessert	0.21/0.30	0.11/0.14	0.25/0.15	
Time 5: Candy bar vs. apple	0.34/0.19	0.23/0.18	0.32/0.28	0.23/0.17

Panel B: Self-control outcomes measures and regression results with individual difference self-control measures

	ESC		GSC	
	<i>B</i>	<i>p</i> -value	<i>B</i>	<i>p</i> -value
Time 1: Cake vs. fruit salad				
Cake likelihood (1 = not at all likely, 9 = very likely)	-0.753	<0.0001	-0.393	0.086
Choice (1 = chocolate cake, 2 = fruit salad)	0.378	0.008	0.162	0.371
Time 2: Fries vs. side salad				
Fries likelihood (1 = not at all likely, 9 = very likely)	0.848	<0.0001	0.434	0.053
Choice (1 = French fries, 2 = side salad)	0.748	<0.0001	0.508	0.006
Time 3: M&Ms vs. raisins				
(1 = Definitely M&Ms, 9 = definitely raisins)	0.563	0.001	0.617	0.006
Choice (1 = M&Ms, 2 = raisins)	0.339	0.026	0.532	0.013
Time 4: Order vs. don't order dessert				
(1 = Definitely order, 7 = definitely not order)	0.436	0.013	0.202	0.380
Choice (1 = dessert, 2 = no dessert)	0.365	0.017	0.204	0.276
Time 5: Candy bar vs. apple				
(1 = Definitely the candy bar, 9 = definitely the apple)	0.583	0.001	0.684	0.004
Choice (1 = candy bar, 2 = apple)	0.327	0.019	0.463	0.014

Note: Correlations at 0.16 and above are significant at $p < 0.05$ and at 0.20 and above are significant at $p < 0.01$. ESC, eating self-control; GSC, general self-control.

findings, researchers should consider taking steps to enhance the personal relevance of studies of self-control.

Next, we examined whether or not assessments of self-control situations would be related to one's individual level of self-control, per criterion #2. We expected measures of self-control for a typical person to be less related to individual difference measures of self-control than self-reports of personal dilemmas. Assessments for the self should be related to individual differences in self-control such that those lower in self-control would be more likely to perceive the trade-offs as self-control relevant for themselves than those higher in self-control. Correlational results are presented in Table 2B and support our predictions, and particularly for the more relevant ESC measure. Briefly, the correlations between self-control and assessments of the relevance of each situation for self-control for the typical person were largely non-significant. However, for all but the raisins quantity decision, there was a negative correlation between self-control and assessment of how much each situation represented a self-control conflict for them personally. These results highlight a need to make self-control choice contexts more personally relevant.

Finally, we assessed demographic differences. For gender, there was no significant difference between men and women in perceiving self-control dilemmas for a typical person, with the exception of M&Ms quantity ($M_{\text{male}} = 3.69$ vs. $M_{\text{female}} = 4.37$; $t(227) = -2.27$, $p = 0.03$). Similarly, there were no differences in perceiving a personal self-control dilemma for any of the decision scenarios ($p > 0.05$). We also tested whether age was a predictor of any of the self-control variables and found that it was not for the self-control of the self or a typical person ($p > 0.05$). These results suggest homogenous levels of perceived self-control dilemma across demographic groups.

Discussion

The results revealed a prevalent tendency to view a dilemma as a stronger self-control conflict for others than for oneself, indicating that maximizing the personal relevance of a self-control outcome should be a goal when using self-control outcome measures. Alternatively, it might be that in certain circumstances where personal relevance cannot be enhanced, the use of more projective self-control techniques may better capture outcomes (e.g., "what would Ms. A do?" Dholakia *et al.*, 2006; Haws *et al.*, 2012). Next, our findings also suggest that vice-virtue trade-offs are generally more likely to be perceived as self-control conflicts than are indulge versus no indulge decisions or decisions about quantity of consumption. Further, quantity of virtue consumed is not generally acknowledged as a significant self-control conflict, indicating that the nature of the foods selected is viewed as more relevant to self-control than quantity. We also show that the perceptions of self-control relevance do not differ systematically based on gender or age. Finally, we note that the relevance of the self-control outcome measures for the typical person was not related to individual differences in self-control whereas assessments of the relevance for self were. We next build on these assessments of the appropriateness of various

measures of self-control to having consumers actually respond to the measures themselves.

STUDY 2

Our second study addresses the appropriateness of self-control outcome measures based primarily upon the criterion of the relationship between responses to the outcome measures and differences in individual self-control (criterion #2). In order to reduce potential concerns about demand effects or carryover effects, we use a longitudinal approach in order to separate various self-control outcome measures over time. In this study, we also examined choice between options and relative preference between options, both of which are common outcome measures.

Method

A total of 167 undergraduate students (50.3% female) participated in this study in exchange for course credit. The study consisted of five different phases spread out over the course of 8 weeks during a semester. During the first phase, participants were asked to respond to the classic chocolate cake versus fruit salad decision, measured first on a 1- to 9-point likelihood scale and then by a dichotomous choice measure. Following an unrelated filler task involving the evaluations of abstract art pictures, we measured individual differences in self-control, both GSC (Tangney *et al.*, 2004) and ESC (Haws *et al.*, 2015), as well as demographics (gender, age, and household income). Each subsequent phase of the study was executed approximately 2 weeks after the previous phase and contained a different self-control outcome measure, again in both preference and choice format. The specific measures in each phase are shown in Table 4 and consisted of four vice-virtue trade-off items, similar to these assessed in Study 1, as well as one indulge-restrain decision (ordering dessert or not). This temporal separation of the measures was designed to minimize concerns about carryover effects or the potential for ego depletion to emerge following a series of decision task. In short, we wanted to assess the series of measures all intended to capture exhibited self-control separate from one another.

Results and discussion

We first examine the correspondence among the various measures of self-control. Correlations for the dependent measures used in this longitudinal study are shown in Table 4A. Most measures are significantly correlated with the other, temporally separated measures ($p < 0.05$) based on both preference scales and binary choice. These correlations support the notion that self-control is a relatively stable resource and that these measures appear to be capturing similar tendencies. The notable exceptions are that French fries versus side salad was not significantly correlated with M&Ms versus raisins ($p_{\text{scale}} = 0.28$, $p_{\text{choice}} = 0.21$) or choosing to order dessert or not ($p_{\text{scale}} = 0.17$, $p_{\text{choice}} = 0.08$). The M&Ms versus raisins binary choice results were marginally correlated with ordering dessert or not ($p = 0.06$). These non-significant

Table 4. Studies 3A and 3B

(A) Regression of relative preference for healthy (vs. tasty) food	Study 3A (N=200)		Study 3B (N=124)	
	Choice set condition	Standard coefficient (t-value)	R ²	Standard coefficient (t-value)
1-1	0.399** (2.906)	0.113	0.188* (2.061)	0.052
1-5	0.354** (2.344)	0.169	0.109 (1.189)	0.038
5-1	0.005 (0.032)	0.018	0.052 (0.560)	0.012
5-5	0.415** (2.969)	0.189	0.111 (1.205)	0.027
Chocolate cake-fruit salad	0.120 ^a (0.816)	0.116	0.216** (2.366)	0.049

(B) Logistic regression of tasty food choice (tasty choice = 1, healthy choice = 0) on ESC (controlling for respondent's gender, age and income) by condition	Choice set condition	B coefficient (SE)	Wald statistic (sig.)	B coefficient (SE)	Wald statistic (sig.)
1-1	-0.661* (0.284)	5.42 (0.020)	-0.396* (0.178)	4.95 (0.026)	
1-5	-1.746 (0.957)	3.33 (0.068)	-0.337 (0.294)	1.310 (0.252)	
5-1	0.323 (0.381)	0.719 (0.396)	0.010 (0.379)	0.001 (0.978)	
5-5	-0.405 (0.258)	2.458 (0.117)	-0.330 (0.169)	3.807 (0.051)	
Chocolate cake-fruit salad	-0.408 (0.292)	1.960 (0.162)	-0.390* (0.172)	5.134 (0.023)	

Note: ESC, eating self-control scale; 1-1, most favorite tasty option to most favorite healthy option; 1-5, most favorite tasty option to least favorite healthy option; 5-1, least favorite tasty option to most favorite healthy option; 5-5, least favorite tasty option to least favorite healthy option.

^aParticipants in the 1-1 condition are included.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

correlations raise the issue of whether self-control measures are substitutable.

Both measures of trait self-control showed acceptable reliability (ESC: $\alpha=0.90$; GSC: $\alpha=0.86$), and therefore, they were averaged to form indices of individual self-control. We conducted regression analysis using both ESC and GSC (which were correlated at $r=0.50$) as predictors of the self-control outcomes. For the preference measures, we used linear regression, while we used logistic regression for the choice measures. The results of these regressions are summarized in Table 4B. Overall, our results demonstrate that the self-control measures tested are for the most part related to individual ESC, as expected. We also examined correlations in order to test the comparative value of the measures. The weakest correlation was with the ordering versus not ordering dessert outcome measure ($r=0.20$ with ESC; NS with GSC). Interestingly, this is the only measure that does not have a vivid more prudent option, but rather the option is to forgo consumption, and therefore, this finding is consistent with Study 1. In addition, it is worth noting that an unspecified dessert may be less viscerally tempting compared with a more specific dessert such as chocolate cake. We also note that although the results hold for both the continuous preference measures and the choice measures, the preference measures seem to more successfully create correspondence between self-control outcome measures and individual difference measures.

For the sake of completeness, we also included the GSC measure, which we expected to be related to many of the ESC measures, but not necessarily as strongly as the ESC measure Haws *et al.*, (2015). Indeed, the results support the general patterns. Three of the five SC outcome variables are related to GSC, while the other two are not. Again, the order versus not order dessert measure appears to be the weakest, whereas the cake versus fruit salad measure preference measure was only marginal ($p=0.08$). Although we expect and find stronger correspondence between the outcome measures and ESC compared with GSC, given that researchers may be interested in these outcome measures either as specific to eating control or as more general outcomes, these findings suggest that the M&Ms versus raisins and apple versus candy bar (followed by French fries versus salad) are the best outcome measures out of those tested here. However, the level of distinction among the various indulgent versus restrained options is not particularly meaningful in terms of distinguishing, which of these measures are best able to capture exhibited self-control outcomes.

Taken together, Studies 1 and 2 suggest that certain previously used measures seem to either better capture exhibited self-control behaviors than others or represent different magnitudes of self-control conflict. Specifically, decisions involving choice among a vice and a virtue option appear to most effectively capture self-control outcomes as suggested

by the general recognition that these represent self-control dilemmas (Study 1) as well as the relationship between these outcome measures and individual differences in self-control (Study 2). However, there is also some evidence for the differential perceived applicability of self-control decision for oneself as compared with the population in general. Given these persistent differences, we turn to specifically address our third primary criterion for effective self-control outcome measures, that is, personal relevance of the self-control conflict.

STUDIES 3A AND 3B

In Studies 3A and 3B, we focus on criterion #3, suggesting that self-control outcome measures should be viewed as a self-control conflict by the individual study participant. In these two studies, we examine this criterion in depth by testing alternative ways to construct food self-control outcome measures. We suggest that it should also be possible to enhance the actual conflict experienced by improving the specific options involved in the choice task themselves. As such, the purpose of these studies was to examine differences among various tasty (vice) and healthy (virtuous) food stimuli comparisons in evoking self-regulatory responses and generating choice conflict based upon the individual participant's preferences.

An important part of these studies is to introduce and formalize a new method that we refer to as the "rank-then-choose" method. In order to customize the choice tasks, we provided respondents with lists of five tasty/indulgent foods and five healthy/virtuous foods and asked them to rank order each set from most favored to least favored based on how much they liked the foods. In the study's second stage, we generated customized choice sets for each respondent based on their rankings that included either their most favored or least favored healthy and tasty foods. Study 3A employed a between-subjects design such that respondents were randomly assigned to one of four choice sets. Study 3B used a within-subjects design in which each respondent completed all four choice sets in a randomized order. Our purpose was to examine differences in responses for these choice sets and test the rank-then-choose method. Specifically, we propose that the best self-control outcome measure will involve a choice between an indulgent food that is high in taste and low in healthfulness and a more healthful option that is lesser in taste than the indulgence but tasty enough to be considered a viable alternative. As healthful foods are considered less tasty in general (Raghunathan *et al.*, 2006), selecting the highest-ranked food from both the virtue and vice categories should most readily represent real-world scenarios in which we are most likely to be choosing between vice and virtue options that we favor rather than being forced into eating ones we find completely unpalatable.

Method

Both studies were conducted with US-based Amazon Mechanical Turk online panelists who participated in exchange for a small financial remuneration. Study 3A had 200

respondents (38% female, average age = 35–44 years, 27.5% married, average annual household income = \$50–75,000). Study 3B had 124 respondents (41% female, average age = 35–44 years, 35% married, average annual household income = \$50–75,000).

In both studies, respondents were first asked to rank five tasty but indulgent foods (Snickers candy bar, Twizzlers, chocolate cake, Cheetos, and French fries) in the order of their most to least favorite. Next, they ranked five healthy and virtuous foods (apple, rice cakes, baby carrots, banana, and garden salad) again in the order of their most to least favorite. A wide variety of foods were included in each set in order to address variance in liking across the items. After the ranking tasks, participants completed a filler task in which they were shown a number of pictures and indicated how well they liked each one.

In the second stage of the study, participants were told to imagine that they were offered a snack as a thank-you for participating in the study and could choose from one of two options. In Study 3A, participants were randomly assigned to one of four choice sets: (i) most favored healthy food versus most favored tasty food, (ii) most favored tasty food versus least favored healthy food, (iii) least favored tasty food versus most favored healthy food, and (iv) least favored tasty food versus least favored healthy food. In Study 3B, which employed a within-subjects design, participants completed all four experimental conditions sequentially; the order of these four tasks was randomized across participants.

For each choice, participants completed the following dependent measures: (i) their relative preference for the tasty versus healthy option using a 7-point scale anchored with 1 = "I strongly prefer (tasty option)" and 7 = "I strongly prefer (healthy option) at the ends" and 4 = "equal preference" in the middle; (ii) their choice of one of the two options (tasty = 0, healthy = 1); (iii) the extent to which the choice task felt like a self-control decision with a 7-point scale anchored with 1 = "not at all like a self-control decision" and 7 = "very much like a self-control decision"; and (iv) the level of conflict experienced in making the choice using a 7-point scale anchored with 1 = "not at all conflicted" and 7 = "extremely conflicted." Essentially, these measures captured outcomes as in Study 2 and also account for personal conflict as in Study 1. Following these measures, we also included the more classic chocolate cake versus fruit salad decision scenario for benchmarking purposes.

After a second filler task that involved answering unrelated questions, in the third and final phase of the study, participants completed the ESC to assess their self-control in the food domain. Finally, participants provided their demographics.

Results and discussion

Figure 2 provides distributions of the most and least favorite tasty and healthy food choices of respondents in the two studies. Two aspects of the graphs are particularly noteworthy. First, the preferences are fairly well distributed across the options with every option being chosen by at least some respondents. Second, for any given tasty and healthy option,

Distribution of most favorite and least favorite choices for tasty and healthy foods, Studies 3A and 3B

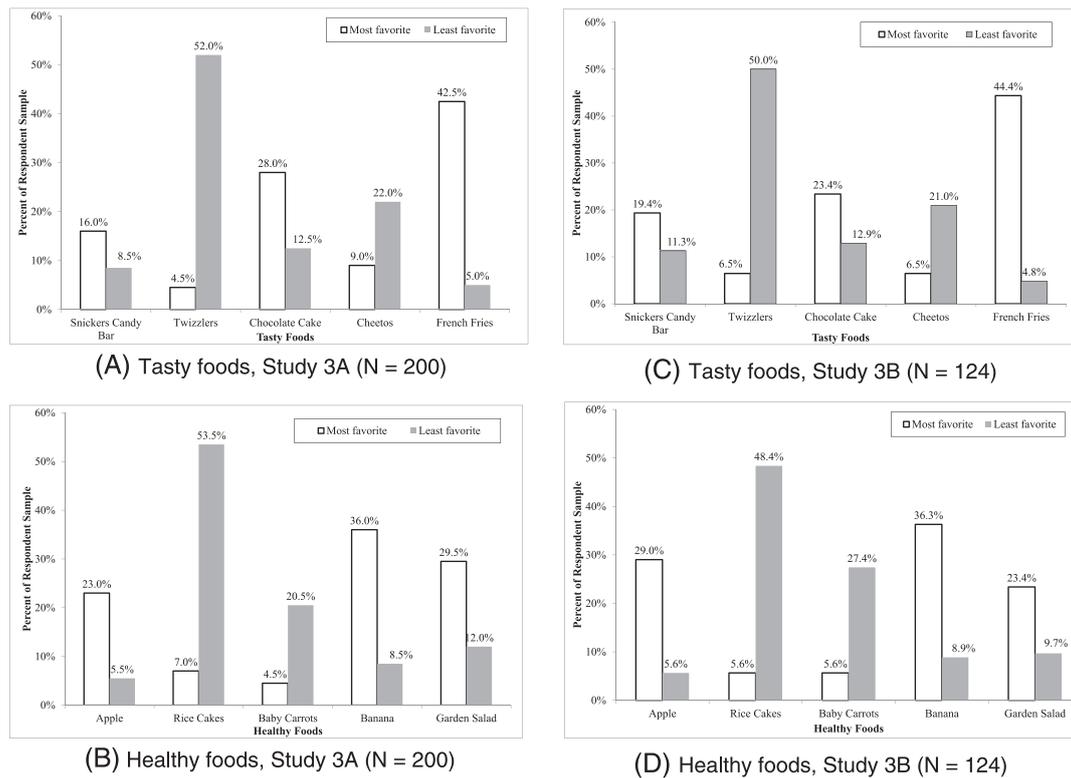


Figure 2. Distribution of most favorite and least favorite choices for tasty and healthy foods, Studies 3A and 3B.

some respondents are likely to view it as their most favorite food and others as their least favorite food. These results not only indicate the heterogeneity in tastes but also suggest the need for including individualized means of identifying more and less tempting foods in self-control studies.

Relative preference for healthy food choice

Results showed that respondents are highly sensitive to the choice set in their relative preference for the healthy food choice. Experimental condition had a significant main effect (Study 3A: $F(3, 193) = 49.49$, $p < 0.001$, partial $\eta^2 = 0.435$; Study 3B: $F(3, 489) = 175.09$, $p < 0.001$, partial $\eta^2 = 0.518$). Not surprisingly, when offered a set including their most favored tasty and least favored healthy options, respondents tended to strongly prefer the tasty option ($M = 1.65$ in Study 3A and $M = 1.53$ in Study 3B); in contrast, when the choice set contained the least favored tasty and most favored healthy options, the healthy option was strongly preferred ($M = 5.98$ in Study 3A and $M = 6.19$ in Study 3B). In the other conditions, the preferences were more balanced ($M = 3.10$ in Study 3A and $M = 3.11$ in Study 3B for the 1–1 set and $M = 3.92$ in Study 3A and $M = 3.63$ in Study 3B for the 5–5 set). The differences between the 1–5 and 5–1 sets were highly significant in both study samples.

Regressions of relative preference for healthy food choice on ESC

We regressed the relative preference for the healthy option on the respondent's chronic ESC along with gender, age, and income for each of the four choice sets. The results are

provided in the top panel of Table 4. They show that in both samples, the relative preference for the healthy food in the choice set which included the most favorite tasty and healthy options (the 1–1 set) was significantly predicted by ESC. The other choice sets (1–5, 5–1, and 5–5) and the widely used chocolate cake–fruit salad choice set showed less consistent results, with ESC being a significant predictor in only one or neither of the two samples.

Logistic regressions of tasty food choice on ESC

These findings were replicated in a series of logistic regressions in which the tasty food choice was regressed on ESC, gender, age, and income. The results are provided in the bottom panel of Table 4. As can be seen, only choice in the 1–1 set that is the set containing the respondent's most favorite tasty and healthy items was consistently predicted by the respondent's ESC.

Degree to which task felt like a self-control decision

For Study 3A sample, an analysis of variance showed a significant effect of experimental condition, $F(3, 193) = 2.73$, $p < 0.05$, partial $\eta^2 = 0.041$. Results of planned contrasts further revealed that consistent with our prediction, those in the 1–1 condition (the most favorite tasty and healthy options choice set) were significantly more likely to think that the task felt like a self-control decision ($M = 3.92$) when compared with the 1–5 set (marginally significant; $M = 3.12$, $p = 0.067$), the 5–1 set ($M = 2.73$, $p = 0.013$), and the 5–5 set ($M = 2.78$, $p = 0.017$). In the case of Study 3B, an analysis of variance again revealed a significant main effect of

experimental condition, $F(3, 489)=6.10$, $p < 0.001$, partial $\eta^2=0.036$. Results of planned contrasts indicated that consistent with our prediction, those in the 1–1 condition (the most favorite tasty and healthy options choice set) were significantly more likely to think that the task felt like a self-control decision ($M=3.82$) when compared with the 1–5 set ($M=3.05$, $p < 0.005$), the 5–1 set ($M=2.73$, $p < 0.001$), and the 5–5 set ($M=3.14$, $p=0.01$). These results show that respondents consistently view the task as involving a self-control decision to a greater degree when faced with a choice set of their most favored tasty and healthy items compared with other choice sets.

Level of experienced conflict

Participants were asked to indicate the level of conflict they experienced when making the choice. In Study 3A's respondent sample, we found a significant effect of experimental condition, $F(3, 193)=3.74$, $p < 0.02$, partial $\eta^2=0.055$. Results of planned contrasts further showed that consistent with our prediction, those in the 1–1 condition (the most favorite tasty and healthy options choice set) experienced significantly more conflict in making the choice ($M=2.92$) when compared with the 1–5 set ($M=1.83$, $p < 0.005$) and the 5–1 set ($M=2.06$, $p < 0.02$) but not the 5–5 set ($M=2.33$, $p=0.10$). The results were similar for Study 3B. In its respondent sample, there was a main effect of experimental condition, $F(3, 489)=17.22$, $p < 0.001$, partial $\eta^2=0.096$. Results of planned contrasts further revealed that consistent with our prediction, those in the 1–1 condition (the most favorite tasty and healthy options choice set) experienced significantly more conflict in making the choice ($M=3.53$) when compared with the 1–5 set ($M=2.21$, $p < 0.001$), the 5–1 set ($M=2.10$, $p < 0.001$), and the 5–5 set ($M=2.71$, $p < 0.001$).

Discussion

These results indicate consumers' preference in tasty-healthy choice tasks is highly sensitive to the specific foods offered to them. We also find that self-control decisions that are consistent with one's chronic level of self-control are more likely to manifest in choice sets that include the most favorite tasty and healthy options. Such choice sets, developed using the rank-then-choose method, also engender the highest levels of conflict and perception that one is making a self-control decision. In sets where one of the two options is less favored, or even when both options are less favored by the consumer, the results are weak and inconsistent. Consumers have a much lower sense of conflict or of feeling that their decision is about self-control. Of course, we acknowledge that there may very well be circumstances in which consumers are faced with limited options, and therefore depending on the nature of the research or situation, it might be that a different set of trade-offs are more appropriate (e.g., favored vice vs. unfavored virtue may be seen as the ultimate test of will-power depending on the strictness of one's consumption-related goals). Taken together, these findings underscore the importance of carefully crafting choice sets when studying self-control.

GENERAL DISCUSSION

In the current research, we sought to shed light on the use of food decision-making scenarios intended to capture the exhibition of self-control or failure to do so. In contrast to simply relying on norms or subject pool-based pretesting to select options representing the two sides of a self-control dilemma, we constructed a conceptual framework including three key criteria useful for examining the effectiveness of various self-control outcome measures. In turn, we are able to make theoretically sound and empirically supported recommendations about best practices for self-control research while also introducing new procedures designed to further enhance those used in past research.

It goes without saying that prior research has been successfully conducted by utilizing a "chocolate cake versus fruit salad" approach, and the reasons for this are clear. Overall, such decisions are generally viewed by participants as self-control relevant conflicts in which something of greater pleasure and indulgence is juxtaposed against something less pleasurable but more helpful for reaching goals. In addition, these measures tend to be related, at least to some extent to appropriate domain-specific measures of self-control. However, our current results demonstrate that there is significant variation among participants in terms of how self-control relevant many classic decision trade-offs are.

Study 1 highlighted that while most prior measures of self-control outcomes in the food domain are viewed as self-control conflicts for typical consumers, this is less likely to be true when applied to one's self. Specifically, those high in self-control likely experience less attraction to indulgences on average in such choice scenarios than do their lower self-control counterparts. Yet, when actually tested in our longitudinal design in Study 2, these measures mostly seem to capture self-control outcomes successfully as indicated by their relationship to individual differences in ESC. Study 2 also demonstrates that vice versus virtue measures tend to work better than indulge versus restrain measures and are also somewhat superior to quantity of vice consumption. Finally, Studies 3A and 3B fully examined our newly introduced criterion of personal relevance to the individual participant. We identify and test a new rank-then-choose method to ensure personal relevance of self-control decisions using a brief and easy to implement ranking task. Following our newly introduced rank-then-choose procedures will make it more likely that tests of new interventions will be given a legitimate chance to work so that additional theoretical insights into self-control will be forthcoming.

Contributions and recommendations

We contribute significantly to the food decision-making research and to the self-control literature more generally by carefully explicating what it means to face a self-control relevant outcome decision. Prior research makes many assumptions about this. We reveal these existing assumptions, propose additional criteria essential for making an outcome measure as self-control relevant as possible, and test these proposed criteria. Given the nature of our research, a primary goal beyond enhancing theory is to be able to provide very

specific guidelines for researchers regarding best practices for self-control research. We detail these recommendations later.

First of all, we suggest that whenever possible, researchers wishing to capture self-control outcomes should ensure the personal relevance of the decision context to the individual participant. For doing so, we recommend the rank-then-choose procedure proposed and tested in Studies 3A and 3B. We offer some specific recommendations for the use of these procedures subsequently. To begin, we used a series of five vice and five virtue options, allowing study participants to choose the most personally relevant options within each category. Clearly, this is not a magic number but a reasonable rank-set size to provide an adequate variety of options without overwhelming the participant initially. We stress that the idea is not to include items that many find to be repulsive but simply to add assurance that participants will be presented with at least one indulgent choice they find highly tasty and at least one healthy choice that is tasty enough to be considered a viable alternative. The 10 options used in our studies seemed to work well in that there was significant variation in terms of which options were ranked as favorites and least favorites. Researchers could easily extend these choice sets to include fewer or more options, depending on their hypotheses, study length, and other design features. We suggest that at least three options should be presented, but if necessary, in the context of real food consumption, even including two options instead of one would increase the chances of them receiving a food that they enjoy (Redden and Haws 2013). We feel that this approach may be easily adopted to reflect differences in tastes across cultures and subcultures, and indeed, the specific options to include in the rank-then-choose method could be pretested among the study population.

Second, we suggest that measures that directly pit virtue versus vice are likely to best capture self-control outcomes (compared with indulge vs. no indulge or consumption quantity). However, there are certainly instances when these other measures will be more appropriate [e.g., quantity of consumption is really the outcome of interest, e.g., in response to changes in packaging (Scott *et al.*, 2008) or rates of satiation (Redden and Haws, 2013)], and if so, we suggest still using a rank-then-choose type of procedure to select the food stimuli to be used.

Third, if personalization of an option is not a viable alternative (e.g., the study must be conducted with paper and pencil and involves hypothetical choice), then researchers may draw upon our findings to select specific outcomes measures (for the food domain that is). Specifically, chocolate cake versus fruit salad, French fries versus salad, and apple versus candy bar seem to best capture self-control outcomes given their relationship to individual self-control (Study 2) as well as perceptions that they do represent self-control conflicts (Study 1).

Finally, we suggest that hypothetical self-control decisions serve as an appropriate method for capturing self-control related outcomes. Further, our new methods, in particular the rank-then-choose approach, offer a simple way to enhance the motivational richness of decision-making contexts including those with real food choice or

consumption. While we understand the tendency for reviewers and editors to recommend or require real consumption behavior, we believe that the emphasis may be somewhat overstated in cases where the outcome of interest is simply exhibited self-control. We point to the numerous examples of papers in which the same effects were found for hypothetical and real choice, as can be seen in Table 1. Further, the complexities and expense associated with real consumption are often not inconsequential, and hypothetical studies lend themselves to having more participants, more diverse participants, and likely less measurement error. Clearly, there are many circumstances under which real consumption or *real* self-control may be necessary (e.g., this is quite important when assessing quantity of consumption, a very important outcome that may well differ across environmental and social contexts), but many of our theoretical hypotheses can be more than adequately tested using well-constructed hypothetical choices that (i) are widely viewed as self-control conflicts, (ii) are related to individual differences in self-control, and (iii) are personally relevant to our participants. The best place to highly favor “real behavior” related to self-control is likely to be in creative field studies, which often provide a test of simpler effects and interventions rather than more elaborate theoretical models.

Limitations, future research, and conclusions

This research has several limitations, many of which we hope can be addressed in future research by applying the recommendations provided previously. For example, our studies included non-representative samples, and therefore, further testing is needed. In addition, we did not account for important consumer differences such as health status, body weight, or health goals within the present study, and each of these has the potential to further refine our understanding of the use of self-control outcome measures. As stated earlier, much prior literature utilizing the types of self-control related outcome measures of interest in this paper seeks to examine the efficacy of various interventions aimed at influencing consumer eating behavior, typically, in an effort to enhance consumer health and welfare. This represents another criterion that should be examined to further test the efficacy of self-control measures, that is, the ability of a measure to capture theoretically consistent changes in exhibited self-control in response to manipulations, and is of obvious importance for future research. Again, because much research in self-control is designed to test specific hypotheses regarding how consumers’ self-control will be impacted by situational manipulations, outcome measures used should be able to capture this. Future research could specifically test some of the outcome measures, and the rank-then-choose procedure in particular, to confirm efficacy in response to manipulations.

Future studies can also further examine how variations in personal health importance impact food self-control research. Prior research typically assumes that most people care about health and finances, but obviously, variation exists. While our contributions focus on conflict produced by the taste

and health attributes of various stimuli, researchers may find it beneficial to focus on overall goal relevance. Consider our previous example of the marathon runner with a high metabolic rate. Her choice to indulge in a single slice of cake may not present any threat to her long-term goal to stay healthy. Similarly, an individual who is skilled at moderating his consumption may opt to eat cake knowing that he will control how much of the cake he eats or will restrain his future eating. Long-term health is affected by the accumulation of the myriad eating decisions people make. The one-choice context may not reflect self-control for all consumers if it is not perceived to conflict with health goals or if for whatever reason, the individual finds health or food consumption goals to be unimportant. Finally, our key criteria of (i) widely viewed as self-control relevant, (ii) related to individual differences in self-control, and (iii) personally relevant to the participant should likewise apply to self-control outcomes involving financial decision making, spending control, time management, and more generally to “do the harder thing instead of the easy thing” scenarios. These possibilities should be examined in future research.

In closing, we wish to once again reiterate that the present research is in no way meant to be critical of any specific, prior self-control research. Clearly, the wide array of measures captured in Table 1 attest to both the importance of studying self-control in food consumption and the multitude of ways in which exhibited self-control can be assessed. Our hope is to provide researchers with the best chance possible to test their proposed effects without having to fish around for the *right* self-control outcome measure or run multiple studies simply because the outcome measure is ineffective. So, rather than haphazardly grabbing tasks from prior research that have been used to capture exhibited self-control, we suggest a more structured approach based on the criteria we proposed. We hope that our research will help motivate greater consistency in the use of measures intended to capture the same phenomenon—exhibited ESC—and allow researchers to more effectively and efficiently test their hypotheses. In addition, the better we can represent actual self-control conflicts for consumers, the better we can understand how to help individuals navigate these murky waters.

APPENDIX

Study 1: Self-Control Explanation

Many researchers are interested in studying individual's self-control. Self-control is defined as “restraint exercised over one's own impulses, emotions, and desire.” Typically, self-control dilemmas are situations in which the action one wishes to take in the present is likely to conflict with the ultimate goals they want to achieve.

Many different decisions that we make can have implications for our self-control. In this study, you will be asked to consider some situations that may or may not be related to the need to exercise self-control. You will be asked to evaluate each scenario for how much it represents a potential self-control scenario. Please read each item carefully and provide your honest impressions of the situation.

Individual Self-Control Measures Used: Eating Self-Control (Haws *et al.*, 2015)

I am good at resisting tempting food.
 I have a hard time breaking bad eating habits.*
 I eat inappropriate things.*
 I eat certain things that are bad for my health, if they are delicious.*
 I refuse to overindulge on foods that are bad for me.
 People would say that I have iron self-discipline with my eating.
 I am able to work effectively toward long-term health goals.
 Sometimes I can't stop myself from eating something, even if I know it is bad for me.*
 I often eat without thinking through the health consequences.*
 I wish I had more self-discipline in food consumption.*

General Self-Control (Tangney *et al.*, 2004)

I am good at resisting temptation.
 I have a hard time breaking bad habits.*
 I am lazy.*
 I say inappropriate things.*
 I do certain things that are bad for me, if they are fun.*
 I refuse things that are bad for me.
 People would say that I have iron self-discipline.
 Pleasure and fun sometimes keep me from getting work done.*
 I have trouble concentrating.*
 I am able to work effectively toward cumulative goals.
 Sometimes I can't stop myself from doing something, even if I know it is wrong.*
 I often act without thinking through the alternatives.*
 I wish I had more self-discipline.*

*Indicates reverse-coded item.

BIOGRAPHICAL NOTES

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Effects of perceptual and conceptual similarities on consumers' evaluations of copycat brand names

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ABSTRACT

Copycats often choose brand names that mimic perceptual, conceptual, or both elements of leading brand names. Yet little is known about how perceptual and conceptual similarities of a copycat interact to affect consumers' evaluations, especially in logographic language systems (e.g., Chinese). Three laboratory experiments demonstrate that perceptual similarity alone leads to negative evaluations of copycat brand names; this negative effect, however, can be mitigated when conceptual similarity is added. The underlying mechanism for this effect can be traced to consumers' persuasion knowledge. Perceptual (vs. conceptual) similarity activates consumers' persuasion knowledge about the insincere motives of the copycat brand, which in turn shapes their brand evaluations. However, this effect can become less prominent when conceptual similarity is added because it alleviates use of persuasion knowledge, or when a consumer is in a happy mood because it neutralizes persuasion knowledge. These findings shed light on how different types of copycat strategies interact to affect copycat brand name evaluations and offer important implications for marketing practice. Copyright © 2015 John Wiley & Sons, Ltd.

Copycat brands refer to those that imitate features of leading brands so as to free ride on their high brand equity (van Horen and Pieters, 2012b). In marketing practices, copycat brands can imitate names of leading brands through demonstrating either perceptual or conceptual similarity. From a perceptual angle, the look-alike copycats can imitate features such as spellings of leading brand names—for example, Aldi's Norpak spreadable butter brand name looks similar to that of the leading brand Lurpak. In comparison, from a conceptual angle, a copycat brand name may also aim to carry similar meanings as the leading brand—for example, a copycat sports brand Red Lion clearly conveys similar conceptual meanings as those of the leading sports brand Puma.

Prior research on copycat brands has primarily focused on the effects of the degree of similarity on brand evaluation. For example, some studies have shown that the more similar a copycat brand is to a leading brand, the more positive consumers' evaluations are of the copycat (Warlop and Alba, 2004). Other studies have found that consumers evaluate a moderate level of similarity more positively than a high level of similarity when a leading brand is present versus absent (van Horen and Pieters, 2012b). Although research has begun investigating different types of imitation and their effects on consumers' evaluations—such as feature imitation, which is perceived as unacceptable, versus theme imitation, which is perceived as more acceptable (van Horen and Pieters, 2012a)—to date, no research has examined copycat brands that span both the perceptual and conceptual similarity dimensions (e.g., Cleanis vs. Clearasil) and how these types of copycat strategies interact to affect consumers' evaluations of copycat brands.

This omission is unfortunate because copycat marketers apply these similarity types to their brand names. In addition, this copycat phenomenon becomes even more complex and intriguing in a logographic language system (e.g., Chinese) where perceptual and conceptual elements of a word can often and easily interact—for example, Yun (雲) not only looks alike Xue (雪) but also shares a similar meaning with it (a state of water)—how do consumers evaluate a copycat brand that it is named not only perceptually but also conceptually similar to a leading brand? The purpose of this paper is to explore this issue.

To attain a clear idea on the type of copycat brand strategies employed in the marketplace, we randomly selected 42 copycat brand names from six product categories¹ in the largest online shopping mall (Tmall: www.tmall.com) in China. Thirty university students in China were asked to indicate the type of each brand name based on its perceptual and/or conceptual similarity to the leading brand in its category. A brief analysis shows that 17 out of 42 were identified as high-perceptual–low-conceptual copycat ($M=40.48\%$), while only seven out of 42 brands were identified as high-perceptual–high-conceptual copycat ($M=16.67\%$; $Z=2.42$, $p < 0.05$). These results imply that copycat firms tend to simply imitate the perceptual look of leading brand names without incorporating the similar brand meaning, which will, unfortunately, result in an unfavorable consumer's attitude (van Horen and Pieters, 2012a). If consumers are less tolerant of a “look-alike” brand, how to reduce the negative effects of perceptual similarities of copycat brand names on consumer attitudes?

Drawing on research on branding and persuasion knowledge, this study explores the underlying mechanism of whether and how perceptual and conceptual similarities

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¹Those six categories are Food & Drink, Clothing & Shoes, Skincare & Cosmetics, Sport Goods, Home Electronics, Jewelry, and Handbags & Accessories. Those categories were chosen because they were ranked as top-selling products and brands (i.e., sales) according to China's Technology and Industry Ministry (2012; <http://www.chyxx.com/top/>).

interact to affect consumers' evaluations of copycat brand names. We conduct three lab experiments to test these ideas. The results, replicated for both Chinese and English brand names, demonstrate that perceptual similarity alone leads to negative evaluations of the copycat brand; however, this negative effect disappears when conceptual similarity is added to the brand name. The underlying mechanism for this effect hinges on consumers' persuasion knowledge—that is, perceptual (vs. conceptual) similarity activates consumers' persuasion knowledge about the insincere motivation of the copycat, which in turn shapes their brand evaluations. However, this effect can become less prominent when a consumer is in a happy mood, because happiness neutralizes persuasion knowledge (DeCarlo and Barone, 2009). Further, explicitly priming persuasion knowledge could lead more negative attitudes toward the conceptually similar copycat brand.

This research has several contributions. First, by exploring the *interaction* effect between perceptual and conceptual similarities on copycat brand evaluation, this research enriches the extant research on copycat brands (van Horen and Pieter, 2012a; 2012b) and our understanding on how various types of copycats can intertwine to affect consumer attitudes. In particular, our findings demonstrate that the negative influence of perceptually copycatting on consumer attitudes can be alleviated by incorporating conceptual similarity into the brand name. Second, although the influence of different types of copycats on consumer attitudes has been an intriguing topic in marketing, prior research has primarily examined such an effect in the alphabetic language (such as English), and little attention has been paid to the context of other language systems. Aiming to fill this research gap, the current research examines the effect of different types of imitations on consumer attitudes in the context of a *logographic* language (Chinese). Third, in contrast to prior research on copycats that examines the effect of imitating brand name, brand logo, and package design (e.g., Miceli and Pieters, 2010), this research explores that without changing brand logo, color, or other related aesthetics cues, how different types of copycat naming strategies would affect consumer attitudes, thus adding our understanding to the link between copycat research (van Horen and Pieters, 2012a; 2012b) and research on brand name choice (Pan and Schmitt, 1996; Schmitt and Zhang, 2012; Zhang and Schmitt, 2004). Fourth, we demonstrate and empirically find that persuasion knowledge mediates the interaction effect between perceptual and conceptual similarities on copycat evaluation. This underlying mechanism can help copycat marketers and firms to find out effective ways in reducing the harmful effects of copycats. Finally, we extend previous research on copycat branding by further identifying the condition under which the negative impact of perceptual similarity on copycat evaluations can be attenuated; that is, we show that mood status moderates consumers' inferential process on persuasion knowledge, such as a happy mood deactivates consumers' suspicions and makes them feel less averse to perceptually similar copycat brands.

THEORETICAL BACKGROUND

Two types of copycat similarities

Copycat brand names can imitate a leading brand name through its perceptual features or conceptual meanings (Miceli and Pieters, 2010). Perceptual similarity refers to that a copycat brand name imitates spelling or shape of a leading brand to achieve a literal similarity (e.g., Fuma vs. Puma; van Horen and Pieter, 2012a). Conceptual similarity means a copycat imitates a leading brand through capturing its conceptual meanings and connotation (e.g., Red Lion vs. Puma). Similarly, in the context of a logographic language such as Chinese, copycats change the components or radicals of a leading brand name to exhibit perceptual similarity, such as the copycat brand Zhizhi (治治), which perceptually imitates Qiaqia (洽洽), a leading snack brand in China. Likewise, copycats use synonym to capture conceptual meaning of a leading brand to achieve conceptual similarity, such as Qingyang (清扬) imitates the leading shampoo brand Rejoice (飘柔) from Procter & Gamble, and both brand names mean fly, smooth, and soft.

Of particular interest is the higher-order similarity derived from the interaction between perceptual similarity and conceptual similarity of a copycat brand name. For example, Cleanis and Clearasil not only look alike to each other but also convey similar brand meaning (a hygiene concept). In particular, Chinese brand names, as a synthesis of complicated visuospatial structure that contains word shape and meaning together, are amenable to adaptations in both perceptual and conceptual dimensions. For example, the leading beverage brand Sprite (雪碧) and its Chinese copycat brand Yunbi (雲碧) in China not only look alike but also mean similar.

Persuasion knowledge and copycat brand evaluation

While it is relatively easy to imitate a brand by its perceptual feature, it may negatively affect consumers' evaluation on the copycat brand name because this type of imitation can activate consumers' persuasion knowledge (Campbell and Kirmani, 2000). Persuasion knowledge refers to consumers' perception and beliefs about marketers' motives and manipulative intents (Friestad and Wright, 1994). Prior research suggests that consumers tend to interpret marketers' presentations and tactics used in the persuasion attempt and thus refine their attitudes (Friestad and Wright, 1994). Relatedly, in the copycat literature, research has shown that consumers would consult their persuasion knowledge to infer whether a copycat wants to deceive consumers or merely strives to be a legitimate competitor of the leading brand (Warlop and Alba, 2004).

Drawing on research on persuasion knowledge, we argue that when a copycat brand simply imitates perceptual feature of a leading brand (e.g., Fuma vs. Puma), consumers are likely to interpret the tactics as the way that the copycat is attempting to mislead and deceive consumers—as a result, they would perceive the marketer's behavior as *blatant* and insincere; and its ulterior motive is to persuade the consumer to buy the product. The use of persuasion knowledge will further activate consumers'

coping strategies—that is, try to avoid and reject that brand name and therefore evaluate the brand name negatively. Thus, we propose the following:

H1a: Perceptual similarity leads to a negative evaluation of a copycat brand name.

However, a copycat brand name that imitates conceptual features of the leading brand may be less likely to arouse suspicion. Prior research suggests that words are typically better remembered when encoded for meaning than for appearance (Demb *et al.*, 1995). Similarly, research on attention has shown that semantic meanings of a word can activate people's associative semantic networks so that they are more likely to search for related concept to process the semantic information (Collins and Loftus, 1975; Quillian, 1967). Taken together, this research suggests that conceptual meaning of a word has a higher priority in drawing people's attention and is easier to be remembered and recalled than perceptual feature. When a copycat brand name has both conceptual similarity and perceptual similarity, it is very likely that the effect of conceptual similarity will override that of perceptual similarity, as highly conceptually similar names take attention away from word spellings and hence can suppress the use of persuasion knowledge.

In addition, branding research shows that brands often use meaningful words to name their products (Keller *et al.*, 1998; Klink, 2003). Therefore, it is inevitable that brands in the same product category may often use words with similar meanings for their products (e.g., Care Bears vs. Boyds Bears; Baby Magic vs. BabyGanics vs. California Baby). This suggests that even if high-perceptual similarity leads consumers to connect the copycat with a specific leading brand, conceptual similarity, which is commonly used in a variety of brands, may dilute consumers' exclusive associations with the leading brand. Hence, the high perceptually–high conceptually (HPHC) similar copycat brand name may not induce negative associations about blatant copying. For example, several skin care brands adopt the “Dr.” prefix in their brand names, such as Dr. White and Dr. Brandt. When another skincare brand Dr. Bronner enters the market, consumers may not necessarily infer insincere motives of this brand and thus negative associations may not arise. The preceding discussion suggests that the conceptual meaning of the brand name can suppress the use of persuasion knowledge and therefore reduce the negative effect of perceptual similarity on copycat name evaluation. Formally, we hypothesize the following:

H1b: There is a two-way interaction effect between perceptual similarity and conceptual similarity on consumer evaluation of a copycat brand name, such that when conceptual similarity is low, perceptual similarity leads to a negative evaluation; however, when conceptual similarity is high, the negative evaluation of the copycat brand name is reduced.

H2: Persuasion knowledge mediates the effects proposed in H1.

STUDY 1: THE EFFECT OF PERCEPTUAL AND CONCEPTUAL SIMILARITIES ON COPYCAT EVALUATION

Study 1 was designed to test H_1 and H_2 by examining the effect of perceptual similarity, and the interaction effect of perceptual and conceptual similarities, on copycat evaluation. A leading shampoo brand, Rejoice (飘柔)², was chosen for this study owing to its popularity in China and its high familiarity to the participants. To determine four copycat brand names of Rejoice, we conducted a pretest prior to the main study.

Method and procedure

Pretest

Twenty-seven college students from an Asian university participated in the pretest. Participants rated four shampoo copycat brand names, Piaoyang (飘扬), Piaomao (漂毛), Shunyang (顺扬), and Caikang (采康), using two 7-point items such as to what extent each brand name is (i) perceptually similar and (ii) conceptually similar, to the leading brand name Rejoice (1 = *not at all similar*, 7 = *extremely similar*). The results confirmed that Piaoyang was viewed as being both more perceptually ($M = 4.96$, $t(26) = 3.38$, $p < 0.01$) and conceptually similar ($M = 5.44$, $t(26) = 5.18$, $p < 0.001$) than the scale midpoint, namely HPHC. Piaomao was viewed as being more perceptually similar ($M = 4.63$, $t(26) = 2.35$, $p < 0.05$) and less conceptually similar ($M = 2.52$, $t(26) = -4.81$, $p < 0.001$) than the scale midpoint, namely high perceptually–low conceptually (HPLC). Shunyang was evaluated as being less perceptually similar ($M = 2.37$, $t(26) = -6.98$, $p < 0.001$) and more conceptually similar ($M = 5.52$, $t(26) = 5.76$, $p < 0.001$) than the scale midpoint, namely low perceptually–high conceptually (LPHC). Caikang was evaluated as being both less perceptually ($M = 1.93$, $t(26) = -9.45$, $p < 0.001$) and conceptually similar ($M = 2.07$, $t(26) = -10.92$, $p < 0.001$) than the scale midpoint, namely low perceptually–low conceptually (LPLC).

Main study

One hundred and two students in an Asian University were randomly assigned to one of the four conditions in a 2 (perceptual similarity: high vs. low) \times 2 (conceptual similarity: high vs. low) between-subjects design. All participants were asked to imagine that they were grocery shopping in a supermarket and would like to buy a bottle of shampoo. Those in the HPHC, HPLC, LPHC, and LPLC conditions were instructed to imagine that they found a new shampoo brand, Piaoyang, Piaomao, Shunyang, and Caikang, on the store shelf respectively. They were then asked to indicate their attitudes toward the brand name using three 7-point items: “negative/positive,” “dislike/like,” and “unpleasant/pleasant” (higher numbers indicate more positive attitudes; $\alpha = 0.87$). In addition, we measured persuasion knowledge by asking participants to indicate their perceived

²We conducted a separate study in which an *English* brand name (Puma; adapted from van Horen and Pieters, 2012a) was used as the leading brand and found the same effects of perceptual and conceptual similarity on copycat name evaluation as we reported here in Study 1.

insincerity and skepticism about the company of this new brand using three 7-point items: “sincere/insincere,” “honest/dishonest,” and “nondeceptive/deceptive”³ (higher numbers indicate more persuasion knowledge; $\alpha=0.78$; Campbell and Kirmani, 2000; Kirmani and Zhu, 2007). Finally, participants rated their attitude (1=*very negative*, 7=*very positive*) and familiarity (1=*not familiar at all*, 7=*very familiar*) for the leading brand; results show that there was no significant difference across four conditions ($ps > 0.16$).

Results

Attitude toward copycat brand names

An analysis of variance (ANOVA) showed a main effect of perceptual similarity on attitude toward copycat such that perceptually copycatting led to a decrease in attitude ($M_{HP}=3.09$, $SD=1.04$ vs. $M_{LP}=3.64$, $SD=0.91$; $F(1, 98)=5.72$, $p < 0.05$), supporting H_{1a} . Although there is no specific hypothesis for conceptual similarity, the result for it is reported for completeness—we found conceptual copycatting increased consumer’s attitude ($M_{HC}=3.63$, $SD=0.88$ vs. $M_{LC}=3.19$, $SD=1.06$; $F(1, 98)=5.44$, $p < 0.05$). The interaction effect of perceptual similarity and conceptual similarity on attitude toward the copycat brand names was also significant ($F(1, 98)=7.83$, $p < 0.01$). Planned comparisons showed that when conceptual similarity was low, perceptually copycatting a leading brand name decreased consumer’s attitude ($M_{HP/LC}=2.71$, $SD=1.02$ vs. $M_{LP/LC}=3.68$, $SD=0.88$; $F(1, 98)=16.38$, $p < 0.001$). However, when conceptual similarity was high, there was no such a significant difference ($M_{HP/Hc}=3.67$, $SD=0.78$ vs. $M_{LP/Hc}=3.59$, $SD=0.98$; $F(1, 98)=0.07$, $p=0.79$; Figure 1), suggesting that the negative impact of a perceptual copycat on consumer’s attitude can be, to a certain extent, neutralized by copycatting the conceptual meaning of the leading brand, fully supporting H_{1b} .

Mediated moderation role of persuasion knowledge

To find support for H_2 that persuasion knowledge mediates the interaction effect of perceptual and conceptual similarities on attitude toward copycat, we first examined the interaction effect of perceptual similarity and conceptual similarity on persuasion knowledge. A significant main effect of perceptual similarity on persuasion knowledge suggested that the perceived insincere motive of a perceptual copycat was higher ($M_{HP}=5.05$, $SD=1.02$ vs. $M_{LP}=3.72$, $SD=1.00$; $F(1, 98)=39.55$, $p < 0.001$). The main effect of conceptual similarity on persuasion knowledge was not significant ($M_{HC}=4.22$, $SD=0.90$ vs. $M_{LC}=4.48$, $SD=1.37$; $F(1, 98)=1.71$, $p=0.19$). In addition, we found an interaction effect of perceptual similarity and conceptual similarity on persuasion knowledge ($F(1, 98)=13.50$, $p < 0.05$)—when conceptual similarity was low, consumers perceived a perceptual copycat to be more insincere ($M_{HP/LC}=5.43$, $SD=0.83$ vs. $M_{LP/LC}=3.53$, $SD=1.13$; $F(1, 98)=60.35$, $p < 0.001$); however, when conceptual similarity was high, no such a

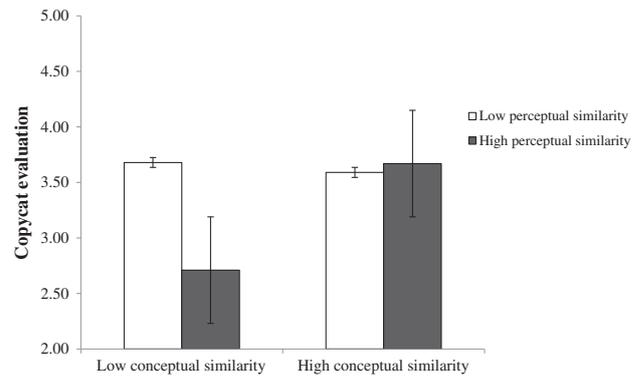


Figure 1. Study 1: perceptual similarity and conceptual similarity affect copycat brand evaluations.

significant effect was found ($M_{HP/Hc}=4.48$, $SD=1.02$ vs. $M_{LP/Hc}=3.98$, $SD=0.73$; $F(1, 98)=2.90$, $p=0.09$), implying that conceptual similarity in copycatting can suppress consumer’s use of persuasion knowledge. Next, Hayes’ (2012) mediated moderation analysis showed that a total indirect effect of the interaction between perceptual and conceptual similarities was significantly different from zero (95% confidence interval (CI) [0.21 to 1.00]). The path model with estimated coefficients is demonstrated in Figure 2. Together, these results confirm that persuasion knowledge fully mediated the interaction effect of perceptual similarity and conceptual similarity on consumer’s attitude toward a copycat, supporting H_2 .

Discussion

The results from Study 1 suggest that perceptual similarity leads to a negative evaluation of a copycat brand name; that is, simply copying perceptual features of a leading brand is more likely to make consumers dislike a copycat brand name. A mediation analyses on persuasion knowledge show that perceptually copycatting a leading brand name activated consumers’ persuasion knowledge of insincere motives of the copycat, which, in turn, led to a more negative attitude toward it. In addition, a mediated moderation analysis suggests that conceptually copycatting suppressed the use of persuasion knowledge to raise suspicion—when combining a similar conceptual meaning to the perceptual copycat brand name, the negative effect of perceptual similarity on consumers’ attitudes was less prominent.

STUDY 2: EXPLICITLY ACTIVATING PERSUASION KNOWLEDGE

Study 1 demonstrates the importance of persuasion knowledge in explaining why consumers may be more critical of copycat brands that simply copy the perceptual features of leading brand names. This is because consumers detect suspicious motives of the copycat brand. In addition, consumers tend to be more tolerant of copycat brands that imitate the conceptual meanings of leading brand names in that they are less likely to detect suspicious motives. To further substantiate this claim, in Study 2, we *explicitly* manipulate consumers’ persuasion knowledge. If persuasion knowledge

³Confirmatory factor analyses of three items of persuasion knowledge and three items of brand attitude support our decision to treat persuasion knowledge and brand attitude as two separate and independent construct.

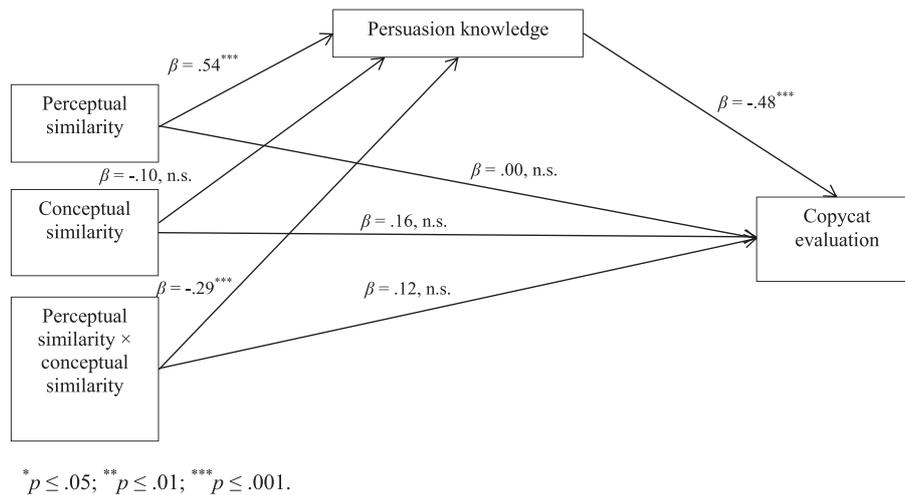


Figure 2. Study 1: mediated moderation effect. * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

indeed plays a mediation role in the proposed effect, when consumers' persuasion knowledge is not activated, a high conceptually similar copycat brand should lead to greater brand attitudes than a low conceptually similar copycat. However, when persuasion knowledge is explicitly activated, this difference should be significantly reduced.

Method and procedure

Pretest

We conducted a pretest to confirm the successful manipulation of persuasion knowledge. Forty-nine participants from an Asian University were randomly assigned to a persuasion knowledge condition and a control condition. Following previous research (Kirmani and Zhu, 2007; Scott *et al.*, 2013), participants in the persuasion knowledge condition and control condition were instructed to read an article that either described how marketers use marketing tricks and tactics to mislead consumers, or that described a company's new product development plan. Next, all participants rated seven suspicion items on a 7-point scale (e.g., "Marketers are constantly trying to trick consumers"; 1 = *strongly disagree*, 7 = *strongly agree*; $\alpha = 0.80$; Scott *et al.*, 2013). Finally, control variables such as interest, readability, and understandability of the article content were measured using a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). The ANOVA results showed that the perceived suspicious motives of a firm were significantly higher in the persuasion knowledge condition than in the control condition ($M_{\text{persuasion}} = 5.25$, $SD = 1.07$ vs. $M_{\text{Control}} = 4.46$, $SD = 0.87$; $F(1, 47) = 8.16$, $p < 0.01$). The analysis on the average of control variables ($\alpha = 0.77$) revealed no significant difference between two conditions ($p = 0.27$). These effects confirm the successful manipulation of persuasion knowledge.

Main study

One hundred and ten college students in an Asian university were randomly assigned to one of four conditions in a 2 (persuasion knowledge: control vs. primed) \times 2 (conceptual similarity: low vs. high) between-subjects design. The stimuli, procedure, and dependent measures are identical to those in Study 1 with two exceptions. First, participants' persuasion

knowledge was manipulated as in the pretest. Second, we assessed persuasion knowledge using thoughts protocols (Kirmani and Zhu, 2007). Participants were asked to write down all the thoughts and feelings they had about the copycat. Two independent judges coded participants' persuasion knowledge such as suspicion about the copycat firm's motives (e.g., "I am very skeptical about this firm's motives"). The inter-coder reliability was 0.89.

Results

Attitude toward copycat brand names

As in Study 1, a significant main effect of conceptual similarity showed that attitude toward a copycat was higher when a copycat conceptually imitated the leading brand ($M_{\text{Hc}} = 4.94$, $SD = 1.69$ vs. $M_{\text{Lc}} = 4.04$, $SD = 1.31$; $F(1, 106) = 9.79$, $p < 0.01$). An interaction effect of priming persuasion knowledge and conceptual similarity on copycat attitude was also significant ($F(1, 106) = 4.34$, $p < 0.05$). As predicted, explicitly activating persuasion knowledge decreased attitude toward a high conceptually similar copycat ($M_{\text{Pk}} = 4.47$, $SD = 1.84$ vs. $M_{\text{Control}} = 5.38$, $SD = 1.43$; $F(1, 106) = 5.03$, $p < 0.05$) but did not affect attitude toward a low conceptually similar copycat ($M_{\text{Pk}} = 4.18$, $SD = 1.46$ vs. $M_{\text{Control}} = 3.90$, $SD = 1.15$; $F(1, 106) = 0.48$, $p = 0.49$; Figure 3).

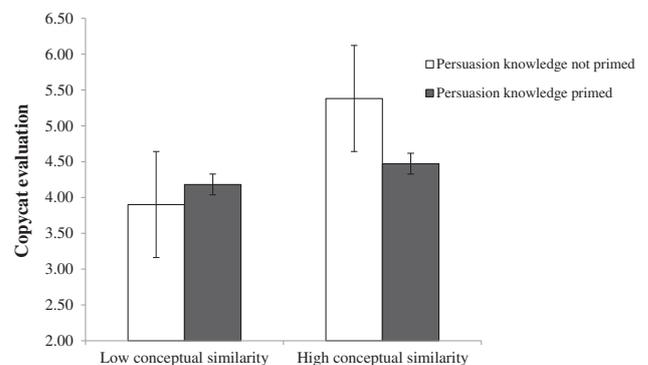


Figure 3. Study 2: priming persuasion knowledge and conceptual similarity affect copycat brand evaluations.

Mediated moderation role of persuasion knowledge

We followed the same approach as in Study 1 to examine the mediated moderation role of persuasion knowledge, which was assessed using participants' suspicion about the copycat firm's motives (coded by two judges). A total indirect effect for the interaction between priming of persuasion knowledge and conceptual similarity was significantly different from zero (95% CI [-0.99 to -0.06]). This effect, again, confirms that persuasion knowledge fully mediated the proposed interaction effect on attitude toward a copycat brand name.

Discussion

Study 2 provides further evidence in support of H₂ by showing that it is persuasion knowledge that mediates the proposed effect of perceptual and conceptual similarities on attitude toward a copycat brand name. Our results suggest that when persuasion knowledge was not explicitly activated, as found in Study 1, consumers' attitude toward a conceptual copycat was higher because less persuasion knowledge was used in this process. However, when persuasion knowledge was explicitly activated, the difference in consumers' using persuasion knowledge and in attitude toward a high versus low conceptually similar copycat brand name was no longer significant. These findings suggest priming persuasion knowledge led to more negative attitudes toward the copycat brand even when it is conceptually similar to the leading.

STUDY 3: EXPLICITLY DEACTIVATING PERSUASION KNOWLEDGE

Studies 1–2 consistently suggest that perceptual similarity alone leads to negative attitudes toward a copycat brand name and that adding conceptual similarity can alleviate this effect—the underlying mechanism lies in consumers' persuasion knowledge. A worthwhile question to examine is whether consumers' persuasion knowledge can be interrupted so that their negative attitudes toward a high perceptually similar copycat brand name (by controlling for a low degree of conceptual similarity) are attenuated. Previous research suggests that happy mood can offset consumers' suspicions of marketers' persuasion motives and tactics (DeCarlo and Barone, 2009; Householder and Wong, 2011). Thus, the goal of Study 3 is to explore the boundary condition of our proposed effect by suggesting the following prediction:

H3: Mood moderates the effect of perceptual similarity on copycat evaluation such that the negative attitude toward a high perceptually similar copycat is reduced when consumers are in a happy mood.

Method and procedure

To enhance the generalizability of the results from Studies 1 and 2, following previous research (van Horen and Pieters, 2012a), Study 3 used the sports brand Puma as the leading brand, Fuma as the HPLC similar copycat brand name, and Alko as the LPLC similar new brand name (as the control condition). We randomly assigned 96 college students from

an Asian university to one of the four conditions in a 2 (mood: neutral vs. happy) × 2 (perceptual similarity: low vs. high) between-subjects design. We followed previous research (Barone, 2005; DeCarlo and Barone, 2009) and manipulated mood by asking participants to watch a video clip. Participants in the happy-mood condition watched a funny video clip, and those in the neutral-mood condition watched a video about an introduction of an undergraduate course. Both videos lasted for 3.5 minutes. Next, participants indicated their mood at the moment by answering three items on 7-point scale: “bad mood/good mood,” “sad/happy,” and “depressed/cheerful” (higher numbers indicate happier mood; $\alpha=0.97$; Barone, 2005). The results showed that participants in the happy-mood condition reported a more positive mood ($M_{\text{happy-mood}}=5.89$, $SD=1.03$) than those in the neutral-mood condition ($M_{\text{neutral-mood}}=3.73$, $SD=0.94$; $F(1, 94)=114.53$, $p<0.001$). They were then asked to imagine that they were shopping for a pair of sneakers and found a new brand offered in the store. We measured attitude toward the new brand name, persuasion knowledge, and manipulation checks as in the previous studies.

Results

Attitude toward copycat brand names

An ANOVA showed a main effect of perceptual similarity on attitude toward copycat such that perceptual copycatting led to a decrease in attitude ($M_{\text{Hp}}=3.43$, $SD=0.83$ vs. $M_{\text{Lp}}=4.02$, $SD=0.41$; $F(1, 92)=23.40$, $p<0.001$), supporting H_{1a} again. Although there is no specific hypothesis for the main effect of mood, the result for it is reported for completeness—we found mood increased consumer's attitude toward copycat brand names ($M_{\text{happy-mood}}=3.94$, $SD=0.58$ vs. $M_{\text{neutral-mood}}=3.52$, $SD=0.78$; $F(1, 92)=12.31$, $p<0.01$). In addition, an interaction effect of perceptual similarity and mood on attitude toward copycat brand names was also significant ($F(1, 92)=16.78$, $p<0.001$). Planned comparisons showed that when in a neutral-mood condition, perceptually copycatting a leading brand name decreased consumer's attitude ($M_{\text{Hp}}=3.00$, $SD=0.69$ vs. $M_{\text{Lp}}=4.06$, $SD=0.42$; $F(1, 92)=40.76$, $p<0.001$). However, when in a happy-mood condition, there was no such a significant difference ($M_{\text{Hp}}=3.90$, $SD=0.73$ vs. $M_{\text{Lp}}=3.99$, $SD=0.40$; $F(1, 92)=0.27$, $p=0.61$; Figure 4), suggesting

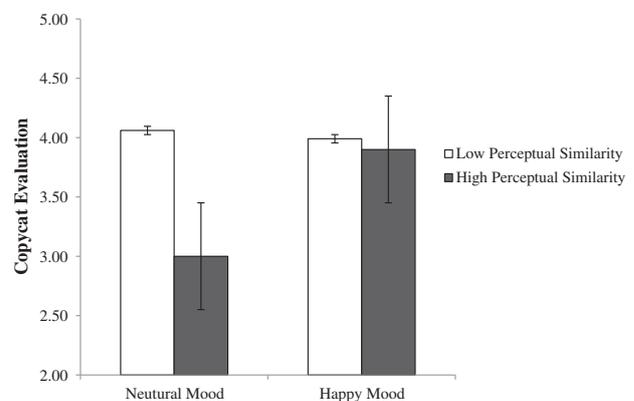


Figure 4. Study 3: mood and perceptual similarity affect copycat brand evaluations.

that the negative effect of a perceptual copycat on consumer's attitude can be, to a certain extent, neutralized by happy mood and thus fully supports H₃.

Mediated moderation role of persuasion knowledge

To determine support for our prediction that persuasion knowledge mediates the relationships between mood, perceptual similarity, and copycat brand evaluation, as in Studies 1–2, we examined the interaction effect of mood and perceptual similarity on persuasion knowledge. A total indirect effect for the mediation path of persuasion knowledge was significantly different from zero (total indirect effect = 0.17, $SE = 0.08$, 95% CI [0.01 to 0.33], Sobel $Z = 2.14$, $p < 0.05$). Further, Hayes' (2012) mediated moderation analysis showed that a total indirect effect of the interaction between mood and perceptual similarity was significantly different from zero (total indirect effect = 0.17, $SE = 0.09$, 95% CI [0.02 to 0.39]). The path model with estimated coefficients was demonstrated in Figure 5.

Discussion

The results of Study 3 provide additional insights into the mediating role of persuasion knowledge on the proposed effect. The findings suggest that a happy mood can offset consumers' suspicions of a copycat brand name to a certain extent and thus neutralize negative attitudes toward it.

GENERAL DISCUSSION

Summary of findings and theoretical contributions

It costs from \$50 million to \$100 million to introduce a totally new brand name to the market today (Aaker, 2012). Therefore, it is not surprising that less-known brands copy the names of leading brands to leverage the associations. This phenomenon is particularly prevalent in East Asian developing countries, where local brands often adopt this unorthodox strategy in the hope of riding on the high brand equity of multinational brands. Drawing from research on branding and persuasion knowledge, we differentiate two types of copycat brand name similarities—perceptual similarity and conceptual similarity. Three lab experiments show that

perceptual similarity negatively affects copycat brand name evaluation overall (Studies 1, 2, and 3). However, incorporating conceptual similarity into a high perceptually similar copycat brand name suppresses this negative effect (Studies 1–2). More important, we demonstrate that consumers' persuasion knowledge—perceived insincere copying motives—mediates the effects. We further confirm this underlying psychological process by explicitly priming persuasion knowledge; results show that when persuasion knowledge is activated, attitudes toward a high perceptually similar copycat brand name under low-conceptual versus high-conceptual similarity are no longer significantly different (Study 2). Relatedly, we show that deactivating persuasion knowledge through mechanisms such as a happy mood, which offsets consumers' suspicions of an HPLC copycat brand name, neutralized negative brand evaluations (Study 3).

Our findings offer several theoretical contributions. First, our finding that perceptual and conceptual similarities can interact to affect copycat brand name evaluation largely enriches the extant research on copycat brands (van Horen and Pieter, 2012a; 2012b), which has paid little attention to such an interaction effect between different types of imitations. Second, by examining the effect of different types of imitations on consumer attitudes in the context of a *logographic* language (Chinese), our research extends the existing research on copycats (d' Astous and Gargouri, 2001; Loken *et al.*, 1986; Miceli and Pieters, 2010), which has primarily focused on studying copycats in the alphabetic language (such as English). Finally, we examine the mediation role of persuasion knowledge and the moderation role of mood in the proposed effect—this not only adds our understanding to the link between copycat research (van Horen and Pieter, 2012a; 2012b), persuasion knowledge (Campbell and Kirmani, 2000), and mood (DeCarlo and Barone, 2009) but also provides important insights into how to effectively reduce the harmful effects of copycats.

Managerial implications

Our findings carry implications for marketers that employ the copycat in Asian emerging economies and, more broadly, for marketing practitioners interested in using new brand development strategies. First, although a copycat strategy can

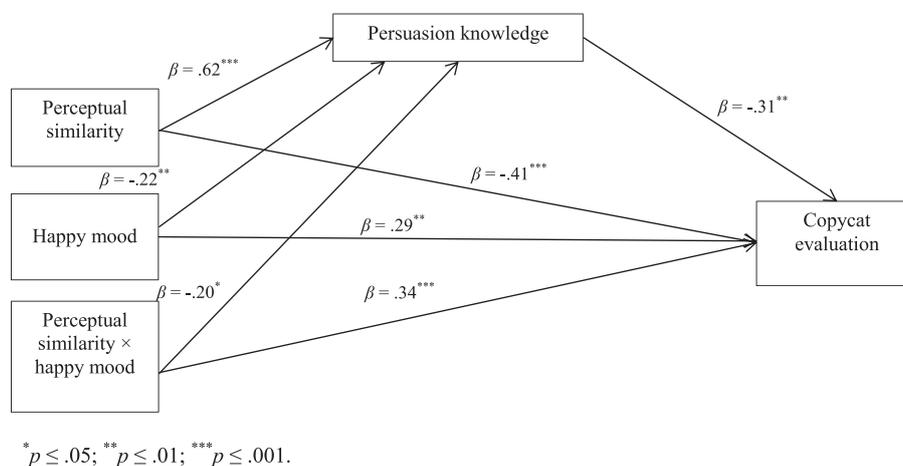


Figure 5. Study 3: mediated moderation effect. * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

sometimes generate a positive evaluation of the brand (van Horen and Pieters, 2012b), our results suggest that marketers should be careful to employ a copycat strategy—copying perceptual features of the leading brand name can cause aversion if conceptual similarity is absent. Second, when introducing a copycat brand name, marketers should leverage the happy-mood effect of suppressing the negative associations from persuasion knowledge, for example, through the use of joyful or funny program content, music, or videos. Incidentally, we note that many copycat brands in China heavily promote their names in joyful entertainment shows while bypassing serious programs, such as news reports. This observation seems to be consistent with this particular recommendation. More generally, incorporating contextual factors that can deactivate the use of persuasion knowledge, such as emphasizing a good company reputation, might increase the likelihood of success of such a marketing campaign.

Third, for leading brands that must fend off copycat brands on a regular basis, their promotional messages should move beyond generic, category-based associations and highlight more unique, fine-grained brand positioning messages, such as by developing more comprehensive yet more diverse conceptual brand associations. For example, a recent campaign slogan of Rejoyce launched on Sina Weibo (a Chinese microblog) stated “Rejoyce helps millions of Chinese women find love; smoothly!” Conceivably, when this slogan is tied closely to the brand names, this whole package of marketing messages is more difficult for copycats to imitate than just the brand name itself.

Limitations and directions for further research

It is important to point out two limitations of this work. First, for the purposes of experimental control, we conducted the studies in a laboratory, which lack the richness of real field settings. Further research might address these issues by examining the proposed effects in a naturalistic environment. Second, our studies were limited to two product categories (shampoo and sportswear); thus, further research could examine the effects of perceptual and conceptual similarities on copycat brands in more product categories. Research could also investigate the potential interaction effects of copying brand name and copying other brand elements, such as logo design (Keller and Lehmann, 2006), on attitudes toward a copycat brand, especially in a logographic language context (e.g., Chinese), in which the way the words are written can carry particular connotations.

Also worthwhile would be identifying boundary conditions for the use of persuasion knowledge in the context of evaluations of copycats. One potential moderator is consumer nationalism (Dong and Tian, 2009). It is possible that when national pride is evoked, consumers become more tolerant of indigenous brand that imitate a globally leading brand so that their use of persuasion knowledge is suppressed, which might lessen or even possibly reverse the negative impact of copycat similarities on their attitudes. The answers to these research questions may help drive benign competitions between copycat brands and the leading brand.

BIOGRAPHICAL NOTES

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The interplay of emotions, elaboration, and ambivalence on attitude–behavior consistency

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ABSTRACT

Previous research on the relationship between attitudinal ambivalence and behavioral prediction mainly focused on the cognitive perspective. This paper introduces the simultaneous roles played by emotions (positive or negative) and elaboration. We find that both emotions and elaboration could moderate the effect of attitudinal ambivalence on attitude–behavior consistency. Furthermore, positive and negative emotions have different psychological mechanisms: positive emotions influence attitude–behavior consistency directly; negative emotions influence attitude–behavior consistency indirectly through elaboration. This article also discusses the theory contribution, marketing implication, and avenues for future research. Copyright © 2015 John Wiley & Sons, Ltd.

When Jane, a senior research assistant in our school, was looking for a new cell phone, she was considering the new Apple iPhone 4 when it first came out into the market. Although she knew that an iPhone 4 was cool and attractive enough to catch everyone's eyeballs, she did not like much about the touchscreen (which she had never used before) and the many additional functions (she mainly used it to make phone calls and to send messages). What a difficult choice for Jane! She once told us that she was unlikely to buy an iPhone 4. Surprisingly, 1 month later, she showed us her new iPhone 4 and told us that she bought it on a happy day, her birthday, without any plans. This story leads to an interesting question for us: what drives Jane's attitude and purchase behavior?

Ambivalence can be defined as the simultaneous existence of both positive and negative evaluations of, or feelings toward, an attitude object (Conner and Sparks, 2002). Previous research has paid much attention to the effect of ambivalence on behavioral intention but has mainly focused on the cognitive perspective (Jonas *et al.*, 1997; Sengupta and Johar, 2002). Recently, researchers have begun to investigate the role of emotions in influencing the effect of ambivalence on attitude–behavior correspondence (e.g., Yang and Unnava, 2010). Human behavior is known to be simultaneously influenced by both cognition and emotions (Dolan, 2002; Ochsner and Phelps, 2007), yet little research has examined the influences of cognition and emotions at the same time on attitude–behavior consistency. Therefore, it is not yet understood how cognition and emotions together influence the relationship between ambivalence and attitude–behavior consistency. As well, researchers have not determined whether the influences of positive and negative emotions, in terms of their psychological mechanisms, are the same on the relationship between ambivalence and attitude–behavior consistency.

This research aims to investigate how the relationship between attitudinal ambivalence and behavioral prediction

is influenced by cognitive elaboration and emotions. First, we reviewed two streams of literature, focusing on the effect of ambivalence on attitude–behavior consistency, and the affect evaluation and affect regulation theories. Second, three studies were conducted to explore how the relationship between attitudinal ambivalence and attitude–behavior consistency was moderated by elaboration and emotions. Results indicated that either positive or negative emotions could significantly improve the attitude–behavior consistency of ambivalent persons, although this effect only occurred under low elaboration conditions. Moreover, positive and negative emotions had different psychological mechanisms: positive emotions influenced attitude–behavior consistency directly, while negative emotions influenced attitude–behavior consistency indirectly through elaboration. Finally, we summarized theoretical contribution, marketing implications, limitations, and future research.

LITERATURE REVIEW

Research on ambivalence is an important development of the traditionally studied unidimensional attitude. The major focuses of previous research are the definition and the measurement of ambivalence (Priester and Petty, 1996; Conner and Sparks, 2002) and the basic characteristics and the related factors of ambivalence (Newby-Clark *et al.*, 2002; Petty *et al.*, 2006). Moreover, researchers have examined the effects of ambivalence on information processing (Maheswaran and Chaiken, 1991; Maio *et al.*, 1996), on weight loss decisions (Bui *et al.*, 2014), and on purchase behavioral intention (Jonas *et al.*, 1997; Sengupta and Johar, 2002). In this paper, we are interested in the effects of ambivalence on attitude–behavior consistency.

The effect of ambivalence on attitude–behavior consistency
The influence of ambivalence on the attitude–behavior consistency has been investigated in a limited number of studies

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(e.g., Jonas *et al.*, 1997; Sengupta and Johar, 2002; Conner *et al.*, 2003; Olsen *et al.*, 2005). The strength of attitude reflects the degree of consistency between attitude and related behavior (Petty and Krosnick, 1995), that is, the behavioral prediction value of attitude. In the current debate among researchers about the effects of ambivalence on attitude–behavior consistency, some researchers (Sparks *et al.*, 1992; Armitage and Conner, 2000; Conner *et al.*, 2003) believe that ambivalence weakens the predictive value of attitude. Their view is supported by the finding that the presence of structural inconsistencies (e.g., conflicting evaluations) lowers attitude stability and weakens the attitude–behavior consistency (Norman, 1975). Some researchers suggest that, because of conflicting evaluations, ambivalence could reduce attitude accessibility (Bargh *et al.*, 1992; Bassili, 1998), which has an adverse effect on attitude–behavior consistency (Fazio, 1995).

However, other researchers have challenged those conclusions. Maheswaran and Chaiken (1991) found that evaluation inconsistency between a product endorser and product attributes (e.g., a positive endorser and negative attributes) leads to greater overall elaboration than does a condition in which the endorser and attributes are mutually consistent. Maio *et al.* (1996) found that when people are ambivalent toward a minority group, they process persuasive messages more systematically and subsequently have higher attitude–behavior consistency. Jonas *et al.* (1997) indicated that ambivalence could strengthen attitude–behavior consistency because, with higher elaboration, ambivalence may lead to a stronger link between attitudes and purchase intention.

To solve these puzzles, researchers have provided possible explanations. Sengupta and Johar (2002) suggested that such conflicting findings were due to the likelihood of inconsistency reconciliation—specifically, whether people could elaborate on inconsistencies with the goal of achieving an integrated evaluation. Hence, elaboration becomes an important moderator in the effects of ambivalence.

The influence of affect

Affect is central to the quality of everyday human experience (Dolan, 2002). Affect evaluation theories, including affect-as-information effect (Schwarz and Clore, 1983) and emotion-congruency effect (Bower, 1981; Isen *et al.*, 1988; Niedenthal and Setterlund, 1994), argue that people have a higher evaluation of an object that has positive emotional valence when they are in a positive emotional state and that they have a higher evaluation of an object that has a negative emotional valence when they are in a negative emotional state. However, affect regulation theories (Andrade, 2005; Andrade and Cohen, 2007) propose that people tend to maintain their positive emotions and that they will try to redress any negative emotions. Thus, people have a higher evaluation of an object that has positive emotional valence even if they are in a negative emotional state.

Some studies provided supportive evidence to affect evaluation theories. For example, Martin *et al.* (1997) found that a story was evaluated more favorably when consumers had feelings that matched the story's emotional valence, because a sad (or, alternately, happy) story was supposed to make consumers feel sad (or, alternately, happy), which was

consistent with the affect-as-information effect. Kim *et al.* (2010) found that consumers had a higher evaluation of vacation products with adventurous appeals when they were in an excited, rather than peaceful, emotional attitude, just as they had a higher evaluation of vacation products with serene appeals when they were in a peaceful, rather than excited, emotional attitude. Their finding was consistent with the emotion-congruency effect.

Recently, Yang and Unnava (2010) found that for high ambivalent individuals, a mood that was either happy or sad would improve the behavior prediction of attitude (in comparison with a neutral mood), while for low ambivalent individuals, the behavior prediction of attitude was not influenced by mood. Therefore, moods may moderate the effects of ambivalence on attitude–behavior consistency. However, they did not examine the influences of cognition and emotions together, nor did they investigate the psychological mechanisms of different emotions (i.e., positive emotions and negative emotions).

STUDY 1

Study 1 examines positive emotions, particularly, and is a 2 (ambivalence: high versus low) × 2 (elaboration: high versus low) × 2 (emotions: positive versus neutral) between-subjects experiment. Two hundred and forty undergraduate students at a large national university in China participated in this study.

Method

Procedures and stimuli

First, participants were informed that the goal of this study was to evaluate their interest in a new digital video camera (*JVC HD3500*), and they were asked to write down their personal information, including gender, age, and student number. The next stage was the elaboration manipulation (Sengupta and Johar, 2002): under high elaboration condition, participants were given a memorization task and instructions indicating that they would later be asked to recall all the written information (Biehal and Chakravarti, 1986); no such instructions were given under low elaboration condition. The positive product attributes, which compared the *JVC HD3500* with two other brands (*Canon MVX25* and *Panasonic MX350E*) on five different attributes, were presented in the first part of the questionnaire. These three brands were described as being equally good on one attribute (ease of operation), but the *JVC HD3500* was presented as being superior to the competing brands on all other attributes (data transfer rate, image definition, viewfinder range, and storage medium). Participants were then asked to complete a filler task (reading a paragraph about nature, such as forests, and then answering related questions).

Next, participants were given the second part of the questionnaire, with updated attribute information (negative versus positive) for two additional attributes (*JVC HD3500* was inferior/superior to the competing brands on machine weight and use duration). Thus, the manipulation of initial ambivalence by presenting consistent or inconsistent information between two parts was achieved. Participants then indicated their initial ambivalence as the manipulation check. The

indicator of initial ambivalence was the extent to which participants (a) *felt tension in their thoughts and feelings* and (b) *felt ambivalence*. All responses were on 11-point scales (0 = *not at all tense/not at all ambivalent*, 10 = *completely tense/completely ambivalent*; $r = 0.70$; Priester et al., 2007).

In the third part of the questionnaire, participants were asked to watch 18 positive/neutral emotions pictures from the Chinese Affective Picture System (Lu et al., 2005) and complete the Positive and Negative Affect Scale as a manipulation check (Watson et al., 1988). Subsequently, participants were asked to evaluate the JVC HD3500, indicating their brand attitude and updated ambivalence. Then participants read a paragraph describing the nature as a filler task, after which they indicated their purchase intention with regard to the video camera. Finally, participants recorded as much attribute information as they could recall about the JVC HD3500. The recall thought protocols were coded by two independent coders, on the extent to which their recollections were right or wrong. Inter-coder reliability exceeded 80 per cent for each coding category, and disagreements were resolved by discussion.

Dependent measures

The measure of brand attitude was a two-item 7-point scale anchored by *like/dislike* and *positive/negative* ($r = 0.72$; Sengupta and Johar, 2002). The updated ambivalence measure was a three-item 11-point scale (0 = *feel no conflict at all*, 10 = *feel maximum conflict*; 0 = *feel no indecision at all*, 10 = *feel maximum indecision*; 0 = *completely one-sided reactions*, 10 = *completely mixed reactions*). The updated ambivalence measure was created by averaging these three items ($\alpha = 0.71$; Priester et al., 2007). Participants' purchase intention was measured by asking them to rate the likelihood that, if they were shopping for a digital video camera, they would (a) *consider the JVC HD3500 as a possible option* and (b) *buy the JVC HD3500*. Both were anchored by 1 = *not at all likely* and 7 = *very likely*. The average of the two items formed an index of purchase intention ($r = 0.73$; Sengupta and Johar, 2002).

In addition, participants were asked on the credibility perception of the source agencies that provided the product information (anchored by 1 = *not at all credible* and 7 = *very credible*) and of the familiarity perception of the product category (anchored by 1 = *not at all familiar* and 7 = *very familiar*). Separate analysis of variance (ANOVA) on these variables revealed no significant treatment effects ($F_s < 1$). All attributes had been pretested to be important (anchored by 1 = *not at all important* and 7 = *very important*; $M > 4$).

Results

Manipulation checks

The manipulation check of initial ambivalence showed that higher initial ambivalence occurred when the condition was high ambivalent ($M = 5.07$) than when it was low ambivalent ($M = 4.29$, $F(1, 238) = 11.60$, $p < 0.001$). Attribute recall was used to check the manipulation of elaboration. Greater recall was observed for the high elaboration condition ($M = 2.87$) than for the low elaboration condition ($M = 2.36$, $F(1, 238) = 8.84$, $p < 0.01$). Both the positive emotions index and the

negative emotions index were used to check the manipulation of emotions. The results indicated that a higher positive affect was obtained for the positive emotions group ($M = 2.80$) than for the neutral emotions group ($M = 2.43$, $F(1, 238) = 13.19$, $p < 0.001$), and a lower negative affect was obtained for the positive emotions group ($M = 1.28$) versus the neutral emotions group ($M = 1.46$, $F(1, 238) = 8.85$, $p < 0.01$), as was expected.

Attitude-behavior consistency

The correlation between brand attitude and purchase intention provided an index of the predictive value of the attitude (Petty et al., 1983; Jonas et al., 1997; Sengupta et al., 1997; Sengupta and Johar, 2002) and served as the critical dependent variable of the study. The Pearson product-moment correlation between attitude and intention was first calculated. Each of these correlations was then transformed into a Fisher z -score, and these scores were analyzed using the $2 \times 2 \times 2$ ANOVA. The within-cell variance for the ANOVA (with infinite degrees of freedom) was given by $\sum V[n_i - 3]/k$; where n_i was the number of observations in group i and k was the number of groups (Games, 1978; Wilson et al., 1989; Berger, 1992; Sengupta and Fitzsimons, 2000).

The data were analyzed by a 2 (initial ambivalence) \times 2 (elaboration) \times 2 (emotions) ANOVA on the Fisher z -scores. The three-way interaction was significant ($F(1, \infty) = 3.99$, $p < 0.05$). In the low elaboration condition, the ANOVA on the Fisher z -scores yielded a significant interaction effect between emotions and initial ambivalence ($F(1, \infty) = 6.06$, $p < 0.05$). Planned contrasts revealed that in the high ambivalent condition, the attitude-behavior consistency was significantly higher in the positive emotions condition ($r = 0.79$) than in neutral emotions ($r = 0.36$, $z = 2.54$, $p < 0.05$). However, no significant differences emerged in the low ambivalent condition ($z < 1$, NS). In the high elaboration condition, the ANOVA on the Fisher z -scores yielded no significant interaction effect between emotions and initial ambivalence ($F < 1$). Planned contrasts showed that in the high ambivalent condition, there was no significant difference between positive and neutral emotions conditions ($z < 1$, NS, $r_{\text{positive}} = 0.77$, $r_{\text{neutral}} = 0.80$). Moreover, no significant differences emerged in the low ambivalent condition ($z < 1$, NS) (see Table 1).

Updated ambivalence

The ambivalence index was a direct function of the extent to which attitude contained conflicting rather than non-conflicting elements. The 2 (initial ambivalence) \times 2 (elaboration) \times 2 (emotions) between-subjects ANOVA on the updated ambivalence revealed a significant three-way interaction effect ($F(1, 232) = 4.31$, $p < 0.05$). In low elaboration condition, the 2×2 ANOVA model demonstrated that the interaction between emotions and initial ambivalence reached significance level ($F(1, 232) = 10.16$, $p < 0.01$). Planned contrast results revealed that in the high ambivalent condition, the updated ambivalence was significantly lower in positive emotions condition ($M = 4.12$) than in neutral emotions condition ($M = 5.42$, $F(1, 235) = 10.29$, $p < 0.01$). Nevertheless, no significant differences emerged in the low ambivalent condition

Table 1. Study 1: the moderating roles of elaboration and positive emotions

	Low elaboration				High elaboration			
	Positive emotions		Neutral emotions		Positive emotions		Neutral emotions	
	High	Low	High	low	High	Low	High	Low
Attitude–behavior consistency	0.79	0.61	0.36	0.74	0.77	0.65	0.80	0.61
Updated ambivalence	4.12 (1.39)	4.25 (1.82)	5.42 (1.32)	3.75 (1.45)	3.87 (1.71)	3.91 (1.80)	4.28 (1.27)	4.18 (1.50)

Note: High = high initial ambivalence; low = low initial ambivalence.

($F(1, 235) = 1.52, p > 0.10$). In high elaboration condition, the 2×2 ANOVA model demonstrated that the interaction effect between emotions and initial ambivalence did not reach significance level ($F < 1$). Planned contrast showed that in the high ambivalent condition, there was no significant difference in updated ambivalence between positive and neutral emotions conditions ($F(1, 235) = 1.03, p > 0.10, M_{\text{positive}} = 3.87, M_{\text{neutral}} = 4.28$). Moreover, no significant differences emerged in the low ambivalent condition ($F < 1$) (see Table 1).

Discussion

The results of study 1 showed that both elaboration and positive emotions could moderate the relationship between attitudinal ambivalence and attitude–behavior consistency. Specifically, in low elaboration condition, elicited positive emotions could significantly improve ambivalent individuals' attitude–behavior consistency (compared with that of neutral emotions). However, in the high elaboration condition, the attitude–behavior consistency of ambivalent individuals was not influenced by positive emotions. On the one hand, the results of elaboration confirmed the findings of previous studies (Jonas *et al.*, 1997; Sengupta and Johar, 2002). On the other hand, the combined effects of elaboration and emotions represent a new research area and have no relevant studies to which the results can be compared.

Study 1 analyzed not only the results of attitude–behavior consistency but also the ambivalence influenced by emotions, in order to gain more insight into the mechanism of individuals' behavioral prediction under ambivalence. The results showed that in the low elaboration condition, positive emotions could significantly reduce ambivalence (as compared with neutral emotions). But in the high elaboration condition, positive emotions did not exert significant influence. To a certain extent, this could explain the moderating mechanism of elaboration and emotions on the relationship between attitudinal ambivalence and attitude–behavior consistency.

However, study 1 has the following weaknesses. First, the product information was divided into two parts. Petty *et al.* (2006) had demonstrated that when people underwent inconsistent valence information, their old and new attitudes could interact to produce evaluative responses consistent with a state of implicit ambivalence. Thus, the participants' evaluation may be influenced by the primacy and/or recency effect, because the information was not presented simultaneously. Second, only the effects of positive and neutral emotions were compared. Previous research (Johnson and Tversky,

1983) found that different types of emotions may have different effects on decision-making. It is possible that negative emotions may influence behavioral predication in different ways than would positive emotions. Third, this study used a digital video camera as the experimental stimulus, which university students were not very familiar with. Study 2 intends to address these weaknesses.

STUDY 2

The objective of the second study was to investigate the moderating roles of elaboration and negative emotions. The predictions were tested in a 2 (initial ambivalence: high versus low) $\times 2$ (elaboration: low versus high) $\times 2$ (emotions: negative versus neutral) between-subjects design. Participants were 240 undergraduate students at a large national university in China. In comparison with study 1, the ambivalence of each individual's initial attitude was manipulated by presenting simultaneous consistent or inconsistent attribute information, and distraction task and time pressure were used to manipulate the elaboration variable (Smith *et al.*, 2008). In addition, the pretest had found that participants were quite familiar with the new experimental stimulus (MP4 player), so that these results would help to generalize the results of this study by expanding into another product category.

Method

Procedures and stimulus

In the first part of the experiment, the elaboration was manipulated by using different instructions (low: "need to remember the emergence of letters in the tape material when reading the product information"; high: no such instruction). Moreover, in the low elaboration condition, participants were asked to engage in a distraction task under time pressure, for example, listening to an audio recording of a list of letters and numbers while reading the product information (Smith *et al.*, 2008). Petty *et al.* (1976) argued that distraction would be expected to inhibit active thoughts and thus reduce elaboration. The letters and numbers were read by a young female research assistant, and one read every 2 seconds, with a 1:5 letter-to-number ratio. Participants in the low elaboration condition were asked to count the number of letters, while they were reading the product information. Moreover, in the low elaboration condition, participants were told that they had limited time to read the product information. Participants in

the high elaboration condition had no distraction or time pressure.

Ambivalence was manipulated by using inconsistent/consistent product information. In the high ambivalence condition, *AIGO TP5926HD* (the focal product) was superior to the competing products (*NEWMAN F200EXR* and *MEIZU VX545HR*) on three attributes (picture definition, quality, and storage capacity) but inferior on the other two attributes (battery use duration and ease of operation). In the low ambivalence condition, the focal product was superior to the competing products on all five attributes. After reading the product information, participants indicated their feelings of initial ambivalence (the same as in study 1, $r=0.71$), as well as their perception of time pressure and of elaboration manipulation checks. Three items (7-point scale) were adopted to determine perceptions of time pressure, including “no time pressure–too much time pressure”; “more than adequate time available–not adequate time available”; and “need a lot more time to do this task–no more time to do this task” ($\alpha=0.86$; Suri and Monroe, 2003). The manipulation check of elaboration was four 7-point items, including “using your initial impulse,” “responding quickly,” “reflecting thoroughly,” and “thinking carefully” (1 = *definitely not*, 7 = *definitely*; $\alpha=0.71$; Briley and Aaker, 2006).

In the second part of this experiment, participants observed 18 negative and neutral emotional pictures from the Chinese Affective Picture System (Lu *et al.*, 2005) as manipulation of emotions and completed the Positive and Negative Affect Scale (Watson *et al.*, 1988) as a manipulation check. Subsequently, participants were asked to evaluate the *AIGO TP5926HD* and indicate their attitudes and updated ambivalence toward the MP4. Participants then completed a filler task by reading descriptive information about ocean animals before they were asked to indicate their purchase intention toward the *AIGO TP5926HD*. Finally, participants wrote down the attribute information that they could recall about the *AIGO TP5926HD*, which was coded in the same way as in study 1.

Dependent measures

The measures of brand attitude ($r=0.75$), purchase intention ($r=0.74$), and updated ambivalence ($\alpha=0.70$) were the same as in study 1. Additionally, we checked the credibility perception of the source agency, which provided the product information (anchored by 1 = *not at all credible* and 7 = *very credible*), and the familiarity perception of the product category (anchored by 1 = *not at all familiar* and 7 = *very familiar*). Separate ANOVA on these variables revealed no significant treatment effects ($F_s < 1$). As well, all attributes had been pretested to be important MP4 attributes (anchored by 1 = *not at all important* and 7 = *very important*; $M > 4$).

Results

Manipulation checks

The manipulation check of initial ambivalence showed that higher initial ambivalence occurred when the condition was high ambivalent ($M=5.34$) than when it was low ambivalent ($M=4.14$, $F(1, 238)=39.72$, $p < 0.001$). Both time pressure and elaboration index were used to evaluate the manipulation

of elaboration. Study results showed that the time pressure index in the low elaboration group ($M=3.64$) was much higher in contrast to the high elaboration group ($M=2.44$, $F(1, 238)=47.48$, $p < 0.001$) and the elaboration index in the low elaboration group ($M=3.01$) was much lower than the high elaboration group ($M=3.96$, $F(1, 238)=66.27$, $p < 0.001$). Overall, the study used manipulation of time pressure for 120 participants, of whom 107 (89.17%) gave the correct response for the reading of letters. In addition, greater recall was observed in the high elaboration condition ($M=2.70$) than in the low elaboration condition ($M=1.23$, $F(1, 238)=88.73$, $p < 0.001$).

Both the positive emotions index and the negative emotions index were used to check the manipulation of emotions. The results indicated that a lower positive emotions index was obtained for the negative emotions group ($M=2.38$) than for the neutral emotions group ($M=2.69$, $F(1, 238)=11.54$, $p < 0.001$) and a higher negative emotions index was obtained for the negative emotions group ($M=2.08$) than for the neutral emotions group ($M=1.41$, $F(1, 238)=60.85$, $p < 0.001$).

Attitude–behavior consistency

A 2 (initial ambivalence) \times 2 (elaboration) \times 2 (emotions) between-subjects ANOVA on Fisher z -scores was performed. The three-way interaction was significant ($F(1, \infty)=4.01$, $p < 0.05$). In the low elaboration condition, the ANOVA on the Fisher z -scores yielded a significant interaction effect between emotions and initial ambivalence ($F(1, \infty)=4.90$, $p < 0.05$). Planned contrasts revealed that in the high ambivalent condition, the attitude–behavior consistency was significantly higher in the negative emotions condition ($r=0.75$) than in the neutral emotions ($r=0.38$, $z=2.10$, $p < 0.05$). However, no significant difference was found in the low ambivalent condition ($z=1.02$, NS). In the high elaboration condition, the ANOVA on the Fisher z -scores yielded no significant interaction effect between emotions and initial ambivalence ($F < 1$). Planned contrasts showed that in the high ambivalent condition, there was no significant difference between negative and neutral emotions conditions ($z < 1$, NS, $r_{\text{negative}}=0.75$, $r_{\text{neutral}}=0.76$). Moreover, no significant difference was found in the low ambivalent condition ($z < 1$, NS) (see Table 2).

Updated ambivalence

Using the updated ambivalence influenced by emotions as a dependent variable, the 2 (initial ambivalence) \times 2 (elaboration) \times 2 (emotions) between-subjects ANOVA revealed a significant interaction effect ($F(1, 232)=3.91$, $p < 0.05$). In the low elaboration condition, the 2 \times 2 ANOVA model found that the interaction between emotions and initial ambivalence reached significance level ($F(1, 232)=7.71$, $p < 0.01$). Planned contrast results revealed that in the high ambivalent condition, the updated ambivalence was significantly lower in the negative emotions condition ($M=4.41$) than in the neutral emotions condition ($M=5.21$, $F(1, 235)=4.18$, $p < 0.05$). Nevertheless, no significant difference was found in the low ambivalent condition ($F(1, 235)=3.41$, $p > 0.05$). In the high elaboration condition, the

Table 2. Study 2: the moderating roles of elaboration and negative emotions

	Low elaboration				High elaboration			
	Negative emotions		Neutral emotions		Negative emotions		Neutral emotions	
	High	Low	High	Low	High	Low	High	Low
Attitude–behavior consistency	0.75	0.63	0.38	0.77	0.75	0.72	0.76	0.60
Updated ambivalence	4.41 (1.45)	4.68 (1.76)	5.21 (1.00)	3.95 (1.04)	4.23 (1.94)	4.06 (1.96)	4.31 (1.41)	4.14 (1.09)

Note: High = high initial ambivalence; low = low initial ambivalence.

2 × 2 ANOVA model revealed that the interaction effect between emotions and initial ambivalence did not reach significance level ($F < 1$). Planned contrast showed that in the high ambivalent condition, there was no significant difference in updated ambivalence between negative and neutral emotions conditions ($F(1, 235) = 0.04$, $p > 0.05$, $M_{\text{negative}} = 4.23$, $M_{\text{neutral}} = 4.31$). Moreover, no significant difference was found in the low ambivalent condition ($F(1, 235) = 0.05$, $p > 0.05$) (see Table 2).

Discussion

Study 2 replicated the study 1 results on attitude–behavior consistency. In particular, in the low elaboration condition, negative emotions could significantly improve ambivalent individuals' attitude–behavior consistency (as compared with neutral emotions). However, in high elaboration condition, the attitude–behavior consistency of ambivalent individuals was not influenced by negative emotions. With inconsistent information, the attitude–behavior consistency of individuals was strengthened in the high elaboration condition (Jonas *et al.*, 1997; Sengupta and Johar, 2002), and thus, it was not significantly influenced by negative emotions. Ambivalent individuals' attitude–behavior consistency was weakened in low elaboration condition, probably because, in negative emotions, negative attitude became dominant (De Liver *et al.*, 2007) and thus, their attitude–behavior consistency would be significantly improved.

Despite the indications from the results, the psychological mechanisms of positive and negative emotions remain unclear, even though they have similar effects on attitude–behavior consistency. Previous research (Zajonc, 1980; Hoch and Loewenstein, 1991; Berkowitz, 1993) showed that affective reaction and cognitive reaction systems were in close touch with each other. Particularly, we wonder whether positive or negative emotions might influence elaboration first, which subsequently influences the attitude–behavior consistency. Thus, study 3 would further test the psychological mechanisms of both emotions.

STUDY 3

We ran a 2 (initial ambivalence: high versus low) × 3 (emotions: positive versus negative versus neutral) between-subjects experiment to test further the psychological mechanisms of emotions on attitude–behavior consistency. A total of 168 undergraduate

students at a large national university in China participated as subjects.

Method

Procedures and stimulus

Using a method that was different from the two previous studies, elaboration was measured rather than manipulated in order to examine whether positive and/or negative emotions may lead to different levels of elaboration. The measure of elaboration was four 7-point items, including “using your initial impulse,” “responding quickly,” “reflecting thoroughly,” and “thinking carefully,” (1 = *definitely not*, 7 = *definitely*; $\alpha = 0.82$; Briley and Aaker, 2006). Other manipulations, procedures, and experiment materials were the same as those in study 1. The two-item correlation of initial ambivalence scale was 0.70.

Dependent measures

The measures of brand attitude ($r = 0.80$), purchase intention ($r = 0.78$), and updated ambivalence ($\alpha = 0.82$) were the same as in study 1.

Results

Manipulation checks

The manipulation check of initial ambivalence showed that higher initial ambivalence occurred when the condition was high ambivalent ($M = 5.40$) than when it was low ambivalent ($M = 4.29$, $F(1, 166) = 29.46$, $p < 0.001$). Both the positive emotions index and negative emotions index were used to check the manipulation of emotions. The results indicated that the main effect of emotions was significant both for the positive emotions index ($F(2, 165) = 20.90$, $p < 0.001$) and for the negative emotions index ($F(2, 165) = 82.14$, $p < 0.001$). Post hoc multi-comparison tests revealed that a higher positive emotions index was obtained for the positive emotions condition ($M = 2.88$) than for the negative emotions ($M = 2.04$, $p < 0.001$)/neutral emotions condition ($M = 2.62$, $p < 0.05$) and that a higher negative emotions index was obtained for the negative emotions condition ($M = 2.12$) than for the positive emotions ($M = 1.14$, $p < 0.001$)/neutral emotions condition ($M = 1.32$, $p < 0.001$).

Attitude–behavior consistency

The data were analyzed by a 2 (initial ambivalence: high versus low) × 3 (emotions: positive versus negative versus neutral) ANOVA on the Fisher z -scores. The two-way interaction

was not significant ($F(2, \infty)=2.52, p > 0.05$). Then the positive/negative condition was compared with neutral condition, respectively. Results revealed that the 2 (initial ambivalence: high versus low) \times 2 emotions (positive versus neutral) ANOVA on the Fisher z -scores yielded a significant interaction ($F(1, \infty)=3.85, p < 0.05$). Planned contrasts revealed that, in the high ambivalent condition, the attitude–behavior consistency was significantly higher in the condition of negative emotions ($r=0.75$) than neutral emotions ($r=0.36, z=2.15, p < 0.05$). No significant difference was found in the low ambivalent condition ($z < 1, NS$). The results of 2 (initial ambivalence: high versus low) \times 2 emotions (negative versus neutral) ANOVA on the Fisher z -scores yielded a significant interaction ($F(1, \infty)=3.85, p < 0.05$). Planned contrasts revealed that, in the high ambivalent condition, the attitude–behavior consistency was significantly higher in the condition of negative emotions ($r=0.72$) than in the condition of neutral emotions ($r=0.36, z=1.87, p < 0.05$, one tailed). No significant difference was found in the low ambivalent condition ($z < 1, NS$) (see Table 3).

Elaboration

The 2 (initial ambivalence: high versus low) \times 3 (emotions: positive versus negative versus neutral) between-subjects ANOVA revealed a significant interaction effect ($F(2, 162)=3.61, p < 0.05$). In the high ambivalent condition, the main effect of emotions reached significance level ($F(2, 163)=10.84, p < 0.001$), and the elaboration in a negative emotions condition ($M=4.81$) was much higher than positive emotions condition ($M=3.84, F(1, 162)=13.26, p < 0.001$) or neutral emotions condition ($M=3.64, F(1, 162)=19.64, p < 0.001$). But in a low ambivalent condition, the main effect of emotions did not reach significance level ($F(2, 163)=0.65, p > 0.05$) (see Table 3).

Updated ambivalence

Using the updated ambivalence as a dependent variable, the 2 (initial ambivalence: high versus low) \times 3 (emotions: positive versus negative versus neutral) between-subjects ANOVA revealed a significant interaction effect ($F(2, 162)=4.86, p < 0.01$). In the high ambivalent condition, the main effect of emotions reached significance level ($F(2, 163)=9.73, p < 0.001$), and the updated ambivalence in the neutral emotions condition ($M=5.30$) was much higher than the positive emotions condition ($M=4.05, F(1, 162)=14.51, p < 0.001$) or negative emotions condition ($M=4.04, F(1, 162)=14.44, p < 0.001$). However, in the low ambivalent condition, the

main effect of emotions did not reach significance level ($F(2, 163)=0.01, p > 0.05$) (see Table 3).

Mediated moderation analyses

We examined whether elaboration mediated the association between negative emotions–initial ambivalence interaction and updated ambivalence—following the procedures for mediated moderation recommended by Muller *et al.* (2005). This procedure assesses the indirect effect of an independent variable at different levels of the moderator and differentiates the direct and indirect influences of the moderated effect. In Equation 1, the interaction between negative emotions (independent variable) and initial ambivalence (moderator) significantly predicts updated ambivalence (dependent variable) ($\beta=0.388, p < 0.05$). In Equation 2, the interaction between negative emotions (independent variable) and initial ambivalence (moderator) also significantly predicts elaboration (mediator) ($\beta=-0.325, p < 0.05$). In Equation 3, the elaboration (mediator) significantly predicted updated ambivalence (dependent variable), while controlling for the interactions between negative emotions (independent variable) and initial ambivalence (moderator), and for the interaction between elaboration (mediator) and initial ambivalence (moderator) ($\beta=-0.267, p < 0.05$). With elaboration (mediator), the interaction between negative emotions (independent variable) and initial ambivalence (moderator) decreased significantly from $\beta=0.388, p < 0.05$ to $\beta=0.312, p < 0.05$ (see Table 4). Thus, elaboration partially mediated the relationship between the negative emotions–initial ambivalence interaction and updated ambivalence. However, elaboration did not mediate the relationship between the positive emotions–initial ambivalence interaction and updated ambivalence.

Discussion

First, we obtained the results that were consistent with the low elaboration condition in study 1 and study 2, that is, initial ambivalence could moderate the relationship between emotions and attitude–behavior consistency. In particular, when initial ambivalence was high, positive or negative emotions could improve attitude–behavior consistency; however, when initial ambivalence was low, neither positive nor negative emotions exerted any influence on attitude–behavior consistency.

More interestingly, it was found that positive and negative emotions had different psychological mechanisms when the ambivalence of initial attitude was high. Specifically, positive emotions influenced attitude–behavior consistency directly, and negative emotions influenced attitude–behavior

Table 3. Study 3: the effects of emotions and initial ambivalence

	Neutral emotions		Positive emotions		Negative emotions	
	High	Low	High	Low	High	Low
Attitude–behavior consistency	0.36	0.78	0.75	0.70	0.72	0.66
Elaboration	3.64 (1.22)	3.68 (1.02)	3.84 (0.52)	3.81 (0.75)	4.81 (1.08)	3.95 (1.02)
Updated ambivalence	5.30 (1.00)	4.14 (1.40)	4.05 (0.87)	4.14 (1.25)	4.04 (1.39)	4.17 (1.55)

Note: High = high initial ambivalence; low = low initial ambivalence.

Table 4. Study 3: regression results for mediated moderation (negative emotions)

Predictors	Equation 1		Equation 2		Equation 3	
	Criterion ambivalence		Criterion ambivalence		Criterion ambivalence	
	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>
Negative emotions	−0.444	−3.506**	0.500	3.996***	−0.310	−2.282*
Initial ambivalence	−0.407	−3.334**	0.014	0.906	−0.419	−3.493**
Emotions × initial ambivalence	0.388	2.548*	−0.325	−2.161*	0.312	2.008*
Elaboration					−0.267	−2.149*
Elaboration × initial ambivalence					−0.070	−0.603

Note:

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$.

consistency indirectly. For the second aspect, elaboration partially mediated the relationship between negative emotions and attitude–behavior consistency, that is, negative emotions led to higher elaboration, which subsequently led to stronger attitude–behavior consistency. However, when the ambivalence of initial attitude was low, neither positive nor negative emotions had a significant influence on updated ambivalence. Some researchers (e.g., Zajonc, 1980; Hoch and Loewenstein, 1991) proposed that affect was precognitive in nature, occurring without extensive cognitive processes. However, Berkowitz (1993) indicated that affective reactions arose, in a relatively post-cognitive manner, from deeper higher-order processing of incoming information. To some extent, the study results could resolve the opposing theoretical divergences indicated previously—that positive emotions may produce cognition-irrelevant reactions, with no cognitive mediation, while negative emotions may produce cognition-relevant reactions, with cognitive mediation.

GENERAL DISCUSSION

Several decades of research have stressed the importance of understanding how attitude guides behavior (Regan and Fazio, 1977). Given the significance of this topic, it was not surprising to find several meta-analyses addressing the moderators of the attitude–behavior relation (e.g., Kraus, 1995; Armitage and Conner, 2000). Previous research on the relationship between attitudinal ambivalence and behavioral prediction mainly focused on the cognitive perspective (e.g., Jonas *et al.*, 1997; Sengupta and Johar, 2002), and a few recent studies concerned the role of emotions (Yang and Unnava, 2010). The present research framework considered not only the effect of elaboration on attitude–behavior relation but also the role of emotions in this process. It was found that both elaboration and emotions could moderate the relationship between attitudinal ambivalence and attitude–behavior consistency. Hence, this study not only accelerates research in attitude–behavior consistency from the cognitive perspective but also establishes the necessary theoretical basis from the perspectives of cognition and emotions.

This study investigated behavioral prediction under ambivalence and revealed the inner psychological process. First, individuals were ambivalent toward a product due to

inconsistent information. On the one hand, if people could elaborate on the inconsistencies, the ambivalence was reduced, and attitude–behavior consistency was strengthened; however, if they could not elaborate on the inconsistent information, the ambivalence was unchanged, and the attitude–behavior was weakened. On the other hand, emotions were taken into consideration. Following positive/negative emotions manipulation, study participants selectively made positive/negative attitude salient (De Liver *et al.*, 2007). Thus, ambivalence was significantly reduced, and attitude–behavior consistency was significantly improved under the condition of low elaboration. But because of the reduced ambivalence and strengthened attitude–behavior consistency under the high elaboration condition, emotions could no longer exert influence.

Previous studies indicated that emotions were important in decision-making (Schwarz and Clore, 2007; Cohen *et al.*, 2008). This article extends that view, investigating the interplay of emotions, elaboration, and ambivalence as they influence behavioral prediction. In particular, the psychological mechanisms of positive and negative emotions on individuals' attitude–behavior consistency are different, even though they have the same results of moderating attitude–behavior consistency: positive emotions influence attitude–behavior consistency directly; negative emotions influence attitude–behavior consistency indirectly through elaboration.

The research presented has significant implications for consumers' attitude–behavior consistency efforts and those interested in enhancing consumers' purchase behaviors. From the merchant's view, there seems to be two approaches to promote the consistency between attitude and behavior: emphasizing information elaboration and offering emotional environment via product advertisement or store music. For consumers, how to solve the ambivalent purchase behavior problem is of great importance. Individuals could choose the proper time, in which they are in a very happy or sad emotion, to make the ambivalent purchase decision much simpler. For example, when you have experienced a success or frustration in career, the prominent emotions would drive your decision by focusing more on the positive product attributes in a happy emotion or by elaborating more on the negative product attributes in a sad emotion. In addition, if individuals feel conflicted in shopping, one should go through every piece of product information you can find and ensure that you

understand every detail of the product, regardless of your emotions. Then you could decrease the ambivalence level and make a more elaborated buying decision.

There are still some limitations in this study. First, the extent to which similar effects are found with measures of ambivalence based on cognitive–affective cross-dimension conflicts (MacDonald and Zanna, 1998) is worth examining. Second, this research adopts experimental approach, which could enhance internal validity and probe into the effect of emotions, elaboration, and ambivalence on attitudes and behavior intention. However, the lab setting may not be representative of everyday consumption situation (Bee and Madrigal, 2013). Future work could use alternative approaches such as interview and field study to obtain more actual consumer responses. Third, the sample is restricted to college students, which could undermine the generalizability of study conclusions. Further study could investigate into customers with more buying power.

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Segmenting initial fans of a new team: A taxonomy of sport early adopters

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ABSTRACT

Marketers are interested in the first buyers of new products, given their important role in driving wider community adoption. This is especially the case for new entertainment products, like new or relocated sports teams who must quickly build fan connections and loyalty, given the importance of crowds and social networks in adding value to the entertainment experience. Fans choose to connect with sports teams for numerous reasons; however, fan development in the context of a new team has rarely been examined. This paper examines the diversity and similarity among inaugural fans of an expansion team. A large sample ($n = 1724$) was classified into five segments revealing how each varies in their brand associations, satisfaction, identification and involvement. By analysing key dimensions (relationship identifiers) that characterise how consumers connect with a new team, the authors provide new insights about the nature of consumers in the context of a new sports team. Furthermore, the five segments were found to be distinct cohorts, with sufficient variation between them to warrant variant marketing approaches to achieve the outcome of committed, long-term fans. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

One of the primary tactics for professional sport league growth is the addition of new teams. This increases distribution of the product (sport) through an increase in the number of fixtures (live and broadcast matches) and by making live attendance accessible to more consumers (McDonald *et al.*, 2010). As with most product line expansions, league growth can lead to the capture of consumers from existing teams. To minimise such cannibalisation and increase the rate of market acceptance, the new team (product) should convey a distinctive identity, based on a strong regional connection or a close relationship with local consumers (Sharp, 2010). Examples of such teams include the New York City Football Club in America, Western Sydney Wanderers in Australia and Ottawa Redblacks in Canada.

Guidance on how a new or relocated team creates and develops a fan base in the early years remains limited. This paper addresses a gap in existing knowledge of how new teams create a consumer base, by profiling the early adopters that embrace such teams. A segmentation procedure was employed to gain a deeper understanding of how and why people attach themselves to new teams. Knowledge about first adopters is always useful to marketers, but improved information about how fans are 'born' is particularly important to sports managers. New teams need to build fan connection and loyalty quickly – or face empty stadiums. This is particularly the case in new markets where there is little brand equity for the sport, league or team. If a new team fails to gain traction in the marketplace in its early years, there is evidence that growth is difficult thereafter (McDonald & Alpert, 2007).

As sport organisations develop products in new or existing markets, they are faced with increasingly fragmented customer bases and fierce competition for revenue driven by attendance, viewership and other forms of consumption. Such changes have heightened calls for a greater focus on understanding and segmenting complex consumer bases for both participation and spectatorship of sport. Without proper segmentation and targeting strategies, sports organisations, including teams, can struggle to effectively leverage limited resources to develop and maintain relationships with various consumer groups (Stewart, Smith, & Nicholson, 2003).

SPORT SPECTATOR SEGMENTATION MODELS

There have been a number of theoretical and practical approaches to classifying fan types.

These studies reflect the value of segmentation in developing sound understanding of target markets, but illustrate that modern segmentation approaches and methodologies can differ significantly from one study to another. At the heart of segmentation is the notion that by knowing more about consumers, marketers can target specific groups with either refined products or more effective promotional efforts. Simple methods such as identifying and comparing heavy and light users or segmenting based on geographic proximity to distribution points have proven to be highly effective (Sharp, 2010). Similarly, there are now also more complex methods of segmenting markets that use combined psychographic, demographic and behavioural data (Table 1).

In this study, we have chosen to revisit sport segmentation approaches in order to review the inaugural fans of a new team and see what different consumer groups, if any, there are among that initial cohort. It is possible that some consumer groups who were initially attracted to new teams may leave if their needs are not met. There

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Table 1. Fan classification studies

Funk & James, 2001	Psychological continuum model
Ogles & Masters, 2003	Categorical segmentation based on motivations.
Stewart <i>et al.</i> , 2003	Numerous alternative approaches found, necessary to 'taxonomise' the taxonomies. Approaches: dualistic (i.e. simple binary division, e.g. traditional versus modern), tiered (i.e. multiple stages of increasing levels of a construct, e.g. involvement) and multidimensional (i.e. more than one construct or variable used to classify fans).
Taks & Scheerder, 2006	Categorical segmentation based on sport participation.
Ross, 2007	Categorical segmentation based on brand associations.
Dwyer & Drayer, 2010	Categorical segmentation sport consumption.
Shapiro & Drayer, 2011	
Casper, 2012	Categorical segmentation based on demographics and skill levels.

may also be some who are new to the team, but have the advantage of being surrounded by an established crowd with established patterns of behaviours and norms. Previous segmentations of existing team fans have focused mainly on those who tried the product and continued to consume it, which is a major flaw.

Those who tried it and opted out are not generally captured. For those that are, they are confined to the lower levels of fandom with little consideration of why (e.g. the descriptions of 'low involvement' fans by Bristow and Sebastian (2001), and Tapp and Clowes (2002)). It is likely that many who opted out had good reasons for doing so, and that some may not have discontinued if their needs had been better met. Therefore, the aim of this research is to increase understanding of consumer groups in a new sports team context. As a result, the study provides two key contributions. Firstly, it investigates how consumers engage in the early years of a new team's existence. And secondly, it provides practical insights into how a team marketing activities might be adjusted to increase both the rate and depth of fan creation in neophyte organisations.

Context of this study

This study examines the expansion of the Australian Football League (AFL) in 2011. The AFL administers Australian Rules Football, the dominant national sporting code in terms of television audience, live attendances and revenue in the Australian market. The season consists of 23 regular games and a knockout finals or playoff series. At the elite level, the AFL has 18 teams that compete for an annual premiership, with the two most recent expansion teams entering in 2011 (Gold Coast Suns) and 2012 (Greater Western Sydney Giants). The AFL has been a remarkable success with attendances at regular season games totalling over 6.4 million in 2014. Furthermore, the Grand Final (premiership match) was watched by over 3.7 million in 2014, making it one of the most viewed programmes on Australian television among a population of just over 22.7 million.

This study focuses on the launch of the 17th team into the AFL in 2011, the Gold Coast Suns (GC Suns). The Gold Coast is an area in the north-eastern Australian state of Queensland. With a tropical climate and a strong beach culture, the region is popular with tourists and a common retirement destination for those from the relatively colder southern

Australian states. This background made the launch of a new team here an interesting choice.

As described by McDonald and Stavros (2012), AFL's decision to launch a new team was based on a desire to have a stronger presence in this fast-growing market and to ensure there was more AFL content in the state of Queensland. Although Queensland already had one established AFL team (the Brisbane Lions), Rugby League is still the dominant sport. A new team translates to greater distribution of the product, which is crucial for market share (Sharp, 2010). This also means that under AFL's current television rights there would be at least one live game on-air in Queensland each week as broadcasters are required to televise 'home' teams live in each state.

Australian Rules Football is a winter sport and is not a natural fit for the Gold Coast, which has a dominant sun and surf culture. However, the rapidly growing community has expressed a willingness to embrace new sporting ventures as part of a move towards establishing a broader image (e.g., a new rugby league team and international motorsports events). In addition, there is a history of amateur AFL teams in the region with strong integration into the community through social initiatives. Given this background, the AFL offered a number of reasons why a consumer might adopt the GC Suns and support them early in their history. The first is regional support with support for any organisation that bears that name and represents it in national competitions rather than a team from another state. The second is the already strong connection to the sport among some locals. Third, consumers, such as the high number of self-funded retirees, may be looking for new entertainment options and may adopt the AFL team as another leisure pursuit. Finally, local consumers are more likely to associate themselves with a team that is linked to various community charity events and activities.

Theoretical background and approach

This study employs segmentation through both *a priori* (theoretically based) and data-driven (analysis based) approaches. A review of past literature and commercial practice identified a number of variables that might be used to distinguish the first consumers of a new product. The classifications described in the following paragraphs were compared against the stated motives of the AFL in establishing a team

on the Gold Coast (McDonald & Stavros, 2012). Examples include relocated fans, proud local residents who would support any team helping the community and general sports fans that might be seeking more local content in professional leagues. We then conducted data-driven research using statistical modelling to identify major differences between groups of initial consumers (fans).

The data used in this process were collected directly from a team database through a fan survey. The survey contained questions relating to the factors identified in the *a priori* stage and a battery of other behavioural, attitudinal and demographic variables that could reasonably be expected to play a role in shaping fandom. We then followed a multidimensional approach, as recommended by Stewart *et al.* (2003), to develop sport consumer taxonomies as this provides a richer description of the underlying factors of sport consumption and accommodates the complexity of concepts such as emotion, identification and loyalty.

Given the existence of a range of antecedents and outcomes of fan connection (e.g. loyalty or behaviour), we adopted a holistic perspective considering both the attitudinal and collective nature of consumption. Specifically, we captured:

- Attitudinal measures including commitment, loyalty and perceived corporate social responsibility (CSR) to examine consumers' internal attitudinal preferences for the new offering;
- Customer involvement, measured using the psychological continuum model (PCM) scale (Beaton, Funk, Ridinger & Jordan 2011). These measures have been designed to capture the multi-faceted way that consumers become progressively involved in sport and events, and the corresponding behaviours.
- Consumers' attitudinal stability towards new products manifests in commitment, resistance to change (RTC) and loyalty (Pritchard, Havitz, & Howard, 1999). We drew on attitudinal theory to conceptualise the extent to which consumers are psychologically connected to the new product, which indicates commitment to the organisation and RTC in preference;
- Organisational identification (Ashforth & Mael, 1989; Bhattacharya, Rao, & Glynn, 1995) as a theoretical base to explain the collective activity of consumption (Holt, 1995).

Relevant to this study, fans often express themselves in terms of their degree of identification with a sports team, enabling consumers with comparable beliefs or attitudes to be clustered together (Ross, 2007). In Table 2, we examine past studies and describe the variables identified from *a priori* knowledge.

Based on the theoretical foundations mentioned previously, there are a number of possible drivers of fan connection with new sports teams. Our research process therefore covers: (i) how consumers connect with a sports team in terms of team identification, commitment, loyalty and perceived CSR; (ii) how those connections manifest into different consumer relationships with a sports team (relationship identifiers); and (iii) the different consumer profiles and

behaviours emerging from the cluster analysis on team brand associations, loyalty, involvement, satisfaction and expectancy disconfirmation. The conceptual process for this research is presented in Figure 1.

METHOD

Following identification of key factors from previous literature that may drive connection with a new team and differences in new fan attitudes and behaviours, we quantitatively tested the impact of these factors via data-driven segmentation models.

Participants and procedures

Data were collected from a survey conducted among fans of the newly formed Gold Coast (GC) Suns. The fan base in its initial year included those who may have had an AFL background and now had a local team to support, those switching from other sports or entertainment options and those with little knowledge of the sport (or sport at all) who were experiencing it for the first time.

As part of this research, the GC Suns ran a campaign to encourage the registration of fans on a consumer database in the lead-up to their inaugural season. Thus, fans that provided a current email address were invited to respond to an online survey at the start of the inaugural season. In total, 1741 responses were collected (a 24% response rate). Respondents were 66 per cent male and had an average age of 47. This is largely in line with the fan and season ticket holder demographics presented in past work, although it should be noted that the Gold Coast is a popular retirement area for Australians (like Florida is for Americans); and thus, the average age of residents is high (McDonald & Stavros, 2012).

Non-response bias was evaluated using two methods. Initially, we compared early and late respondents, which showed no significant differences on key attitudinal variables. Following this, the sample of respondents was compared with the overall fan database, which again showed no significant differences when compared on the basis of demographic variables.

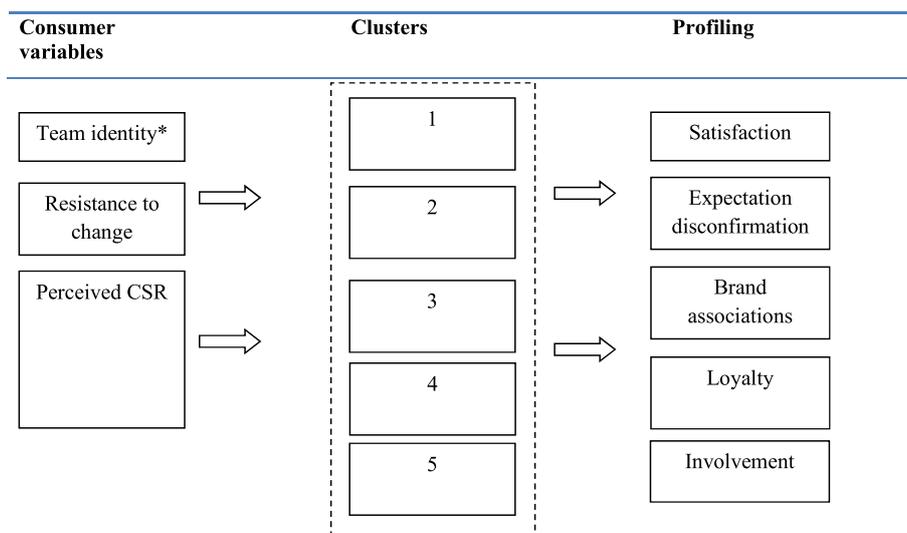
Initial consumer identification items used in the survey were developed from existing measures in all cases. A six-dimension measure of team identity was used, with three items per dimension: private evaluation, public evaluation, behavioural involvement, interdependence, interconnection and cognitive awareness (Heere & James, 2007a; Lock, Funk, Doyle & McDonald, 2014). The private evaluation scale captures the degree to which an individual is glad or proud to be associated with a sports team, while public evaluation measures the extent to which they feel that others favourably or unfavourably view the sports team (Heere & James, 2007a).

The interdependence scale captures the extent to which success or failure of the sports team influences the lives of fans. The interconnection scale measures the degree to which an individual feels associated or intertwined with the identity of the sports team (Gurin & Townsend, 1986). Behavioural involvement captures the extent that consumers engage in

Table 2. Theoretical foundations

Previous studies	Variables used in this study
Commitment to community through CSR Mohr, Webbs & Harris, 2001	CSR in sport may include various activities such as philanthropy, community involvement, youth educational initiatives and youth health initiatives (Walker & Kent, 2009). The aim of sport CSR is to impact the attitudes and behaviours of consumers around team reputation, patronage intentions and outcomes. As CSR is not a variable that can be directly used to segment consumers, the authors use fan perceptions of a team’s CSR efforts and the relative importance of CSR to a consumer. In its formative stage, Gold Coast Suns worked directly with the local community in areas like preventing domestic abuse and childhood obesity and improving community fitness and sports facilities.
Babiak & Wolfe, 2006 Breitbarth & Harris, 2008 Bradish & Cronin, 2009 Walker & Kent, 2009 Walker, Kent & Vincent, 2010 McDonald & Stavros, 2012	
Commitment, loyalty and involvement Day, 1969 Crosby & Taylor, 1983	Specific to the context of this study, commitment can be captured through resistance to change, which indicates a stable preference and tendency to resist change; brand loyalty is defined as purchase loyalty, representing an intention to keep supporting and purchasing a brand.
Morgan & Hunt, 1994 Oliver, 1999 Pritchard <i>et al.</i> , 1999 Chaudhuri & Holbrook, 2001 Caceres & Paparoidamis, 2005 Beaton, Funk, Ridinger & Jordan, 2011 Doyle, Kunkel & Funk, 2013	As a counterpoint to direct measures that assess commitment and loyalty, the psychological continuum model (Funk & James, 2001) was also included in the data collection. The nine items in this scale measure three distinct constructs: pleasure, centrality and sign (Table 5). The items allow consumers to be classified into four stages of involvement with sports and events, which show a logical progression from awareness to allegiance. The sport-specific nature of this scale and its multidimensional nature make it preferable to other more general measures of consumer involvement.
Organisational identification Tajfel, 1982 Mael & Ashforth, 1995 Ellemers, Kortekaas & Ouwerkerk, 1999 Bergami & Bagozzi, 2000 Dimmock, Grove & Eklund, 2005 Heere & James, 2007a Lock <i>et al.</i> , 2014	Based on Social Identity Theory (SIT), Heere and James (2007a) developed a measurement scale comprising six dimensions: private evaluation, public evaluation, interconnection of self (affect), interdependence, behavioural involvement and cognitive awareness. Based on statistical and theoretical considerations, Lock <i>et al.</i> (2014) has since removed interdependence, reducing the scale to five robust dimensions. The team*ID scale captures the private and public self-esteem consumers derive from membership of a new team’s fan base (Luhtanen & Crocker, 1992), the affective significance of identification and, finally, their ascription to rituals and normative practices (cognitive awareness). Together, these factors provide a robust multidimensional evaluation of consumers’ identification with a new sports organisation within our segmentation model.
Team brand associations Gladden & Funk, 2002 Doyle <i>et al.</i> , 2013	Team brand associations represent mental links that exist within a consumer’s mind concerning a sport team (Gladden & Funk, 2002). These associations represent images, thoughts or ideas about the team and are positively correlated to game attendance and media behaviour (Doyle <i>et al.</i> , 2013). Drawing upon this perspective, associations related to attributes (e.g., venue, marque player, logo, and head coach) and benefits (socialisation, peer group acceptance, and excitement of games) of the new sport team would form relatively quickly and would become part of the initial connection to the team.

Note: CSR, Corporate Social Responsibility.



*Team ID includes private evaluation, public evaluation, interconnection, and behavioural involvement.

Figure 1. Overview of key constructs relevant to segmenting consumers in a sport context. CSR, corporate social responsibility. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

actions to support the group. The cognitive awareness scale captures the range of knowledge an individual has regarding the history of success or failure of the sports team (Heere & James, 2007a). RTC measures the level of commitment, stability of preference and degree of resistance a consumer has in changing sports teams (Crosby & Taylor, 1983; Pritchard *et al.*, 1999). Items for perceived CSR were taken from the past work of Lichtenstein *et al.* (2004), measuring consumer attitudes towards an organisation's involvement and commitment to community activities. All constructs were measured using a seven-point Likert-type scale (strongly disagree to strongly agree). A follow-up survey was conducted at the end of the inaugural season to collect games attended and watched on television data, and the club provided data on season ticket purchase and use.

Data analysis

Confirmatory factor analysis (CFA) was used to assist conversion of consumer identification items to constructs (relationship identifiers) prior to the development of clusters. The items of the six dimensions of team identity, RTC and perceived CSR were subjected to CFA. The initial CFA results suggest that there were problems with interdependence and cognitive awareness dimensions of the identification scale. Similar to the findings of Lock *et al.* (2014), the correlation between interdependence and interconnection dimensions was high ($r=0.88$) in our study; and thus, the discriminant validity using the average variance extracted (AVE) cannot be confirmed (Fornell & Larcker, 1981).

Given strong arguments that interdependence and interconnection are closely conceptually related (Heere, James, Yoshida, & Scremin, 2011) and following the advice of Lock *et al.* (2014), we deleted the interdependence construct and proceeded with the other five dimensions. A smaller problem was found with the cognitive awareness dimension, where the AVE was slightly less than the recommended level of 0.50 (AVE=0.45). The remaining factors were subjected to CFA once more. The final solution produced a good model fit [$\chi^2_{(120)}=545.95$, $\rho < 0.00$; CFI=0.99, NFI=0.99; NNFI=0.99; RMSEA=0.45], and the full list of items from the final CFA are shown in Table 3. The composite constructs of the factors were calculated to represent the relationship identifiers.

These relationship identifiers were used as the input variables for the clustering process. The first stage of cluster analysis relied on a hierarchical clustering algorithm to determine the appropriate number of clusters (Punj & Stewart, 1983; Cannon & Perreault, 1999). Adhering to recommendations by Wong, Wilkinson and Young (2010) and Hair, Black, Babin, Anderson and Tatham (2005), the two average linkage and Ward methods were used. The average linkage has the advantage of being less susceptible to the effects of outliers (Hair *et al.*, 2005). Although Ward's method has a drawback in that it is sensitive to outliers, it was used here because it allows comparisons between clustering solutions (Wong *et al.*, 2010). We reran the hierarchical clustering on five random subsets (approximately 48% of the data). From a dendrogram, we examined the number of possible clusters and attempted to exclude

Table 3. Scales, items and scale reliability for relationship identifier dimensions

Scales and items	Factor loadings	t-values
Private evaluation ($\alpha=0.89$, CN=0.90 and AVE=0.76)		
I feel good about being a XYZ fan	0.87	31.13
I am glad to be a XYZ fan	0.87	29.01
I am proud to think of myself as a fan of XYZ	0.87	34.25
Public evaluation ($\alpha=0.88$, CN=0.88 and AVE=0.71)		
Overall, XYZ is viewed positively by others	0.80	37.13
In general, others respect XYZ	0.86	39.35
Overall, people hold a favourable opinion of XYZ	0.87	38.81
Interconnection ($\alpha=0.84$, CN=0.87 and AVE=0.69)		
When someone criticises XYZ, it feels like personal insult	0.84	48.98
Being associated with XYZ is an important part of my self-image	0.78	40.84
When someone compliments XYZ, it feels like a personal compliment	0.88	50.72
Behavioural involvement ($\alpha=0.81$, CN=0.83 and AVE=0.62)		
I participate in activities supporting the XYZ	0.86	43.47
I am actively involved in activities that relate to XYZ	0.88	51.66
I participate in activities with other fans of XYZ	0.59	25.71
Resistance to change ($\alpha=0.79$, CN=0.80 and AVE=0.57)		
My preference for supporting XYZ would not willingly change	0.80	33.89
Even if my close friends recommended following another team, I would not stop following XYZ	0.75	30.77
It would be difficult to change my beliefs about XYZ	0.71	28.93
Perceived corporate social responsibility ($\alpha=0.86$, CN=0.87 and AVE=0.70)		
XYZ is committed to helping charitable causes in the community	0.89	47.89
XYZ gives back to the local community	0.93	45.86
XYZ is involved in corporate giving	0.68	27.34

AVE, average variance extracted. All items were measured using a seven-point scale (1 = strongly disagree to 7 = strongly agree). $\chi^2_{(120)}=545.95$; $\rho < 0.00$; CFI=0.99; NFI=0.99; NNFI=0.99; RMSEA=0.45

outliers by looking at the univariate $|Z\text{-score}| > 3$ and multivariate Mahalanobis distance ($D^2/df > 4$, sig > 0.001). A total of 20 outliers were found and deleted. We then compared the results of two clustering methods. Through these assessment procedures, a list of potential cluster solutions was identified for use in the next stage of clustering.

The next stage of cluster analysis employed the SPSS K-mean procedures. While the K-mean tends to perform well in the presence of outliers, it requires prior specification of the number of clusters (Punj & Stewart, 1983). The number of potential cluster solutions was therefore used as an input into K-means clustering. The focus at this stage was on assigning the respondents into one of the final cluster

solutions. We allowed the K-means clustering to pick random seeds (Hair *et al.*, 2005) using either factor (Singh, 1990) or standardised mean scores (Wong *et al.*, 2010) as input variables. Two subsamples (approximately 74%) of the total sample were drawn. Kappa coefficients were then used to determine the stability and robustness of the cluster solution (Singh, 1990). The final cluster centroids were retained for further analysis.

Finally, we followed the cross-validation procedure of Wong *et al.* (2010) to assess internal validity. At this stage, the holdout sample was used with the K-means clustering to allocate the respondents to their closest centroid. We then independently used the same two-stage procedures to classify the holdout sample. We found that the K-means clustering using factor scores performed better in terms of the robustness and usefulness of the cluster solution. The final cluster structure and number were therefore determined, and additional analysis was conducted to profile segment characteristics.

After clusters were defined, multiple outcome variables were used to deduce differences between segments in the profiling stage. Further, satisfaction measures were used to assess the consumer's outright satisfaction, happiness and general feeling about the decision to support the team (Oliver, 1980). This was complemented by an expectancy disconfirmation item (Madrigal, 1995) that captured a consumer's overall experience compared with the expectation of being a fan of the team. Thirteen brand association measures referring to association or connection to a team sport brand (Gladden & Funk, 2001; 2002) were also used here to capture 'experiential and emotional benefits that consumers received through the consumption of sport' (Gladden & Funk, 2002, p. 56). This is in line with recent calls to investigate how various sports fan segments choose to relate to and express their connection with a brand (Alexandris & Tsotsou, 2012). Items collected represented consumer per-

ceptions of product attributes, benefits and attitudes towards a product and their evaluation of brand (Gladden & Funk, 2002). To explore differences across segments, mean scores for outcome measures were compared.

RESULTS

Table 4 provides the means and standard deviations for the six relationship identifiers for each cluster. Further insight into each cluster is provided through the set of variables that portray descriptive information about each segment. Table 5 summarises the main characteristics of each segment, as portrayed by the outcome variables measured. The five segments were labelled Instant Fanatics, Community Focused, Independent Triers, Social Theatregoers and Casuals. This was difficult as a great deal of duplication exists in previous work exploring sport segments with a variety of names used to describe the same type of consumer (Funk & James, 2001; Stewart *et al.*, 2003). To avoid adding to this confusion, where possible, we have used established names to label the segments we observed.

Instant Fanatics (26.2%) represent highly satisfied, committed and involved consumers, analogous to what have previously been described as hard-core 'fanatics' (Hunt, Bristol & Bashaw, 1999). Examining Table 5, this segment scored the highest on all items. In particular, this segment has the highest mean scores for pleasure, centrality and sign, and is highly attached to the brand. Instant Fanatics are mainly in the most committed stages of the PCM, with 29 per cent in the allegiance stage and 54 per cent in the attachment stage.

In terms of game consumption, Instant Fanatics attended 6.3 live games (the highest mean) and watched the highest number of TV/internet games (mean=76.2 games) over a 12-month period. In many ways, the fans in this segment

Table 4. Means and standard deviations: relationship identified by cluster

Segments	<i>n</i>	Private evaluation	Public evaluation	Interconnection	Behavioural involvement	Perceived CSR	Resistance to change
Instant Fanatics	452	6.48 ^a	5.31 ^a	5.07 ^a	5.09 ^a	5.86 ^{ab}	6.17 ^a
Community Focused	346	5.91 ^b	5.31 ^a	3.00 ^c	3.80 ^b	5.93 ^a	5.21 ^c
Independent Triers	252	5.81 ^{bc}	3.09 ^d	3.56 ^b	3.76 ^{bc}	4.89 ^c	5.55 ^b
Social Theatregoers	479	5.23 ^c	4.67 ^b	2.91 ^{cd}	3.41 ^d	4.51 ^d	4.50 ^d
Casuals	195	3.08 ^d	3.29 ^c	1.76 ^e	2.12 ^c	4.25 ^c	4.50 ^d
Total sample	1724	5.62	4.59	3.46	3.83	5.18	5.07

CSR, corporate social responsibility. For each variable (column), the means for different consumer segments with the same superscript are not significantly different ($p > 0.05$), based on Scheffe's joint pairwise comparison test. The mean(s) in the highest range are labelled with superscript a, the next highest with b and so on. Solid-lined boxes represent the consumer type(s) with mean in the highest range; dashed boxes represent the next highest level (though not significantly different from the solid-lined boxes), while circles represent the lowest range.

Table 5. Descriptor variables by type of consumer (cluster) significance

Descriptor variables	Significance	Casuals	Social Theatre-goers	Independent Triers	Community Focused	Instant Fanatics	Total
Characteristics of the consumers							
Live games attended in last year (mean)	*	5.5 ^{ab}	5.1 ^c	6.2 ^{ab}	5.5 ^{ab}	6.3 ^a	5.7
TV/internet games watched in last year (mean)	***	55.7 ^{cd}	55.9 ^c	68.0 ^{ab}	69.6 ^{ab}	76.2 ^a	65.7
Male (%)						67.8	
		75.9	68.5	66.7	65.0	55.8	68.5
Located on the Gold Coast (%)		46.7	65.5	56.0	72.0	65.3	62.6
Brand association							
I follow XYZ because my friends like the same team	***	1.9 ^e	2.5 ^{ab}	2.1 ^{cd}	2.2 ^c	2.6 ^a	2.3
XYZ helps elevate the image of local community	***	3.8 ^e	4.7 ^d	4.9 ^c	5.5 ^{ab}	5.7 ^a	5.0
Following XYZ provides a temporary escape from life's problems	***	2.3 ^e	3.4 ^{cd}	3.6 ^{bc}	3.8 ^b	4.6 ^a	3.7
It is important that XYZ genuinely competes for the premiership	***	5.0 ^e	5.3 ^{cd}	5.4 ^{bc}	5.6 ^b	5.9 ^a	5.5
XYZ has star players that I like to watch	***	4.8 ^e	5.3 ^d	5.6 ^c	5.8 ^b	6.2 ^a	5.6
The head coach of XYZ does a good job	***	4.5 ^e	5.3 ^d	5.5 ^c	5.9 ^b	6.1 ^a	5.6
XYZ's management makes wise player personnel decisions	***	3.7 ^e	4.6 ^{cd}	4.7 ^c	5.5 ^{ab}	5.7 ^a	5.0
I like the XYZ logo	***	3.8 ^e	4.9 ^{cd}	5.1 ^c	5.6 ^{ab}	5.9 ^a	5.2
XYZ's stadium has character	***	4.3 ^e	4.7 ^{cd}	4.9 ^c	5.4 ^b	5.8 ^a	5.1
XYZ's games are exciting	***	2.9 ^e	4.3 ^{cd}	4.4 ^c	5.1 ^b	5.6 ^a	4.7
XYZ has a rich history	***	2.0 ^d	3.0 ^c	3.0 ^c	3.4 ^b	4.3 ^a	3.3
When I talk about XYZ, I usually say 'we' rather than 'they'	***	2.3 ^e	3.7 ^d	4.5 ^b	4.2 ^c	5.5 ^a	4.2
Thinking of XYZ brings back good memories	***	2.1 ^e	3.4 ^d	3.7 ^{bc}	3.9 ^b	5.0 ^a	3.8
Psychological continuum model							
Pleasure	***	10.3 ^e	13.9 ^d	15.2 ^c	15.9 ^b	18.1 ^a	15.17
Centrality	***	5.39 ^e	8.70 ^d	10.3 ^b	10.0 ^{bc}	14.6 ^a	10.37
Sign	***	6.5 ^e	9.8 ^d	11.5 ^b	11.0 ^{bc}	14.8 ^a	11.23
PCM stage							
Awareness (%)		84	39	16	13	1	26
Attraction (%)		15	50	52	61	16	39
Attachment (%)		1	12	28	24	54	26
Allegiance (%)		0	0	4	2	29	9
Outcomes							
Overall, I am satisfied with XYZ	***	4.4 ^e	5.6 ^d	6.1 ^c	6.2 ^{ab}	6.6 ^a	5.9
So far, my experience of being a XYZ fan has been: 1 = much worse to 7 = much better than I expected	***	3.6 ^e	4.2 ^{cd}	4.4 ^c	4.9 ^b	5.5 ^a	4.7
Overall, I am loyal to XYZ	***	3.0 ^e	4.1 ^d	5.6 ^b	5.3 ^c	6.2 ^a	5.2
Thinking of XYZ, I considered myself a: 1 = casual observer to 7 = hard-core fanatic	***	3.0 ^e	4.1 ^d	4.9 ^b	4.7 ^{bc}	5.6 ^a	4.6

PCM, psychological continuum model. Items otherwise stated were measured using a seven-point scale (1 = strongly disagree, to 7 = strongly agree). In each row, means with the same superscripts are not significantly different ($p > 0.05$), based on Scheffe's joint pairwise comparison test. Mean(s) in the highest range have superscript a, next highest b and so on. For pleasure, centrality and sign, the scores are summations of relevant PCM items.

* $p < 0.05$,

** $p < 0.01$ and

*** $p < 0.001$.

mirror the 'high team attachment' segment in Alexandris and Tsotsou's (2012) study of well-established Greek soccer fans. However, there is no evidence here of the 'dysfunctional' behaviours that Hunt *et al.* (1999) noted among some highly committed fans, so we use the term 'fanatic' in a positive sense. What is notable here is how quickly this deep attachment formed.

Community-focused fans (20.1% of the sample) identify strongly with sports teams that are involved in CSR activities. This segment is similar to the 'local fans' identified by Hunt, *et al.* (1999) and the 'civic fans' identified by Lewis

(2001), that is, fan groups primarily motivated by their links to a geographic area. Measuring fan perceptions of team CSR activities has revealed that these fans are motivated by a combination of both the location of the team and the impact it has on the community.

Members of the Community-focused segment primarily identify with their area or community. The support of these fans can be activated as a team unifies or blends with the region. They have the highest mean score for perceived CSR and public evaluation, but are only moderately involved with the team (highlighted by lower than average scores for

interconnection and behavioural involvement). Sixty-one per cent of the Community-focused segment is in the attraction stage of the PCM, suggesting commitment is still developing. Within this segment, 72 per cent lives in the local area – the highest of any segment.

With regards to game consumption, this segment attended about 5.5 live games and on average watched 69.6 TV/internet AFL games over a 12-month period. This community focus is reflected in the length of time they have lived in the region – the longest of all segments – and a key indicator of their commitment to the region.

Independent Triers (14.6%) represent consumers with high levels of consumption (the second highest live game attendance), although they differ from the other segments in important ways. For example, these consumers have the lowest score for public evaluation, that is, they love their team, but do not believe many others respect or like it. They are also unlikely to support the team because family and friends do. As such, while they exhibit strong loyalty and private evaluation, they may engage in ego-protection techniques by publicly distancing themselves from the team (Madrigal, 1995).

They most closely resemble the segment described by Stewart, Smith and Nicholson (2003) as ‘reclusive partisans’ – those that have strong team affiliation but low attendance and are thought to be largely unconcerned with the team’s other fans. There is some evidence of these characteristics in this segment, with comparatively high levels of centrality and sign scores within the PCM items. This segment has the second highest percentage of fans in the allegiance stage of the PCM, although at 4 per cent the number is not large. However, we reject the ‘reclusive’ label, as this segment attended almost half of the team’s home games and rates second highest on behavioural involvement.

Despite a large proportion of this segment not living on the Gold Coast, they attended the most live games on average, making them an obvious target for conversion into life-long fans. In terms of game consumption, they attended 6.2

live games on average and watched 68 TV/internet games of AFL over a 12-month period.

Social Theatregoers (27.8%) include consumers who are less satisfied and engaged. These consumers have low team identification and the lowest level of commitment. They also have relatively low brand association with the sports team (lower than average). In addition, they attended the least amount of live games (mean=5.1 games) and watched a moderate number on the TV/internet (mean=55.9 games) over a 12-month period.

Previous research has described sport consumers whose main motivation is entertainment as ‘theatregoers’ (Stewart *et al.*, 2003). We added ‘social’ to reflect this segment’s higher likelihood to follow the team because of friends or family, and their strong sense of interconnectedness. Despite their generally low engagement, these fans find the sport pleasurable – they enjoy watching star players and perceive football as an escape. Also, half of this segment is in the attraction stage of the PCM, indicating increased commitment forming among them. This is how the Social Theatregoers differ from other lowly engaged fans (e.g. Casuals segment).

Casuals (11.3%) include casual observers, with infrequent attendance and non-committal attitudes towards the team. Consumers in this segment have the lowest levels of commitment, interconnection, behavioural involvement and private evaluation. They perceive the team as adding little value to the broader community (lowest perceived CSR). They also exhibit low levels of satisfaction and expectancy confirmation. This is the only segment to score below the mid-point of 4 on the single-item self-reflected fan measure, and they are lowest on all three dimensions of the PCM. Eighty-four per cent of these fans are still in the attraction phase of the PCM, distinguishing them from other segments.

This segment attended about 5.5 live games and watched the least number of games via TV/internet (mean=55.7 games) over a 12-month period. The low attendance is partially explained by the fact that they are the most likely group to live outside the immediate catchment area of the

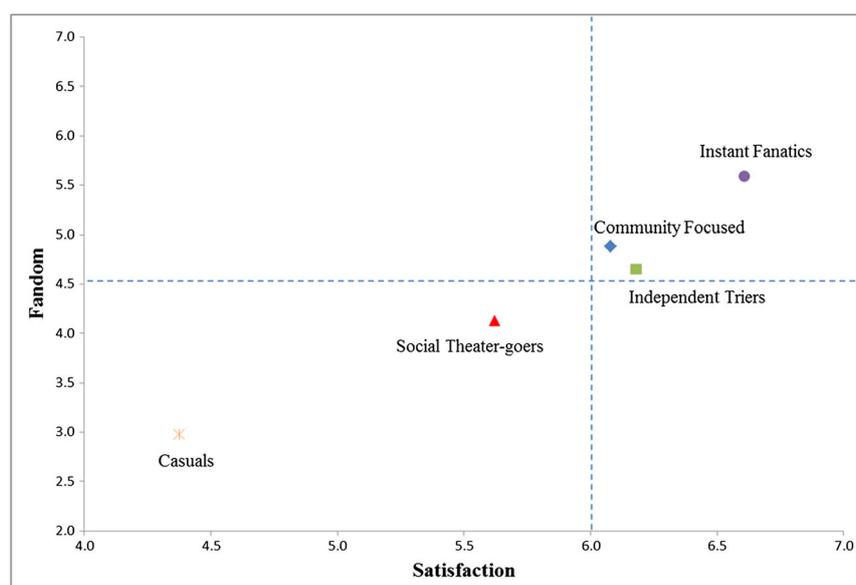


Figure 2. Positioning of consumer segments. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

team (i.e. the Gold Coast). Yet even though their consumption levels are relatively low, they are still active consumers who provide revenue to the team. The question arises as to why they do not feel a stronger connection and involvement given they are consumers of the team, albeit at low levels.

To demonstrate key differences between the segments, a positioning map (Figure 2) is used to illustrate how the five segments differ in terms of satisfaction and fandom.

DISCUSSION

The primary purpose of this research was to empirically examine the first consumers (fans) of an expansion sport team in its inaugural year, in order to identify any specific cohorts that warrant differing marketing tactics to encourage their development. Such situations have rarely been examined, even though studies into the 'early adopters' of consumer products are common (Rogers, 2003). Previous early adopter studies have suggested that the first consumers of any product are often heavy users of the product category and act independently of the opinions of others, being more active in spreading word of mouth (McDonald & Alpert, 2007). This makes them particularly attractive, but they are often lumped together as a single cohort. They are the first 16.5 per cent to adopt and are often relatively younger, more educated and more risk averse than later adopters of the same product (Rogers, 2003).

With almost 8000 fans registering on the GC Suns consumer database prior to the team playing a game in the elite league, it seemed likely that they were not a single cohort with identical motivations and backgrounds. Segmentation is therefore of value if these variations are going to impact consumption, especially in guiding future efforts to retain, service and communicate with fledgling consumers. The reasons for launching a new team on the Gold Coast were also varied, suggesting the sport's governing body believed fans would be attracted to the team through various avenues.

Examination of the initial fan base is interesting, given that minimal relevant research has been conducted on new fans of expansion teams. In this study, a large number of variables and constructs were included, in deference to the many different perspectives from past work on established teams. We found that the vast majority of fans of this new team had long-term experience of following the sport, which aligned with findings from Lock, Taylor & Darcy's (2011) research conducted on new team consumers. As such, we would say that for most fans, this was not a case of adopting a 'new to the world' innovation, but rather a 'new to the market' innovation. They consumed both live and broadcast games in strong numbers and were frequently committed enough to travel to attend their team's games interstate. In some sense, on a league level, this represents the cannibalization of existing consumers. However, given the location-dependent nature of sport (with its regional fan bases and limitations on live attendance), new teams can also grow both overall revenue and total fan bases (Lock, Darcy & Taylor, 2009).

Given the varied demographics, behaviours and attitudes of respondents, viewing this initial fan base as one cohort

is unwise. The results reported here suggest the presence of five consumer segments with distinct profiles. The drivers of identity were formed quickly, with attitudinal and behavioural differences between segments suggesting there is significant value in pursuing segmentation-related communications and product strategies. However, the challenge remains of how best to market the team and related products to these different segments.

MANAGERIAL IMPLICATIONS

Our portrait of five segments provides evidence of the diverse ways that fans can identify and display varying degrees of behavioural engagement and involvement with a sports team.

Instant fanatic segment

For instance, the results show that Instant Fanatics perhaps represent the most attractive segment, characterised by the highest levels of commitment, loyalty and private evaluation. These fans also demonstrate high levels of connectivity, public evaluation and cognitive awareness, which suggest they are a key target for spreading positive word of mouth as the team develops. This segment is also the most obvious for conversion into season ticket holder or relational consumers, given multiple strong points of identification and connection (Funk & James, 2001). They are also likely to serve as team advocates among their own networks and could drive the rituals and co-created behaviours that may eventually characterise the team and its fans. It is not surprising to find such a segment of fans with high levels of consumption and attitudinal loyalty – similar hard-core fans have been identified in many past qualitative (Dionísio, Leal & Moutinho, 2008) and quantitative (Alexandris & Tsiotsou, 2012; Tapp & Clowes, 2002) studies.

What was unexpected was to find that almost 30 per cent of the fans of this new team had already reached these high levels of involvement within the first 12 months of its existence. It should be noted that frameworks of fan development (e.g. Funk & James's (2001) PCM or Mullin, Hardy and Sutton's (2007) escalator model) that suggest a stepwise progression of fans' increasing intensity of engagement over time may need to be softened to recognise that these levels can either progress quickly or stages can be missed altogether (Lock, Taylor, Funk & Darcy, 2012). Overall, however, our analysis provides strong support for Funk and James's (2001) PCM framework, in that we see a logical relationship between the fandom intensity of the segments we identified and the stage of the PCM where the majority sit. Given that we used the PCM as a descriptive variable, not a classification variable, this strong relationship is a further validation of the usefulness of the PCM framework, even among new fans of a new team.

Marketing to highly connected fans seems straightforward, requiring almost a 'build it and they will come' approach. In addition to other easily obtained benefits, these demanding heavy sport consumers, expect personalised service, high levels of access and specialised communications.

For example, simply emailing team news is unlikely to satisfy, unless it has some behind-the-scenes insights or a strong team perspective unavailable through the myriad of other sports news sources these fans are likely to be trawling.

Community-focused segment

The presence of the Community-focused segment highlights the importance of a sports team's CSR activities, as suspected by the AFL when establishing this team and as noted by several researchers (e.g. Smith & Westerbeek, 2007). This aligns with Heere and James' (2007b) argument that sports organisations should seek to align their identity with external groups in the community to maximise consumption. Past studies have indicated that consumers respond positively to the CSR activities of a sports team. For example, Walker and Kent (2009) substantiated that CSR activities have a strong and positive impact on the organisation's perceived reputation and increase word of mouth and merchandise consumption. Our study revealed a group of fans already primarily attracted to the new team because it is deemed as good for their community. Obviously, maintaining such CSR activities and communicating their impact back to the public are important. Additionally, as the on-field activities for the Community-focused segment are secondary, ensuring some education and communications are undertaken to integrate them with other fans and enhance their enjoyment of the game is imperative.

Independent triers segment

Our Independent Triers segment provides interesting insights as it clearly deviates from the pattern of segments simply being consistently high or low on all dimensions often found in segmentation studies (Alexandris & Tsotsou, 2012). Highly correlated variables or simply the survey response style of respondents can yield a high/low split (Greenleaf, 1992). Even though the Independent Triers attended many games, they differ from the Instant Fanatics segment in significant ways. For instance, Independent Triers exhibit far lower levels of centrality and connectivity than may be expected given their high attendance. They also have the lowest level of public evaluation of any of the segments. As such, they are a segment we have identified that has no real parallel with what has been observed in past studies of fans of established teams.

There are several explanations why Independent Triers have the lowest perceptions of how others view their team. One explanation is that this study's sports team is new. Thus, the absence of on-field achievement (the team predictably won only a few games in its first season) may provide a basis for these fans to engage in ego protection (Madrigal, 1995). Past studies have indicated that vicarious achievement is less relevant in a new team context (Lock *et al.*, 2011). Another explanation is that these fans may be exhibiting the 'us versus them' or 'David versus Goliath' mentality that supporting a new team can foster. They do not believe their team is respected by fans of other teams or sporting codes, which may not be a negative. Indeed, in sport, this sort of underdog image can unify and galvanise fans' support or observers'

support for a team or athlete (Frazier & Snyder, 1991; Vandello, Goldschmied & Richards, 2007).

Independent Triers reject the idea of supporting the team solely to foster social connections, resisting or limiting their active involvement in fan-related activities. This suggests a self-sufficient aspect to their motivation to consume and enjoy the team and related activities. While requiring a medium-term approach, it will likely be a challenge for the team to enhance the social (and emotional) connections among this segment to encourage a broader relationship with it and other fans. Community engagement through CSR activities or high-profile endorsements may build these fans' pride and desirability to increase connection and alignment with the team. However, if an 'us versus them' mentality is actually a positive for these fans, such efforts to improve broader acceptance of the team might be counterproductive. Further research is warranted here.

Social theatregoers segment

Fans in the Social Theatregoers segment are unique because of their high cognitive awareness but lower identification and connectivity with the team. Yet unlike Casuals, this segment has already developed social connections with the team (support with friends) and active involvement in team-related activities. These consumers are therefore defined by their enjoyment and satisfaction with the sport, but low-level personal bonds with the new team. This segment has the highest percentage of male fans and has a long history of involvement with the sport. Their low level of direct connection with the team suggests they may have existing connections with other teams that have not been supplanted by the new arrival.

League regulations that limit how often each visiting team plays in each region ensure that Social Theatregoers are likely to stay behaviourally loyal to the home team; however, building attitudinal loyalty may require a longer term approach from the team. Teams historically loathe using this approach. However, they publicly acknowledge that some fans have dual allegiances, which suggests that this may not be a bad approach and could help resolve some of these fans' internal conflicts. As an example, the team studied here adopted a tactic in later games of encouraging fans to wear both teams' merchandise when they were playing their 'old' team, and this was warmly embraced by many fans.

Casuals segment

In contrast to the Instant Fanatics, consumers in the Casuals segment demonstrated behaviours similar to 'casual' observers (Tapp & Clowes, 2002) that have low attachment to the sports team in term of levels of commitment, loyalty and private evaluation. A large number of these consumers live outside of the Gold Coast region, which could explain why overall this segment demonstrates the lowest level of cognitive awareness. This raises an important consideration of how to persuade this segment to become more engaged with the team. Their low levels of identity correlate with low scores on outcome variables including satisfaction and brand association, and although causality is unclear, intuitively, it seems plausible that providing a satisfying

experience for these fans can improve team identity. Education on both the sport and team to drive cognitive awareness and product trial and build emotional involvement with the team are priorities to encourage development of this segment's fandom. The team needs to better understand this segment for two reasons: they are most likely to churn as supporters or consumers (McDonald, 2010), and it is likely that growth will come from the ranks of light users like these (Sharp, 2010).

LIMITATIONS, CONCLUSIONS AND FUTURE RESEARCH

In some ways, this study employed a scattergun approach to identifying the variables pertinent to the engagement and development of fans of a new team. This was necessary because of the volume of past studies on established fans and the countless ways they have been segmented. The results both challenge and confirm previous research in this area. The finding that the initial fans of this new sports team are comprised of five distinct cohorts, each likely to require distinctive marketing tactics, is novel. It could be argued, however, that this is unsurprising given that the AFL administrators involved in launching the new team recognised that they could attract different types of fans and set their objectives accordingly (McDonald & Stavros, 2012). There are three key outcomes from this examination of new fans of a new team, which have direct impact for the theory of fan development and engagement and which are a relevant contribution to both the GC Suns and the AFL.

First, we have found highly and lowly engaged fans even at this early stage, confirming the work of Bristow and Sebastian (2001), and more recently Alexandris and Tsiotsou (2012). The large number of highly engaged fans at such an early stage of the team's life raises questions of models of 'fan development' where a series of sequential steps must be 'climbed'. Here, it seems that some fans have quickly jumped to high levels of engagement.

Second, CSR activities have long been believed to play a role in broadening the fan base of sports teams (Smith & Westerbeek, 2007), and here, we have seen some of the first empirical evidence of consumers being attracted to a team primarily as a response to this. CSR has not previously been linked directly to the attraction of new customers, but here we see support for the notion that being a strong participant in a local community can be a powerful tool in attracting support for a new brand from customers in that region.

Third, we see that segments suggest that fans that behave alike can be very different attitudinally. Our 'Independent Trier' and 'Community-focused' segments are good examples of that. This supports theories of multiple points of attachment (Funk, Mahony & Ridinger, 2002), and that fans can have very different ways of expressing team connections, as posited by Alexandris and Tsiotsou (2012). Teams neither afford to be too focused in their marketing strategies nor too singular in their appeals to the market, as there are myriad ways people will learn about, and become interested in, a new team.

The main overall conclusion here is that within the group of new fans are several distinct sub-groups, and there is value in recognising this and marketing the team accordingly. Distinctions highlighted by the profiling variables suggest differing approaches may be successful in encouraging consistent and on-going support, despite the clearly different pathways of initial fandom. However, this study is limited in that it examines only one team in one country. Future work to examine whether these five segments are found in other circumstances would be valuable.

BIOGRAPHICAL NOTES

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The values and motivations behind sustainable fashion consumption

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ABSTRACT

The growth in ethical consumption behaviour and greater interest in sustainable fashion from a production side provides grounding for the emergence of a new consumer market for sustainable fashion. To date, however, most studies in this field focus on the production end of the emerging market, with little exploration of the consumers. Of the work, there is on sustainable fashion consumption; the majority discuss perceptions of sustainable fashion by the general population, with little work sampling actual consumers of sustainable fashion. Therefore, the purpose of this study is to explore the values and motivations underpinning actual sustainable fashion consumption. Thirty-nine in-depth interviews were conducted with a sample of frequent sustainable clothing consumers. The study follows a means-end theory approach linking purchased products back to purchasing criteria and personal values. This study therefore contributes to the overall understanding of sustainable fashion consumption and gives insights into purchasing criteria and behavioural choices of sustainable fashion consumers. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

At first glance, fashion and sustainability may seem like two inherently contradictory concepts; the former is defined by hedonism and short product life cycles, especially in fast fashion (Ertekin and Atik, 2015), while the latter implies ethics, durability and the reuse of products (Cervellon *et al.*, 2010). Nevertheless, the overlap of personal ethics and fashion is certainly not a new idea. The first anti-fur campaigns appeared in the 1980s, and in the late 1990s, numerous sweatshop scandals surfaced, putting significant social pressure on fashion companies and retailers to implement better monitoring programmes over their factories (BSR, 2012). This has been followed by the emergence of a sustainable fashion consumer movement (Guedes, 2011) with *Vogue*, the American fashion and lifestyle magazine, labelling the environment as a new trend in fashion.

The growing interest in sustainable fashion has been stimulating fashion houses and retailers to take action. Stella McCartney, the British clothes designer who is known for refusing to use leather or fur in any of her designs, launched her first clothing line in 2001. Edun was co-founded by Alie Hewson and U2 singer Bono in 2005, with the mission to promote positive change in Africa through fair trade-based relationships (Edun, 2013). In 2004, the first Ethical Fashion Show was held in Paris (Guedes, 2011). Then in 2009, New York Fashion Week launched its first Eco Fashion Week, and 1 year later, the first official sustainable fashion show took place at London Fashion Week 2010 (Striet and Davies, 2013). Even established powerhouses, like Louis Vuitton Moët Hennessy Group, got involved by acquiring a 49% stake in Edun. Further, the trend towards sustainable fashion has also reached high street fashion brands, such as H&M with its organic Conscious Collection and MUJI's fair trade products (Shen *et al.*, 2012). With the growth of online

retailing, brands solely dedicated to sustainable fashion such as Komodo and People Tree have also begun to emerge.

The sustainable fashion market has continued to grow even in times of economic downturn. In 2011, the ethical market in the UK was worth £47.2bn, with ethical personal products including clothing and cosmetics being the fastest growing sectors. The sales of ethical clothing peaked at £177m in 2010 (up from only £5m in 2000) and second-hand clothing to £330 million in 2011 (Co-operative Bank Ethical Consumerism Report 2012).

Within the literature, however, limited research investigates the motivations driving consumers of sustainable fashion. The vast majority of literature in the field looks down the supply chain (Carrigan *et al.*, 2013; Fletcher, 2013; Pederson and Gwozdz, 2014), and of the limited number of studies investigating consumer responses to sustainable fashion only, Bly *et al.* (2015) purposefully sample sustainable fashion consumers, focusing on how a 10 highly vocal online activists define themselves as sustainable fashion consumers. Our understanding of sustainable fashion consumption is therefore minimal. Research in the broader context of ethical consumption suggests personal values play a pivotal role in ethical decision-making (Schaefer and Crane, 2005; Connolly and Prothero, 2008). Values are therefore explored in this paper by relating them to motivations to purchase and the consequences of purchasing actual sustainable fashion for frequent consumers. Therefore, the research objective of this paper is to explore the values and motivations underpinning frequent sustainable fashion consumption.

SUSTAINABLE FASHION CONSUMPTION

A single definition of sustainable fashion is difficult to pinpoint as there is no industry standard. The concept of sustainable fashion encompasses a variety of terms such as organic, green, fair trade, sustainable, slow, eco and so forth (Cervellon *et al.*, 2010), each attempting to highlight or

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correct a variety of perceived wrongs in the fashion industry including animal cruelty, environmental damage and worker exploitation (Bray, 2009; Bianchi and Birtwistle, 2010; Blanchard, 2013). Within the literature terms got used interchangeably and often for different purposes, for instance, Joergens (2006: 361) define 'ethical fashion' as 'fashionable clothes that incorporate fair trade principles with sweatshop-free labour conditions while not harming the environment or workers by using biodegradable and organic cotton', whereas Cervellon and Wernerfelt (2012) use 'green fashion' to refer to much the same set of issues. However, both of these focus on the garment as the definitive article in sustainable fashion, whereas use is suggested to be the aspect of clothing that has the greatest impact upon the environment (Allwood *et al.*, 2008; Laitala *et al.*, 2012). For instance, Fletcher (2013) suggests 82% of the energy used during a garment's life cycle comes from the laundering process and textile waste increased by an average of about two million tonnes per year between 2005 and 2010 in the UK (Niinimäki and Hassi, 2011). Therefore, aspects of consumption such as laundering, use, reuse and disposal can have a substantial impact on the sustainability of a garment and should not be excluded from a definition (Cervellon *et al.*, 2010). For the purposes of this paper, we use the broadest view of sustainable fashion to encompass the myriad of issues of an ethical or environmental nature in the production and consumption of fashion. However, as a consumer study, we must accept that there will be a certain level of self-definition by participants and accept that consumer perceptions of what is sustainable are not necessarily those scientific studies that suggest to be the most sustainable (Connell, 2011).

In common with Cervellon and Wernerfelt (2012) and Joergens (2006) definitions, it is the supply chain (Nagurny and Yu, 2012; Fletcher, 2013), the fashion brands (Shaw *et al.*, 2006; Pedersen and Gwozdz, 2014) and the retailing of garments (Ertekin and Atik 2015; Goworek *et al.*, 2012) that have had the greatest level of exploration in the sustainable fashion literature. Surprisingly, little has been studied regarding the consumption of, and in particular, the purchasing decision process of actual sustainable fashion consumers (Carrigan *et al.*, 2013; Fletcher, 2013; Bly *et al.*, 2015).

Studies into purchasing behaviour have suggested that consumers have been showing increasing levels of ethical concern in the context of fashion consumption (Niinimäki, 2010). Dickson (2001) found that consumers were concerned about the social consequences of their purchases, especially when human rights in factories are violated. Sweatshop labour in particular has been identified as one of the most important ethical concerns when making clothing decisions (Tomolillo and Shaw, 2004; Freestone and McGoldrick, 2008), and Ha-Brookshire and Hodges (2009) found more than half of respondents would pay \$5 or more for organic, sustainable and US-grown cottons shirts. Yet, most of this research is conducted with general population samples, the majority of which have in all probability never made an active sustainable fashion consumption decision. For instance, both Shen *et al.* (2012) and Chan and Wong (2012) explore consumer motivations to buy sustainable fashion items, but

quota sample people shopping in mainstream stores. Similarly, Goworek *et al.* (2012) sample low-awareness consumers in their study, and Markkula and Moisander (2012: 111) snowball sample 'well-educated adults who had full-time jobs' as a fairly spurious proxy for 'ecologically orientated consumers'. The results of these studies therefore reproduce findings evident in similarly sampled generic ethical consumption literatures that suggest consumers are disempowered (Markkula and Moisander, 2012), have limited awareness (Connell 2010; Goworek *et al.*, 2012), feel unable to make sustainable choices with clothing (Iwanow *et al.*, 2005; Joergens, 2006; Radin and Calkins, 2006) and require more information and better consumer education (Shaw *et al.*, 2006; Chan and Wong, 2012; Hill and Lee, 2012; Shen *et al.*, 2012). As such, the emerging literature shows we have the attitude-behaviour gap in the sustainable fashion field as much as we do in any other ethical consumption spaces (Niinimäki, 2010; Davies *et al.*, 2012).

Many of the barriers to growth in mainstream sustainable fashion can therefore probably be assumed from those found in existing ethical consumption literature. In fact, Joergens (2006) notes that consumers have limited choice in sustainable clothing, as the prices are not comparable to the low-cost fashion available to them. She found that consumers consider the appearance and style of sustainable fashion unattractive and do not suit their wardrobe needs. Consumers also comment that product features such as price, quality and appearance of clothing would trump ethics in making clothing decisions; clothing cannot just be sustainable but must also be appealing to the consumer's aesthetic needs (Beard, 2008). This is all identical to issues raised previously in mainstream ethical consumption literature (see Belz and Peattie 2009, for example).

For mainstream consumer groups, we therefore understand many of the barriers to the growth of sustainable fashion consumption from the extant ethical consumption literature. Yet, we know virtually nothing about why active sustainable fashion consumers purchase sustainable fashion (Carrigan *et al.*, 2013). In fact, Davies *et al.* (2012) note there is minimal research observing actual buying behaviour in sustainable consumption research generally, questioning how much we genuine know about sustainable consumption practice.

Jägel *et al.* (2012) study is a rare example of motivation-driven research into sustainable fashion (or even ethical consumption generally). They explore hypothetical and future purchases covering a range of 'sustainability' issues on consumers who self-report having performed at least one of the following: recycling clothing, boycotting a company and buying eco or fair trade clothing. They report a relatively high incidence of ethical values such as social justice, equality and supporting the environment as underpinning their hypothetical consumption behaviours. They also report surprisingly low incidences of self-identity, product quality and style as motivators for consumption. This goes against the dominant discourse on fashion consumption, which dictates that individuals purchase fashion to fulfil their need for belonging and self-esteem, to demonstrate social standing and to gain acceptance from others (Belk, 1985; Richins, 1994;

Gabriel and Lang 1995; Easey, 2002). This mismatch of ethics over style in Jägel *et al.* (2012) study is particularly noteworthy because they identify the sample as of low-frequency sustainable fashion consumers. So, although Jägel *et al.* (2012) make a positive contribution to exposing the field of sustainable consumption behaviours to motivation-based study; the use of hypothetical rather than actual consumption behaviours does lead to some scepticism of the social desirability inherent in the ultimate results.

Contrastingly, Bly *et al.* (2015: 126) study identifies itself as the first paper to explore ‘sustainable fashion consumption pioneers’ by interviewing 10 frequent sustainable consumption bloggers. Our review would similarly suggest this paper is amongst the first to link motivational research to actual behaviours (in this case blogging) about sustainable fashion consumption. What makes this paper particularly stand out is that it highlights the total opposite to the earlier studies on sustainable fashion consumption. These consumers are knowledgeable, are curious about distant markets, feel the social pressure to consume as a negative pressure and view that consumption is the antithesis of sustainability. That is, reuse of existing clothing is preferable to purchasing more sustainable versions of new clothing. What is more, in complete contrast to the mainstream samples used in Achabou and Dekhili (2013), Joergens (2006) and Markkula and Moisander (2012) amongst others, these pioneers view sustainability as facilitating better style and quality and counter to Jägel *et al.* (2012) and Joergens (2006) and see sustainability as driving well-being and pleasure rather than being competing attributes. What we start to identify by looking at actual sustainable fashion consumers, rather than asking questions about sustainable fashion to none or marginal consumers, is that motivation to consume more sustainably can be cast in a positive light. Rather than highlighting barriers to changing engrained habits, we can highlight the means through which sustainable fashion consumption could be a habituated norm.

What a review of actual sustainable consumers also brings out is that sustainable consumers think beyond purchasing behaviour and focus on use, reuse and disposal as well (Bly *et al.*, 2015). As such, sustainable fashion consumers have some awareness on the life-cycle cost (as per Allwood *et al.*, 2008; Laitala *et al.*, 2012) of consumption beyond the initial purchase decision. This reuse and disposal then also form part of their sustainable consumer identity despite being against increased consumption.

As a sustainable consumer, one is faced with a wide range of motives influencing decision-making and creating motivational complexities (Smigin *et al.*, 2009). Consumers of sustainable fashion are most likely driven by ‘multiple end goals including self-expression, aesthetic satisfaction and group conformity’ (Kim and Damhorst, 1998: 132), as well as ethical obligations (Shaw *et al.*, 2006) and/or avoiding feelings of guilt (Ha-Brookshire and Hodges, 2009). However, values and motivations underpinning actual sustainable consumption behaviour still remain a vastly under-researched area (Jägel *et al.*, 2012; Bly *et al.*, 2015). Hence, the aim of this paper is to explore the values and motivations behind actual sustainable fashion purchase

decisions by frequent consumers. This aims to understand the myriad of motivations for sustainable fashion consumption and highlight the probable space for developing the market as a habituated form of consumption.

METHODOLOGY

The research follows the means–end approach, which proposes that consumers use means (products) to achieve ends (states of being) (Gutman, 1982). The theory proposes that consumers use their preferences towards products (attributes) based on the functional and psychological benefits or risks they will acquire (consequences and motivations), in order to achieve underlying values (Reynolds and Gutman, 1988). The theory also assumes that consumer decision-making is a form of problem-solving (rather than cognitive rationalization), in the sense that they will solve their problems by engaging in various actions to enhance benefits and avoid negative outcomes (Olson and Reynolds, 2001).

The approach relies on understanding the hierarchical structure of consumer problem-solving by investigating attributes of products, which lead to consequences for the self, which are underpinned by fundamental values (Reynolds and Gutman, 1988) (Figure 1). Attributes can consist of both concrete and abstract features, while consequences represent psychological, emotional and social motivations (Olson and Reynolds, 2001). The framework that the means–end theory presents is suitable for the context of this study as it clearly outlines how the purchase of sustainable fashion is linked to an individual’s values. However, it is limited by the assumption that respondents can *post hoc* recalled a cognitive process of decision-making (much of which may be habitual), making it essential to collect data at or near the point of the decision.

The means–end chain theory is therefore closely related to the laddering interview technique. This refers to ‘an in-depth one-on-one interviewing technique used to develop an understanding of how consumers translate the attributes of products into meaningful associations with respect to self’ (Reynolds and Gutman, 1988: 12). Soft laddering is used in this study so that the flow of speech is restricted as little as possible and the participants have more freedom of expression as with other forms of interpretivist interview (Veludo-de-Oliveira *et al.*, 2006). This is opposed to hard laddering, which refers to questionnaires with multiple choice and open-ended questions but with predefined structure that has a more objectivist epistemology (as used by Jägel *et al.*, 2012). Soft laddering is most suited to exploratory studies but requires greater skill and time commitment on behalf of the researcher than hard laddering – which should be used when phenomena are already reasonably



Figure 1. The means–end chain (Olson and Reynolds, 2001: 13). This figure is available in colour online at wileyonlinelibrary.com/journal/cb

well understood and the structure of a decision process is established.

The interviews in this study are semi-structured, which allows for flexibility and ability of asking questions outside of the interview guide (Bryman and Bell, 2011), while still being able to hold focus of the discussion. This is appropriate for the exploratory nature of the study, in the event of an interesting topic that is worth pursuing. The semi-structured interview guide also allows for the setup of defining different product attributes, from which the ladders of consequences and values can then be built. This is carried out by using broad questions to identify product attributes (e.g. 'Why did you chose to shop here today?' and 'Why did you choose that product?') to deeper questions about motivation (e.g. 'Why did you chose to buy [this brand] over a high street brand' and 'What is it about [insert brand] that you like/dislike?') to deeper still questions about values ('Why is that [attribute/motivation] important to you?' and 'What does sustainable fashion mean to you?'). Through this process, interviewers can gain a deeper insight into the underlying motivations and values behind consumer perceptions of a product (Reynolds And Gutman, 1988). The interview questions were structured in a progressive manner starting from questions about specific purchases of sustainable fashion into questions about why they purchase sustainable fashion and then to their general understanding of sustainability in fashion including post-consumption activities.

Sampling

The aim of this study is to understand actual sustainable fashion consumption decisions. Therefore, it was essential to tie respondent to known specific consumption events. We focus only on those known to have undertaken sustainable consumption behaviour through researcher observation in sustainable fashion outlets or as regular customers known to store keepers of those outlets. Reynolds and Gutman (1988) suggest that at least 20 people be included in one soft laddering sample, and for this study, 39 frequent sustainable fashion consumers were interviewed all of whom self-identify as regular customers of the chosen outlets. The individuals were approached either in stores or via email following the recommendation from store managers of two London-based stores solely dedicated to sustainable fashion: Gudrun Sjöden and Braintree Clothing. Both companies could be termed social enterprises because sustainability is at the core of their business mission. Both would fit in the definitions of slow fashion because they focus on high quality, durable, natural fibre, timeless design and managing the environmental impacts of their production (Ertekin and Atik, 2015). However, both also take environmental and social issues very seriously from forestry management projects, sustainable sourcing and fair trade supply at Gudrun Sjöden to organic certification, long-term supply contracts, paying above living wages and enforcing high standards on working conditions and working hours at Braintree. Therefore, in the truest and broadest definition, both brands are sustainable fashion brands first and foremost. Visit both brand's website, and you are left in no doubt about their intentions to trade on their sustainability.

Although both brands do sell limited male product lines, for this study, we focus on all female respondents with an age range between 16 and 64 years old. Parker (2002), Niinimäki and Hassi (2011) and Zelezny *et al.* (2000) all show that women are the group most concerned by environmental and ethical issues in clothing, and market research supports this with the majority of sustainable fashion consumers being female (Ethical Fashion Forum, 2011). Demographic characteristics such as age, religion or nationality were not collected in this study because of the cultural angst this line of questioning can cause. However, the age of respondents tended towards the lower quartile of the range with at least 30 respondents under ~40 years old and the nationality and racial mix of respondents were very varied as one would expect in a global city such as London, but favoured UK and Northern European consumers. Fifteen respondents were in full-time employment, eight in full-time education, 12 part-time employed and four homemakers.

Data analysis procedure

Reynolds and Gutman (1988) outlined three main steps to analyze laddering data. The first task is to perform analysis of the elements of the ladders produced in the interviews. This was achieved through initial qualitative open and coaxial coding approaches familiar to interpretivist data analysis (Spiggle, 1994). A unit of data was a statement, defined as a sentence or a group of sentences that were distinguished from other statements by a change of topic/subject matter, a pause or a change in speakers (e.g. Hall and Hofer, 1993; Grégoire, Barr, and Shepherd, 2010). In the second stage, a set of summary codes are produced, summarizing and reflecting everything that was mentioned. The importance is to create categories that are broad enough to include more than one respondent, yet representative enough so that meaning is not lost. The codes are thirdly categorized into product attributes (A), consequences for self and motivations (C) and values (V). Product attributes are defined as perceived qualities or features of product-services. Considering that the research objective is to explore underlying motivations for consuming sustainable fashion including social, cultural, emotional and cognitive motivations, this study incorporates not only tangible attributes but also intangible attributes. The identification of such social attributes is necessary to outline the relative importance of physical versus abstract characteristics (Olson and Reynolds, 2001; Auger *et al.*, 2010). Consequences for self and motivations are derived from product attributes and are developed through past experience or association and linking product attributes to personal benefit (Veludo-de-Oliveira *et al.*, 2006). Values, representing the ends of the ladder, are beliefs individuals hold about the self and influence motivation (Reynolds, 2006). The finalized codes are then assigned numbers. These numbers are used to construct the implications matrix and the hierarchical value map (HVM).

The implications matrix (Figure 2 in this study) aims to show 'the number of times each elements lead to each other element' (Reynolds and Gutman, 1988). In the matrix, there are two types of relationships: direct and indirect. Take for

	2	3	4	5	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	From	To	Sum	
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3	1.00		.01	9.01	2.01	.01	1.00	2.06		2.01	.03				1.05		.01					.01	.01	18.22	10.01	28.23	
4		5.00		.01	.01			0.05							2.01									7.08	1.01	8.09	
5		1.00	1.00					6.00			3.01				3.03	1.00	.01	.01						.02	15.08	13.04	28.12
6																5.00								1.01	6.01	0	6.01
7		4.00		2.01	6.03	1.01	4.02	.02		3.03		6.00		.01	.01	.01	.02		.01		.01	.03	.01	26.23	0	26.23	
8											8.02	.05			.01	.04	.02		.02		.04		.02	8.22	0	8.22	
9									9.01				3.04			.05	4.03		1.02	.07			.04	17.26	0	17.26	
10							.01			1.01	6.02	.01				.04	.02		1.03		3.07	1.00	.01	12.22	0	12.22	
11					1.00	1.00	2.02		2.01					.01								1.02	1.01	8.07	11.05	19.12	
12									1.00					1.01	.01			2.01				3.02		7.05	7.05	14.10	
13					1.00			.01								1.00	.01		1.00		.01	.01	1.00	4.04	6.03	10.07	
14															2.00									2.00	15.16	17.16	
15												4.00	.01		.04	1.00		1.01	4.03				1.02	11.11	10.01	21.12	
16				2.00									1.00									1.04	.01	4.05	9.06	13.11	
17											4.01			1.00	1.00	3.01	1.01		.02		.03	.01	9.09	13.07	22.16		
18												1.00				.02	2.00		1.05		5.02		1.01	9.10	17.08	26.28	
19									1.00							3.00	1.01		.01	2.03	1.00		.01	8.06	8.05	16.11	
20						2.00				1.00							1.01	3.03			1.00	2.01	1.01	11.06	10.06	21.12	
21							1.00				1.00												.01	2.01	10.15	12.16	
22												1.00							2.00	1.00	.01	1.02	1.02	6.07	16.22	22.29	
23																3.00				2.00	1.00	2.01	2.02	11.03	12.14	23.17	
24																								0	7.14	7.14	
25																								0	7.18	7.18	
26																								0	8.18	8.18	
27																								0	13.22	13.22	
28																								0	8.19	8.19	
29																								0	10.27	10.27	

Figure 2. The implications matrix – there are no relations between attributes 1 and 6–11. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

example a ladder of A–B–C–D elements. Direct relationships are between A–B, B–C and C–D. Indirect relations are between A–C, A–D and B–D. It is important to examine both types of relationships so that significant connections are not missed. This stage is what makes the laddering technique unique as the qualitative nature of the research crosses over to a quantitative way of presenting the information (Reynolds and Gutman, 1988).

In the next step, the HVM (Figure 3 in this study) is constructed, made up of chains derived from the aggregate data, showing the dominant perceptual patterns (Reynolds and Gutman, 1988). Adjacent relations are first considered (A–B, B–C, C–D) to form an A–B–C–D chain. It is important to note that there does not necessarily need to be a single individual with an A–B–C–D ladder for an A–B–C–D chain to become apparent.

FINDINGS

This section outlines the findings of the study in the form of the implications matrix¹ (Figure 2), the HVM (Figure 3) and direct quotes from the respondents.

From the interviews, 10 attributes, 13 consequences and six values are identified (Table 1). Where possible, we have used the same terms as Jägel *et al.* (2012) to allow for

building on the knowledge in the field. However, the lack of descriptive detail in Jägel *et al.* (2012) (most terms in that paper are only given a one line description and no data presentation) means we had to make some assumptions about what their terms mean.

In the HVM (Figure 3), the attributes, illustrated in white shapes, are on the lowest level of the HVM. Attributes include generic product attributes such as *price* and *quality* as well as environmental aspects like *natural materials*, *environmentally friendly production techniques* and being *recycled*. The next level on the HVM shows the consequences, represented by the lightly shaded ovals. They include a mix of functional, emotional and psychological perceived consumer benefits gained from purchasing sustainable clothing, including *value for money*, *individuality*, *reduce waste* and *guilt-free conscience*. Furthermore, sustainable clothing buyers' consumption behaviour is driven by six overarching values: *self-expression*, *self-esteem*, *responsibility*, *protecting the planet*, *sense of accomplishment* and *social justice*, shown on the HVM by the darker shaded ovals. To most effectively discuss the findings, the HVM has been constructed to demonstrate six motivational patterns. In a reverse of the data analysis process, we will discuss each of these patterns in turn, exposing the values, motivations and attributes that underpin them.

Pattern 1: less buying

Consumers perceive sustainable clothing to be priced higher than the average high street clothing (*premium price*).

¹The numbers in the matrix are displayed in fractional form with the left of the decimal representing direct relations and the right of the decimal showing indirect relations.

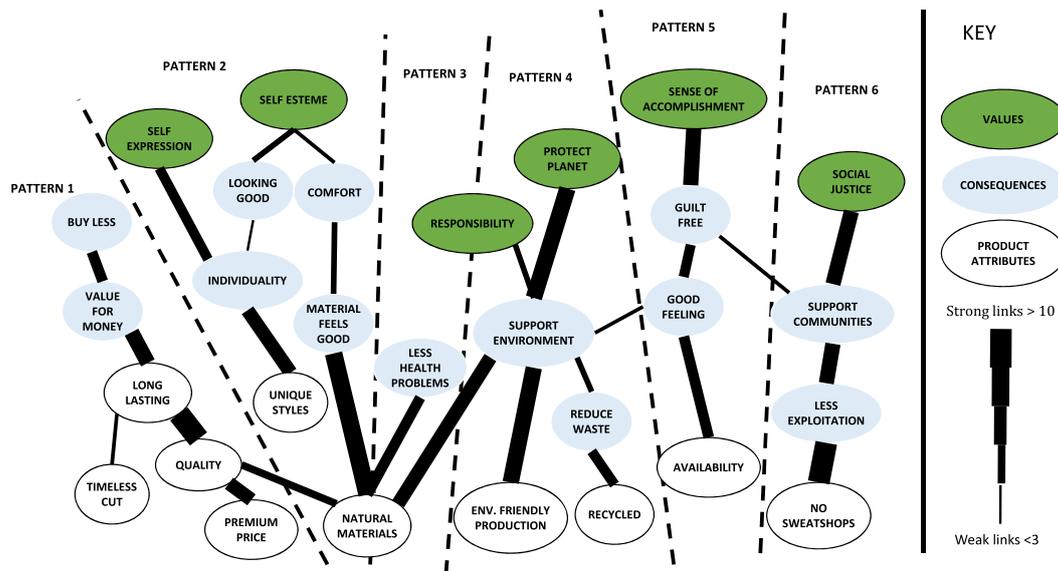


Figure 3. The hierarchical value map for eco-clothing consumption. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

Table 1. Master content codes and assigned numbers

Attributes	
(1)	Unique styles
(2)	Timeless cuts
(3)	Quality
(4)	Premium price
(5)	Long-lasting
(6)	Availability
(7)	Natural materials
(8)	Recycled
(9)	No sweatshops
(10)	Environmentally friendly production techniques
Consequences	
(11)	Material feels good
(12)	Look good
(13)	Less health problems
(14)	Value for money
(15)	Less exploitation
(16)	Comfort
(17)	Reduce waste
(18)	Support environment
(19)	Support communities
(20)	Individuality
(21)	Less buying
(22)	Good feeling
(23)	Guilt-free conscience
Values	
(24)	Self-expression
(25)	Responsibility
(26)	Social justice
(27)	Protect the planet
(29)	Self-esteem
(29)	Sense of accomplishment

However, consumers also perceive that the purchased product is of a sufficiently higher *quality* that this more than compensates for the extra cost. As such, they see sustainable clothing as a net positive value alternative:

Yeah the clothes are a bit more expensive and sometimes it gets hard. But then you have to think about what you're

paying for. Someone has put more time and effort into it and just the quality, its better

In turn, *quality* is strongly linked to the product attribute *long-lasting* with [9] direct relations (Figure 2). The consumers assert that one of the most important features they require from clothing is for them to be durable. They have a need to be able to rely on the clothes to last for frequent usage without losing shape.

When I buy something I have to really like it and know I'll wear it. And when I find something I often wear it again and again. So I need clothes to be good quality to last longer and [sustainable fashion] does that

Buying clothes that *last longer* and are of *better quality*, consumers express more positive links to personal finance. Being able to keep clothes longer makes consumers feel they obtain *value for money* (Figure 3). As a result, consumers are also driven by the benefit of *buying less* in the long run.

I like to keep wearing clothes over and over again and not have to buy new ones all the time [...] It does save you money in the long run even though in the beginning it is a bit more expensive

Therefore, what we find is that regular consumers of sustainable fashion see long-lasting benefits of switching to sustainable brands. Although products cost more, the quality, durability and wear ability are higher than for high street brands. Therefore, it is vital for sustainable brands to maintain these quality dimensions of products to maintain a strong market offering.

A second dimension of the importance of *longer-lasting* garments shows sustainable fashion consumers want their clothes to be able to last over more than one fashion season, which brings in the product attribute of *timeless cuts* into the chain, inferring the importance of simple and classic shapes and emphasizing a garment's usability.

I want timeless. I want classic. It just makes it more usable and reliable. I don't usually buy things that are 'fashionable'. I buy things that I know I can keep wearing

The *timeless cut* also enables them to live an easier life in the sense that they do not have to always shop to the current trends.

I won't have to spend hours in stores, which just has clothes matching the current trend and I can't wear anything because they don't suit my body shape. [...] I don't have to replace my clothes all the time.

These *timeless cuts* are therefore also of vital importance to delivering a sustainable/slow fashion revolution. Clothing that is perceived to be sustainable by consumers must last multiple seasons in both durability and style.

Furthermore, the HVM shows that *natural materials* have an effect on perceived quality of the product. Consumers perceived sustainable fashion to be linked to *natural material* (which in fact may be scientifically inaccurate on a life cycle assessment scale, Laitala *et al.*, 2012) and feel that *natural materials* may be more difficult to work with, but appreciate the work that has gone into them.

I like bamboo. As a designer I know that this material is of great quality and I would be lucky to be able to afford to work with it

I guess natural also means less pesticides, which means that it is harder to take care of. I think I appreciate that more than some mass produced piece

To summarize this chain, people are motivated to buy sustainable fashion because of value-in-use benefits such as *less buying* and *value for money* in the long run. Consumers, therefore, purchase sustainable fashion because of attributes such as *higher quality* and *longer-lasting*, both of which evidently meet the consumers' desired ends of consuming less showing the links between the identification of consumption Bly *et al.* (2015) being the anti-thesis of sustainability. Therefore, buying less is definitely perceived as the best alternative for regular sustainable fashion consumers.

Pattern 2: the self

Self-esteem and *self-expression* are strong anchors with [16.37] total relations leading to them. While the consumers do not place great importance on looking good for others, more concern was placed on how their clothing enabled them to be comfortable in their own skin and be able to express their opinions and values.

Self-esteem has a total of [8.19] relations leading to it, making it the third most influential value. Participants want to have confidence in who they are, with the main judge being themselves. The need for self-esteem is fulfilled through two chains: *comfort* and *looking good*.

Comfort relates to both the comfort and the feeling of confidence and happiness when wearing the clothing.

I have a busy life style. I need to be able to be comfortable in what I'm wearing. I don't want to feel like changing after just a couple hours of wearing something in an 8 hour work day

In turn, comfort is supported by the *good feel of the material*, which customers believe that is due to the use of *natural materials*. By being comfortable, they express that they have less worries, also contributing to their self-esteem. However, a few customers also noted that the material's good feel might simply be psychological.

Maybe it feels better because you know that someone in the world hasn't suffered making the product that you're carrying.

Value in use in sustainable fashion therefore has both physical and psychological benefits that help the consumers feel better about themselves. However, even when talking about the physical benefit of *looking good*, consumers express that although they do care about their appearance, it is not based on the perception of others, but of themselves.

I value my appearance and I want to look nice. You buy clothes because you like them and you like yourself in them

My job requires me to look presentable. My friends are all models so that puts even more pressure on me to look good. But that isn't what it's all about. I want to just go out of my house and feel like I look good

Although *self-expression* is discussed later, this internal evaluation of self through fashion runs counter to the dominance of belonging and gaining social acceptance often associated with fashion consumption (Easey 2002). Self-esteem is normally associated with fashion consumption, but usually from a social acceptance perspective. What we find in these sustainable fashion consumers is a more ready acceptance of 'self' being internally – not externally – driven. This may suggest either that these consumers are not particularly representative of the usual fashion consumer or that disenchantment with the neo-liberal consumption driven self is passing, with these consumers at the forefront of this movement (Cova *et al.*, 2013).

Looking good is thereby related to the consumers' desire to be themselves. They express strong feelings of wanting to be able to be an individual because they believe the fashion and the people surrounding them have become too homogenous.

People tend to style things the same way so they automatically look like clones. Like that Urban Outfitters hipster look where you're putting so much effort into trying to be different, but if everyone is also doing it, how different are you really?

Here, we see echoes of the product attribute that allows for consumers to meet their end needs: *the unique style* [08.01] sustainable fashion offers.

There are some lovely colours and patterns used in eco-fashion. The colours are in a way unique. The prints and patterns are interesting and definitely not used anywhere else

Sustainable clothing brands are usually quite small which means that you're more likely to be able to find styles that won't be worn by everyone else

The chain of *unique styles* and *sense of individuality* is also driven by a second value, namely, that of *self-expression*, which has a total of [7.14] relations leading to it. The participants refer to self-expression as being able to voice their personality, values and opinions through their clothing.

I want my clothes to reflect my personality, my values. It should reflect who I feel I am as a person. It's just my personal style, something which is very important to me

Although this chain reflects the self-identity base of traditional consumption literatures, here, it is to use individualized consumption as a means to demonstrate bucking the trend. It reflects the politicized consumption discussed by Gabriel and Lang (1995) but is born from a feeling of liberation from the market space, a freeing of the self from social acceptance and a desire to engender personal happiness.

To summarize, sustainable fashion consumption is driven by values closely related to the self. Consumers place importance on *self-expression* and *self-esteem*, which motivates them to purchase sustainable fashion with attributes like *unique styles* and *materials* to obtain ends such as a sense of *individuality* and *comfort*. However, in a departure from the extant fashion literature, these *self-expression* and *self-esteem* are less part of gaining social acceptance than standing outside the social norm. We see strong linkage between the desired heterogeneity of our respondents here and those in Chatzidakis *et al.* (2012), where their community of dystopian consumers seeks solace, not in self-identity-led consumption, but politicized and individualized action, leading to a broadening of a person's self-esteem and self-confidence through nonconformity, rather than conformity.

Pattern 3: health

Similar to pattern 1, this pattern does not reach higher-level abstractions or multiple ends. The individuals consider the use of *natural materials* in these sustainable fashion brands as leading to *less health problems*. They specifically put emphasis on the well-being of their skin because of the use of less pesticides and chemicals throughout production of the garments purchased.

I used to have really bad cases of eczema and I think it became less and less of a problem when I started to wear clothes that were made from natural materials

Although this only accounted for a minimal number of respondents (4), it does show a core market potential for the marketing of sustainable fashion to particular groups in society. Beyond these, however, when dealing with *natural materials* over the whole sample, individuals indicate materials and fabrics made out of bamboo hemp, and organic cotton as specific forms of 'sustainable material', which delineates sustainable clothing from non-sustainable. Whether or not the life cycle assessments would suggest these are indeed more sustainable could easily be questioned.

However, there is a strong definitional perception amongst these consumer groups that certain materials dictate sustainable, even though neither of the brands selected makes clothing exclusively from these materials.

Pattern 4: the environment

A significant motivational pattern in the HVM concerns the consumer's will to address environmental concerns. The values that drive this chain are *responsibility* and *protect the planet* with [7.18] and [13.22] total relations leading to them, respectively.

Our consumers place great importance on taking *responsibility* for the way they consume, and feel a responsibility to change others' consumption habits as well.

We have to care about the world we live in and do what we can. If we don't then it'll lead to complete disaster. We're all connected

The respondents voiced the importance of *protecting the planet*, in terms of saving resources and keeping the planet healthy. This was especially evident when future family was considered.

If I have children one day, I don't want them to live in a world without nature, without animals, without nothing. The good thing being alive today is that we have a beautiful planet.

I love nature. I love the outdoors and I want future others to be able to enjoy that as well. If we don't do anything we'd end up with a world like in Wall-E²

Responsibility and *protect the planet* are the drivers of consumer's will to *support the environment*, which as a consequence has an aggregate [26.18] relations leading to and from it. The attributes that directly contribute to making people feel like they are making a difference include purchasing products that use *natural materials*, *environmentally friendly production techniques* and *recycling*.

Buying clothes made from *natural materials* is considered as one of the smallest things that they can do to help the environment. The connection has [26.23] relations leading from it, underlining the importance of *natural materials* as a product attribute of immense importance to consumers.

I think it is hard to be completely eco-friendly in everything that you do. But if we can do something and there are options why not take them? Like simple things like buying clothes from natural materials. It's not so hard

Participants also relate to clothes that have been made using *environmentally friendly production techniques*, also shown to be a significant attribute with [26.18] relations leading from it.

Maybe you can't stop using certain ways to travel like flying. But with clothing you do have a choice now. I chose eco because I know that the clothes have been produced with the least negative impact on the environment as possible

²Wall-E is a Walt Disney Pictures and Pixar Animations Studios film about a robot designed to clean up a waste-covered Earth far in the future.

However, the production techniques and materials of clothing being sustainable are moderated by a clear understanding on the part of consumers that this is just a part of a garment life cycle. Individuals express they are *doing good* for the environment when they buy *recycled* clothes. This is especially true for individuals who choose to buy second-hand or create their own clothes, as a way to contribute to the *support of the environment*.

I can't afford the branded eco stuff so to do my bit I buy all of my clothes second hand. [...] Old stuff is just as good as new stuff.

By purchasing *recycled* clothes, the participants also express the benefit they experience in *reducing waste*.

I feel like I'm almost saving the planet by not filling the planet with stuff that isn't biodegradable. Think about all the landfills with all that stuff. It's terrible.

This support of the environment spreads into post-purchase decisions as well with consumers identifying the long-lasting nature of clothes, washability, use of sustainable washing detergent and mending of clothing as important facets of in-use sustainability activities that help their sustainable clothes remain sustainable.

Buying the right clothes is only part of the process. I look after my clothes and wear them to death. Wash cold, no harsh chemicals, dry flat, avoid ironing. These not only make the clothes last longer but help the environment too.

It doesn't stop with the clothes. I'm not an expert but what I do with them is probably just as important to protecting the environment.

The second quote here reflects a large proportion of the respondents' views on protecting the environment. None of the respondents expressed knowledge of the scientific research into clothing, but nearly all associated their actions as relevant to the ultimate sustainability of clothing. It does not take the expert level of knowledge repeatedly asked for in the non-consumer research into sustainable fashion to understand this issue. The probability of Connell's (2011) suggestion that consumer perceptions of what is sustainable may not reflect scientific evidence is held up in this study, in particular use of some natural materials such as cotton. However, these consumers intuitively know that sustainable fashion is a co-created activity between producers and consumers and not the sole responsibility of either party to address. Making strides in doing so therefore leads to an immense sense of *accomplishment*.

Pattern 5: accomplishments

At the top is the life value of *sense of accomplishment*, which has [10.27] relations leading to it. The importance of this chain is evident in the HVM as there are five different cognitive and emotional paths where this value acts as a motivation for gaining benefits and avoiding risks when buying sustainable fashion.

Participants reveal enjoying the feeling of doing the 'right thing' and express the need for confirmation of having made

the correct decisions. Additionally, they show pride in their actions although several individuals were hesitant to explicitly express this.

I don't know if this is the right thing to say. Is it bad to say that I feel proud of myself?

Two consequences of achieving a *sense of accomplishment* are a *guilt-free conscience* and a *good feeling*. Participants mention that buying sustainable fashion is a benefit in the sense that they are able to do so without being burdened by a sense of guilt after their purchase. This was often insinuated by explaining situations of how they would feel if they did not buy sustainably.

I used to buy a significant amount of non-eco clothing. The more I learned about the damages, the more guilty I felt after purchasing it. I would be lying if I said I went as far as saying that I immediately returned the clothes because of it, but I remember it was definitely a feeling I wanted to avoid.

The second consequence is that of *good feeling*, which has a total of [22.19] relations. Consumers emphasize how much better they feel about their purchases and with themselves as sustainable fashion consumers.

I feel so much better about myself and my purchase. I mean I feel it on a conscious level. Then when you wear your clothes you wear it with a sense of pride. Like I've done something good

These two benefits are strongly related to two different product attributes: *availability* and *support the environment*.

Consumers have commented that sustainable fashion is not widely *available* and it has been difficult to find good brands with appealing designs. But the participants have revealed it is becoming easier to be a consumer with online retailing. However, they comment that they still put a lot of time into doing research, as they want a high level of transparency.

I spend a lot of time researching online for eco brands to find things that suit my own personal style. Nowadays the choice you have is slightly greater choice so it's become easier and there are really great things out there. But even now when I find a new brand I like I am so pleased and it's something I always share on my blog to let other people know as well

Similarly, *support the environment* (which was also outlined in pattern 4) infers consumers' benefit by searching out information on their purchases.

I always think if I'm missing out on fashion that my friends wear. But then I look back and think that I have made the right choice. It's kind of like if you've given some money to charity. I just support the environment.

These two attributes suggest some of our respondents are more willing to seek out information than is currently portrayed in the sustainable fashion literature. Indeed, our respondents may also reflect the pioneers highlighted in

Bly *et al.* (2015); in particular, four of our respondents also blogged about sustainability as shown in the aforementioned quote. Nevertheless, this search cost for product/brand information was linked directly and indirectly to *feeling good* and a *sense of accomplishment* for making the 'right' choice. Fundamentally, the effort put into researching the fabrics, brands, companies and life cycles of products becomes part of the value consumers imbue their purchases with. It provides an emotional attachment and psychological benefits to the purchase that would otherwise have been missing from a frivolous purchase.

Even though consumers show the importance of reaching a sense of accomplishment through buying sustainably, they also note that they do not have the need/want to push it onto others. While showing enthusiasm for sharing information, they comment that pushing feelings such as guilt onto non-sustainable clothing buyers is not in their life goals.

Of course I would bring the environment part in if someone asked me where something was from. [...] I would never shove it into someone's face though... make them feel guilty for not buying... It would just seem like I think I'm above someone for doing good, which I'm not. Yes I made that choice, but I'm not going to push someone to do it if they don't want to.

It is evident that our consumers are driven by egoistic needs such as *sense of accomplishment*. However, a sense of accomplishment comes from the effort input into the process, not simply buying great fashion. Consumers want to feel pleased with their purchases and with themselves, and this comes at the cost of becoming informed. They also want to share that knowledge with others. However, there is no strong consensus towards evangelizing in a broader sense. One part of Gabriel and Lang's (1995) politicized consumption is that it is people trying to change others. There is certainly no strong sense of that in this respondent group. They gain self-fulfilment through their sustainable fashion consumption and enjoy acting as a database for interested parties. But they are far from activists trying to dictate behaviour to others. It is a very quiet revolution!

Pattern 6: social justice

The final value that drives sustainable fashion consumption is found to be that of *social justice*. This refers to the importance of equality and human rights of the workers in the factories used by clothing companies. While the value has [7.18] relations to it, the elements building up to it are of great importance amongst consumers.

I am disgusted by some of the conditions that these people work in. You hear stories about them being chained to their sewing machines. You hear about children working like slaves. And you hear about people dying from handling all those dangerous chemicals all day. What happened to human rights?

Similar to extant research, the main product attribute consumers mentioned is the use of *no sweatshops* in sustainable fashion, with [17.26] relations leading from it. This attribute

combines aspects such as workers in factories gaining fair wages and working in fair conditions.

I don't like the idea wearing something knowing that some poor child, woman or man has worked so hard on a piece of item that ultimately doesn't mean anything and not gotten anything back from it.

A risk that consumers believe is avoided by purchasing sustainable fashion is that of *less exploitation*. The strength of this connection is high with [9.01] relations. This consequence also makes up for [21.12] total relations (Figure 2). This is related to the consumers' wish for workers and producers of the garments to be acquiring a fair amount of the profits and that they are not being taken advantage of.

I went to Hungary once and met a woman who worked at one of the Primark factories. You could see that she wasn't happy... You could tell that she hadn't been treated well and the effect that had on her life. It isn't right or fair and it shouldn't have to be this way.

In turn, the participants believe that by supporting workers, they are also able to *support their communities*. The individuals expressed this by emphasizing helping independent sellers and backing brands that work with women in communities around the world. The participants also uncover a feeling of being very connected to the world and the people in it.

I bought cushions that were actually just re-sewn cushions. They were made by a single mother, I don't remember exactly where. I actually got to speak with her... it's quite emotional. These cushions became priceless. It's like it's your grandmas... you'll never throw it away because you have valuable memories attached to it.

Therefore, in line with a considerable amount of literature, we find sweatshops to be particularly top of mind for sustainable fashion consumers. The environmental credentials of a product need to be backed up by a comparable concern for workers rights and welfare. This does support viewing sustainable fashion as sustainable (as opposed to green or eco-fashion), because a failure to maintain human rights would heavily disincentivise consumption by our core market for sustainable fashion.

DISCUSSION

The HVM (Figure 3) presents six motivational patterns identified from the interviews. The six higher-order values fall into categories defined by Stern *et al.* (1993) as altruistic values, biospheric values and egoistic values. Ethical values like altruistic (*social justice*) and biospheric (*protect planet and responsibility*) are shown to be important (Figure 2) for this group of consumers, however, as argued by Kim and Damhorst (1998), the egoistic values (*sense of accomplishment, self-expression and self-esteem*) should not be ignored when understanding sustainable fashion consumption. Benefits for the self in terms of *sense of accomplishment, better health, self-esteem and value for money* still add up to more ladders than *responsibility, protecting the planet and social justice* combined.

Counter too much of the extant literature on sustainable fashion where less frequent consumers or potential consumers of sustainable fashion found a trade-off or even dualism between sustainability and fashion (Joergens, 2006; Jägel *et al.*, 2012; Markkula and Moisander, 2012; Achabou and Dekhili, 2013), our regular consumers were able to find holism in sustainable consumption. The nature of the altruistic or biospheric fed into the egoistic, similar to Bly *et al.* (2015). This is supportive of Dickson and Littrell's (1996) finding that dual pathways often lead to purchases of sustainable goods.

Sustainable fashion consumers perceive value in non-economic terms. Costs such as a narrow choice of *natural materials*, *premium prices*, lack of *availability*, search time on *environmental* or *social justice* topics and limited product ranges become perceived product benefits of *healthier*, *longer-lasting*, *unique designs*, *timeless cuts* and *higher-quality* textiles and psychological benefits of *accomplishment*, *individuality*, *feeling good* and *improved self-esteem*. For instance, the *lack of availability*, *natural materials* and 'unfashionability' of the notion of sustainable fashion leads to *unique designs* and *individuality*. There is a clear matching of the associated costs of sustainable fashion with increased perceptions of value.

The HVM does reveal that consumers are driven partially by ethical obligations (Shaw *et al.*, 2006). For example, consumers want to *reduce waste* and *support the environment*. Similarly, they are motivated by the knowledge that they are reducing risks for other members in society through buying products that have not exploited workers and *supporting communities*. Yet, the consumers may simultaneously seek individual benefits such as *comfort*, *individuality*, *looking good* and various aspects of design in sustainable fashion, all of which are related to hedonic consumption (Hirschman and Holbrook, 1982). This is evident in pattern 5 (Figure 3) where consumers seek a *guilt-free conscience* and *good feelings*. Without sustainable fashion suppliers providing core product and meaningful psychological benefits, it is doubtful that many of the consumers would continue to consume for purely altruistic reasons. As such, the market for sustainable fashion will likely stick to the high quality and premium clothing end of the spectrum for some years to come. Entering the market with lower quality and cheaper clothing may have the impact of undermining the strong associations frequent consumers have with the use of high-quality, durable, natural materials. Ultimately, however, this does create a glass floor, below which sustainable suppliers may be unable to compete with altruistic or biospheric marketing communications. It could also undermine the use of non-natural materials – even if life cycle studies suggest these may have lower environmental footprints long term. We therefore find a matching between what consumers perceive to be sustainable and suppliers' development of more sustainable products. This does open up the potential for a market that can only ever satisfy and not optimize environmental benefits.

Production issues aside, we also contribute an alternative perspective in this paper to what sustainable fashion means to its consumers. The dominant paradigm in fashion consumption is that people consume fashion to fulfil their need

of belonging, self-esteem and gain acceptance from others (Belk, 1985; Richins, 1994; Gabriel and Lang, 1995; Easey, 2002). Our research suggests a considerably more nuanced interpretation of the role of *self-esteem*, *self-accomplishment* and *self-expression* in sustainable fashion consumption. Although in contrast to the findings of Jägel *et al.* (2012), we find these egotistic values more dominant than the biospheric and altruistic values; we similarly find the egotistic values to be in contrast to the dominant fashion consumption paradigm. Our consumers are mostly internally driven from an egotistical perspective – not externally driven. In this sense, we perhaps view 'sustainable fashion' more as 'sustainable style' as per Bly *et al.* (2015). Mikkonen *et al.* (2014) distinguish between 'style' and 'fashion', suggesting fashion is externally dictated and short-lived, whereas style is internally dictated and timeless. The desirable product attributes of *timeless cuts*, *unique style* and *long-lasting* garments talk to the timelessness aspect of style. Similarly, the nuanced interpretation of consumption for internal self-acceptance and rewards such as *accomplishment* and *individuality* similarly talks to an internally dictated perception of style. As such, perhaps, we should as Bly *et al.* (2015) suggest refer to sustainable fashion as sustainable style. This may also overcome much of the disjuncture between viewing sustainability from a production rather than life cycle perspective.

Beyond the semantics, however, there is a deep-seated difference in our sustainable fashion consumers to both existing portrayals of staunchly ethical consumers and regular fashion consumers. Although our consumers are egotistically motivated (which is often ignored in ethical consumption studies), the internalization of this was quite stark in interviews. Respondents reflected issues such as *looking good*, *self-expression* and *self-esteem* to an introspective reflection of self. Fashion and consumption literatures extol the social generation of self-identity through consumption (Belk, 1985; Arnould and Thompson, 2005), whereas we see more self-reflection being embodied in consumption. None of our respondents directed their sustainable consumption to peer pressure or sense of belonging. Indeed, the opposite was true. They wanted to stand out by not following the herd and being very individual in their choices. This does potentially raise the issue of what would happen should slow fashion become the industry norm. There is no huge appetite by these consumers to change the market. They are not really acting as activists and demonstrate reticence about the idea of changing others. They also see their consumption choice as keeping them out of the fashion social norms and like the individuality that creates. Our interpretation is that should their style become the new fashion, many of these consumers would actively resent the mainstream consumers that follow in their wake. This balance of intrinsic and extrinsic motivation has strong echoes of self-determination theory (Deci and Ryan, 2002), and this theory may prove a valuable one for future research into consumer motivation in relation to sustainability issues.

Managerial implications

The practical implications of this research for the future development of sustainable fashion revolve around how

sustainable fashion brands can engage and retain sustainable fashion consumers. Despite sustainable fashion products costing more, the quality, durability and wearability are perceived as better than for high street brands. Maintenance of these high-quality aspects of products is therefore vital to the success of the brands. This is however a double-edged sword. These frequent consumers do demonstrate a predisposition to reduce consumption. They actively want to buy less frequently. This does therefore mean that sustainable brands are unlikely to ever compete on high turnover of products. Alternative means of business growth may therefore be of potential interest: repair services, recycling garments and clothing with interchangeable accessories to elongate the usability and life cycle of products.

There is also an issue regarding how brands communicate sustainability. There has been a much larger rise in the use of terms such as eco-fashion or fair trade fashion in brand communication. However, our research strongly suggests that the core consumer market wants both, not either or. This would therefore dictate to the market a need for a movement to the term sustainable fashion (as a term that covers both areas) as necessary to coalesce the market and build a stronger united social revolution. The term slow fashion similarly does not really engage with this holistic view of sustainability as it stands as oppositional to the industry-led and marketing-led fast fashion, rather than as a consumer-producer co-dependent movement, even though it has aspirations of doing so.

In terms of attracting new customers, key selling features of sustainable fashion revolve around timeless cuts, unique cuts, durability, natural materials and perceived health benefits. These are all selling points that could entice less altruistic consumers to buy brands as well. They speak to egotistical needs and promote value to consumers that in turn would be reflected in the premium prices. By reducing the consumers need to source information or become educated about fashion through carefully selected public relations and marketing campaigns, sustainable fashion brands could focus on the egotistical benefits of their products to attract an increasing number of consumers.

Limitations

Although this research provides insight into a very under-researched space, it does so with many limitations. First and foremost is the reliance on means-end theory. Means-end theory is reviewed at an aggregated level (i.e. all consumers are treated collectively). It therefore means that no single consumer was motivated by all the aforementioned factors. Using this model to try to predict any specific action is therefore inappropriate. It does however broaden and expand the range of issues future researchers may choose to investigate in predictive modelling.

Means-end theory also assumes consumers can *post hoc* reflect on their consumption activity. This limitation is reflected in any interview-based method of data collection but, in means-end theory approaches, is particularly salient as we are trying to link cognitive ladders. It is obviously impossible to acquire someone to reflect on subconscious activity, but the method encourages respondents to create

cognitive structures that may not have been consciously explored during a decision process. Respondents are therefore likely to over-rationalize their purchase choices when subjected to this method.

The final major limitation is the choice of sampling technique. We wanted to ensure we could tie respondents to particular purchases to guarantee the behaviour we were wishing to explore. To do so, we chose to identify respondents through shopping observation. This does limit the research to consumers of two brands in this study. The brand identities and marketing of those companies may therefore be reflected in some of the statements made by consumers about their fashion choices. Unfortunately, we could think of no other means of guaranteeing that respondents were active consumers. Self-response in any ethics-related research is so heavily affected by social desirability bias, which must be treated with some scepticism (Auger and Devinney, 2007). However, it was gratifying that in our study, the respondents clearly expanded well beyond the ethics of their purchases, suggesting that taking an interpretivist approach to questioning did indeed reduce social desirability bias as suggested by Auger and Devinney (2007).

BIOGRAPHICAL NOTES

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Effects of different packages on food product contagion: The moderating roles of mood states and product-related information

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ABSTRACT

Across two experiments conducted for this research, it is evident that different moderators do play a role in the influence of food product contagion effects. This research focuses on how mood states or product-related information moderate contagion prime and package type. Existing studies indicate that unsealed packages can enhance the extent of the contagion effects more than sealed packages. Study 1 showed that happy people experienced stronger positive contagion effects than sad or neutral ones and that they also demonstrated stronger effects on unsealed packages compared with sealed packages. Conversely, sad people significantly enhanced the extent of negative contagion effects and experienced stronger effects on unsealed packages. Study 2, however, revealed that people receiving positive product-related information experienced stronger positive contagion effects on unsealed packages, whereas people receiving negative product-related information showed stronger negative contagion effects on unsealed packages. This is the first study to discuss the chosen moderators on the contagion effect. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

When people need to buy products in a store, we need to determine whether they are influenced by external sources. Recent research discusses contagion effects on consumer behavior (Morales and Fitzsimons, 2007; Argo *et al.*, 2008; Mishra, 2009; Newman *et al.*, 2011). Contagion theory states that the quality of the source can be transferred to the target (Rozin *et al.*, 1986; Rozin and Nemeroff, 2002; Argo *et al.*, 2008; Mishra, 2009). Research on this theory has determined that exchanged essence can be mental or physical and can be positive or negative.

Specifically, Morales and Fitzsimons (2007) show that people have less desire to try target products placed with other disgusting products in the same shopping cart, and that clear packages induce stronger contagion effects than opaque packages. Moreover, Mishra (2009) demonstrates that people prefer to choose from contagious groups (e.g. product packages of the same color) in a gain domain but choose from non-contagious groups (e.g. product packages of the different colors) in a loss domain. These studies indicate that contagion effects occur when the target products are displayed in different packages. We therefore consider that product packages and different sources around the target product are important contexts for people. As some items are priced by weight, such as cookies, candy, or fruit, consumers pay for the quantity of food as they wish. In general, package types of these products are unsealed and people commonly like to try a sample and choose how much they need to buy from the different food products on offer. However these sources in the market easily transferred their essences to the unsealed products. This study proposes that the extent of the contagion effect could be induced when the target object is displayed

using different methods, such as in sealed or unsealed packages, in the retail context.

In addition, previous research has rarely discussed the moderating roles on contagion effects. When consumers buy products in the marketplace, they may be influenced by both internal and external factors. Because of the well-developed media and the Internet of today, people can easily obtain the information about products through variety of media, including newspaper, the Internet, television, and magazine. Such information may also influence consumers' mood states at anytime (Gardner, 1985; Braun-LaTour *et al.*, 2007). Hence, people may recognize their feelings or gather and analyze any relevant information when they purchase products (Hill and Gardner, 1987; Park *et al.*, 2008). In this article, we will explore how internal mood states and external product-related information moderate the contagion effect, thus expanding the research scope of contagion effects. Notably, recent research has examined the influence of emotional contagion on consumer behavior (Howard and Gengler, 2001; Kima and Guptab, 2012). However, most studies focus on the relationship between employees and consumers, and little attention has been given to how consumers in different mood states moderate the contagion effect between products. Other recent research demonstrates the importance of specific emotions (DeSteno *et al.*, 2000; Garg *et al.*, 2005; Sinclair *et al.*, 2007). Prior studies indicate that people in sad moods commonly overestimate the likelihood of negative sources, and underestimate the likelihood of positive outcomes and events, whereas the reverse holds true for people in happy moods (Nygren *et al.*, 1996; Schwarz, 2000). Because there is minimal empirical evidence documenting the effects of mood states on the relationship between contagion effects and package types, this research explores how mood states affect the results.

Furthermore, previous studies have also suggested that people search for relevant information when they want to purchase certain products (Seock and Bailey, 2008; Park

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and Lee, 2009). In addition, positive or negative information relating to products will have an influence on people making purchasing decisions (Maheswaran and Meyers-Levy, 1990; Herr *et al.*, 1991). However, receiving alternative product-related information may affect how people elicit the essence of a source and how they will then transfer this to the target product. For example, Herr *et al.* (1991) show that people may lower their quality perceptions when they are exposed to negative information relating to such products. Conversely, we consider that positive information relating to products may influence people's likelihood to enhance the quality of such products. To our knowledge, there is little research on the effects of product-related information on the relationship between contagion effects and package types, and we aim to fill this gap in the current study.

CONCEPTUAL BACKGROUND

Contagion theory

Research into contagion theory has determined that any exchanged contagious essence stays with the target objects which may possess similar characteristics or properties to the sources even after such sources are no longer in contact with the target. Some research has showed that stimulus characteristics affect how people evaluate target products when stimuli are placed next to them (Rozin *et al.*, 1992; Morales and Fitzsimons, 2007). According to this law, a source can influence a recipient simply by touching it either directly or indirectly. For example, Rozin *et al.* (1986) first explore the law of contagion. They find that people believe a fresh glass of drink to be contaminated after it is touched by a cockroach. Moreover, Morales and Fitzsimons (2007) show that a packet of cookies touched by unappealing products, such as feminine napkins, is believed to possess their offensive properties. These studies demonstrate that the specific properties of negative sources may contaminate target items and thereby lower subsequent consumer responses and evaluations.

Previous research has indicated several characteristics of contagion (Rozin *et al.*, 1986, 1992; Rozin and Nemeroff, 2002). Specifically, consumers sense that the target product is contaminated because of its physical proximity to the negative source and so they imagine the contaminated product's look and taste on the basis of the product spreading the negative contagion (Morales and Fitzsimons, 2007). In addition, contagion is considered holographic, and the properties of sources will pervade throughout whole target item (Mishra, 2009). The spread of the good or bad qualities of sources in a group of products will influence people's judgments and evaluations of target products. In summary, the contagion theory presented in this study is defined as people believing that the good or bad qualities of a source product are transferable and that they will affect people's evaluations of target products.

Positive and negative contagion

The contagion effect between products and consumers (Argo *et al.*, 2008; Newman *et al.*, 2011), and between products

(Morales and Fitzsimons, 2007; Mishra, 2009), may influence consumer evaluations of target objects. Specifically, some researchers indicate that positive contagion could induce stronger effects for people on target products. For example, positive celebrity (Newman *et al.*, 2011) or high attractiveness (Argo *et al.*, 2008) could elicit positive evaluations. In addition, most studies only focus on negative contagion and show that disgusting/unpopular objects transfer stronger effects to targets (Rozin *et al.*, 1994; Morales and Fitzsimons, 2007). According to these earlier studies, positive sources elicit higher evaluations, such as quality, taste, and willingness to try the targets, and otherwise negative sources cause people to make lower product evaluations. Previous research only focuses on consumer evaluations, but not on the extent of the contagion effects between positive contagion and negative contagion simultaneously. However, Weinberger *et al.* (1981) explain how negative information has a stronger impact because it stands out more than positive information. When the decision-making process focuses on the content of the information, negative framing is more effective than positive framing. In addition, positive cues relating to products are less useful for categorizing products because such information is commonly provided for various products. Therefore, we suggest that negative sources are given greater weight than positive sources.

H₁: Negative contagion produces a stronger contagion effect than positive contagion.

Influence of package types on product contagion

Previous studies demonstrate that people are influenced by stimulus characteristics when sources are placed next to the target products (Rozin *et al.*, 1986; Morales and Fitzsimons, 2007). Indeed, diverse sources may induce different intensities of the contagion effect. In particular, many studies have investigated how people use visual cues about the packaging features, such as color (Jacobs *et al.*, 1991), shape (Folkes and Matta, 2004), size (Wansink, 1996), or type (Venter *et al.*, 2011), could influence people's evaluations.

However, prior studies show how people think that target products in sealed packages would be affected by other sources in a retail context (Morales and Fitzsimons, 2007), but no studies have considered whether there is a difference when products are displayed in unsealed packages. Previous studies indicate that the sale of unpackaged foods is common in supermarkets, while consumer characteristics influence their behavior in bulk food sections (Johnson *et al.*, 1985). Bulk foods are defined as those food products which are sold unpackaged from some form of self-service container (Johnson, 1984). Furthermore, Johnson's research shows that younger and more affluent people are willing to purchase bulk food. In addition, because of human satisfaction from consuming food, most consumers, especially in Chinese samples, like to smell products; therefore, they are more likely to select unpackaged edible goods (Ackerman and Tellis, 2001). When people buy food, they not only want to see the appearance of the products but they also want to smell certain items. The visual properties of food influence expectations about its chemosensory qualities (Zellner *et al.*, 2010).

People readily feel greater negative contagion effects when products are displayed in clear packages (Morales and Fitzsimons, 2007). Specifically, some items (e.g. beverages, cookies, candy, bread, or fruit) are priced by weight, and people may choose how much food they want, and even try some free samples. Hence, most of these products are displayed in unsealed packages. People may perceive stimuli by visual cues or by their sense of smell. Generally, sources will more easily transfer their contagious entities or essences through the air to these unsealed products when compared with sealed products. For instance, fresh food placed next to a target product could make people consider its freshness or the fresh aroma being transferred to the target. Therefore, people consider that scent of freshness is in the air and that it can be directly passed to any adjacent unsealed products. Conversely, negative items may elicit offensive or disgusting feelings in people. As noted above, we expect that people experience greater contagion effects when products are displayed in unsealed packages compared with sealed products.

H₂: For both positive and negative contagion, unsealed packages produce stronger contagion effects than sealed packages.

Influence of mood states on product contagion

Previous research indicates that most people have the same feelings and beliefs about target products. When people evaluate information, mood states influence their processing methods and allow them to make different decisions (Kuykendall and Keating, 1990; Bless *et al.*, 1992; Luomala and Laaksonen, 2000). No studies to date describe how people in different mood states might place importance on product contagion. Specifically, mood consistence refers to the idea that people are easily persuaded by information which is consistent with their own mood states when they are in a happy or unhappy mood (Johnson and Tversky, 1983; Wright and Bower, 1992). This has been generally explored in marketing (Adaval, 2001; Puccinelli, 2006). People in positive moods spend more energy on good things, thereby maintaining their state of happiness (Sinclair and Mark, 1995; Isen, 2001). However, people in positive moods tend to generate more positive evaluations than people in neutral moods (Cox *et al.*, 2010). Hence, people in happy moods pay more attention to positive stimuli, and this will enhance the contagion effects between sources and products, whereas they automatically reduce the effects of negative stimuli.

In addition, people in happy moods depend on peripheral cues and global evaluations in order to process the given information (Mackie and Worth, 1991; Bless *et al.*, 1992). They are always open-minded and will easily accept everything. In particular, unsealed packages are open, and this package type may elicit higher contagion effects for happy people. According to the inferences made above, we think that people in happy moods could easily feel the transference of qualities from positive sources to unsealed packages more than they could from sealed packages. Conversely, people in happy moods may not focus on any negative stimuli, so

different product packages may not significantly affect their evaluations.

Conversely, people in sad moods always have negativity in their minds and will readily focus on any negative cues in their environment. Likewise, sad people reduce the transference of the essence of positive sources and will enhance the extent of any negative contagion effects. Specifically, people in sad moods have only a narrow view of positive things, so they might not perceive the differences between two package types. Conversely, sad people could magnify the transference of the essence of negative sources because they concentrate on such stimuli. Therefore, we propose that mood states moderate contagion prime and package type.

H₃: For positive contagion, people in happy moods experience stronger contagion effects than people in neutral or sad moods. For negative contagion, people in sad moods experience stronger contagion effects than people in neutral or happy moods.

H₄: For positive contagion, people in happy moods experience stronger contagion effects for unsealed packages when compared with those for sealed packages, but people in other moods identify no differences between the two package types. Conversely, for negative contagion, people in sad moods experience stronger contagion effects for unsealed packages when compared with those for sealed packages, but people in other moods indicate no differences between the two package types.

Influence of product-related information on product contagion

Typically, people evaluate product information to help them fulfill their consumption goals. In other words, people need product-related information to help them to make their decisions (Park and Lee, 2009). If people receive information relating to target products before shopping, this may influence their subsequent decision-making processes. Moreover, individuals have different mechanisms for processing information and making judgments (Hamilton and Sherman, 1996). Previous research shows that negative extended information forces people to lower their brand evaluation, while positive extended information enhances brand evaluation (Ahluwalia and Gürhan-Canli, 2000; Gierl and Huettl, 2011). In general, positive information could elicit good “essence” and may raise people’s evaluations, whereas negative information could induce bad “essence” and lower people’s evaluations. In addition, people commonly ignore any information which is irrelevant to target products.

In particular, positive related-product information forces people to focus on positive stimuli and to enhance the transference of the quality of sources. These positive cues also readily pass positive entities to unsealed products when compared with sealed ones. Conversely, prior studies indicate that people elicit relatively higher risks from negative events before buying the target products (Argo *et al.*, 2006). This makes people pay more attention to these items, after which they would make decisions more carefully. Specifically, products displayed in unsealed packages could be easily

affected by any surrounding negative sources and this could elicit a greater magnitude of risks. Therefore, people receiving negative related-product information experience stronger negative contagion effects and there will be a reduction in the contagion effects of positive stimuli. We infer that people experience stronger positive contagion effects when they receive positive product-related information. In contrast, negative information may increase the extent of negative contagion effects for people.

H₅: For positive contagion, people receiving positive product-related information experience stronger contagion effects than those receiving unmeaning or negative product-related information. For negative contagion, people receiving negative product-related information experience stronger contagion effects than others.

H₆: For positive contagion, people receiving positive product-related information experience stronger contagion effects for unsealed packages when compared with those for sealed packages, but people receiving other information indicate no differences between the two package types. Conversely, for negative contagion, people receiving negative product-related information experience stronger contagion effects for unsealed packages when compared with those for sealed packages, but people receiving other information identify no differences between the two package types.

STUDY 1

This study was designed to examine how mood states moderate people's evaluations of different product packages for positive versus negative contagion effects. In Study 1 we tested H₁₋₄ by asking participants to read an article prior to answering a series of questions.

Pilot study

The pilot study was designed to induce various moods via three articles. We used the three articles as primary mood manipulators, a method that has been used successfully in previous research (Kuykendall and Keating, 1990). For the happy mood condition, 30 subjects were asked to read a joke, while for the sad mood condition, 30 subjects were asked to read a sad piece of news describing how someone had died in a car accident. For the neutral mood condition, 30 subjects were asked to read an ordinary piece of news about the next generation of passenger aeroplane. We used four items on seven-point scales: "sad/happy," "bad-mood/good-mood," "irritable/pleased," and "depressed/uplifted" to measure the specific moods (Lee and Sternthal, 1999). Cronbach's alpha for the happy mood was 0.94, the neutral mood was 0.75, and the figure for the sad mood was 0.85. The three articles reliably induced happy ($M=5.11$; $t_{29}=6.51$, $p<0.0001$), neutral ($M=4.08$; $t_{29}=0.86$, $p=0.39$), and sad feelings ($M=2.19$; $t_{29}=-12.05$, $p<0.0001$).

Participants and procedure

Three hundred and ten university students (166 female and 144 male, age from 18–25) in Taiwan were randomly assigned to the various conditions. This study adopted a 2 (contagion prime: positive vs. negative) × 2 (package type: unsealed vs. sealed) × 3 (mood state: happy vs. neutral vs. sad) between-subjects design.

On the first page of the questionnaire, we used the three articles described above to manipulate participants' moods, and they were asked to complete four questions. On page two, participants were told to look at two items in a picture and they then had to answer five questions. This study contained two contagion conditions, one for positive contagion and the other for negative contagion, using a fresh banana and a stale banana as the positive contagion source and the negative contagion source respectively. The target product in this study was a bag of cookies with no brand name in a transparent package (Morales and Fitzsimons, 2007). For half of the participants, the target product was packaged in an unsealed plastic bag, while for the other half, the target product was packaged in a sealed plastic bag. In addition, we took a photograph of these items in the supermarket in order to increase the sense of realism for participants (see Figure 1).

Measures and manipulation

The law of contagion effect mainly shows that the quality of the source can be transferred to the target (Rozin *et al.*, 1986; Rozin and Nemeroff, 2002; Morales and Fitzsimons, 2007; Argo *et al.*, 2008; Mishra, 2009). In general, the quality of a food product influences the taste of a target food and increases people's willingness to try the target food when people are purchasing such products. Previous studies used three variables (quality, taste, and willingness to try) to calculate the contagion effect, using measures such as "how much participants would like to try/use the target product", how "participants rate the quality of the target product" (Morales and Fitzsimons, 2007), how "participants rate their willingness to try the product", and how "participants rate how much they like the taste of the target food" (Zellner *et al.*, 2011). Consequently, we measured the contagion effect using three variables in this study, and participants responded to the following three items: "I think that the quality of the cookies is good", "I think that the taste of the cookies is good", and "I would like to try these cookies" on a 7-point scale ranging from 1 ("disagree") to 7 ("agree"). We examined the extent of the contagion effect as our dependent measure. Specifically, we directly regarded participants' evaluations as the extent of any positive contagion effects, whereas the extent of any negative contagion effects was calculated by subtracting their evaluations (e.g. quality, taste, and willingness to try) from eight. It meant that lower evaluations were equal to stronger contagion effects in the negative contagion condition.

According to the results of our pilot study, we used three articles as the primary mood manipulator (Kuykendall and Keating, 1990) and four items to measure mood states (Lee and Sternthal, 1999). In addition, participants also responded to one further item: "I think that the banana in the picture is

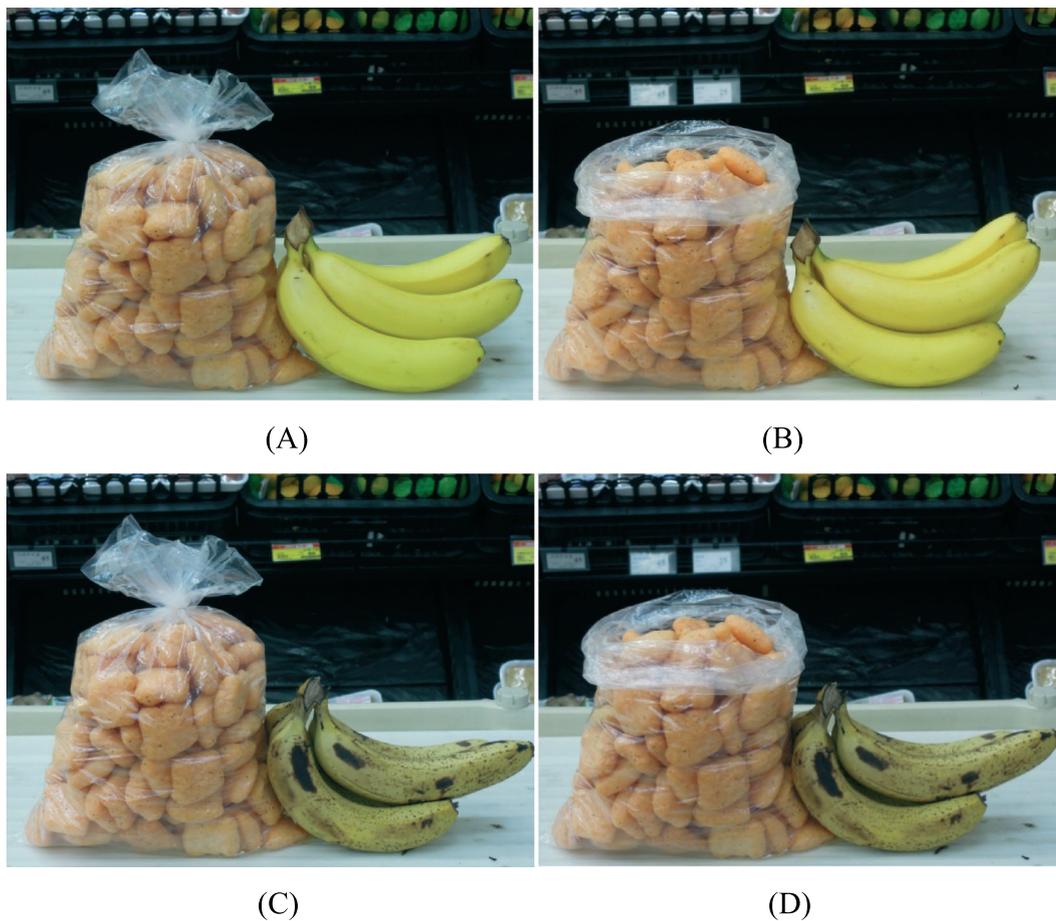


Figure 1. (A) The target product in sealed packages in the positive condition. (B) The target product in unsealed packages in the positive condition. (C) The target product in sealed packages in the negative condition. (D) The target product in unsealed packages in the negative condition. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

fresh” on a 7-point scale ranging from 1 (“disagree”) to 7 (“agree”). We confirmed whether fresh bananas and stale bananas elicited positive and negative feelings respectively.

Results

Manipulation checks

Participants’ ratings on the four mood items were averaged to provide a single reliability index ($\alpha=0.96$). Participants in the happy mood condition ($M=4.94$) indicated that they were happier than those in the neutral mood condition ($M=4.52$) and those in the sad mood condition ($M=2.37$; $F_{1,307}=226.52$, $p<0.0001$). These findings confirmed the effectiveness of the mood manipulation. However, to determine whether participants had viewed the fresh banana as a positive source and the stale banana as a negative source, we asked them to describe the freshness of the banana, in the picture, on a 7-point scale. Participants in the positive contagion condition thought that the banana was fresher ($M=5.92$) than those in the negative contagion condition ($M=3.27$; $t_{308}=20.16$, $p<0.0001$).

Hypotheses testing

A $2 \times 2 \times 3$ ANOVA revealed the main effects of contagion prime on the extent of the contagion effect. First, the results indicated that the negative contagion effect induced greater intensity on quality ($F_{2,298}=69.80$, $p<0.0001$; $M=4.97$,

$M=4.08$) and taste ($F_{2,298}=15.49$, $p<0.0001$; $M=4.76$, $M=4.37$) than the positive contagion effect; however, data analysis showed that the positive contagion effect induced greater intensity than negative effect on willingness to try the target ($F_{2,298}=13.08$, $p<0.0001$; $M=4.76$, $M=4.37$). According to these results, H_1 was partially supported. However, as predicted in H_2 , there was also a main effect of package type on the extent of the contagion effect. The target products in unsealed packages produced stronger contagion effects on quality ($F_{2,298}=15.35$, $p<0.0001$; $M=4.73$, $M=4.32$), taste ($F_{2,298}=15.21$, $p<0.0001$; $M=4.76$, $M=4.37$), and willingness to try the target ($F_{2,298}=15.00$, $p<0.0001$; $M=4.92$, $M=4.47$) than those in sealed packages.

Furthermore, in support of H_3 , we obtained two-way interactions between contagion prime and mood state on quality ($F_{2,298}=61.92$, $p<0.0001$), taste ($F_{2,298}=88.44$, $p<0.0001$), and willingness to try the target ($F_{2,298}=71.94$, $p<0.0001$). In the positive condition, happy participants experienced stronger contagion effects on quality ($M=5.22$), taste ($M=5.39$), and willingness to try the target ($M=6.00$) than was the case for neutral participants (quality: $M=3.79$; taste: $M=4.15$; willingness to try: $M=4.56$) and sad participants (quality: $M=3.22$; taste: $M=3.57$; willingness to try: $M=4.16$). Furthermore the Tukey *post hoc* test showed that happy participants experienced stronger contagion effects

(all $p < 0.0001$) than neutral participants, who in turn showed stronger contagion effects than sad participants (all $p < 0.05$). In the negative condition, sad participants experienced stronger contagion effects on quality ($M = 5.42$), taste ($M = 5.64$), and willingness to try the target ($M = 5.40$) than was the case for neutral participants (quality: $M = 4.94$; taste: $M = 4.41$; willingness to try: $M = 4.22$) and happy participants (quality: $M = 4.55$; taste: $M = 4.23$; willingness to try: $M = 3.84$). Post hoc analysis revealed that sad participants showed stronger contagion effects (all $p < 0.05$) than neutral participants, who in turn had stronger contagion effects than happy participants (quality: $p < 0.05$; willingness to try: $p < 0.08$). These findings show that participants in a neutral mood did not experience a stronger negative contagion effect for the taste than participants in a happy mood, but there existed a significant difference between the happy and sad groups, and between the neutral and sad groups. In particular, people are more likely to imagine the look and the taste of food products in clear packages (Morales and Fitzsimons, 2007). Moreover, they were likely to have expectations of the taste of the cookies. It caused no significant difference on the taste between neutral and happy participants. The results of this analysis are reported in Table 1.

However, there was a significant three-way interaction on quality ($F_{2,298} = 3.07$, $p < 0.05$; see Figure 2), taste ($F_{2,298} = 3.38$, $p < 0.05$; see Figure 3), and willingness to try the target ($F_{2,298} = 3.39$, $p < 0.05$; see Figure 4). These results were consistent with H₄. First, we conducted a 2 (contagion prime) \times 2 (package type) ANOVA for happy participants. The results

Table 1. ANOVA results for two-way interactions between contagion prime and mood state from Study 1

	Positive contagion			Negative contagion		
	Happy	Neutral	Sad	Happy	Neutral	Sad
Quality	5.22*	3.79*	3.22	4.55	4.94*	5.42*
Taste	5.39*	4.15*	3.57	4.23	4.41	5.64*
WTT	6.00*	4.56*	4.16	3.84	4.22*	5.40*

Notes: WTT means willingness to try.

*Means that there is a significant difference between the happy condition and the neutral condition or between the neutral condition and the sad condition.

revealed that the main effects of contagion prime (quality: $F_{1,102} = 13.08$, $p < 0.0001$; taste: $F_{1,102} = 54.06$, $p < 0.0001$; willingness to try: $F_{1,102} = 114.73$, $p < 0.0001$) and package type (quality: $F_{1,102} = 8.08$, $p < 0.005$; taste: $F_{1,102} = 7.25$, $p < 0.01$; willingness to try: $F_{1,102} = 4.13$, $p < 0.05$) were significant. In addition, there was a significant interaction between two factors (quality: $F_{1,102} = 5.12$, $p < 0.05$; taste: $F_{1,102} = 4.13$, $p < 0.05$; willingness to try: $F_{1,102} = 4.34$, $p < 0.05$). We found that happy participants experienced stronger positive contagion effects for target products in unsealed packages (quality: $M = 5.69$; taste: $M = 5.73$; willingness to try: $M = 6.46$) compared with those in sealed packages (quality: $M = 4.75$, $t_{48} = 3.95$, $p < 0.0001$; taste: $M = 5.04$, $t_{48} = 3.59$, $p < 0.002$; willingness to try: $M = 5.54$, $t_{48} = 4.76$, $p < 0.0001$), but there was no significant difference between unsealed packages (quality: $M = 4.07$; taste: $M = 4.29$; willingness to try: $M = 3.93$) and sealed packages (quality: $M = 4.50$; taste: $M = 4.18$; willingness to try: $M = 3.75$) for the negative contagion (all $t_s < 1$, $p > 0.1$). Second, the results showed no significant interaction in the neutral mood condition ($F_s < 1$).

Moreover, the results were the opposite in the sad mood condition. It revealed that the main effects of contagion prime (quality: $F_{1,98} = 186.10$, $p < 0.0001$; taste: $F_{1,98} = 157.61$, $p < 0.0001$; willingness to try: $F_{1,98} = 43.76$, $p < 0.0001$) and package type (quality: $F_{1,98} = 16.90$, $p < 0.0001$; taste: $F_{1,98} = 14.11$, $p < 0.01$; willingness to try: $F_{1,98} = 8.67$, $p < 0.005$) were significant. In addition, there were significant interactions between two factors (quality: $F_{1,98} = 4.56$, $p < 0.05$; taste: $F_{1,98} = 4.13$, $p < 0.05$; willingness to try: $F_{1,98} = 4.34$, $p < 0.05$). We found that sad participants showed stronger negative contagion effects for target products in unsealed packages (quality: $M = 5.80$; taste: $M = 6.12$; willingness to try: $M = 5.84$) compared with those in sealed packages (quality: $M = 5.04$, $t_{48} = 3.35$, $p < 0.005$; taste: $M = 5.16$, $t_{48} = 5.01$, $p < 0.0001$; willingness to try: $M = 4.96$, $t_{48} = 3.79$, $p < 0.0001$), but there was no significant difference between unsealed packages (quality: $M = 3.38$; taste: $M = 3.71$; willingness to try: $M = 4.25$) and sealed packages (quality: $M = 3.07$; taste: $M = 3.43$; willingness to try: $M = 4.07$) for the positive contagion (all $t_s < 1$, $p > 0.1$). The results of this analysis are reported in Table 2.

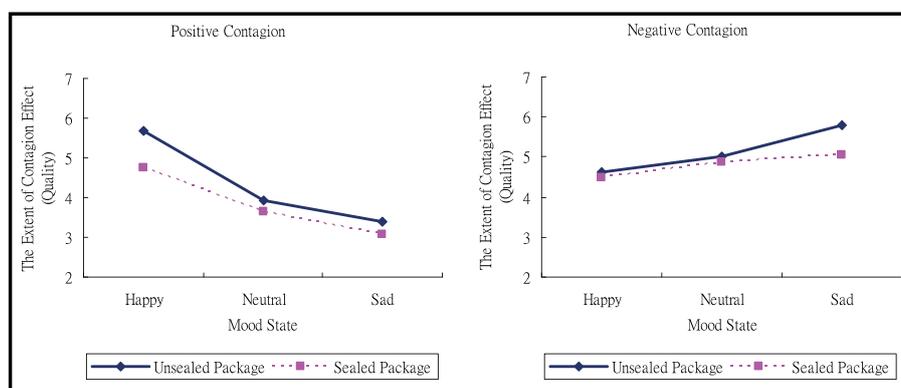


Figure 2. Results on quality from Study 1. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

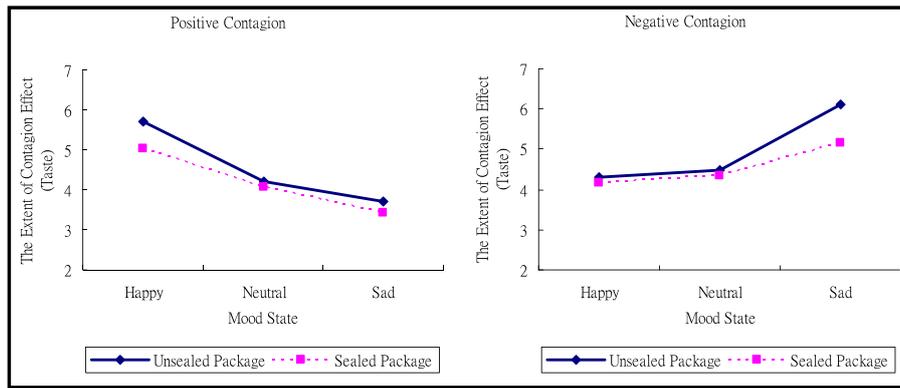


Figure 3. Results on taste from Study 1. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

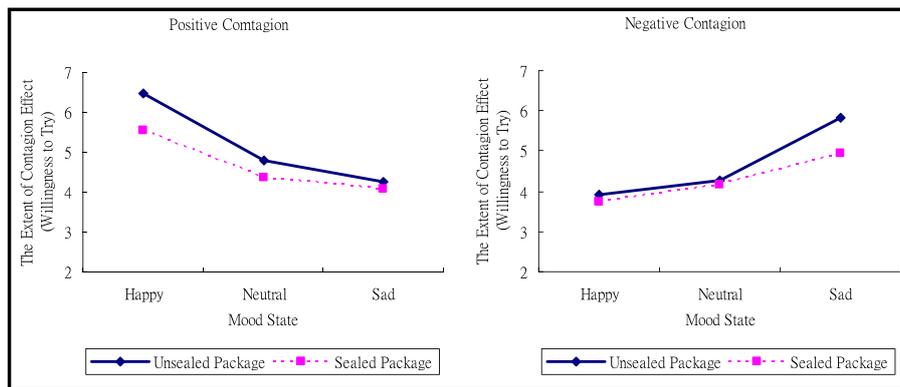


Figure 4. Results on willingness to try from Study 1. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

Table 2. ANOVA results for three-way interactions from Study 1

	<i>Positive contagion</i>						<i>Negative contagion</i>					
	<i>Happy</i>		<i>Neutral</i>		<i>Sad</i>		<i>Happy</i>		<i>Neutral</i>		<i>Sad</i>	
	<i>Unsealed</i>	<i>Sealed</i>	<i>Unsealed</i>	<i>Sealed</i>	<i>Unsealed</i>	<i>Sealed</i>	<i>Unsealed</i>	<i>Sealed</i>	<i>Unsealed</i>	<i>Sealed</i>	<i>Unsealed</i>	<i>Sealed</i>
Quality	5.69*	4.75*	3.93	3.65	3.38	3.07	4.07	4.50	5.00	4.88	5.80*	5.04*
Taste	5.73*	5.04*	4.22	4.08	3.71	3.43	4.29	4.18	4.48	4.33	6.12*	5.16*
WTT	6.46*	5.54*	4.78	4.35	4.25	4.07	3.93	3.75	4.28	4.17	5.84*	4.96*

Notes: WTT means willingness to try.

*Means that there is a significant difference between the two conditions.

STUDY 2

This study was designed to examine how product-related information moderated people’s evaluations of different product packages for positive versus negative contagion effects. In Study 2 we tested H_1 , H_2 , H_5 , and H_6 by asking participants to read an article prior to answering the given questions.

Pilot study

The pilot study was to ensure the validity of different product-related information via three news stories. We used the news as the primary information manipulator. We had 30 subjects read the positive product-related news in the

positive information condition. In the negative information condition, 30 subjects read the negative product-related news describing someone buying a packet of cookies in which there was something bad. In the unmeaning information condition, 30 subjects read an ordinary piece of news about the next generation of a passenger aeroplane. Participants responded to two items: “I think that the news is related to the cookies” and “I think that this news is positive” on a 7-point scale ranging from 1 (“disagree”) to 7 (“agree”). Participants considered that the positive product-related news was related to the cookies ($M=5.93$; $t_{29}=11.67$, $p < 0.0001$) and was positive ($M=5.73$; $t_{29}=9.69$, $p < 0.0001$). In addition, participants considered that the unmeaning news was not related to the cookies ($M=1.50$; $t_{29}=-20.07$, $p < 0.0001$) and

was neutral ($M=4.40$; $t_{29}=1.53$, $p>0.1$). Participants considered that the negative product-related news was related to the cookies ($M=5.77$; $t_{29}=10.35$, $p<0.0001$) and was negative ($M=2.80$; $t_{29}=-5.68$, $p<0.0001$).

Participants, procedure, and measures

Three hundred and five university students (149 female and 156 male, aged from 18–25) in Taiwan were randomly assigned to the various conditions. This study adopted a 2 (contagion prime: positive vs. negative) \times 2 (package type: unsealed vs. sealed) \times 3 (product-related information: positive vs. unmeaning vs. negative) between-subjects factorial design. The procedure was identical to that of Study 1 with one notable difference. In Study 2, we used three news stories to manipulate participants, and they were required to complete two questions. Moreover, participants followed the same procedure outlined in Study 1. Key dependent variables included product evaluations (e.g. quality, taste, and willingness to try).

Results

Manipulation checks

Participants in the positive information condition ($M=5.68$) and in the negative information condition ($M=5.64$) indicated that the news was more related to the cookies when compared to those in the unmeaning information condition ($M=1.88$; $F_{2,302}=434.40$, $p<0.0001$). In addition, participants in the positive information condition ($M=5.80$) indicated that the news was more positive than those in the unmeaning information condition ($M=4.43$) and those in the negative information condition ($M=2.80$; $F_{2,302}=195.01$, $p<0.0001$). The findings confirmed the effectiveness of the information manipulation. With regard to whether participants viewed the fresh banana as a positive source and the stale banana as a negative source, the evidence indicated that they thought that the banana was fresher in the positive contagion condition ($M=5.81$) than it was in the negative contagion condition ($M=3.25$; $t_{303}=18.64$, $p<0.0001$).

Hypotheses testing

We found the similar results consistent with Study 1. As expected, a 2 \times 2 \times 3 ANOVA revealed a main effect of the contagion prime on the extent of the contagion effect, and H₁ was partially supported. The results indicated that the negative contagion effect induced greater intensity than positive contagion effect on quality ($F_{2,293}=28.96$, $p<0.0001$; $M=4.93$, $M=4.36$) and taste ($F_{2,293}=3.90$, $p<0.05$; $M=4.74$, $M=4.53$). However, data analysis showed that the positive contagion effect induced greater intensity than the negative effect on willingness to try the target ($F_{2,293}=44.97$, $p<0.0001$; $M=5.02$, $M=4.62$).

There was also a main effect of package type on the extent of the contagion effect, supporting H₂. The target products in unsealed packages produced stronger contagion effects than those in sealed packages on quality ($F_{2,293}=11.31$, $p<0.002$; $M=4.83$, $M=4.46$), taste ($F_{2,293}=20.19$, $p<0.0001$; $M=4.88$, $M=4.39$), and willingness to try the target ($F_{2,293}=44.97$, $p<0.0001$; $M=4.85$, $M=4.47$).

Furthermore, in support of H₅, we obtained a two-way interactions between contagion prime and product-related information on quality ($F_{2,293}=63.56$, $p<0.0001$), taste ($F_{2,293}=74.92$, $p<0.0001$), and willingness to try the target ($F_{2,293}=70.15$, $p<0.0001$). In the positive condition, participants receiving positive product-related information experienced stronger contagion effects on quality ($M=5.52$), taste ($M=5.66$), and willingness to try the target ($M=5.89$) than those receiving unmeaning information (quality: $M=3.92$; taste: $M=4.48$; willingness to try: $M=4.79$) or negative product-related information (quality: $M=3.63$; taste: $M=4.08$; willingness to try: $M=4.40$). In addition, the Tukey *post hoc* showed that participants receiving positive product-related information showed stronger contagion effects (all $p<0.05$) than those receiving unmeaning information, who in turn experienced stronger contagion effects than those receiving negative product-related information (taste: $p<0.05$; willingness to try: $p<0.05$). In the negative condition, participants receiving negative product-related information showed stronger contagion effects on quality ($M=5.62$), taste ($M=5.52$), and willingness to try the target ($M=5.36$) than those receiving unmeaning information (quality: $M=4.65$; taste: $M=4.21$; willingness to try: $M=3.87$) or positive product-related information (quality: $M=4.54$; taste: $M=3.86$; willingness to try: $M=3.55$). The Tukey *post hoc* revealed that participants receiving negative product-related information experienced stronger contagion effects (all $p<0.05$) than those receiving unmeaning information, who in turn did not show significantly stronger contagion effects than those receiving positive product-related information (all $p>0.1$). The results of this analysis are reported in Table 3.

However, there was a significant three-way interaction on quality ($F_{2,293}=3.93$, $p<0.05$; see Figure 5), taste ($F_{2,293}=3.14$, $p<0.05$; see Figure 6), and willingness to try the target ($F_{2,293}=3.07$, $p<0.05$; see Figure 7). These results were consistent with H₆. First, we conducted a 2 (contagion prime) \times 2 (package type) ANOVA for participants receiving positive information. The results revealed that the main effects of contagion prime (quality: $F_{1,99}=29.04$, $p<0.0001$; taste: $F_{1,99}=92.54$, $p<0.0001$; willingness to try: $F_{1,99}=115.76$, $p<0.0001$) and package type (quality: $F_{1,99}=10.91$, $p<0.005$; taste: $F_{1,99}=12.99$, $p<0.01$; willingness to try: $F_{1,99}=4.02$, $p<0.05$) were significant. In addition, there was a significant interaction between two factors (quality: $F_{1,99}=5.81$, $p<0.02$; taste: $F_{1,99}=5.76$, $p<0.05$;

Table 3. ANOVA results for two-way interactions between contagion prime and product-related information from Study 2

	Positive contagion		Negative contagion			
	Positive	Unmeaning	Negative	Positive	Unmeaning	Negative
Quality	5.52*	3.92	3.63	4.54	4.65	5.62*
Taste	5.66*	4.48*	4.08	3.86	4.21	5.52*
WTT	5.89*	4.79*	4.40	3.55	3.87	5.36*

Notes: WTT means willingness to try.

*Means that there was a significant difference between the positive condition and the unmeaning condition or between the unmeaning condition and the negative condition.

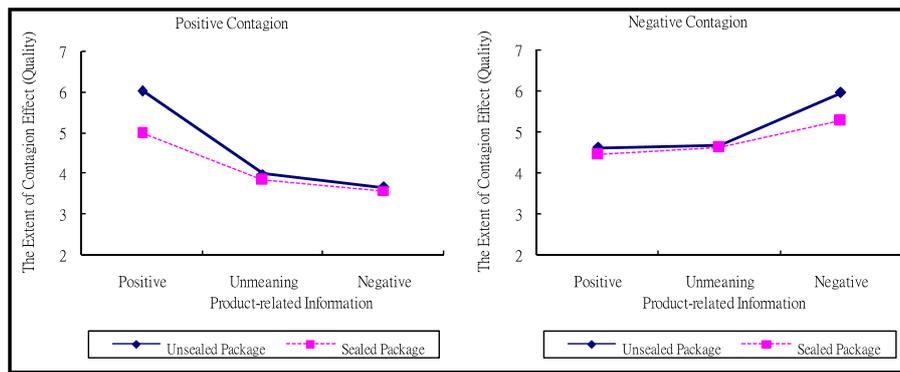


Figure 5. Results on quality from Study 2. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

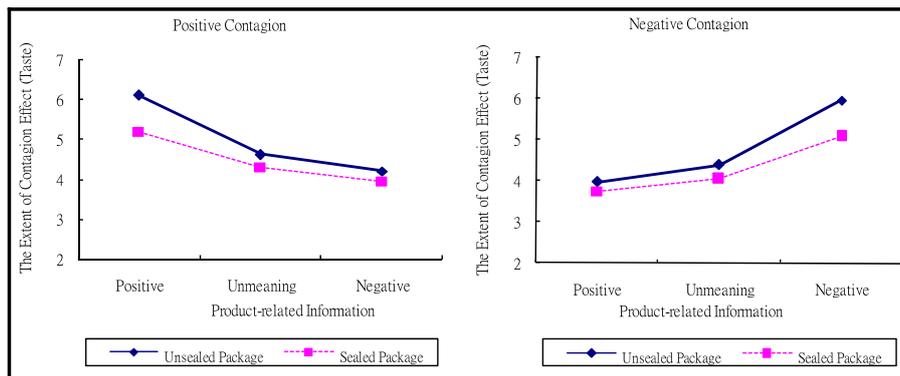


Figure 6. Results on taste from Study 2. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

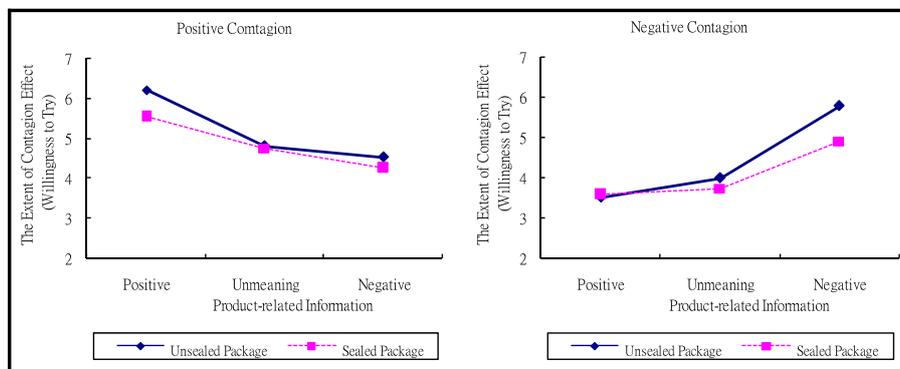


Figure 7. Results on willingness to try from Study 2. This figure is available in colour online at wileyonlinelibrary.com/journal/cb

willingness to try: $F_{1,99}=5.39$, $p < 0.05$). We found that participants receiving positive product-related information experienced stronger positive contagion effects for target products in unsealed packages (quality: $M=6.04$; taste: $M=6.12$; willingness to try: $M=6.23$) compared with those in sealed packages (quality: $M=5.00$, $t_{49}=4.57$, $p < 0.0001$; taste: $M=5.04$, $t_{49}=5.00$, $p < 0.002$; willingness to try: $M=5.33$, $t_{49}=3.77$, $p < 0.002$), but there was no significant difference between unsealed packages (quality: $M=4.62$; taste: $M=3.97$; willingness to try: $M=4.00$) and sealed packages (quality: $M=4.42$; taste: $M=3.75$; willingness to try: $M=3.75$) in the negative contagion (all $t_s < 1$, $p > 0.1$). Second, the results showed no significant interaction in the unmeaning condition (all $F_s < 1$).

Moreover, the results were the opposite in the negative condition. It revealed that the main effects of contagion prime (quality: $F_{1,95}=176.22$, $p < 0.0001$; taste: $F_{1,95}=92.60$, $p < 0.0001$; willingness to try: $F_{1,95}=36.14$, $p < 0.0001$) and package type (quality: $F_{1,95}=9.62$, $p < 0.0001$; taste: $F_{1,95}=12.74$, $p < 0.01$; willingness to try: $F_{1,95}=6.41$, $p < 0.005$) were significant. In addition, there were significant interactions between two factors (quality: $F_{1,95}=4.18$, $p < 0.05$; taste: $F_{1,95}=5.29$, $p < 0.05$; willingness to try: $F_{1,95}=5.30$, $p < 0.05$). We found that participants receiving negative product-related information showed stronger negative contagion effects for target products in unsealed packages (quality: $M=6.08$; taste: $M=6.04$; willingness to try: $M=5.80$) compared with those in sealed packages

Table 4. ANOVA results for three-way interactions from Study 2

	Positive contagion						Negative contagion					
	Positive		Unmeaning		Negative		Positive		Unmeaning		Negative	
	Unsealed	Sealed	Unsealed	Sealed	Unsealed	Sealed	Unsealed	Sealed	Unsealed	Sealed	Unsealed	Sealed
Quality	6.04*	5.00*	4.00	3.84	3.68	3.50	4.62	4.42	4.68	4.63	6.08*	5.27*
Taste	6.12*	5.04*	4.63	4.32	4.08	3.88	3.97	3.75	4.38	4.04	6.04*	5.08*
WTT	6.23*	5.33*	4.82	4.76	4.29	4.25	4.00	3.75	4.00	3.74	5.80*	4.92*

Notes: WTT means willingness to try.

*Means that there was a significant difference between the two conditions.

(quality: $M=5.27$, $t_{49}=4.43$, $p<0.005$; taste: $M=5.08$, $t_{49}=4.20$, $p<0.0001$; willingness to try: $M=4.92$, $t_{49}=3.39$, $p<0.002$), but there was no significant difference between unsealed packages (quality: $M=3.68$; taste: $M=4.08$; willingness to try: $M=4.29$) and sealed packages (quality: $M=3.50$; taste: $M=3.88$; willingness to try: $M=4.25$) in the positive contagion (all $t_s < 1$, $p > 0.1$). The results of this analysis are reported in Table 4.

DISCUSSION

The findings of this research suggest that, indeed, product contagion appears to play an important role in retail settings. The results of the two studies partially supported H_1 . In particular, negative contagion produced stronger effects on quality and taste than positive contagion, which is consistent with general learning patterns exhibited by humans. A negative event induced bad essence and caused people to lower their product evaluations rather more than they would for a positive event. Although prior studies show negative effects to be stronger in the intensity (Rozin and Kalat, 1971; Rozin *et al.*, 1994), we found that people had more willingness to try the target products in the case of the positive contagion. Generally, people hope to try to sample the food or taste the beverages before buying them at the marketplace because they want to avoid purchasing what they do not like.

In addition, the two studies showed that the target products in different packages influenced the extent of the contagion effects. An interesting finding was that people can directly visually transfer the essences of an external source to unsealed products when compared with sealed products. Notably, people considered that products in unsealed packages could be easily contagious. For example, a fresh banana directly transferred its essences of freshness to the unsealed products. It encouraged people to raise their evaluations and to be more willing to try the product. Conversely, sealed products may decrease the likelihood of visual transference. Hence, whether in the positive or the negative condition, unsealed packages induced stronger contagion effects than sealed packages.

Furthermore, an important theoretical contribution of the research was the testing of moderators for contagion primes and product packages. In Study 1, in the positive contagion condition, happy people experienced the strongest extent of the contagion effect, but it was less so for neutral people, and the least for sad people; conversely, the impact of the

negative contagion effect was reversed. Moreover, happy people demonstrated significant differences between unsealed packages and sealed packages in the positive contagion condition. They readily focused on the positive stimuli, transferred the essence of the stimuli to the targets, and then evaluated higher quality and better taste for the unsealed products. Conversely, for the negative contagion condition, sad people often paid more attention to the negative stimuli and lowered the evaluation of the unsealed products compared with the sealed products.

Nevertheless, Study 2 showed that different information sources affected the transference of the contagion effect. In particular, we found similar results with mood states. People receiving positive product-related information may increase the degree of the contagion effect in the positive prime and experienced stronger effects for the unsealed products when compared with the sealed products. Conversely, people receiving negative product-related information showed a greater degree of the negative contagion effect on the unsealed products. According to these results, we can understand the different extents of the contagion effect elicited from individuals under different conditions.

However, the current study recommends that marketing practitioners could take advantage of the expected contagion effect by displaying products next to any appropriate fresh sources. Furthermore, product packaging is an important visual cue for consumers in a retail setting. Practitioners could not only use unsealed packages but should also create a pleasant shopping environment to enable consumers to remain in a happy mood. Consequently, this could raise consumer evaluations and their willingness to sample the target products. In addition, marketers can use positive product-related information at the entrance of markets or near their products in order to enhance consumer evaluations before they decide on their purchases in the marketplace. Moreover, online shopping has recently begun to be perceived as a new alternative. Our findings also provide some suggestions for online practitioners. Because online consumers can not smell the products or taste the food samples through the Internet, practitioners should effectively use appropriated information or pictures on their websites to induce a product contagion effect and then enhance consumers' willingness to try their products.

The studies employed in this research used cookies as the target product, and conducted experiments on a university campus. In general, university students (aged from 18 to 25) are one group of all consumers who like to purchase the

cookies in many situations, such as when having a party, needing a snack, or campus club activities and so on. In addition, many studies have used a university student sample and have explored the relationship between health issue and snacking behavior (Hsieh, 2004; McFerran *et al.*, 2010) or have discussed the consumption of snack foods (Batra and Homer, 2004; Madzharov and Block, 2010). Although the sample of university students may have produced a group of heavy users of snack products, the findings of this study are limited by the use of university students which may not be representative of all consumers. Furthermore, although the experimental photographs were taken in the marketplace, the study participants could not experience the shopping atmosphere or store environment. Therefore, samples from different marketplaces may provide a more inclusive picture of consumers taking into consideration any relevant socio-demographic characteristics. Furthermore, this article suffers a common limitation through the use of the same target product. Future research could explore whether functional products or hedonic products are also influenced by contagious sources. For example, would consumers like to try a shampoo next to some fresh fruit or beautiful flowers? It may be interesting to explore how the stimuli transfer their fresh essence or the scent of flower to shampoo product. Consumers might be influenced by these positive stimuli and have more willingness to try or buy the products. Moreover, there may be more cases of mixed valence. For example, target products could be displayed around positive and negative stimuli at the same time. In addition, the studies only considered mood states and product-related information as moderators. Therefore, future research could extend the findings of this study by exploring different personalities and a variety of sources.

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Your ethnic model speaks to the culturally connected: Differential effects of model ethnicity in advertisements and the role of cultural self-construal

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ABSTRACT

This paper examines self-construal and consumer self-referencing as a mechanism for explaining ethnicity effects in advertising. Data were collected from a 2 (participant ethnicity: Turkish versus Kurdish) × 2 (model ethnicity: Turkish versus Kurdish) × 2 (self-construal: independent versus interdependent) experiment. Results show that (i) individuals with interdependent self-construal display more positive evaluations towards an in-group ethnic ad model than do individuals with independent self-construal; (ii) ethnic minority individuals (Kurdish people) self-referenced more advertising portrayals of models of a similar ethnicity than models of a different ethnicity, as did ethnic majority individuals (Turkish people); (iii) ethnic minority individuals who experienced high levels of self-referencing exhibited more favourable attitude towards the advertisement, attitude towards the brand and a higher purchase intention than ethnic minority individuals who experienced low levels of self-referencing; and (iv) self-referencing is found to partially mediate the relationship between culturally constructed self-concept (self-construal) and ethnicity on consumer evaluations for interdependent subjects. Theoretical and practical implications are discussed. Copyright © 2015 John Wiley & Sons, Ltd.

An essential consideration for marketers and advertisers today is the ethnically diverse structure of many societies such as the USA, which is composed of more than six ethnicities, including White American, Native American and Alaska Native, Asian American, Black or African American, Native Hawaiian and other Pacific Islanders (Hirschman, 1981; Cui, 1997; Appiah, 2001; Singh 2003). Ethnicity may imply groups with commonalities such as customs, language, religion, values, morality and etiquette (Webster, 1994, Jamal, 2000).

Currently, there exists a rising demand in the market to discover the most effective strategies to appeal to ethnic minorities. Many researchers have argued that it would not be reasonable to claim that the same marketing strategy can successfully target distinct segments of the society (Rossman, 1994). It is essential, first of all, to measure the understanding and perception of ethnicity of the society before implementing ethnicity-based marketing strategies. Advertisements using ethnic endorsers may result in positive reactions from those ethnic groups.

As one of the most essential determinants to analyse the dynamics behind the marketing mechanism of a local market, scholars have proposed several theoretical explanations for ethnicity as a cue (e.g. Whittler, 1989), the influence of in-group biases on the effects of ethnicity (e.g. Williams *et al.*, 1995) and situational states of ethnicity (e.g. Stayman & Deshpandé, 1989). However, the literature is limited in terms of linking ethnicity to consumer behaviour and exploring the attitudes of minority consumers towards advertisements. Studies disregard a comparison among ethnic majority and minority groups (e.g. Deshpande *et al.*, 1986; Koslow *et al.*, 1994; Oswald, 1999; Forehand and Deshpande, 2001; Lee *et al.*, 2002; Martin *et al.*, 2004; Torres

and Briggs, 2007). In addition, ethnicity in advertising research has focused mostly on the role of skin tone only, such as African American representations in print ads (Mayo, Mayo and Mahdi, 2005) or White facial features (Sengupta, 2000). To our knowledge, the investigation of product stereotypicality effects by Martin, Lee and Yang (2004) is the only advertising research that has used respondents from different backgrounds (Asian versus White categories in New Zealand).

Prior research has also neglected to consider the complex role of the self on ethnicity effects in consumer responses. Lee, Fernandez and Martin (2002) criticized the existing advertising literature for not having moved beyond in-group bias, specifically for a lack of in-depth investigation of the positive evaluation by consumers of the same ethnicity of the models in advertisements (Martin, Lee and Yang, 2004). They also acknowledged that researchers lack an understanding of the mechanisms by which ethnicity influences advertising perceptions and evaluations. Following these calls, this research takes a self-construal-related perspective and also brings an explanatory mechanism for ethnicity effects. It contributes to a theoretical understanding of how the cultural self-construal of the audience interacts with ethnicity elements in advertisements and leads to key attitudinal outcomes. The self-referencing mechanism is posited to mediate this relationship.

Because ethnicity is more salient to the self in an ethnically mixed society than in a uniform one, Turkey offers an appropriate context to study ethnicity effects in advertising, owing to its ethnic diversity. Its geographical location at the interface of East and West, along with rapid industrialization and concerted efforts to modernize a traditional culture, has contributed to the emergence of a culture that embodies diversity. Kurds, Arabs, Circassians, Armenians and Greeks account for a significant percentage of the population. Among these ethnic groups, Kurds are the largest ethnic

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minority (CIA Factbook, 2012). Istanbul is the biggest city of Turkey, hosting nearly 20 per cent of the country's entire population (Turkish Statistical Institute, 2015), making it a cosmopolitan city more crowded than many countries. Istanbul offers a suitable context for our study because the city hosts the largest number of Kurdish people in the world with an estimated Kurdish population of 1.9 million (KONDA Research, 2007).

The main aim of this study is to provide a theoretical basis and an experimental analysis to contribute to our understanding of the role of self-concept when being exposed to ethnic minority (versus majority) models in advertising and how these models impact consumers' attitudinal responses towards the advertisement and the advertised brand.

THEORETICAL BACKGROUND

Ethnicity and culturally constructed self-concept

Parallel to its modern interpretation, the definition of an ethnic group is taken as a group of people with common cultural, religious and/or linguistic characteristics (Tonkin *et al.*, 1989). Thus, ethnic perception can be defined as acquiring the consciousness of a group of people sharing cultural and/or religious similarities by matching the consciousness one obtains with elements of historical baggage captured in his/her mind about that particular group of people. The reason for focusing on sub-cultural similarities and differences is that it has made an essential contribution in terms of going beyond the boundaries drawn and produced by the mono-cultural psychology studies (Matsumoto *et al.*, 2006).

What can be understood from intergroup relationships is the 'in-group' and 'out-group' categorization, which originates from the social identity theory formulated by Tajfel and Turner (1979). Social identity theory was developed to serve as an explanation to the questions of when and why individuals identify with and behave as part of social groups adopting similar attitudes. Tajfel argues that a person's interpretation of his/her ethnic identity also features his sense of belonging to a group as well as the feelings that accompany with being part of that group (Tajfel, 1982). The self is conceived as a collection of identities that reflect the roles that a person occupies in the social structure. And an important component of the self-concept is derived from memberships in social groups and categories.

People are attracted to others who are similar to themselves because this similarity reinforces their self-image (Tajfel, 1982). Thus, individuals generally perceive and treat in-group members more favourably than they do out-group members (Tajfel and Turner, 1986). While the 'in-group bias' fosters privilege for in-group members, it may also create the feeling of being held in contempt by the outer groups.

The existence of in-group/out-group relation stems from the historically constructed cultural values (Levine and Campbell, 1972; Brewer, 1999). Even though in every culture people make in-group/out-group distinctions, the definitions and the boundaries of this distinction vary considerably from culture to culture, depending on value systems of each culture. Cultural models help to analyse consequences for the

self (Schwartz, 1994; Hofstede, 2001; House *et al.*, 2004), and they serve to explain variations in in-group/out-group distinction. For example, Triandis *et al.* (1985) introduced the concepts of idiocentrism and allocentrism to describe sub-cultural parallels to the individualism/collectivism dimension of national culture by Geert Hofstede. The concept of self-construal evolved from a comparison of Western and Eastern conceptualizations of the self (Markus and Kitayama, 1991).

With these conceptualizations attempting to accommodate the notion of intra-cultural variations of culture, researchers differentiated culturally constructed selves. In particular, researchers recognized that collectivist individuals attempt to subordinate their personal preferences to the interest of the particular community they belong to (Markus and Kitayama, 1991; Kitayama *et al.*, 1997). They usually construe the self as a constituent of a broader social context; their concept of self entails characteristics and qualities of this social environment called an interdependent self-construal (Singelis, 1994). When individuals adopt an interdependent self-construal, their self-concept depends largely on their capacity to establish and maintain their connection to a broader social entity (Stapel and Van der Zee, 2006), referred to as their social identity (Tajfel and Turner, 1986). Because of the strong group orientation in collectivism, one could perhaps predict even stronger in-group bias effects in cultures that foster the interdependent model of the self.

Generally, collectivists discriminate against out-group members and tend to favour in-group members (Leung and Bond, 1984; Hui *et al.*, 1991; Gomez *et al.*, 2000). By contrast, in individualism, where an independent, autonomous model of the self is fostered, there is little distinction between in-groups and out-groups. The self is construed as separate from the social context and thus emphasizes autonomy and independence, a representation called an independent self-construal (Markus and Kitayama, 1991).

The research cited earlier leads us to expect that individuals with an interdependent self-construal might evaluate in-group members more favourably than out-group members. We expect no such difference in individuals with independent self-construal, when in-group/out-group distinctions are less important. Translating these findings into the present research, a direct effect of in-group bias is hypothesized only for those with interdependent self-construal.

H1: Only individuals with interdependent self-construal, when exposed to an ad portraying a model of the same ethnic group (in-group), will report (i) more favourable attitudes towards the advertisement (Aad), (ii) more favourable attitudes towards the brand (Abrand) and (iii) a higher intention to purchase the advertised product than when exposed to an ad portraying a model of a different ethnic group (out-group).

Ethnicity and self-referencing

Self-referencing is an information-processing strategy (Martin *et al.*, 2004) used by an individual to process information by relating a message, such as an advertisement, to an aspect of one's self-structure (Burnkrant and Unnava, 1995).

Self-concept involves self-schemata, which represents a multi-dimensional knowledge structure and reflects a consumer's definition and knowledge of self (Wang *et al.*, 2000). Ethnicity, for example, is considered a key dimension of self-schemata (McGuire *et al.*, 1978). Self-concept is recognized as a fundamental frame where aspects of one's sense of self, such as ethnicity and gender, are activated (e.g. Zinkhan and Hong, 1991). While self-concept represents the frame of reference, self-reference refers to a cognitive process where information conveyed is related to one's self-concept.

The study of Rogers *et al.*, 1977 proves that self-referencing is 'a rich and powerful encoding process' and is a complex structure, which deeply involves the 'processing, interpretation and memory of personal information' (p. 677). Self-referencing has been found to result in increased levels of message elaboration (e.g. Burnkrant and Unnava, 1995). Research suggests that relating information to the self heightens recall and can generate more favourable evaluations of the object (Meyers-Levy and Peracchio, 1996; Krishnamurthy and Sujana, 1999), as this information is more easily associated with previously stored information (Markus, 1977).

Previous findings revealed that individuals might engage in self-referencing by processing information regarding their ethnicity (Bunkrant and Unnava, 1995; Meyers-Levy and Peracchio, 1996). When an ethnic minority consumer is exposed to a message that involves a dimension that is central to the self, self-referencing is activated, which in turn influences the message processed (Rogers *et al.*, 1977) in a way that generates more favourable ad evaluations (Krishnamurthy and Sujana, 1999; Meyers-Levy and Peracchio, 1996).

The distinctiveness theory posits that an individual's distinctive traits in relation to other people in the environment will be more salient to the individual than more common traits and that ethnicity is an important dimension for distinction of the self (McGuire, 1984). Accordingly, ethnicity is more salient to the self in an ethnically mixed society than in a uniform one. Research suggests that clear ethnic cues in an ad encourage ethnically resonant consumers to have better recall and to develop more positive Aad (Appiah, 2001; Forehand and Deshpande, 2001).

Lee *et al.* (2002) explored how ethnic minority models in ads affect the evaluations of ethnic minorities and ethnic majority consumers and found that consumers exposed to ads consistent with their own ethnicity spontaneously self-reference the advertisement. This study revealed more positive Aad, the advertised brand and the ad model. Martin *et al.* (2004) further explored the mediating role of consumer self-referencing and reported an experiment that demonstrated that self-referencing mediates ethnicity effects on consumer evaluations.

The major support for our first set of hypotheses comes from social identity theory (Tajfel, 1982). In line with the social identity theory (Tajfel 1982) and also rejection-identification model (Branscombe *et al.*, 1999), it has been posited that members of minority groups increase group identification in response to perceived prejudice and discrimination.

In Turkey, until the 21st century, suppression of public expressions of Kurdish identity was Turkish state policy, as

was assimilation under the rubric of the Turkish nation (Yeğen, 1999; Canefe, 2002; Tezcür, 2010). In their majority, Kurdish people are raised in rural communities, but they show a pattern of moving to bigger cities for economic reasons (Grabolle Çeliker, 2009). This population has therefore integrated into parts of daily life in major cities, and the Kurdish image and people are not distant from Turkish lifestyle. This homogenizing nationalism paved the way for the rise of chauvinistic Kurdish nationalism (Saatci, 2002). The 2000s witnessed a host of expanded legal rights for Kurdish minority activism (Tezcür, 2010).

In line with the proposition, in an ethnically heterogeneous country like Turkey, ethnicity and self-referencing would be more salient for the members of the minority group than of the majority group. When an individual's self is salient, being exposed to information that is consistent should result in spontaneous self-referencing. Specifically, being exposed to an ad portraying a model of similar ethnicity encourages self-referencing. Drawing on the findings of the prior literature, the following hypotheses are derived.

H2: Only ethnic minority individuals will self-reference advertising portrayals of models of a similar ethnicity significantly more than (i) models of a different ethnicity and (ii) ethnic majority individuals.

H3: Individuals with high levels of self-reference will report (i) more favourable Aad, (ii) more favourable Abrand and (iii) a stronger intention to purchase the advertised product.

H4: For individuals with an interdependent self-construal, as a result of a higher in-group bias, self-referencing will display a mediating effect on the relationship between ethnicity and consumer evaluations (Aad, Abrand and purchase intention).

METHOD

The present study examines the role of the ethnicity of an ad model on attitudinal responses towards the ad and determines whether viewers process ads differently depending on in-group bias facilitated by culturally driven self-construal and level of self-referencing.

Design

The study employed a 2 (participant ethnicity: Turkish versus Kurdish) × 2 (ad model ethnicity: Turkish versus Kurdish) × 2 (self-construal: independent versus interdependent) between-subjects factorial design. The dependent variables were Aad, Abrand and intention to purchase the advertised product. Ethnic majority is defined as ethnic Turkish identification, while ethnic minority is defined as ethnic Kurdish identity.

Stimulus development and procedure

The advertisement visuals were created using image processing software to enhance external validity. The advertisement

was digitally modified to vary only in terms of the model being used to enhance internal validity (Appendix).

A total of four Kurdish and four Turkish male models were used in a pretest with a total of 62 respondents who did not participate in the actual study. Each model was rated for identification (respondents were asked to identify the ethnicity of the model), likability and credibility (Erdogan *et al.*, 2001). Two models were identified as being most strongly associated with these two ethnicities, and least associated with the other eight major ethnicities within Turkey. To avoid bias associated with using ads for existing products, a fictitious brand Prom Mobile was created. Given that, previous research has found self-referencing to be more evident under high involvement conditions (Burnkrant and Unnova, 1995). The product chosen was a mobile phone, based on the assumption that this would represent a high involvement product. We pre-tested a set of fictitious brand names and selected Prom Mobile, the one that was perceived as more realistic. The mobile phone category is gender neutral, and in the global arena, its advertising has not been rendered as a gender stereotypical product category in the way beauty products (women) or football equipment (men) has been. It should be noted that, unlike the Asian stereotypical product categories such as green tea or electronics, the Kurdish image is not associated worldwide with a certain type of product category or industry.

In a second pilot test, we asked another sample of 41 to rate the two ad models along a number of dimensions. Two different ads (one with the ethnic Kurdish and one with the ethnic Turkish male model) were randomly distributed within subjects, and they were included among six other neutral print ads with human models. The models were to be rated in terms of how determined, assertive, esteemed, shy, funny, sympathetic or authoritarian they were. The two models were not perceived as significantly different from each other in any of the dimensions proposed ($\mu=3.14$, $\mu=3.47$; $t(1, 39)=-0.728$, $p=0.47$ for determined, $\mu=2.55$, $\mu=2.47$; $t(1, 39)=0.176$, $p=0.86$ for assertive, $\mu=3.50$, $\mu=3.47$; $t(1, 39)=0.063$, $p=0.95$ for esteemed, $\mu=3.95$, $\mu=4.16$; $t(1, 39)=-0.343$, $p=0.73$ for shy, $\mu=3.09$, $\mu=2.68$; $t(1, 39)=0.919$, $p=0.36$ for funny, $\mu=4.09$, $\mu=3.58$; $t(1, 39)=0.989$, $p=0.33$ for sympathetic and $\mu=2.05$, $\mu=2.63$; $t(1, 39)=-1.6$, $p=0.12$ for authoritarian dimension).

In the actual study, each participant was randomly assigned to one of the two experimental ad conditions. Stimuli consisted of a full-page colour photographic advertisement for a mobile phone. The two ads were identical in their layout and their single line of copy: 'Whenever your voice is not enough, show yourself'. The copy aimed to highlight the video conferencing feature of the mobile (Appendix).

Participants were informed that the purpose of the experiment was to obtain reactions to potential advertising for launching a mobile brand. Participants were individually given the fictitious print ad along with the structured questionnaire. They were instructed to examine each advertisement carefully and answer the questions. After completing the questionnaire, they were thanked and debriefed.

Subjects

Participants were 304 undergraduate students from a major university in Istanbul, Turkey. As a non-probabilistic sampling method, convenience sampling was employed to recruit these participants. An experiment was conducted during regular class periods in classes chosen at random in the faculty of communication. Participation was voluntary, and participants were not compensated. Respondents who did not have a clear ethnic identification or an ethnic identification other than Turkish or Kurdish (i.e. Circassian, Laz, Bulgarian and Greek) as determined by a screener question were excluded from the analysis. A final sample of 212 respondents who identified themselves as Turkish or Kurdish were included in the analysis to test variations between the responses of minority and majority ethnicity individuals towards ads portraying the same and different ethnicity ad models. Two open ended-questions at the end of the questionnaire served as a suspicion probe to assess respondents' hypothesis guessing about the purpose of the study. They were also asked to provide any additional comments about the study. Eight participants guessed the aim of the study, so their responses were eliminated from the analysis.

We had a final sample of 204 participants, 120 of whom were male and 84 were female. Their ages ranged from 18 to 26 years with a mean of 21.82 (SD=1.97). The student sample was quite homogeneous in terms of education and socio-economic status. The breakdown of certain demographics according to the two ethnically different subsamples was checked, and no significant difference was observed. In terms of gender, the 120 males were distributed evenly, with 60 Turkish and 60 Kurdish. The 80 female participants were distributed as 47 Turkish versus 37 Kurdish. The mean age of the Kurdish sub-sample was 21.74 years, very close to the Turkish sub-sample mean age of 21.90 years ($t(1, 202)=0.56$, $p>0.57$). Before running the analysis of variance tests, we applied the Levine test of homogeneity of variance, which assesses whether the population variance for the group is significantly different from each individual part of the group (Hair *et al.*, 2010). The results supported the assumption for homogeneity of variance ($F's > 1$; $p's > 1$).

Measures

The questionnaire included three dependent variables: Aad, Abrand and intention to purchase the advertised product. While the ethnicity of the ad model appeared as the independent variable, self-referencing appeared as the mediator. Ethnicity, along with the cultural orientation (self-construal) of the respondent, appeared as moderating variables. Ad credibility and ad model attractiveness were assessed as control variables.

Attitude towards the Ad, brand and purchase intention

Following each advertisement, respondents rated their Aad and Abrand separately on five, 7-point semantic differential scales: irritating/not irritating, not appealing/appealing, unlikable/likable, bad/good and negative/positive. Responses were averaged over the five questions. Cronbach's alphas were computed for Aad ($\alpha=0.90$) and Abrand ($\alpha=0.92$).

Purchase intention was measured on a two-item 7-point scale, asking the subjects to rate to what extent they would consider trying the product and buying the product ($\alpha=0.84$).

Ethnicity of participants

Participants were asked to identify their ethnicity from a list of 11 major ethnic groups in Turkey. Those who identified themselves as majorly Turkish or Kurdish were included in the study.

Self-referencing

The extent to which a participant self-referenced an ad was calculated using the average of seven-item 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*) ($\alpha=0.92$). The items were derived from prior research (Burnkrant and Unnava, 1995; Meyers-Levy and Peracchio, 1996; Krishnamurthy and Sujun, 1999). Items included statements such as 'I can easily form similarity judgments between myself and the advertising model', 'The ad interested me personally', 'The ad made me think about my own experiences with the product' and 'I can easily picture myself using the advertised product'. In several analyses, self-referencing was used after median-splitting (Lee *et al.*, 2002) for a low-high categorization.

Self-construal

Measurement of sub-cultural characteristics requires an individual instead of a societal (i.e. cross-cultural) level of analysis. The present study used the Singelis self-construal inventory (1994) and subjected it to an individual level of analysis to determine independent versus interdependent self-construals in the sample. Interdependent self-construal is represented by 15 items, e.g. 'Even when I strongly disagree with group members, I avoid an argument'. Fifteen items represent independent self-construal, including 'I enjoy being unique and different from others in many respects'. Each item in the inventory is scored on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha for these two subscales approximates 0.74 for interdependence and 0.70 for independence, as shown by Singelis (1994), and 0.82 and 0.77, respectively, in the current study.

Ad credibility and Ad model attractiveness

Participants rated the degree of attractiveness of the ad model and the credibility of the ad on a 7-point Likert scale. Responses were averaged over six attractiveness items ($\alpha=0.90$) and four credibility items ($\alpha=0.87$). Responses revealed that, in terms of ad model attractiveness and ad credibility, the two experimental conditions were not significantly different ($F < 1$).

RESULTS

Manipulation checks

Participants were asked to report the ethnicity of the model portrayed in the ad they viewed from a list of ethnic groups on a 7-point Likert scale. The ad model was perceived to

be Kurdish ($\mu=5.31$) rather than Turkish ($\mu=3.73$) in the Kurdish ad model condition ($F(1, 202)=75.48, p < 0.01$). On the other hand, the ad model was perceived to be Turkish ($\mu=4.82$) rather than Kurdish ($\mu=3.56$) in the Turkish ad model condition ($F(1, 202)=40.18, p < 0.01$). Previous research posits that ad model attractiveness may have certain effects on elaboration (Trampe *et al.*, 2010) and that audiences self-reference more when ads portray models that are attractive rather than average-looking (Debevec and Kernan, 1987). To ensure that model attractiveness did not confound the results, participants were asked to rate the attractiveness of the ad model. The results revealed that the two models used in the experimental conditions have similar attractiveness ($\mu=4.42, \mu=4.68; F(1, 202)=2.52, p=0.11$), as well as ad believability scores ($\mu=4.25, \mu=4.41; F(1, 202)=1.21, p=0.27$). That is, there was no main effect of the two male models in terms of attractiveness scores, including being perceived as charismatic, handsome, impressive or nice. In addition, there was no main effect of the two ads in terms of believability scores, including being perceived as realistic or honest. The differences were still insignificant when controlled for gender or the ethnicity of the participant.

Tests of hypotheses

In-group bias and ethnicity

Findings served to support H1, which posits that interdependent individuals, when exposed to an ad portraying a model of the same ethnic group (in-group), report more favourable Aad ($F(1, 99)=24.56, p < 0.01$), Abrand ($F(1, 99)=29.38, p < 0.01$) and higher intention to purchase the advertised product ($F(1, 99)=25.77, p < 0.01$) than when exposed to an ad portraying a model of a different ethnic group (out-group) (Figures 1–3).

More specifically, interdependent minority subjects reported more favourable Aad ($F(1, 44)=13.11, p < 0.01$), Abrand ($F(1, 44)=32.15, p < 0.01$) and higher purchase intentions ($F(1, 44)=28.01, p < 0.01$) when exposed to ad models of the same (versus different) ethnicity. Interdependent majority subjects also reported more favourable Aad ($F(1, 53)=11.59, p < 0.01$), Abrand ($F(1, 53)=6.86, p < 0.05$) and higher purchase intentions ($F(1, 53)=5.11, p < 0.05$) when exposed to ad models of the same ethnicity. The interaction effect of model-viewer ethnicity congruity

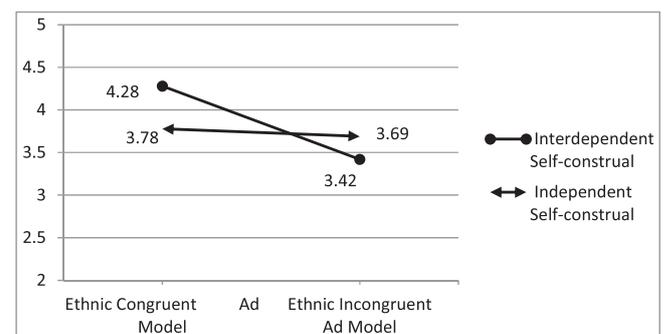


Figure 1. Interaction of self-construal with ethnic congruency of Ad model on attitude towards the advertisement.

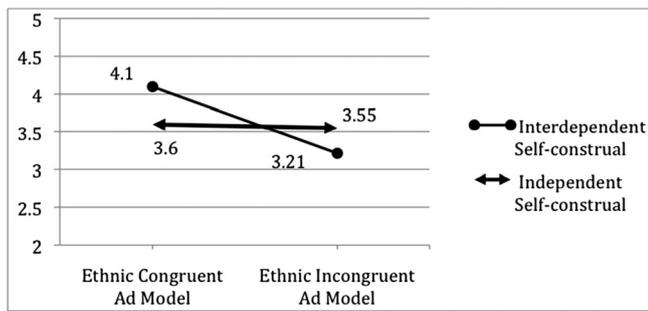


Figure 2. Interaction of self-construal with ethnic congruency of Ad model on attitude towards the brand.

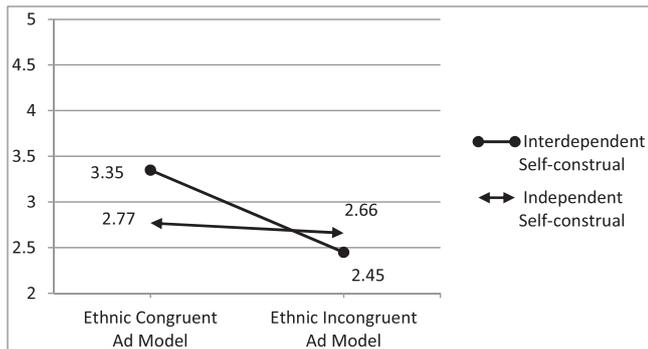


Figure 3. Interaction of self-construal with ethnic congruency of Ad model on purchase intention.

and viewer self-construal is still significant when age, gender or education were included as covariates ($p < 0.005$ for Aad, $p < 0.001$ for Abrand and $p < 0.01$ for purchase intention).

Furthermore, independent minority subjects did not report more favourable Aad ($F(1, 49)=1.27, p > 0.05$), Abrand ($F(1, 49)=0.04, p > 0.05$) or higher purchase intentions ($F(1, 49)=0.02, p > 0.05$) when exposed to ad models of the same ethnicity compared with models of different ethnicity. Independent majority subjects did not report more favourable Aad the ad ($F(1, 50)=0.15, p > 0.05$), Abrand ($F(1, 50)=0.36, p > 0.05$) or higher purchase intentions ($F(1, 50)=0.96, p > 0.05$) when exposed to ad models of the same ethnicity compared with models of different ethnicity (Table 1).

Self-referencing and ethnicity

We predicted that ethnic minority group members would engage more strongly in self-referencing when exposed to an ad that portrays a model of a similar ethnic minority group than when they were exposed to an ad portraying a model of the ethnic majority group. While ad model ethnicity revealed no main effect ($F(1, 202)=0.64, p > 0.05$), participant ethnicity revealed main effect ($F(1, 202)=9.42, p = 0.002$) on self-reference scores. Interaction effect of ad model and participant ethnicity on self-referencing scores were also significant ($F(3, 200)=34.43, p < 0.001$).

Confirming our second hypothesis, Kurdish subjects, when exposed to the Kurdish model, reported stronger self-referencing than when exposed to the Turk model ($\mu = 4.33, \mu = 3.09; F(1, 95)=26.22, p = 0.001$) and when compared with Turkish subjects ($\mu = 2.74; F(1, 101)=41.40, p = 0.001$). However, Turkish subjects, when exposed to the Turkish model, reported stronger self-reference than when exposed to the

Table 1. Summary of ANOVA results

	Subject ethnicity	Ad Model ethnicity	Mean	Std.	N	F	p
Aad							
Independent self-construal	Turkish	Kurdish	3.79	0.98	26	0.145	0.705
		Turkish	3.70	0.75	26		
	Kurdish	Kurdish	3.86	0.89	26	1.269	0.265
		Turkish	3.58	0.87	25		
Interdependent self-construal	Turkish	Kurdish	3.57	0.72	29	11.585	0.001
		Turkish	4.27	0.80	26		
	Kurdish	Kurdish	4.28	0.70	22	13.106	0.001
		Turkish	3.23	1.19	24		
Abrand							
Independent self-construal	Turkish	Kurdish	3.51	0.87	26	0.361	0.551
		Turkish	3.65	0.88	26		
	Kurdish	Kurdish	3.54	1.03	26	0.036	0.850
		Turkish	3.59	0.622	25		
Interdependent self-construal	Turkish	Kurdish	3.55	0.79	29	6.859	0.011
		Turkish	4.12	0.82	26		
	Kurdish	Kurdish	4.08	0.59	22	32.148	<0.001
		Turkish	2.80	0.89	24		
PI							
Independent self-construal	Turkish	Kurdish	2.31	0.90	26	0.963	0.331
		Turkish	2.56	0.94	26		
	Kurdish	Kurdish	2.98	1.16	26	0.020	0.887
		Turkish	3.02	0.76	25		
Interdependent self-construal	Turkish	Kurdish	2.85	0.79	29	5.114	0.028
		Turkish	3.33	0.78	26		
	Kurdish	Kurdish	4.28	0.70	22	28.009	<0.001
		Turkish	2.23	1.19	24		

ANOVA, analysis of variance, Std., standard; Aad, attitude towards the advertisement; Abrand, attitude towards the brand; PI, purchase intention.

Kurdish model ($\mu = 3.54$, $\mu = 2.74$; $F(1, 105) = 10.51$, $p = 0.002$) but not when compared with Kurdish subjects ($\mu = 3.09$; $F(1, 99) = 3.38$, $p = 0.069$). Turkish subjects, compared with Kurdish subjects, when exposed to the Turkish model reported marginally stronger self-referencing ($F(1, 99) = 3.38$, $p = 0.069$).

We performed a median split categorization of self-referencing, with a median score of 3.286. The findings, supporting H3, indicated that individuals who experience high (versus low) levels of self-referencing, exhibit more favourable Aad ($\mu = 3.94$ vs $\mu = 3.60$), Abrand ($\mu = 3.73$ vs $\mu = 3.46$) and purchase intention ($\mu = 2.98$ vs $\mu = 2.60$) ($F(1, 202) = 7.25$, $p < 0.01$; $F(1, 202) = 4.83$, $p < 0.05$; $F(1, 202) = 7.50$, $p < 0.01$, respectively).

Self-referencing, cultural orientation and ethnicity

For interdependent individuals, self-referencing was expected to reveal a mediating effect on the relationship between ethnicity and consumer evaluations (Aad, Abrand and purchase intention). The analyses followed the test for mediation as discussed in Baron and Kenny (1986). First, the dependent variable was regressed on the independent variable. Second, the mediator was regressed on the independent variable. Third, the dependent variable was regressed on the mediator. Fourth, the dependent variable was regressed on the independent variable and the mediator. Four regressions (a–d) were conducted.

First (a), interdependent subjects displayed less favourable Aad, Abrand and lower purchase intention when exposed to the ethnically incongruent ad model ($\beta = -0.476$, $p < 0.001$; $\beta = -0.478$, $p = 0.001$; $\beta = -0.454$, $p < 0.001$, respectively) compared with the ones exposed to the ethnic congruent ad model. Further (b), collectivist subjects reported less self-referencing when exposed to the ethnically incongruent ad model ($\beta = -0.352$, $p < 0.001$). In addition (c), higher levels of self-referencing led to more favourable Aad and Abrand, but not to higher purchase intentions ($\beta = 0.384$, $p < 0.001$; $\beta = 0.301$, $p < 0.001$; $\beta = 0.364$, $p < 0.001$, respectively). Finally (d), self-referencing was a significant predictor of Aad, Abrand and purchase intention ($\beta = 0.26$, $p < 0.01$; $\beta = 0.224$, $p < 0.05$; $\beta = 0.234$, $p < 0.05$, respectively), while ethnic congruity still appeared as a significant predictor of Aad, Abrand and purchase intention ($\beta = -0.354$, $p < 0.01$; $\beta = -0.4$, $p < 0.01$; $\beta = -0.372$, $p < 0.01$, respectively). Together, these four regressions provide support for the premise that, for collectivistic individuals, self-referencing partially mediates the relationship between ad model-subject ethnic congruity and Aad, Abrand and intention to purchase the advertised product. Sobel test results confirmed the mediation effect of ad model ethnicity on Aad, Abrand and purchase intention ($p = 0.025$; $p = 0.043$; $p = 0.037$, respectively) (Table 2).

Analyses for mediation were also conducted for independent subjects, but no such effect was evidenced because ethnic congruity of the ad model was not a significant predictor of Aad, Abrand or purchase intention ($\beta = -0.052$, $p > 0.05$; $\beta = -0.03$, $p > 0.05$; $\beta = -0.057$, $p > 0.05$, respectively).

In sum, results indicated that self-referencing partially mediates the relationship between ethnicity and attitudinal

Table 2. Summary of mediation analysis and Sobel test

	Aad	Abrand	PI
IV-DV (without the mediator)	-0.476**	-0.478**	-0.454**
IV-Mediator	-0.352**	-0.352**	-0.352**
Mediator-DV	0.384**	0.301**	0.364**
IV-DV (with the mediator)	-0.354**	-0.400**	-0.372**
Sobel test	-2.026*	-2.248*	-2.089*

* $p < 0.05$.

** $p < 0.01$.

Aad, attitude towards the advertisement; Abrand, attitude towards the brand; PI, purchase intention

responses for individuals with interdependent self-construal. For independent individuals, however, the relationship between consumer evaluations and ethnicity was not mediated by the level of self-referencing.

DISCUSSION

Findings from this experimental study lend support for psychological mechanisms such as the culturally constructed self-concept (self-construal) and self-referencing on ethnicity effects in consumer ad evaluations. Prior research posits that individuals with collectivistic values discriminate against out-group members and tend to favour in-group members more than individuals with individualistic values do (Leung and Bond, 1984; Hui *et al.*, 1991; Gomez *et al.*, 2000). In the current study, at an individual rather than a cultural level analysis, individuals with interdependent self-construals, when exposed to an ad portraying a model of same ethnic group (in-group), reported more favourable Aad and the brand and higher purchase intentions than when exposed to an ad portraying a model of a different ethnic group (out-group). This finding supports the existence of a strong group orientation in interdependent individuals (Markus and Kitayama, 1991; Kitayama *et al.*, 1997).

We expected to find no such distinction among independents, where in-group/out-group distinction is less salient. In line with the expectations and prior findings (Lee *et al.*, 2002), independent subjects did not report more favourable Aad, Abrand or higher purchase intentions when exposed to ad models of the same ethnicity compared with models of a different ethnicity. Furthermore, in line with the distinctiveness theory (McGuire *et al.*, 1978), ethnic minority individuals are found to engage in self-referencing the advertising portrayals of ethnic minority significantly more than ethnic majority model. However, contrary to our hypothesis, ethnic majority subjects, when exposed to a model of the same ethnicity, reported stronger self-referencing than when exposed to a model of different ethnicity and when compared with ethnic minority subjects. Considering the diverse demographics of Turkey and the strong emphasis on Turkish identity, rather than preserving and supporting the multi-ethnic structure of the society (Cagatay, 2009), the domination of a nationalistic view might serve as a country-specific explanation for the findings that Turkish subjects, as the majority ethnic group, self-referenced more

a model of the same ethnicity than a model of a different ethnicity.

Higher levels of self-referencing were also found to lead to enhanced attitudes, which support previous research into self-referencing (Debevec and Romeo, 1992; Krishnamurthy and Sujan, 1999). When consumers are exposed to advertising that is consistent with a salient dimension of their self, they spontaneously self-reference the ad, which in turn leads to more favourable evaluations. More specifically, when ethnic minority individuals are exposed to an advertising model of the same ethnicity, they spontaneously self-reference and produce more favourable attitudes. For interdependent individuals, as a result of a higher in-group bias, self-referencing displayed a mediating effect on the relationship between ethnicity, Aad, Abrand and purchase intentions. Individuals in general perceive and treat in-group members more favourably than out-group members (Tajfel and Turner, 1986), because similarities they have with these group members reinforce their self-image (Tajfel, 1982). Our findings prove that this mechanism is even more dominant for interdependents, who have a stronger group than a self-orientation (Markus and Kitayama, 1991).

The observed effects of self-construal in this study contribute to our understanding of the mechanism of ethnicity effects in advertising. Cultural models help to analyse cultural consequences for the self (Schwartz, 1994; Hofstede, 2001; House *et al.*, 2004; De Mooij and Hofstede, 2010; House, Quigley and Luque, 2010) and explain how these influence advertising strategies (Taylor 2005). Turkey has been described in terms of Hofstede's dimensions as more collectivist than individualistic. Yet internal variations in the Turkish psyche result in a diversity that allows the co-existence of sub-cultures. Goregenli (1997), for example, found that the Turkish culture embodies strong individualistic elements alongside a generally collectivistic orientation. Although conducted in a single country, the study should have implications for future cross-cultural research. Demonstration of sub-cultural effects in one country may stimulate research on sub-cultures in other countries or the inclusion of sub-cultural level of analysis in cross-cultural studies (Kozan, 2002).

In sum, while the hypotheses formulated were largely supported, the theoretical reasons for which others were not supported open directions for further research. An interesting area of future research would be to consider the influence of ethnic identification. While some researchers assert that strong identification with ethnic groups may affect consumer behaviour (Deshpandé and Stayman, 1994; Nwankwo and Lindridge, 1998), some failed to support such an influence of ethnic identification (Lee *et al.*, 2002). The influence of ethnic identification on the mechanism of culture-constructed self-concept and self-referencing would further serve valuable insights. Earlier findings (Torres and Briggs, 2007) also displayed that strong identifiers with an ethnic minority perceive themselves as being more similar to an ethnic minority character in advertisements of both a low and high involvement product than did ethnic minority individuals with low ethnic identification. Future research should

benefit from including products with different involvement levels in the study designs. And for a country like Turkey with diverse ethnic origins, future research needs to be conducted across a range of ethnic groups.

Practical implications

Despite the ethnic groups becoming increasingly aware of their ethnic backgrounds and ethnicities within an already diverse society (Costa and Bamossy 1995), most marketers and advertisers fail to reflect this awareness in their strategies. In the context of Turkey, because Kurds are now the largest minority ethnic group within the Turkish population (18% of the Turkish population according to the CIA Factbook, 2012), our research seems to have practical relevance for advertisers or even social marketers. This study, with a cross-ethnic orientation between a majority and a minority ethnic origin, found that using ethnic minority models strengthened the attitudes and purchase intentions of audiences of the same ethnicity. Furthermore, the ethnic majority's attitudes and purchase intentions were not significantly influenced by the ethnicity of the advertising model. Practitioners need to take the findings of the current study into consideration when targeting a population of different ethnic minorities. By changing the ethnicity of the models featured in promotional materials, marketers may improve their relationship with their target minority groups. More broadly, with ethnically diversified media channels and more open manifestation of ethnic identities by celebrities or even companies, marketers may take into account the results of this study while determining the most appropriate venues, slots and endorsers for their brands and related communication.

LIMITATIONS AND FUTURE RESEARCH

The results of the current study should be interpreted under a number of limitations. Similar to prior ethnicity research (e.g. Forehand and Deshpandé 2001; Lee *et al.*, 2002), we collected data from a student sample, restricting the external validity of the findings. In an effort to isolate the effects of ethnicity (i.e. Torres and Briggs, 2007) and to avoid confounding effects, we simplified our experimental stimuli by using very few visual cues and keeping each of them equal across experimental conditions. Most advertisements in real life have significantly more content than our experimental stimuli. Future research should probe the effects of ethnic identification using additional cues such as copy, backgrounds, model positioning and ethnic names.

Because self-referencing is assumed to occur under conditions of high motivation (e.g. Bosmans *et al.*, 2001), we used the mobile phone as a high-involvement product category in our stimuli. Future research should also explore other product categories such as habit purchases or experiential purchases. The current study examined ethnicity effects through a comparison of Turkish and Kurdish ethnic identities. Future research should examine these effects in other cultural settings and using other ethnic minority populations

such as Circassians, Armenians and Greeks. As the ethnic composition of the population structure changes, it is reasonable to suggest that effects of the ethnicity construct on advertising should be addressed in future research.

BIOGRAPHICAL NOTES

Ozlem Hesapci, Ph.D, Ozlem is an Associate Professor of marketing at Bogazici University. She received her Ph.D. degree in Marketing from Bocconi University. She studies consumer decision-making and much of her recent research focuses on attitudinal and cognitive responses towards marketing offers and applications.

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Vehbi Gorgulu, M.A, Vehbi is a Ph.D. candidate at the faculty of communication, Galatasaray University. Meanwhile he holds a research assistant position in the faculty of communication at Istanbul Bilgi University. His main research interest is on political communication.

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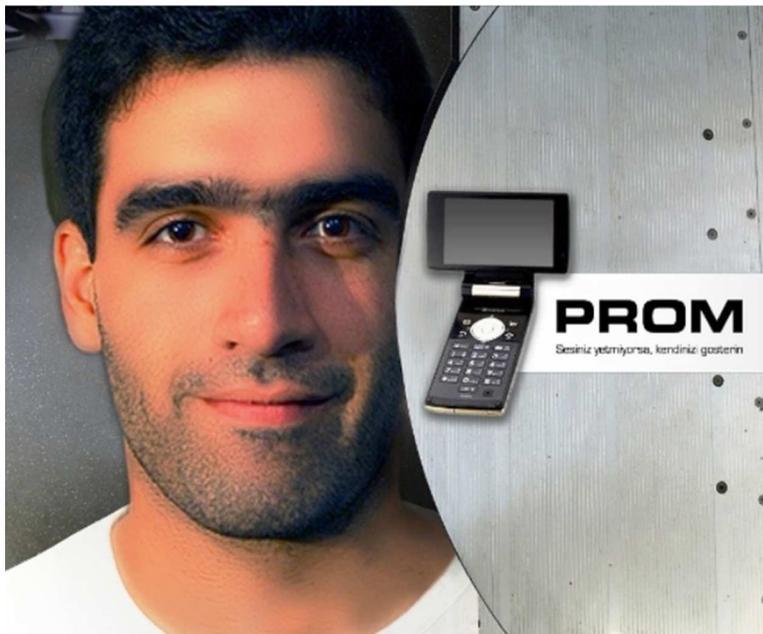
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APPENDIX



AD1: Ad portraying a Turkish Ad Model



AD2: Ad portraying a Kurdish Ad Model

Are humans rational? Exploring factors influencing impulse buying intention and continuous impulse buying intention

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ABSTRACT

This study investigates the effects of consumers' impulsivity traits, option framing, product type, and cash refund promotion on consumers' online impulse buying intention. This study follows two stages to investigate factors influencing impulse buying intention and continuous impulse buying intention. In Stage 1, this study investigates the influence of impulsivity traits (high/low), option framing (+OF/–OF), and product type (hedonic product/utilitarian product) in online shopping on impulse buying intention. In Stage 2, this study explores factors moderating the continuous impulse buying intention. Cash refund promotion (high/low) serves as the moderator. The experiment results demonstrated that subjects with high impulsivity traits, “subtractive option framing (–OF), and hedonic products” are more likely to engage in impulse buying intention. In addition, cash refund promotion at a higher level increases consumers' continuous impulse buying intention. The findings provide guidance for designing appropriate online promotion situation to induce consumers' impulse buying intention that favors online retailers. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

Are humans rational? Products can be purchased impulsively, and consumers engage in impulse buying on occasion. Sharma *et al.* (2010) identified three important trait correlates of impulse buying, namely, impulsiveness, optimum stimulation level, and self-monitoring. Rook and Fisher (1995) introduced the concept of buying impulsiveness trait as a person's tendency to involve in impulsive shopping. Because impulse buying is a highly stimulating, emotionally charged experience (Rook, 1987), optimum stimulation level relates positively to impulse buying (Sharma *et al.*, 2010). Additionally, self-monitoring is the tendency to modify or adapt one's behavior in response to others' behavior (Becherer and Richard, 1978). Self-monitoring relates negatively with impulse buying (Sharma *et al.*, 2010). The Internet offers a private shopping environment for consumers that reduces the degree of self-monitoring, thus increasing the probabilities of impulse consumption intention (Madhavaram and Laverie, 2004). This study focuses on examining the positive influence of impulsivity traits and stimulation level (option framing) on impulse buying intention in online shopping. Thus, the self-monitoring trait is not incorporated into this study.

Online marketing stimuli make purchasing impulsively easier (Madhavaram and Laverie, 2004). Impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately (Rook, 1987). The impulse to buy may stimulate emotional conflict and is hedonically complex. Rook and Hoch (1985) constructed the phenomenon based on thoughts and emotions experienced by consumers during impulse purchasing situations. Consumers may experience psychological conflict as they strive to regain some of their temporarily lost self-

control, evaluating the immediate pleasant aspects of the purchase against the delayed unpleasant aspects of the purchase. Such conflict might reduce their cognitive evaluation and finally impair their rationality. In the process of surfing websites, consumers may be stimulated by shopping circumstances such as promotion and emotion and may indulge in impulse buying. Stern (1962) delineated four distinct types of impulse buying: pure, reminder, suggestion, and planned impulse buying. Pure impulse buying is a novelty or escape purchase with which a consumer breaks their normal shopping styles. Reminder impulse purchasing occurs when the consumer is reminded of the need to buy an item upon seeing it in the shop. Suggestion impulse purchase occurs when the consumer purchases a new product based on self-suggestion without any prior experience. Finally, planned impulse buying is partially planned, but specific products to be bought are not decided by the consumer. When consumers are on their shopping trip, they may experience impulse buying.

Recently, consumer purchase intention in the context of online stores has attracted increasing attention (Chen and Lu, 2015; van Nierop *et al.*, 2011; Harris and Dennis, 2011). Irrational emotional attractions affect online purchases (Madhavaram and Laverie, 2004). In Internet shopping, consumers cannot check the goods, so the manner in which the goods are displayed to the consumers plays an important role in purchasing decision. Prior studies that focus on consumers discuss the behavior traits that cause impulse buying behavior (Rook, 1987; Rook and Fisher, 1995; Wood, 1998). Consumers with high impulsivity traits have more impulse buying than those with low impulsivity traits (Dholakia, 2000; Puri, 1996).

Additionally, framing affects people's choices when the situations and issues differ (Zhang and Buda, 1999). Various studies have found empirical evidence to support the effects of framing in psychology, behavioral economics, and consumer decision-making (Park *et al.*, 2000; Sinha and Smith, 2000; Wilson *et al.*, 2001). Alternative presentations (e.g., the additive or subtractive models) of a given decision

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problem can trigger different reference points for different consumers. This study discusses the optimum stimulation level on the basis of option framing effect. Option framing is a concept derived from prospect theory (Kahneman and Tversky, 1979). Prospect theory deviates from expected utility theory by positing that the way how people frame a problem around a reference point has a critical influence on their choices and that people tend to assign more over weight to their losses as compared with comparable gains. This study proposes types of two option framing in online stores, +OF and -OF. Adding desirable choice to the basic model is known as additive option framing (+OF). Cutting the undesirable choice from the perfect model is known as subtractive option framing (-OF). For example, consider consumers who want to purchase a cheese pizza in an online shop. The consumers were asked to build their own pizza by selecting from a menu of 10 ingredients. In the +OF condition, consumers began with a description of a "basic" cheese pizza with no extra ingredients and were asked to choose additional ingredients, such as peppers, pineapple, mushrooms, and sausage. In the -OF condition, participants began with the description of a "deluxe" pizza with all 10 ingredients and were told that they might delete as many ingredients as they wanted until they reached their preferred pizza. Option framing affects consumer buying decision (Park *et al.*, 2000). Park *et al.* (2000) found that consumers tend to choose more options with a higher total option price when presented with a subtractive option frame, which supports the managerial attractiveness of the subtractive over the additive method. Finally, product type, the third design factor is separated into two categories: utilitarian and hedonic (Voss *et al.*, 2003). Hedonic products offer experiential enjoyment, while utilitarian products offer practical and functional benefits (Okada, 2005). This classification is often used to study online information use and in decision-making research (Khan and Dhar, 2010). Previous studies found that product type affects consumer impulse buying (Hausman, 2000).

Recently, online stores use cash refund promotion to induce consumer continuous buying. Cash refund promotion refers to situations in which consumers' avail of a discount only when their purchasing amount reaches a certain level. The stores provide an external stimulus for the cash refund promotion that increases the intensity of the continuous impulse buying intention and encourages consumers to buy more products. Previous studies focus on situations that exceed the threshold of consumers and cause impulse buying (Abratt and Goodey, 1990; Puri, 1996; Shiv and Fedorikhin, 1999; Dholakia, 2000). However, few studies specifically investigate the influence of cash refund promotion on continuous impulse buying intention. This study aims to examine the influence of impulsivity traits, option framing, and product type on impulse buying intention. Additionally, this investigation proposes that cash refund promotions can moderate the effects of impulse buying intention on continuous impulse buying intention.

This study follows two stages to investigate factors influencing impulse buying intention and continuous impulse buying intention. In Stage 1, this study investigates the

influence of impulsivity traits (high/low), option framing (+OF/-OF), and product type (hedonic product/utilitarian product) in online shopping on impulse buying intention. In Stage 2, this study explores factors moderating continuous impulse buying intention. Cash refund promotion (high/low) serves as the moderator. To address the purposes of our study, this investigation first presents the literature review, followed by the conceptual model and derived hypotheses. Subsequently, the methodology and data analysis are presented. Finally the results are discussed, conclusions are presented, and future research directions are identified.

LITERATURE REVIEW

Impulse buying and impulsivity traits

Previous studies suggest that impulse buying is the tendency to buy on whim or an action with less rational decision-making (Rook, 1987; Rook and Fisher, 1995; Wood, 1998; Shukla *et al.*, 2013). Impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately (Rook, 1987). Dholakia (2000) constructed consumption impulse formation and enactment and categorized relevant factors into marketing stimulation, situation, and impulsivity traits. Marketing stimulation includes external stimulus and the way goods are presented to the consumers, such as market environment, ads, promotion, and specific goods. A situational factor is the personal or social factor that surrounds the specific buying environment, which can increase or decrease the intensity of the impulse buying intention. These factors include time pressure, economic pressure, and the length of buying lag. Impulsivity traits include normative evaluations (Rook and Fisher, 1995), the intention of shopping, self-control (Sharma *et al.*, 2010), and gender (Dittmar *et al.*, 1995), which can reflect differently in consumers with different levels of impulse buying. Consumers' normative evaluation of the appropriateness of engaging in impulse buying in a particular situation moderates an individual's trait impulsiveness (Rook and Fisher, 1995). Specifically, when consumers believe that impulse purchasing is socially acceptable, they act on their impulsive tendencies, but when it is socially unacceptable, these tendencies may be stopped.

Impulse buying intention represents intention behavior, and impulsivity traits represent traits. Rook and Fisher (1995) regarded impulse buying as careless consideration and immediate decision-making. Consumers with this trait have more frequent and intensive impulse buying intentions. Wood (1998) believed that the core definition of impulse is weakness of will. These kinds of consumers make decisions using unplanned, careless thinking, often followed by affection or emotional status. The final decisions are usually against optimal judgment.

Consumers with high impulsivity traits have more impulse buying intention than those with low impulsivity traits (Dholakia, 2000; Puri, 1996). These kinds of consumers are weak-willed (Wood, 1998). Compared with low impulsivity consumers, high impulsivity consumers easily connect external information to internal emotion, incurring impulse

buying. Therefore, this study assumes that high impulsivity consumers have more buying intentions than low impulsivity consumers in online context. Thus this study hypothesizes that

H1 Impulsivity trait has a positive influence on impulse buying intention, and this relationship is stronger for high impulsivity traits than for low impulsivity traits.

Framing effect

Kahneman and Tversky (1979) proposed the prospect theory, which holds the idea that people make decisions under uncertainty, which is against the traditional expected utility theory. Expected utility theory states that the decision maker chooses between risky or uncertain prospects by comparing their expected utility values, that is, the weighted sums obtained by adding the utility values of outcomes multiplied by their respective probabilities (Friedman and Savage, 1952). However, the expected utility theory did not accurately describe human behavior (Kahneman and Tversky, 1979). Understating cognitive biases replaces the assumption of expected utility theory. According to the literature on consumer intention, the preferences of consumers are usually changeable (Bettman *et al.*, 1998). Previous studies showed that judgments are affected by description and presentation of options (Tversky and Kahneman, 1981), preferences (Nowlis and Simonson, 1997), and selection situation (Simonson and Tversky, 1992). The framing of a firm's marketing effort may have an impact on cognitive judgments (Biswas and Grau, 2008; Kahneman and Tversky, 1979). Framing the marketing effort such that it creates a value proposition for the consumer is critical to success.

This study discusses the optimum stimulation level on the basis of option framing effect. Framing is a concept derived from prospect theory (Kahneman and Tversky, 1979). A framing effect occurs whenever alternative descriptions of the same decision situation give rise to predictably different choices (Tversky and Kahneman, 1981). This study focuses on the decision framing that takes place when consumers screen options using either an inclusion or exclusion procedure. In the option-framing method, the producer sends the message to the consumers using different framing. The consumers' final buying decision would be affected by the alternative framing of information processing (Park *et al.*, 2000; Levin *et al.*, 1998). Option framing is categorized into two types: adding desirable choices from the basic model, known as additive option framing (+OF) and cutting the undesirable choices from the perfect model, known as subtractive option framing (-OF). Consumers tend to choose more options with a higher total option price when presented with a subtractive option frame, and this behavior supports the managerial attractiveness of the subtractive over the additive method (Park *et al.*, 2000). Levin *et al.* (2002) reported similar effects of option framing.

In +OF, consumers are more likely to be sensitive to the losses in utility. Consumers increase their utility by adding more choices, but at the cost of monetary losses. In contrast, consumers in the -OF condition are more likely to be sensitive to the losses in utility. Consumers decrease their utility

by deleting choices, but they compensate by saving money (Cheng *et al.*, 2013). Based on loss aversion theory, consumers dislike loss of utility more than loss of money (Tversky and Kahneman, 1991). Consumers engaged in -OF will be more averse to deleting options (utility loss) than those engaged in +OF will be to adding them (economic loss). The impulse buying intention relates to more strong emotion with very short decision time (Stern, 1962; Wood, 1998). Therefore, the conflicts of deleting choice are larger than those of adding choice, and consumers face more difficulties in making decisions in -OF than in +OF, which leads to consumer impulse buying intention. This study thus hypothesizes the following:

H2a Consumers exposed to subtractive option framing have a higher online impulse buying intention for the target product than those exposed to additive option framing.

Additionally, this study also investigates price framing effect (price discount/price reduction) on online consumer impulse buying intention. Previous research examined the possible effect that framing might have on consumers' behavior when two types of sales promotion is offered: price discount (e.g., percentage off, %) and price reduction (e.g., dollars off, \$) promotions (Chen *et al.*, 1998; Gendall *et al.*, 2006). Gendall *et al.* (2006) showed that retailers and manufacturers would be better to express price discounts as dollars or cents off (price reduction) rather than as a percentage off (price discount). Howard and Kerin (2006) found that consumers with different levels of involvement categorized by whether they are in the market for a particular product or not have different information processing styles and hence respond differently to price promotion cues. Della Bitta *et al.* (1981) discussed price promotion with different types ($x\%$ off or \$y off) and found that consumers think that regular prices with dollars off promotions have the greatest benefits. Previous studies presented consumers with the same discount described in percentage versus dollar terms (Chen *et al.*, 1998; Gendall *et al.*, 2006). Price reduction promotions focus on the discount amount, and the information processing let consumers focus on the judgment of the amount saved. Therefore, the perceived saving of price reduction is higher than that in percentage discount (price discount). Chung *et al.* (2011) found that because demand is price-sensitive, compared with price discount, the reduced price in price reduction promotions induces higher demand. Therefore, consumer higher demand induces a higher impulse buying intention. This study thus hypothesizes the following:

H2b: Consumers exposed to price reduction framing (dollars off) have a higher impulse buying intention for the target product than those exposed to price discount framing (percentage off).

Moderating role of product type

The product is usually categorized according to meaning, benefits, and need from the consumers' point of view. The most common classification is utilitarian and hedonic (Holbrook and Hirschman, 1982; Mano and Oliver, 1993). Park *et al.* (2012) suggested that web browsing is a key

factor in online impulse buying for apparel purchase from both utilitarian and hedonic perspectives. Consumers emphasize different information processing when they consume hedonic products and utilitarian products (Voss *et al.*, 2003). For hedonic products, consumers focus on information related to inner sensory stimuli; for utilitarian products, consumers focus on information related to the decision itself (Okada, 2005). This study proposes that product type (utilitarian/hedonic) can moderate the effects of impulsivity traits on impulse buying intention. Previous studies found that product type affects consumer impulse buying (Hausman, 2000). Dholakia (2000) indicated that the impulsivity traits of consumers affect the impulse buying intention. As more traits of hedonism and weakness of will are included in consumers' judgment, the more they are prone to make impulse purchases (Shiv and Fedorikhin, 1999). Consumers with high impulsivity traits have positive emotion and high arousal and prefer hedonic products. On the other hand, consumers with low impulsivity traits have more neutral emotion and low arousal and prefer utilitarian products (Herabadi *et al.*, 2009).

Additionally, this study also proposes that product type (utilitarian/hedonic) can moderate the effects of option framing on impulse buying intention. Framing on the hedonic item will be more effective in increasing the purchase than on the utilitarian item (Khan and Dhar, 2010). Previous studies showed that hedonic products are desired for pleasure, fantasy, and fun (Khan and Dhar, 2010). This study thus proposes that hedonic products focus on hedonic and aspirational benefits, and consumers prevent deletion choices to avert a decrease in hedonic gains. On the other hand, consumers rely on the functions of products to add or delete items when they consume utilitarian products, and the effect of option framing will be lower. Accordingly, the following hypothesis is proposed:

H3a Product type has a positive moderating influence on the relationship between impulsivity traits and impulse buying intention, and this relationship is stronger for hedonic products than for utilitarian products.

H3b Product type has a positive moderating influence on the relationship between option framing and impulse buying intention, and this relationship is stronger for hedonic products than for utilitarian products.

Moderating role of cash refund promotion and continuous impulse buying intention

Online stores have recently used cash refund promotion to induce sales. Department stores in Taiwan usually apply cash refund promotion during a short period of time to induce sales, especially anniversary sales. Recently, online stores have begun to use cash refund promotion to induce consumer buying. Homburg *et al.* (2010) confirmed that mental budgeting is an important factor that influences a customer's future purchase behavior. Cash refund promotion is different from normal price discount promotion in which consumers understand that they can have the discount only after their purchasing reaches a certain level. The stores provide the

cash refund promotion to increase the intensity of the continuous impulse buying intention and to encourage consumers to buy more products. This desire does not come from consumers but is inspired by the external stimulus.

This tendency to imagine what might have been, or to think about an unrealized alternative version of a past or present outcome, is what social psychologists call "counterfactual thinking" (Kahneman and Miller, 1986). Counterfactual thinking typically manifests as a conditional statement (e.g., "When I give up buying to avail of a cash refund promotion, I feel regretful and wasteful"). Research in social psychology has shown that the presence and direction of counterfactual thinking can amplify satisfaction and regret under different promotional message framings (Roese, 1994; Medvec *et al.*, 1995; Medvec and Savitsky, 1997; Yoon and Vargas, 2010). Regret is one human emotion that plays a significant role in making the decision (Bell, 1982). The regret– theoretical expected utility includes two parts: the traditional expected utility function and the regret-transformed function. Consumers take expected interest and expected regret into consideration. Will they regret that they gave up the cash refund promotion? Decisions are usually combined with uncertainty, which could cause positive emotion or negative emotion. Consumers usually select the choice they will not regret to maximize the expected utility. Regret is considered the most important negative emotion (Inman *et al.*, 1997). On the other hand, according to loss aversion theory, people strongly prefer avoiding monetary losses to making gains. Loss aversion suggests that when an alternative is used as a reference state, losses from that state carry more influence than gains (Tversky and Kahneman, 1991). This study further assumes that, in the promotion situation, consumers will increase continuous impulse buying intention during cash refund promotion.

Yi and Baumgartner (2010) identified that consumers cope with guilt and shame during impulse buying and that they are likely to deal with shame and guilt by using avoidant coping strategies. Kelley (1973) used the discounting rule of attribution to conclude the relationship between external environment and post-buying emotion. The discounting rule of attribution is defined as follows: the role of a given cause in producing a given effect is discounted if other plausible causes are also present. Applying the discounting rule of attribution to explain impulse buying intention, consumers experience an internal emotional conflict and buy impulsively. Consumers can only attribute the impulse buying intention to themselves, but they feel less guilty and shameful when they benefit from the controllable external stimulus. Therefore, this study further assumes that cash refund promotion decreases the guilt and shame of consumers, rationalizes the impulse buying, and increases continuous impulse buying intention.

This study explores factors moderating continuous impulse buying intention. Cash refund promotion (high/low) serves as the moderator. This study selects the top three department stores in Taiwan, namely, Shin Kong Mitsukoshi, Pacific Sogo Department Store, and Breeze Center (China Credit Information Service, 2015), as the basis of setting the threshold of cash refund promotions in the experiment.

The most common threshold of cash refund promotions in lower level is “refund \$NT500 when consumers reach \$NT5000” and in higher level is “refund \$NT800 when consumers reach \$NT8000” (Textile NET in Taiwan, 2014). Therefore, this study set the “refund \$NT500 when consumers reach \$NT5000” as the lower level and “refund \$NT800 when consumers reach \$NT8000” as the higher level. Consumers have the same discount rate but different absolute amounts. Therefore, based on Chen *et al.* (1998) results, \$NT800 is a higher absolute discount amount than \$NT500, making it more attractive to consumers; that is, the higher absolute discount induces a higher impulse urge. Besides, on the perspective of expected utility and expected regret, consumers consider the higher cash refund in the cash refund promotion, and expected utility will be higher. Besides, the opportunity cost will be higher in refund promotions at the higher level because consumers have higher expected regret. In summary, consumers have higher impulse desire when they are faced with cash refund promotion at the higher level. Based on the aforementioned arguments, we propose the following hypothesis:

H4 Cash refund promotion has a positive moderating influence on the relationship between impulse buying intentions and continuous impulse buying intention, and this relationship is stronger for high cash refund than for low cash refund.

RESEARCH METHODOLOGY

Research framework

The first purpose of this study is to investigate the effects of the impulsivity traits of consumers on their impulse buying intention to option framing messages with different product types in online stores. Second, this study aims to examine the moderating effect of cash refund promotion on consumers' continuous impulse buying intention. This study follows two stages of situation design. In Stage 1, this study investigates the influence of impulsivity traits (high/low), option framing (+OF/−OF), and product type (hedonic product/utilitarian product) on impulse buying intention in

online shopping. In Stage 2, this study exams factors moderating the continuous impulse buying intention. Cash refund promotion (high/low) serves as the moderator. This study explores whether consumers show continuous impulse buying intention by manipulating the threshold of cash refund promotion in Stage 2. Figure 1 shows the research framework.

Sample

As the experiment involved an online shopping task, participants recruited were mainly Internet users who had online shopping experience. The experiment involved 760 volunteers (362 male and 398 female) from Taiwan. Each participant received a gift for his or her participation. In addition, they were told they could receive 7–11 coupons worth \$NT200 (approximately \$US6) by randomly selecting their emails. On the other hand, participants from PTT were given the chance to receive P-chips (PTT virtual money). PTT Bulletin Board System is the largest terminal-based bulletin board system (BBS) based in Taiwan. The P-chips are electric tokens used in this PTT BBS station. The online sign-up sheets provided the basis for the random assignment of subjects to treatment conditions. Each subject was randomly assigned to one of 16 treatment conditions. Table 1 displays the characteristics of the respondents, including the five major factors considered in this study: gender, age, education, occupation, and monthly income. The majority of subjects were between the ages of 26 and 30 years (44.9%). Additionally, all of the respondents have online shopping experience. Approximately 35.3% of the respondents have online shopping experience for at least 3 years.

Experiment description and procedure

This study employed a 2 (impulsivity traits: high/low) × 2 (option framing: +OF/−OF) × 2 (cash refund promotion level: high/low) × 2 (product type: hedonic/utilitarian) experiment. Table 2 shows the 16 experimental conditions that were generated. The subjects are those who have experienced online shopping. Hence, at the beginning of the questionnaire, we ask the subjects whether they have had the experience of online shopping. If not, we end the survey. Subjects were randomly assigned to one of the 16 groups.

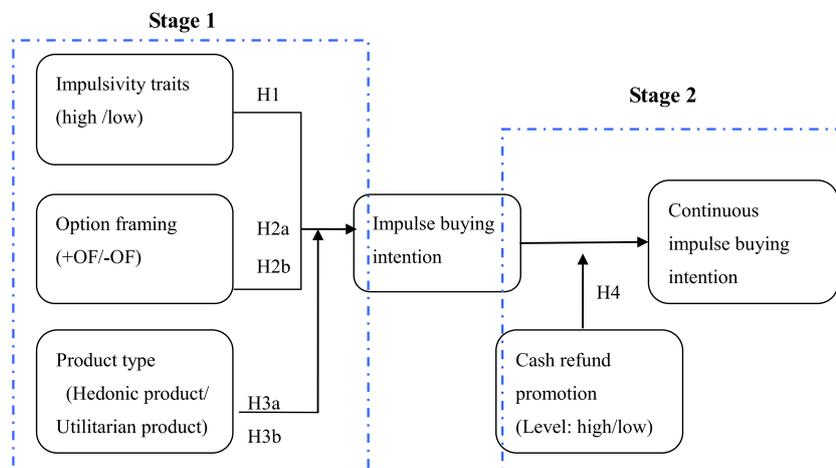


Figure 1. Research framework.

Table 1. Background characteristics of respondents ($N=760$)

Item	Frequency	Percentage (%)
Gender		
Male	362	47.6
Female	398	52.4
Age (years)		
under 25	252	33.1
26 to 30	341	44.9
31 to 35	148	19.5
35 or older	19	2.5
Education		
Less than Senior high school	15	2.0
University /college/ technical school	583	76.7
Postgraduate	162	21.3
Occupation		
Business/finance	176	23.2
IT/hi-tech	153	20.1
Service industry	173	22.8
Government employee and teacher	33	4.3
Student	148	19.5
Other	77	10.1
Monthly disposable income		
Less than \$NT5000	60	7.9
\$NT5001 to 10,000	128	16.8
\$NT10,001 to 20,000	253	33.3
\$NT20,001 to 30,000	165	21.7
\$NT30,001 or more	154	20.3

Table 2. Experiment of design

Group	n	Impulsivity traits	Cash refund promotion	Product type	Option framing
1	56	High	Low	Hedonic	+OF
2	50			-OF	
3	49			Utilitarian	+OF
4	42			-OF	
5	47			Hedonic	+OF
6	45	Low	Low	Utilitarian	-OF
7	44			+OF	
8	46			-OF	
9	48			Hedonic	+OF
10	49			-OF	
11	44	High	High	Utilitarian	+OF
12	45			-OF	
13	50			Hedonic	+OF
14	47			-OF	
15	49			Utilitarian	+OF
16	49				-OF

The experiment was designed to resemble a promotion activity on the occasion of the anniversary of an online store. Consumers intend to take the opportunity to buy the products on sale. The background of the online shopping and product information on the home page were modified from actual online shopping web pages. After reading about the scenario, participants completed a questionnaire on measures and manipulation checks. First, the impulsivity traits scale was used to measure the impulsivity traits of subjects. The actual website follows two stages of situation design. In the first stage, subjects were randomly assigned to either a utilitarian product (GPS mobile phone) or hedonic product (iPod Nano). After entering the scenario, subjects were then

assigned to one of two option framing conditions: +OF (upgrading, i.e., economic package type) or -OF (downgrading, i.e., luxury package type). In the +OF (upgrading) condition, subjects were given the base model and were told that they could add options they deemed desirable up to the full model. The opposite description was given to subjects in the -OF (downgrading) condition. For example, in the +OF condition for iPod Nano, consumers began with a description of a "basic" iPod Nano (economic package type) with no extra accessories and were asked to choose additional accessories, such as screen protector, rubber gel case skin cover, and portable charger external battery pack power bank sausage. In the -OF condition, participants began with the description of a "deluxe" iPod Nano (luxury package type) with all accessories and were told that they might delete accessories as they wanted. The price of a GPS mobile phone or an iPod Nano in economic package type is 4000 Taiwan dollars, while the price of a GPS mobile phone or an iPod Nano in luxury package type is 5000 Taiwan dollars. In the next step, subjects would see two web pages, each offering different promotions for the same products. One page showed a price discount, and the other page showed a price reduction. The price discount package offers 10% off, while the price reduction package offers a reduction of 500 Taiwan dollars. Then, subjects were asked to express their impulse buying intention.

In Stage 2, subjects who entered the website on account of the promotion were taken to a cash refund promotion web page. The thresholds of cash refund promotions are either low "refund \$NT500 when consumers reach \$NT5000" or high "refund \$NT800 when consumers reach \$NT8000." Subjects were randomly assigned to either a high cash refund promotion page or a low cash refund promotion page. In Stage 2, regret and expected utility were used to measure the continuous impulse buying intention. Based on (1) the level of regret that consumers feel when they give up buying and as a result, do not avail of the cash refund promotion and (2) the level of delight and fulfillment that consumers feel when they continue buying to avail of a cash refund promotion, we can measure cash refund promotion that might stimulate the intention to buy continuously. Finally, five major demographic variables are considered in this study: gender, age, education, occupation, and monthly income.

Measurement

To test the proposed hypotheses, a questionnaire was developed using multi-item scales drawn from the literature. The questions mainly addressed impulsivity traits, impulse buying intention, and continuous impulse buying intention on online shopping websites. The questionnaire was pre-tested on a group of 48 consumers who had experience of online shopping. The consumer feedback was used to determine any ambiguous items that needed to be revised to enhance the readability and quality of the survey items. The measurement scale developed by Rook and Fisher (1995) was used to assess the consumers' impulsivity traits. This study measured the influence of impulsivity traits on the buying intention, using a dichotomous variable. The impulsivity traits scale was used in the beginning, with two trait scales, followed

by questions to classify the impulsivity traits as either “high” or “low.” This experiment is based on sample average ($M=25.98$): samples higher than the average were classified as high impulsivity traits, and the rest were classified as low impulsivity traits.

In addition, this study measured impulse buying intention using the well-established impulsive urge scale (Luo, 2005). This study also measured continuous impulse buying intention using expect utility and expect regret scale (Kacen and Lee, 2002; Lemon *et al.*, 2002). All scales use the 5-point Likert-scale response (ranging from 1 = *strongly disagree* to 5 = *strongly agree*; Table 3). The Cronbach’s alpha from the pretest ranged from 0.829 to 0.883. The results showed that the measurement scale is reliable (Churchill, 1979). In the experiment, the Cronbach’s alphas for impulsivity traits, impulse buying intention (price discount), impulse buying intention (price reduction), and continuous impulse buying intention were 0.886, 0.918, 0.907, and 0.906, respectively (as shown in Table 3). All measures reveal Cronbach’s alphas as being well above the suggested limit of 0.7 (Churchill, 1979). This indicates that this scale is reliable and suitable for the current study.

Manipulation checks

Following Perdue and Summers (1986), all manipulation checks were performed. Subjects were asked to evaluate

the nature of a set of product classes (digital camera, earphones, iPod Nano, Notebook, digital picture frame, GPS mobile phone, and robotic vacuums). For each product class, subjects were asked whether products could either be evaluated as either a (1) hedonic product or a (2) utilitarian product. The results indicated that the iPod Nano was perceived as the most “hedonic” ($t=24.66$, $M=4.545$, $p<0.001$) product and that the GPS mobile phone was perceived as the most “utilitarian” product ($t=13.58$, $M=4.5$, $p<0.001$). The difference between the evaluations of the two product classes was significant.

The purpose of a cash refund promotion is to stimulate consumers. Therefore, it is very important to set up the refund threshold. If consumers perceive the threshold of cash refund promotion as too high, their buying intention will decrease. On the other hand, a threshold set too low decreases the total benefits and increases the costs for the seller. In practice, setting refund threshold usually refers to pricing a promoted product very close to the lowest refund threshold so that consumers avail the cash refund promotion scheme. The refund amount is usually set at 10% of the price in Taiwan. In the experiment, the price of the promoted product was set as \$NT4500, and the lowest threshold was \$NT5000 returning a refund of \$NT500. Assuming that the price of the target product is \$NT4500, instead of setting the threshold at \$NT5000 where a consumer can obtain a

Table 3. Measurement items

Measurement items	Mean (M)	Standard deviation (SD)	Cronbach’s α
Impulsivity traits			0.886
1. I often buy things spontaneously.	3.24	1.201	
2. “Just do it” describes the way I buy things.	2.38	1.180	
3. I often buy things without thinking.	2.38	1.217	
4. “I see it, I buy it” describes me.	2.56	1.263	
5. “Buy now, think about it later” describes me.	2.38	1.113	
6. Sometimes I feel like buying things on the spur-of-the-moment.	3.05	1.191	
7. I buy things according to how I feel at the moment.	3.25	1.066	
8. I do not carefully plan most of my purchases.	3.17	1.115	
9. Sometimes I am a bit reckless about what I buy.	3.58	1.051	
Impulsive urge (price discount) – impulse buying intention			0.918
1. In this online store, I am promoted to buy more because of the discount activities.	3.31	1.221	
2. In this online store, I see something that really interests me; thus I buy it without considering the consequences.	3.30	1.787	
3. In this online store, I buy things even though they were not on the shopping list.	3.26	1.314	
Impulsive urge (price reduction) – impulse buying intention			0.907
1. In this online store, I am promoted to buy more because of the discount activities.	3.52	1.162	
2. In this online store, I see something that really interests me; thus I buy it without considering the consequences.	3.44	1.111	
3. In this online store, I buy things even though they were not on the shopping list.	3.50	1.270	
Expect utility and expect regret – continuous impulse buying intention			0.906
1. I feel regretful if I give up cash refund promotion.	4.02	1.012	
2. I feel it is a waste if I give up cash refund promotion as the accumulative amount will turn to be nothing.	3.85	0.888	
3. I feel happy if I get the cash refund promotion.	3.77	0.855	
4. I will save money if I get cash refund promotion.	3.92	0.902	
5. Cash refund promotion incurs my continuous buying desire when online shopping.	4.26	0.841	

Measured using 5-point Likert-scale response format (ranging from 1 = *strongly disagree* to 5 = *strongly agree*).

refund of \$NT500, the subjects preferred to set the threshold at \$NT8000 where a refund of \$NT800 can be obtained. The threshold amount in the latter case is obviously higher but achievable. Thus, this study set a higher threshold at \$NT8000 returning a refund of \$NT800. The results showed that there is a significant difference between two cash refund promotion levels ($t=0.982, M=4.06, p < 0.001$).

RESULTS

To test all the hypotheses, analysis of variance (ANOVA) was used to test main and interaction effects. Table 4 shows the output for the ANOVA. The ANOVA analysis showed the main effect of impulsivity traits and option framing. As the results show, impulsivity traits ($F_{price\ discount}=223.930, p < 0.001; F_{price\ reduction}=204.594, p < 0.001$),

option framing ($F_{price\ discount}=180.690, p < 0.001; F_{price\ reduction}=72.944, p < 0.001$), and product type ($F_{price\ discount}=43.384, p < 0.001; F_{price\ reduction}=34.931, p < 0.001$) have significant effects on impulse buying intention. Meanwhile, among the impulsivity traits, high impulsivity traits ($M_{price\ discount}=3.76, M_{price\ reduction}=4.01$) have more impulse buying intention than do low impulsivity traits ($M_{price\ discount}=2.738, M_{price\ reduction}=3.15$). Thus, H1 was supported. Regarding option framing, subtractive option framing ($M_{price\ discount}=3.738, M_{price\ reduction}=3.775$) causes more impulse buying intention than does additive option framing ($M_{price\ discount}=2.863, M_{price\ reduction}=3.218$). Thus, H2a was supported. On the other hand, regarding promotion, price reduction ($M=3.495$) has a greater influence on impulse buying intention than price discount ($M=3.299$) does. Thus, H2b was supported.

Table 4. Analysis of variance results

	Source	MS	F-value	p-value
Impulse buying intention (price discount)	Impulsivity traits	183.849	223.930***	0.000
	Option framing	148.349	180.690***	0.000
	Product type	35.619	43.384***	0.000
	Impulsivity traits × option framing	2.759	3.361	0.067
	Impulsivity traits × product type	6.290	7.661**	0.006
	Option framing × Product type	8.234	10.029**	0.002
	Impulsivity traits × option framing × product type	3.307	4.028*	0.045
Impulse buying intention (price reduction)	Impulsivity traits	169.890	204.594***	0.000
	Option framing	60.571	72.944***	0.000
	Product type	29.006	34.931***	0.000
	Impulsivity traits × option framing	1.790	2.155	0.142
	Impulsivity traits × product type	4.200	5.059*	0.025
	Option framing × product type	4.366	5.258*	0.022
	Impulsivity traits × option framing × product type	4.363	5.254*	0.022
Continuous impulse buying intention	Cash refund promotion	2.148	9.505**	0.002
	Impulse buying intention (price discount) × cash refund promotion	0.503	2.343**	0.005
	Impulse buying intention (price reduction) × cash refund promotion	0.502	2.223**	0.002

* $p < 0.05$.
 ** $p < 0.01$.
 *** $p < 0.001$.

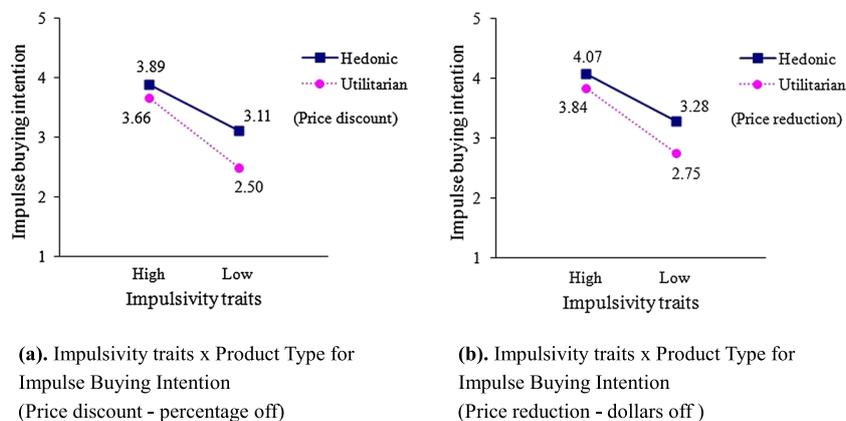


Figure 2. (a) Impulsivity traits × product type for impulse buying intention (price discount – percentage off) and (b) impulsivity traits × product type for impulse buying intention (price reduction – dollars off). (This figure is available in color online at wileyonlinelibrary.com/journal/cb)

The interaction between consumers' impulsivity traits and product type is significant ($F_{\text{price discount}}=7.661, p < 0.01$; $F_{\text{price reduction}}=5.059, p < 0.05$). Therefore, product type has a positive moderating influence on the relationship between impulsivity traits and impulse buying intention. Figure 2(a) and (b) shows that impulsivity traits and product type influence impulse buying intentions in different demonstrations (price discount and price reduction). Compared with utilitarian products ($M_{\text{price discount}}=3.080, M_{\text{price reduction}}=3.298$), hedonic products ($M_{\text{price discount}}=3.513, M_{\text{price reduction}}=3.689$) have a greater effect on impulsivity traits and impulse buying intention. Thus, H3a was supported.

The interaction between option framing and product type are significant ($F_{\text{price discount}}=10.029, p < 0.05$; $F_{\text{price reduction}}=5.258, p < 0.05$). Therefore, product type has a positive moderating influence on the relationship between option framing and impulse buying intention. Figure 3(a) and (b) shows that option framing and product type influence impulse buying intentions in different demonstrations (price discount and price reduction). Compared with utilitarian products ($M_{\text{price discount}}=3.080, M_{\text{price reduction}}=3.298$), hedonic products ($M_{\text{price discount}}=3.513, M_{\text{price reduction}}=3.689$) have a greater effect on option framing and impulse buying intention. Thus, H3b was supported.

The interactions between impulse buying intention and cash refund promotion are significant ($F_{\text{price discount}}=2.343, p < 0.05$; $F_{\text{price reduction}}=2.223, p < 0.05$). Therefore, cash refund promotion has a positive moderating influence on the relationship between impulse buying intentions and continuous impulse buying intention. Compared with the lower level cash refund promotion, the higher level promotions have a greater effect on continuous impulse buying intention. Thus, H4 was supported.

DISCUSSION

This study indicated that impulsivity traits affect impulse buying intention. High impulsivity traits result in stronger impulse buying intention than low impulsivity traits (Hypothesis 1). The results are consistent with previous studies (Dholakia,

2000; Puri, 1996). When the consumers face promotion situations, the impulse buying intention is affected by impulsivity traits, which further increase impulse buying intention. In addition, when online stores provide cash refund promotions, consumers will be affected more easily and will increase their continuous impulse buying intention (Hypothesis 4). Products are categorized as hedonic products and utilitarian products. Utilitarian products are the ones whose consumption is more cognitively driven oriented and accomplishes a functional or practical task. Hedonic products are ones whose consumption is primarily characterized by an affective and sensory experience of sensual pleasure, fantasy, and fun. Compared with consumers with low impulsivity traits, consumers with high impulsivity traits are more sensitive, easily affected by product appearance, and fashion conscious. Therefore, consumers with high impulsivity traits, when viewing hedonic products, make spontaneous purchases and increase their impulse buying intention (Hypothesis 3a).

Option framing also affects impulse buying intention, and -OF results in stronger impulse buying intention than +OF (Hypothesis 2a). This study, which is based on previous studies, discusses the representation ways of impulse buying intention. Given the same discount amount, price reduction and price discount are perceived differently (as getting and giving) by consumers. Consumers consider the benefits they get from the price discount and price reduction promotion. With more time, consumers can think rationally. In impulse buying, consumers do not have too much time to consider the relevant information, and the decision-making time is quite short. Price discount promotions decrease the time spent thinking, so price reduction will lead easily to more impulse buying than will price discount (Hypothesis 2b). From the perspective of product type, compared with utilitarian products, hedonic products are easily affected by option framing, leading to impulse buying intention (Hypothesis 3b). When buying utilitarian products, consumers consider the usage of the product. Hedonic products are based on joy and fun; thus, consumers make buying decisions based on the highest utility.

In addition, consumers consider both price of product and cash refund promotion. Although the two cases of "refund \$NT500 when consumers reach \$NT5000" and "refund

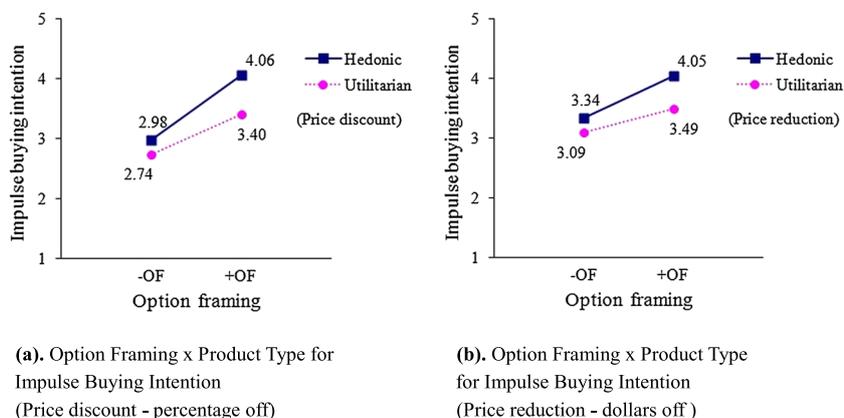


Figure 3. (a) Option framing \times product type for impulse buying intention (price discount – percentage off) and (b) option framing \times product type for impulse buying intention (price reduction – dollars off). (This figure is available in color online at wileyonlinelibrary.com/journal/cb)

\$NT800 when consumers reach \$NT8000" are both 10% discount savings, consumers perceive them differently. Consumers consider that if they give up buying more, they will lose \$NT800 or \$NT500. Consumers base their decision on expected regret and benefits and will continue buying to meet the requirement of the cash refund promotion. The level of regret is higher in the \$NT800 case than in the \$NT500 one. This study shows that cash refund promotion urges consumers to prevent regret for not buying, leading to continuous impulse buying intention. When online stores intend to increase sales and stimulate consumers to buy in a very short period, they use promotions in most cases.

CONCLUSIONS AND IMPLICATIONS

This study indicated that in online promotion situation manipulation, given the same discount amount, consumers experience more impulse stimulus from price reduction promotion than from price discount promotion. In addition, consumers have higher impulse buying intention in the promotion combined commodity of "–OF and hedonic products." Considering impulsivity traits, this study found that consumers with high impulsivity traits have higher impulse buying intention than do those with low impulsivity traits. Compared with consumers with low impulsivity traits, "–OF and hedonic product" have higher utility to consumers with high impulsivity traits. Finally, cash refund promotion at a higher level have higher situational stimulus for consumers and thus increase continuous impulse buying intention. In other words, hedonic products with whole package promotion with cash refund promotion at the higher threshold can increase the continuous impulse buying intention of consumers.

Promotion, from the very beginning until the sales, is one of the important elements in online marketing. This study has implications for online marketers. First, the results of this study indicate that, compared with consumers with low impulsivity traits, those with high impulsivity traits experience impulse buying intentions more easily. Therefore, online stores should use promotion to evoke impulse buying intention in consumers with high impulsivity traits. Second, online stores could use the promotion combined commodity of "–OF and hedonic products." In the past, online stores have used basic option framing (+OF), in which consumers can buy additional promoted products when paying. However, this kind of sale lacks customization and does not maximize profits. This study shows that, in case hedonistic, compared with basic products (upgrading, i.e., economic package type, +OF), consumers will have a higher impulse intention to purchase completed products (downgrading, i.e., luxury package type, –OF). Additionally, online stores could use the promotion of price reduction. This study shows that, in case two products have the same price at the time of promotion, the price-reduced products evoke a higher impulse buying intention than the product whose price was discounted. Finally, it suggests that online stores should offer cash refund promotion at the higher threshold to elicit consumers' continuous impulse buying intention. This study

shows that cash refund promotion evokes higher impulse buying intention, which increases a consumer's intention to continue to buy. Moreover, online stores should also consider the relationship between refund threshold and price. Different cash refund promotional levels should correspond to different product values, which can prevent consumers from perceiving the refund threshold as too high to reach.

This investigation has limitations, opening up numerous directions for future research. First, this study used convenience sampling. However, as with most online studies, possible self-selection bias and low response rates make it impossible to confirm that the study participants are representative of the population of Internet shoppers. Future research thus could examine the effectiveness of factors influencing impulse buying intention in real online market situations. Second, this investigation considers only two product categories, GPS mobile phone and iPod Nano. Online shopping typically involves multiple product types listed on each web page, and thus future studies could consider other products and shopping situations. Third, this study explores the factors influencing consumers' online impulse buying intention in Taiwan, and the results thus may or may not be applicable to users in other cultures. It would be interesting to find out whether culture influences consumer online impulse buying behavior. Future research could examine other countries for the purposes of generalizability. Finally, more variables and moderating factors need to be considered in relation to this line of research. Exploring these potential factors can provide a useful direction for future research.

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