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Linking family structure to impulse-control and obsessive–compulsive buying

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ABSTRACT

Compulsive buying affects the well-being of millions of consumers globally by resulting in depression, unmanageable debt, and lower satisfaction with life. This research examines the mechanisms that link aversive family events experienced in childhood to compulsive buying tendencies in early adulthood. The article develops a set of hypotheses derived from the main theoretical perspectives of the multi-theoretical life course paradigm, and it uses a sample of 492 young adults to test them. The results suggest that social processes are the underlying mechanisms that promote the development of compulsive buying tendencies. Family disruptions reduce intangible family resources that then shape the nature of interactions with peers and parents. Peer communications in formative years are directly linked to both obsessive–compulsive and impulse-control dimensions of compulsive buying in early adulthood. The study findings help interpret and integrate previous research streams on compulsive buying from different fields of social sciences. Implications of the findings are offered along with directions for further research. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

In recent decades, interest in understanding the development of various types of compulsive consumer behaviors has spread rapidly across disciplines (e.g., Faber, 1992; Faber *et al*., 1995; Koran *et al*., 2006; Kukar-Kinney *et al*., 2012; Roberts *et al*., 2008; Simons *et al*., 1998) and around the globe (e.g., Baker *et al*., 2013; Gwin *et al*., 2004; Neuner *et al*., 2005; Vu Nguyen *et al*., 2009). Previous studies of compulsive buying have been more successful in describing compulsive buyers than in explaining the drivers and origins for compulsive buying tendencies (e.g., Faber, 1992; Faber *et al*., 1995; O' Guinn and Faber, 1989; Ridgway *et al*., 2008) (For some exceptions, see for example Baker *et al*., 2013; Rindfleisch *et al*., 1997; Roberts *et al*., 2003).

Researchers in several disciplines have sought explanations of such behaviors in theories that link childhood experiences to adult maladaptive behavior and have provided compelling evidence for childhood-adulthood links (McLeod and Almazan, 2003). Although it is recognized that compulsive buying is rooted (at least partly) in early-life experiences (e.g., Rindfleisch *et al*., 1997), little is known about the processes that link early-life experiences to this form of consumer behavior (Baker *et al*., 2013) as well as to other forms of maladaptive behavior (McLeod and Almazan, 2003). Some consumer studies find that young consumers from disrupted homes are more inclined toward compulsive buying than are those from intact homes (e.g., d'Astous *et al*., 1990; Rindfleisch *et al*., 1997), but theoretical perspectives and empirical evidence on the linking mechanisms between family structure and compulsive buying are sparse and inconclusive (e.g., Baker *et al*., 2013; Rindfleisch *et al*., 1997; Roberts *et al*., 2003).

The present study follows the research tradition in several disciplines that emphasizes mechanisms linking childhood experiences to adult maladaptive behaviors (e.g., Hill *et al*., 2001; McLeod and Almazan, 2003; Simons *et al*., 1998). It employs the life course paradigm as an over-arching theoretical framework. This framework has been used to study time-and context-dependent compulsive behaviors such as the development of binge eating and drinking (e.g., Simons *et al*., 1998; Simons *et al*., 2002).

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BACKGROUND AND HYPOTHESES

The life course paradigm

The life course paradigm, which has been called, "one of the most important achievements in social science in the second half of the 20th century" (Colby, 1998, p. *x*), has flourished in recent decades as a research framework that extends across substantive and theoretical boundaries of the social and behavioral sciences (e.g., Elder, 1998; Elder *et al*., 1996; Elder *et al*., 2003; Mayer and Tuma, 1990). This approach views behavior at any stage in life or given point in time to be affected by responses to earlier life conditions and adaptations to those circumstances (e.g., Elder, 1998; Mayer and Tuma, 1990; Vaillant, 1977). Behaviors at a given stage in life are viewed as outcomes of (i) an individual's biological and psychological changes or events and (ii) social demands that are defined by typical life events and social roles (Pulkkinen and Caspi, 2002). Outcomes are influenced by the timing, duration, and sequence of these events, by historical and sociocultural contexts in which the person is embedded, and by the choices (viewed as events) that people make about their own lives (Elder, 1998). People adapt to life-event experiences that create physical, social, and emotional demands, with adaptation entailing the processes of socialization, stress and coping, and development, growth, or decline. These processes are the underlying change mechanisms of the three most widely accepted life-course perspectives: the stress perspective, the normative perspective, and the human capital perspective; and the term "perspective" is used in lieu of "theory" because each of the three perspectives encompass more than one theory (cf. Moschis, 2007a). Thus, the life course paradigm provides a framework for integrating these rather diverse theoretical views into a multi-theoretical conceptual framework (e.g., Elder *et al*., 1996; Moschis, 2007a) because the three perspectives are complementary (Sherrod and Brim, 1986). The present study examines the influence of variables derived from these perspectives into an integrated model informed by the life course framework (see Figure 1).

Model

Stress

A central idea of life course models is that life events create psychological disequilibria or stress that drive the individual to build strategies to cope with unacceptable and painful feelings produced by significant events over the course of their lives life course (Vaillant, 1977). Thoughts and behaviors that help reduce the stress an individual experiences during a particular stage in the life course are originally effortful and reflect coping, but over time they may be reinforced and become conditioned responses that characterize the individual's attitudinal and behavioral orientations (Moschis, 2007b).

Social stress theory emphasizes the conditions under which stress has negative consequences and focuses on the person's perceived or felt stress (Elder *et al*., 1996; George, 1989). Perceived stress (commonly known as "subjective stress") due to a disruptive family event (e.g., loss of a parent), rather than the mere experience of the event, is viewed as a process (e.g., George, 1989); it is a source of psychological dislocation that puts the child at risk. Family disruption events (e.g., loss of a parent, divorce or separation, lengthy family discord) also place the child at a greater risk of experiencing additional events over time (e.g., relocation, financial hardship) many of which are inherently stressful (Elder *et al*., 1996). Thus, the perceived stressfulness of family disruptions is likely to be the result of not only the person's experience of such events (H1a) but also the duration of these events (H1b).

According to the stress perspective, stress and coping are the causal mechanisms underlying the development of compulsive behaviors. Heatherton and Baumeister (1991) suggest that self-indulging consumption activities, including over-consumption of alcohol, binge-eating and cigarette smoking are secondary control-coping strategies because they help the person keep self-awareness at a relatively low level and avoid meaningful thought about the consequences of various events. Shopping and buying have been viewed as self-indulging coping responses (e.g., O' Guinn and Faber, 1989); they are considered as secondary (or emotion-focused) coping responses (Moschis, 2007b) that can be reinforced and become conditioned responses to stressful situations. Prolonged experience of adverse life events during childhood years may elevate shopping and buying as coping responses, leading to the development of these activities as an uncontrollable form of behavior, hence the formation of compulsive buying patterns (Faber *et al*., 1995; O' Guinn and Faber, 1989). Studies show that cumulative life-event stress represents a strong predictor of compulsive disorders, such as binge eating, among children and adolescents (e.g., Johnson and Bradlyn, 1988). Thus, perceived stressfulness of disruptive family events experienced during their formative years is expected to

Life Course Model

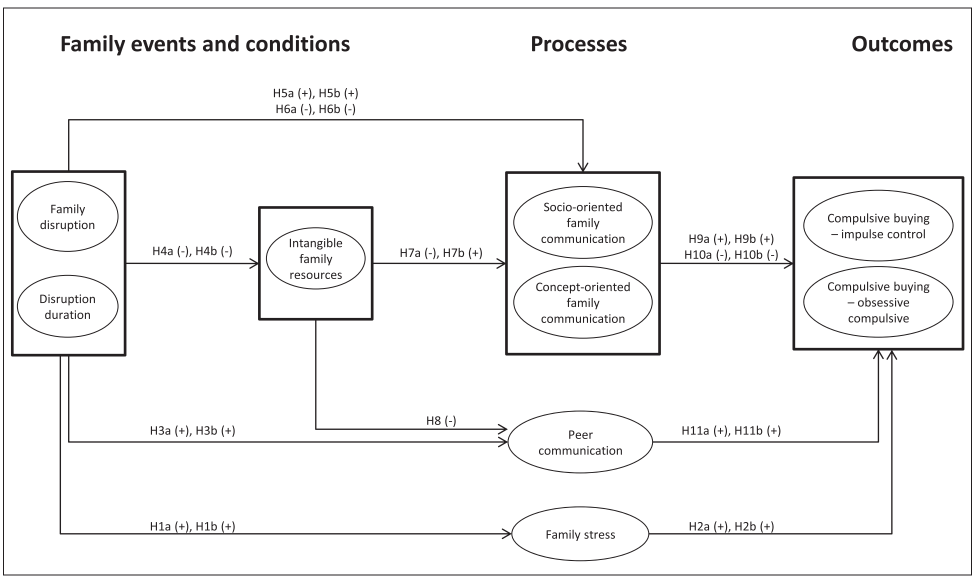

Figure 1. Life course model.

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bepositively associated with the impulse-control and obsessive–compulsive dimensions of compulsive buying among young adults (H2a and H2b, respectively).

Extant research also suggests the value of social interactions as coping mechanisms (e.g., Moschis, 2007b). Gecas (2003) points out that peers provide "arenas of comfort" or safe havens where adolescents can relax and rejuvenate from the pressures and stress of family and school. Thus, interactions with peers during formative years, including interactions about consumption, are expected to be more frequent among those who in youth had experienced disruptive family events in larger numbers (H3a) and for longer periods (duration) (H3b).

Normative

The normative perspective assumes that behaviors are the result of socialization the to the requirements of the environment. Effective socialization leads to normative or socially desirable behaviors, while ineffective socialization leads to undesirable or deviant behaviors (Mortimer and Simmons, 1978). The normative perspective suggests that most effects of family disruption events are indirect, operating via other factors such as poor quality of social relationships or ineffective parenting (Amato and Sobolewski, 2001; Elder *et al*., 1996). Specifically, social control theory suggests that family disruptions weaken adult supervision and monitoring of children's behavior as important means by which children acquire social norms and are discouraged from socially undesirable behaviors (Hill *et al*., 2001). Prolonged experience of disruptive family events, such as having parents who are absent due to divorce or long work hours, interferes with socialization and weakens parent–child bonds (Amato and Sobolewski, 2001; Uhlenberg and Mueller, 2003). Parents in such disruptive families tend to display less warmth toward their children and discipline them more harshly (Amato and Sobolewski, 2001; Conger *et al*., 1994). This weakening of parent–child bonds may be characterized as a reduction in intangible resources available to the child. Thus, it is expected that (i) the number of family disruptions and (ii) the duration of these disruptions to have negative direct effects on the level of intangible family support the young person received as a teenager (H4a and H4b, respectively).

Furthermore, social control theory and research suggest that family disruptions have direct effects on the two styles parents adopt in communicating with their children: the socio-oriented communication style that places emphasis on obedience and conformity to the parent's desires, and the concept-oriented communication style that encourages autonomy and self-expression (Moschis, 1985). The former style includes coercive strategies through which a parent attempts to maintain control over the child's activities despite the parent's absence. In contrast, parents in nondisrupted families are more likely to have a higher level of commitment and involvement in their child's life (Uhlenberg and Mueller, 2003), and more likely to adopt a concept-oriented style. Thus, the socio-oriented family communication style or structure is expected to be fostered by the number (H5a) and the duration (H5b) of family disruptions. Conversely, the concept-oriented family communication style is expected to be present in families where disruptive family events are fewer (H6a) and of shorter duration (H6b).

In a similar vein, different levels of intangible resources may also differently affect the two family communication styles. Reduction in intangible resources in the forms of lessened parental warmth, understanding, and communicative and caring response by parents is likely to undermine the development of the concept-oriented communication style (H7a) and promote the development of a socio-oriented family communication style (H7b). Last, socialization theory and research suggest that when young people receive inadequate emotional support from their parents, they are likely to gravitate toward non-familial socialization agents, especially peers (Gecas, 2003; Uhlenberg and Mueller, 2003). Thus, the provision of high levels of intangible resources by parents is likely to reduce interactions with peers, including communication about consumption matters (H8).

Human capital

Human capital refers to the resources, qualifications, skills, and knowledge that people acquire and that "influence future income and consumption" (Frytak *et al*., 2003, p. 627). Development and change in the individual's human capital are derived from and influenced by individual and environmental factors, including family settings that constitute "the vehicles of behavior change and individual development" (Bolger *et al*., 1988, p. 2). A child's maladaptive, anti-social, or deviant behaviors is attributed to impaired or inadequate development of human capital (e.g., Hill *et al*., 2001; Uhlenberg and Mueller, 2003). Specifically, parenting styles have aversive consequences on the child's emotional security and self-esteem, and undermine effective socialization (Hill *et al*., 2001), all of which impair development, which leads to ineffective inhibition of impulsive and antisocial behaviors (Conger *et al*., 1994; Uhlenberg and Mueller, 2003). Thus, parenting practices are seen as one of the determinants of child's level of self-control, which inhibits impulsive behaviors (Simons *et al*., 1998).

Studies have shown that parental communication practices that restrain youths from acquiring independence in decision making (a socio-oriented communication structure) may deter cognitive development and promote emotionally-driven behaviors (Moschis, 1985). Conger *et al*. (1994) present studies which show that controlling family environments are likely to rear children that are aggressive, antisocial, and oriented toward manipulative and hedonically gratifying behaviors. Gwin *et al*. (2004) found compulsive buying to be associated with socio-oriented family communication among high school and young adult students in Mexico. In contrast, parents who encourage children to develop their own views about the world and make their own decisions (a concept-oriented communication structure) may facilitate capital development and promote rational, optimal decision making (e.g., Moschis, 1985). These views and findings suggest that

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young adults who were raised in families characterized by a socio-oriented communication style are likely to display impulse-control and obsessive–compulsive buying tendencies (H9a and H9b, respectively), whereas those who were raised in families characterized by a concept-oriented family communication style are less likely to exhibit these two compulsive buying tendencies (H10a and H10b, respectively).

Finally, the human capital perspective recognizes the control that people have over the outcomes of their interactions with their environments, including the extent to which they are influenced by their social environment in making choices that lead to excessive and maladaptive patterns of behaviors (Mortimer and Simmons, 1978). A body of prior research on antisocial or deviant behavior links interaction with deviant peers in early life to problem behavior in later life (e.g., Simons *et al*., 1998; Simons *et al*., 2002), including compulsive buying tendencies (d'Astous *et al*., 1990). This work supports the view that the initiation of several undesirable and excessive consumption activities such as compulsive buying may be reinforced in group settings, although extant theory falls short in explaining the connection. Research in neuroscience shows that peer influences lead to increased impulsive behavior in teens (Burnett *et al*., 2010) in part because impulse control is still maturing during adolescence (Litt *et al*., 2011). Among French–Canadian adolescents, d'Astous *et al*. (1990) found a positive influence of peers on the impulse-control dimension of compulsive buying, and it seems plausible to hypothesize that communication with peers about consumption matters in formative years fosters both the impulse-control dimension and the obsessive–compulsive dimension of compulsive buying in young adults (H11a and H11b, respectively).

METHODS

Sample

The sampling plan of this study was guided by previous life course research and developmental studies of maladaptive behaviors such as compulsive buying. Previous research suggests that adolescence is a period during which significant social, psychological, and biological changes occur (Kim *et al*., 2003) and a person begins to display compulsive buying tendencies (d'Astous *et al*., 1990; Roberts *et al*., 2003). According to the (U.S.) National Comorbidity Study Replication, median age of onset for DSM-IV listed mental disorders is 14, with median age of onset for many impulse-control disorders in particular occurring during the mid-teens (Kessler *et al*., 2005). Therefore, the study focused on young adults and their recalled experiences during their adolescent years. People in early adulthood are young enough to recall their adolescent experiences and old enough to be aware of their compulsive buying tendencies without inhibition (Wooten, 2006). Retrospective measures are widely used in life course studies (Henry *et al*., 1994), especially when people are of an age where the recall of important events tends to be accurate (Henry *et al*., 1994). Experiences of stressful times during adolescent years tend to be remembered and recalled even after several decades, according to biographic and longitudinal studies reported by Thomae and Lehr (1986), and previous consumer studies published in leading academic journals have used samples of young adults and assessed their adolescent experiences retrospectively (e.g., Baker *et al*., 2013; Grougiou and Moschis, 2015; Richins and Chaplin, 2015; Rindfleisch *et al*., 1997).

The participants of the present study were recruited from a large urban university located in the Southeastern United States that has a demographically diverse student population. Participants were asked to complete an anonymous online survey for a small amount of extra credit. They were able to take the survey at their leisure, privately, and at a location of their choice. To protect participant privacy and facilitate candor, they were assured that no information was stored that could identify them. This protocol yielded 735 responses. Respondents were excluded from analysis if they were above 29 years old or if response behavior indicated carelessness (e.g., straight-lining, extensive incompleteness, or survey response duration well below pretest-established benchmarks). These exclusions reduced the sample available for analysis to 492 cases. The ages of the selected participants ranged from 19 to 29 years (M = 22.7, SD = 2.2). Males comprised 39.5 per cent of respondents. Respondents who lived with both biological parents until they were 18 years old comprised 64.4 per cent of respondents. About half (47.5%) identified themselves as white/Caucasian, 23.4 per cent as black/African American, 17.9 per cent as Asian, and 5.1 per cent were of two or more races.

Measures

This study employed measures similar to those that performed well in previous studies that appeared in leading journals (e.g., Baker *et al*., 2013; Ridgway *et al*., 2008; Rindfleisch *et al*., 1997; Roberts *et al*., 2003). In line with previous studies, all variables (except compulsive buying) were measured retrospectively. Variable SDs and correlations of constructs and variables are reported in Table 1. Questionnaire items are reported in Table 2 along with key results from the CFA.

Compulsive buying

Compulsive buying was measured using the six-item Ridgeway, Kukar-Kinney, and Monroe (Ridgway *et al*., 2008) scale. This newer measure of compulsive buying overcomes limitations of other previously used scales (e.g., d'Astous *et al*., 1990; Rindfleisch *et al*., 1997) in that (i) it captures both the obsessive–compulsive and impulse-control dimensions and (ii) it distinguishes compulsive buying behaviors from the consequences of those behaviors. Factor loadings were high (.74–.90). Composite reliability (CR) was .90 for the impulse-control dimension and .87 for the obsessive–compulsive dimension. Average variance extracted (AVE) was .75 for the impulse-control dimension and .69 for the obsessive–compulsive dimension. Ridgway *et al*. (2008) identified a summed compulsive buying score of 25 or higher as a useful delineation point for identifying

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Table 1. Means, standard deviations, and correlations of study variables

Variable	*M*	1	2	3	4	5	6	7	8	9
1. Peer communication	3.25	.82								
2. Compulsive buying, obsessive–compulsive	2.39	.35	1.28							
3. Compulsive buying, impulse-control	3.66	.33	.66	1.45						
4. Socio-oriented family communication	3.14	.14	.06	.16	.86					
5. Concept-oriented family communication	3.16	.14	−.03	−.10	−.12	.66				
6. Intangible family resources	4.12	.07	−.11	−.05	−.17	.54	.85			
7. Stress	1.01	.06	.08	.03	−.01	−.18	−.30	1.99		
8. Family disruptions (duration)	8.31	.01	.02	.02	.11	−.16	−.28	.42	10.78	
9. Family disruptions (count)	1.59	.02	.06	.01	.09	−.21	−.36	.55	.62	1.13

NOTE.— Standard deviation reported on the diagonal.

high compulsive buyers. Based on this benchmark, 110 respondents (22.3%) would be considered compulsive buyers.

Family resources

This study employed the same four items and response format used by previous researchers (Rindfleisch *et al.*, 1997; Roberts *et al.*, 2003) to measure intangible family resources. The item "discipline" was excluded due to poor factor loading (<.40) in the prior study of 327 undergraduates. Factor loadings ranged from .81 to .84 (CR = .89, AVE = .67).

Family communication

Consistent with the results of a prior study of 327 undergraduates (Baker et al., 2013), the present study also found that several of the items originally developed by Chaffee and McLeod (see Rubin *et al.*, 1994) to measure the socio-oriented and concept-oriented family communication had weak loadings (<.30) and were excluded from the present analysis. Three items were retained to measure socio-oriented communication in this study, and four items were retained to measure concept-oriented communication (Table 2). Loadings for the retained items ranged from .52 to .71 between the two constructs (CR = .82, AVE = .53 for both scales).

Peer communication

This study employed the measure of peer communication about consumption that had been used in previous consumer socialization studies (e.g., Churchill and Moschis, 1979).

Table 2. Questionnaire items and CFA results

Construct/measure	Loading	SE	*Z*-val
Comp. buying, impulse-control (AVE = .75, CR = .90)			
I buy things I don't need.	.82	.02	44.7
I buy things I did not plan to buy.	.87	.02	56.1
I consider myself an impulse purchaser.	.90	.01	65.0
Comp. buying, obsessive–compulsive (AVE = .69, CR = .87)			
My closet has unopened shopping bags in it.[a]	.74	.02	30.5
Others might consider me a 'shopaholic'.[a]	.90	.02	56.8
Much of my life centers around buying things.	.86	.02	48.8
Socio-oriented communication (AVE = .37, CR = .63)			
Say that their ideas were correct and you shouldn't question them.	.71	.06	12.8
Answer your arguments by saying something like "You'll know better when you grow up."	.57	.05	11.0
Say you shouldn't argue with adults.	.52	.05	10.3
Concept-oriented communication (AVE = .41, CR = .74)			
Stress that you should make your own decisions on things that affected you.	.59	.04	15.2
Say that you should always look at both sides of an issue.	.62	.04	16.7
Emphasize that every member of your family should have some say in family decisions.	.66	.04	18.3
Say that getting your ideas across is important even if others don't like it.	.70	.03	20.8
Peer communication (AVE = .53, CR = .82)			
You ask your friends for advice about buying things.	.80	.03	32.0
You and your friends talk about buying things.	.68	.03	22.8
Your friends ask you for advice about buying things.	.79	.03	31.8
Your friends tell you what things you should or shouldn't buy.	.63	.03	18.9
Intangible Resources (AVE = .67, CR = .89)			
Time and attention	.81	.02	41.7
Life skills and instruction	.81	.02	41.4
Emotional support and love	.81	.02	41.8
Role modeling and guidance	.84	.02	46.4

χ^2 (df) = 336.90 (219), CFI = .976, AIC = 36 575.24, RMSEA (90% C.I.) = .033 (.026–.040), SRMR = .032. Compulsive buying items were measured on a 7-point Likert scale (1 = strongly disagree, and 7 = strongly agree, except items marked by [a], which were measured on a 7-point scale anchored by 1 = never, and 7 = very often). Socio-oriented, concept-oriented, and peer communication were measured on a 5-point scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Quite Often, 5 = Very Often). Intangible resources was measured on a 5-point scale (1 = Inadequate Support, 5 = Exceptional Support).

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Four items (loadings .63 to .80) from the initial scale were used for the study; other items were not included in the present study due to poor loadings (<.40).

Disruptive family events

Although data were collected on the same10 disruptive events used in previous studies (Rindfleisch *et al*., 1997; Roberts *et al*., 2003), the life course principle of "linked lives," which focuses on parents' experience of life events that affect their children (e.g., Elder, 1998), suggested the use of only those events that relate to the youth's interface with his or her parents over which a youth has little control (temporary parental absence, loss/separation from family members, not living with both biological parents, physical abuse by parents, and family arguments), excluding those over which the youth has control (Amato and Sobolewski, 2001; Johnson and Bradlyn, 1988). The five items comprised the index measure of *disruptive family events*. The *duration of disruptive family events* measure was calculated as the total number of months during which respondents endured the disruptive family events they personally experienced. Such composite measures have been used in life course studies (e.g., Crosnoe and Elder, 2002; Moen *et al*., 1992). Because each event may occur independently of the other events, the composite measures of events experienced is not expected to display interval consistency (e.g., Kim *et al*., 2003).

Family stressors

This study adopted the same scale and response format used in previous studies (e.g., Rindfleisch *et al*., 1997; Roberts *et al*., 2003) to assess stress due to disruptive family events. Given that each event can affect one differently and respondents had experienced different numbers and types of events, from a psychometric standpoint, formative measurement is appropriate (Jarvis *et al*., 2003).

DATA ANALYSES AND RESULTS

Model and hypothesis testing

The tested model is presented in Figure 1, CFA results are reported in detail in Table 2, and structural model results are summarized in Table 3. While the CFA produced a significant $\chi 2$ ($\chi 2$ (df) = 336.90 (219), $p < .001$), the model showed good approximate fit (CFI = .976; SRMR = .032; RMSEA = .033) according to Hu and Bentler (1999). The approximate fit indices for the structural model also indicated good approximate fit: ($\chi 2$ (df) = 365.3 (231), $p < .001$, CFI = .971, SRMR = .041, RMSEA = .034). We also estimated models that included covariates for social

Table 3. Results of the life course model

	Hypotheses and perspective	Coefficient	SE	*Z*-val
Family stress (R^2 = .32)				
Family disruption (+)	H1a (s)	.48***	.05	9.41
Disruption duration (+)	H1b (s)	.13**	.05	2.74
Peer communication (R^2 = .01)				
Family disruption (+)	H3a (n)	.05	.06	.82
Disruption duration (+)	H3b (n)	.00	.06	.01
Intangible resources (−)	H8 (n)	.10	.06	1.60
Intangible resources (R^2 = .14)				
Family disruption (−)	H4a (n)	−.30***	.06	−5.50
Disruption duration (−)	H4b (n)	−.09	.06	−1.63
Socio-oriented communication (R^2 = .03)				
Family disruptions (+)	H5a (n)	−.01	.07	−.17
Disruption duration (+)	H5b (n)	.07	.07	1.04
Intangible resources (−)	H7a(n)	−.14*	.06	−2.28
Concept-oriented communication (R^2 = .29)				
Family disruption (−)	H6a (n)	−.02	.06	−.30
Disruption duration (−)	H6b (n)	.01	.06	.07
Intangible resources (+)	H7b(n)	.54***	.05	11.11
Comp. buying, impulse-control (R^2 = .14)				
Family stress (+)	H2a (s)	−.01	.05	−.19
Socio-oriented communication (+)	H9a (h)	.10$^+$	.06	1.79
Concept-oriented communication (−)	H10a (h)	−.13*	.05	−2.32
Peer communication (+)	H11a (h)	.33***	.05	6.90
Comp. buying, obsessive–compulsive (R^2 = .13)				
Family stress (+)	H2b (s)	.05	.05	.96
Socio-oriented communication (+)	H9b (h)	.01	.06	.14
Concept-oriented communication (−)	H10b (h)	−.08	.05	−1.41
Peer communication (+)	H11b (h)	.35***	.05	7.25

NOTE.— s = stress perspective, n = normative perspective, h = human capital perspective.
χ^2 (df) = 365.28 (231), CFI = .971, AIC = 31 508.42, RMSEA (90% C.I.) = .034 (.028–.041), SRMR = .041.
$^+p < .10$.
$^*p < .05$.
$^{**}p < .01$.
$^{***}p < .001$.

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desirability (the 10-item measure derived from the Marlowe–Crowne Social Desirability Scale—Strahan and Gerbasi, 1972), gender, age, race/ethnicity, and years of education for the respondent and their parents. None of the covariates were significant nor did their inclusion substantively change the interpretation of the regression coefficients used to evaluate the research hypotheses.

Stress perspective

Both the occurrence of disruptive events (H1a, $\beta = .48$, $z = 9.41$) and their duration (H1b, $\beta = .13$, $z = 2.74$) showed positive direct effects on perceived (felt) stress, as expected. However, the results did not support a direct effect of felt stress on either the impulse-control dimension or the obsessive–compulsive dimension of compulsive buying (H2a and H2b, respectively). In total, these results do not support a stress explanation regarding how disruptive family events experienced during adolescent years are linked to compulsive buying orientations in early adulthood.

Normative perspective

The data do not support direct links between disruptive family events and family communication styles or peer communication tendencies. Family disruptions and their duration did not have significant direct effects on peer communication (H3a, H3b), socio-oriented communication (H5a, H5b), or concept-oriented communication (H6a, H6b). The occurrence of family disruptions did have a significant direct effect on intangible family resources (H4a, $\beta = -.30$, $z = -5.50$), but the duration of family disruptions did not have such an effect (H4b). Further, intangible family resources had a negative direct effect on socio-oriented family communication (H7a, $\beta = -.14$, $z = -2.28$) and a positive direct effect on concept-oriented family communication (H7b, $\beta = .54$, $z = 11.11$), as expected. Intangible family resources did not have a significant negative direct effect on peer communication (H8). These results suggest that disruptive events may indirectly affect family and peer communication patterns through changes in intangible resources. The indirect effects of disruptive events on the three communication constructs were also estimated using the delta method to compute the standard errors (Muthén and Muthén, 2007). The indirect effect of disruptive family events on concept-oriented communication was negative and significant ($-.16$, $z = -4.83$), and the indirect effect of disruptive family events on socio-oriented communication was positive and significant (.04, $z = 2.10$). The indirect effect of disruptive family events on peer communication was not significant ($-.03$, $z = -1.53$).

Human capital perspective

The hypotheses based on the human capital perspective received mixed support. Socio-oriented family communication had a marginally significant positive direct effect on the impulse-control dimension of compulsive buying ($\beta = .10$, $z = 1.79$), consistent with the expectation of H9a; but it did not have a significant direct effect on the obsessive–compulsive dimension of compulsive buying, providing no support for H9b. Hypothesis 10a was supported, as concept-oriented family communication had a significant negative direct effect on the impulse-control dimension of compulsive buying ($\beta = -.13$, $z = -2.32$), but did not have a significant direct effect on the obsessive–compulsive dimension, providing no support for H10b. Peer communication did have a significant positive direct effect on both the impulse-control dimension of compulsive buying (H11a, $\beta = .33$, $z = 6.90$) and the obsessive–compulsive dimension (H11b, $\beta = .35$, $z = 7.25$), supporting both hypotheses. In total, communication patterns among peers and within the household appear to be related to the impulse-control dimension of compulsive buying, while only peer communication demonstrates a direct effect on the obsessive–compulsive dimension.

SEM reanalysis among subpopulations and latent subgroup mixtures

The life course paradigm recognizes that all individuals do not respond in the same way to the same stimuli or circumstances. "Individual differences in response to adversity can lead to some form of intensification or increased vulnerability, or the amelioration or protection against risk factors that could lead to maladaptive outcomes" (Schoon *et al*., 2002, p. 1487), with the impact of risk factors depending on the proximal social environments such as quality of parenting and interaction with deviant peers (Simons *et al*., 1998). For example, while stress is considered a precursor to the development of impaired self-esteem and the formation of maladaptive behaviors, stressors can also increase adaptive capacity to promote positive development (e.g., McLeod and Almazan, 2003; Thomae and Lehr, 1986). Thus, stressors and socialization processes may have different impact on the formation of compulsive buying tendencies in different subgroups of young adults, as there is evidence which shows that compulsive buying is more common among females (e.g., Faber, 1992). Therefore, it deemed necessary to investigate latent heterogeneity in the influence of our model's variables in the sample.

Based on chi-square difference test procedure outlined by Steenkamp and Baumgartner (1998), the female and male subsample demonstrated full metric invariance and partial scalar invariance (configural model vs. full metric invariance model, $p = .13$; full metric model vs. full metric plus partial scalar model, $p = .05$). This two group SEM was specified equivalent to the original one group model, and the slope paths were allowed to be freely estimated for each group. This model shows good approximate fit (χ^2 (df) = 687.30 (489), CFI = .956, RMSEA = .041, SRMR = .058). The female subsample had a higher estimated mean on the compulsive buying dimensions ($M_{CB,obs} = .66$ and $M_{CB,imp} = .60$ for women vs. $M_{CB,obs} = -.01$ and $M_{CB,imp} = -.01$ for men). However, there were no significant differences on the path coefficients between the male and female subpopulations ($p > .05$) based on between-group path constraint chi-square difference tests. Descriptively, the largest difference between the two groups was the effect of peer communication on the obsessive–compulsive dimension of compulsive buying ($\beta_{men} = .16$ vs. $\beta_{women} = .40$). These results support previous research that

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has reported higher levels of compulsive buying behavior among women (Koran *et al*., 2006). However, this additional analysis does not provide support for gender alone being a meaningful way to distinguish differential influence of life course factors on the manifestation of compulsive buying behaviors. It is possible the sample size of each group suggests only moderate to large differences in path coefficients would be detected (Cohen *et al*., 2003).

Although gender alone does not adequately describe differences in life course influences on compulsive buying levels, it is still likely that different subgroups of children display different levels of sensitivity to how life course events shape compulsive buying behaviors as young adults. To further explore how different, latent, subgroups may exhibit different sensitivities to life course events, a latent variable mixture model was estimated to account for such latent subgroups (Jedidi *et al*., 1997). Other than permitting multiple latent classes or groups, the SEM mixture model was identical to the model previously described. Measurement invariance was specified by holding factor loadings equivalent across groups while measurement error variances were allowed to vary freely. Parameter estimates in the regressions of both compulsive buying dimensions on stress, peer communication, and socio-oriented and concept-oriented communication were allowed to vary between groups, as was the covariance of structural errors between the two compulsive buying dimensions. Other regression coefficients were held equal across groups. This model specification allows for the evaluation of whether qualitatively distinct groups of compulsive buyers may exist and exhibit quantitatively different relationships between their compulsive buying and childhood communication experiences and felt stress from disruptive family events. Table 4 shows the regression coefficients for all of the main effects on the two compulsive buying dimensions.

The two-group mixture solution showed improved fit compared to the original single group model. Akaike Information Criterion (AIC) and sample-size adjusted Bayes Information Criterion (BIC*) for the two-class solution were 31 281.25 and 31 722.1, both values preferable to those for the homogeneity model (AIC = 31 508.42; BIC* = 31 877.89). Model classification of individual participants into one of the two classes was high (entropy = 94.6%).

Classification of individuals by their most likely class membership resulted in assigning 27 per cent to one group and assigning 73 per cent to a second group. The smaller group may be characterized as the High Compulsive Buying group because it is characterized by quantitatively higher factor scores on the obsessive–compulsive dimension of compulsive buying (M_{HighCB} (SD) = 2.35 (.60), M_{LowCB} (SD) = 0.02 (.46)), as well as a large difference between groups on the impulse-control dimension of compulsive buying (M_{HighCB} (SD) = 1.63 (1.30), M_{LowCB}(SD) = 0.08 (1.26)). Figures 2 and 3 depict the cumulative percentage of the sample by the estimated factor score on each compulsive buying dimension within each of the two groups. These scores represent the predicted values of the impulse-control and obsessive–compulsive dimensions for each participant. The distribution of respondent compulsive buying factor scores from the original single-group SEM analysis is included in the figures for comparison. The dotted vertical line in each figure near the value of 1 corresponds to the factor score that most closely corresponds to the compulsive buying delineation point identified in the Ridgeway, Kukar-Kinney, and Monroe (Ridgway *et al*., 2008) study. These diagrams show, for example, that 100 per cent of participants assigned to the "Low Compulsive Buying" group had a factor score on the obsessive–compulsive dimension below 1.0, while more than 95 per cent of participants assigned to the "High Compulsive Buying" group had factor scores above 1.5 on this scale. This indicates minimal overlap across the two groups. On the impulse-control dimension, 22 per cent of participants

Table 4. Select results of the SEM mixture modeling analysis

	Class 1—high comp. buying		Class 2—low comp. buying	
	Coefficient	SE	Coefficient	SE
Comp. buying, impulse-control (R^2)	(*.17*)		(*.11*)	
M (*SD*)	1.63 (*1.30*)		.08 (*1.26*)	
Family stressors	−.10	.10	.00	.06
Socio-oriented communication	.20	.13	.15*	.07
Concept-oriented communication	−.18**	.10	−.13$^+$	.07
Peer communication	.30**	.10	.25***	.06
Comp. buying, obsessive–compulsive (R^2)	(*.46*)		(*.06*)	
M (*SD*)	2.35 (*.60*)		.02 (*.46*)	
Family stressors	.07	.09	.04	.57
Socio-oriented communication	.24	.18	.09	.07
Concept-oriented communication	−.42***	.08	−.03	.07
Peer communication	.45***	.10	.22***	.06

AIC = 31 281.25, BIC = 31 722.1, Entropy = .94.
$^+p < .10$.
$^*p < .05$.
$^{**}p < .01$.
$^{***}p < .001$.

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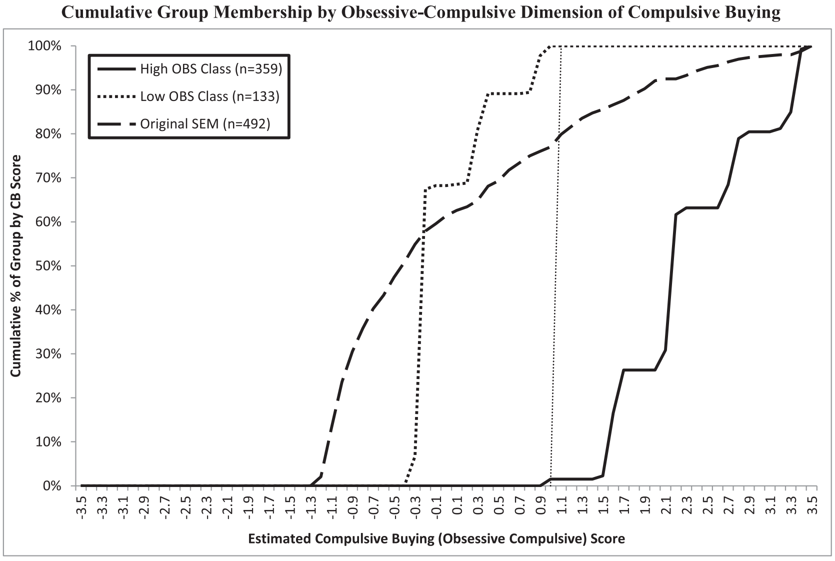

Figure 2. Cumulative group membership by obsessive–compulsive dimension of compulsive buying.

assigned to the "Low Compulsive Buying" group had a factor score above 1.0, while 68 per cent of participants assigned to the "High Compulsive Buying" group had scores above 1.0. Chi-square difference tests indicated that the Low Compulsive Buying group had a significantly greater proportion of white/Caucasian ($p < .001$), Asian ($p < .001$), and males ($p < .001$) than the High Compulsive Buying group.

Of the four regression slopes allowed to differ across groups, only the direct effects of peer communication and concept-oriented communication on the obsessive–compulsive dimension of compulsive buying were significantly different ($p < .01$). The High Compulsive Buying group showed a more positive direct effect of peer communication on the obsessive–compulsive dimension ($\beta = .45$, $z = 4.45$) than did the Low Compulsive Buying group ($\beta = .22$, $z = 3.63$). Concept-oriented communication had a very strong and negative direct effect on the obsessive–compulsive dimension in the High Compulsive Buying group ($\beta = -.43$, $z = -5.22$), while this relationship was not significant in the Low Compulsive Buying group. Note that concept-oriented communication was not significantly related to the obsessive–compulsive dimension of compulsive buying in the single group analysis. These results from latent mixture modeling suggest that growing up in a family communication environment that promotes autonomy and self-expression may have helped to shield at-risk youth from the formation of compulsive buying tendencies. Further, these results point to the limitations of using demographic variables as indicators of compulsive buying. Such variables are somewhat predictive of compulsive buying orientation; however, these variables did not uncover meaningful differences in life event drivers of compulsive buying when used as discrete subpopulation identifiers.

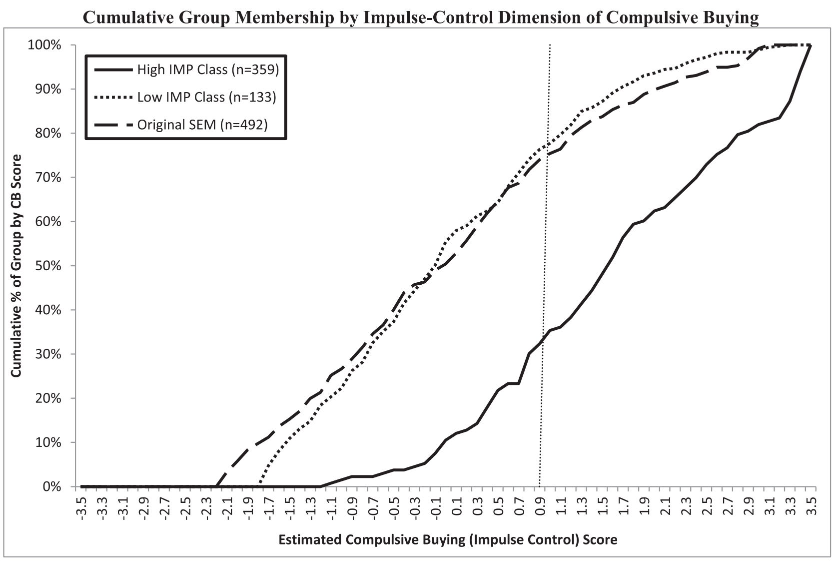

Figure 3. Cumulative group membership by impulse-control dimension of compulsive buying.

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DISCUSSION DIRECTIONS FOR FURTHER RESEARCH

As with any empirical study, our study has limitations that should be noted. First, the sample was a convenience sample of young adult university students, likely biased toward more affluent and educated young consumers, and such range restrictions (Cohen *et al*., 2003) may be partly responsible for nonsignificant findings for some of the hypotheses. Further, although the use of retrospective measures can be justified on the bases of previous consumer studies (e.g., Baker *et al*., 2013; Rindfleisch *et al*., 1997) and research which shows that young people can accurately report stressful times during their adolescent years (Thomae and Lehr, 1986), the reader must keep in mind that retrospective measures of psychological variables have received criticism because of recall error (Henry *et al*., 1994). These limitations notwithstanding, the present study contributes to knowledge and has implications for theory development and further research.

The findings of the present study suggest that stress associated with the experience of disruptive family events may not directly contribute to the development of compulsive buying tendencies. Earlier research has suggested the possibility of other underlying mechanisms for the development of compulsive consumer behaviors such as family socialization practices (e.g., Rindfleisch *et al*., 1997), but research along these lines has been hampered by the lack of theoretical frameworks. Although life course researchers have provided theories that link family disruptions to various forms of maladaptive or problem behaviors (e.g., Hill *et al*., 2001; Simons *et al*., 1998), they have been less explicit as to the mechanisms that link these changes to maladaptive outcomes (Bolger *et al*., 1988; McLeod and Almazan, 2003). In addition, this study is novel in that it separately investigated the influence of life course drivers on the two distinct dimensions of compulsive buying identified by Ridgway and associates. It showed that life course events have a differential influence on the two dimensions, an important insight given that previous compulsive buying scales emphasized the impulse-control dimension and overlooked the obsessive–compulsive dimension. Although recent studies have utilized the new Ridgway scale (e.g., Kukar-Kinney *et al*., 2012), this study demonstrates the importance of investigating both compulsive buying dimensions separately.

The study findings suggest that the effects of disruptive family experiences in early life are indirect, mediated through changes in parent–child relations and interactions with peers. They make a suggestion that it is not the mere experience of family disruptions that has a bearing on the child's relations with his or her parents and friends; rather, it is the reduction in intangible resources associated with family disruptions that impacts the way the child interacts with his or her parents and peers, which in turn may constitute the vehicle for the development of behaviors such as compulsive buying. Furthermore, the findings regarding the role of experiences of disruptive family events and the duration of these experiences are in line with previous life course research which shows that it is the change in the family structure rather than duration of living in a disruptive family that leads to problem behavior (Hill *et al*., 2001). The present study shows how earlier research on compulsive buying can be placed and examined within the broader life course paradigm. It provides additional possible explanations (based on normative and human capital perspectives) that complement stress explanations, which have been the primary bases of previous research on this topic. These earlier perspectives can also be integrated with physiological and developmental explanations of addictive behaviors (e.g., Faber, 1992; Litt *et al*., 2011) and suggest directions for further research.

Future work should focus on specific mechanisms that link family disruptions to compulsive buying within the life course paradigm. Within the life course context, researchers should examine the role of psychological variables, such as self-esteem and anxiety, as mediators of the impact of family adversities (e.g., socioeconomic hardship, reduction in intangible resources) on compulsive buying, as well as the moderating effects of such psychological variables on the influence of other socialization agents, especially peers, on compulsive buying and other maladaptive behaviors. Such efforts would require the employment of longitudinal designs. Also, it would be desirable to study the effects of family disruptions using samples of both children and adolescents, as some compulsive consumption tendencies may begin developing during childhood (Johnson and Bradlyn, 1988; Kessler *et al*., 2005). Such efforts would require the employment of methods that enable researchers to study abrupt and incremental changes in variables of interest over time, such as event history analysis (e.g., Mayer and Tuma, 1990).

Furthermore, it would be desirable to test models across subgroups (ethnic, racial, socio-economic), as such groups may be affected differently by the socialization agents and other mediating factors derived from the life course paradigm. It is unclear whether the demographic differences explored in the present study are just spurious or the manifestations of underlying and unmeasured child rearing practices. Thus, there is need for further systematic inquiry into how mechanisms that link family disruptions to compulsive buying vary across contextual variables or broader social structures (e.g., culture, race, gender), as different cultures and subcultures may be impacted differently by the life course mechanisms. For example, gender differences in compulsive buying (Faber, 1992) may be due to different mechanisms that are linked to such behaviors. Similarly, country-level systematic differences in available human resources may in turn impact the degree to which personal and family resources affect the development of compulsive buying orientations (Neuner *et al*., 2005).

Finally, limited longitudinal studies in other disciplines using the life course paradigm (Simons *et al*., 1998; Simons *et al*., 2002) suggest that impulsive tendencies, which underlie the development of other forms of anti-social behavior, involve developmental processes where "the dependent variables become independent variables over time" (Simons *et al*., 2002, p. 221). A similar developmental process may underlie the onset of compulsive buying tendencies. It might be that the two dimensions of compulsive buying do not develop concurrently and that impulse-control compulsive buying develops earlier and, in turn, leads to the development of obsessive–compulsive buying. The developmental sequence, timing of their onset, and duration of these tendencies, as well as methods for studying them, are congenial to life course research (e.g., Mayer and Tuma, 1990; Mortimer and Shanahan, 2003).

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Nostalgia's fulfillment of agentic and communal needs: How different types of self-concepts shape consumer attitudes toward nostalgia†

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ABSTRACT

This research investigates how consumers' different types of self-concepts (agentic vs. communal) shape their attitudes toward nostalgia. Experiment 1, using a two (self-concept: agentic vs. communal) by two (nostalgia: nostalgic vs. non-nostalgic) between-subjects design and a series of multivariate analysis of variance and Hayes's PROCESS Model 8, showed that agentic and communal participants' preference was not increased in the non-nostalgic condition but was increased in the nostalgic condition. Self-concept indirectly influenced participants' preference for the nostalgic product through different functions of nostalgia; Agentic participants' likelihood of buying a nostalgic product and recommending it to others increased through enhanced self-positivity, whereas communal participants' likelihood of buying a nostalgic product and recommending it to others increased through enhanced social connectedness. In Experiment 2, these results were replicated in the context of a public education campaign, and participants' chronic self-concepts were measured. Participants with different chronic self-concept tendencies were randomly assigned to nostalgic or non-nostalgic conditions and were asked to indicate their attitudes toward the campaign. As in Experiment 1, a series of regression and Hayes' PROCESS Model 8 revealed that agentic and communal participants' attitudes were not enhanced in the non-nostalgic condition but were enhanced in the nostalgic condition. Agentic (communal) individuals' favorability toward the nostalgic message about advocacy increased through enhanced self-positivity (social connectedness). It appears that consumers with different self-concepts (agentic vs. communal) experience enhanced feelings relevant to their self-concepts (self-positivity vs. social connectedness) when presented with nostalgic appeals for an object, and these heightened feelings drive an increased preference for it.

Recently, General Mills launched five of its best-selling cereals in retro boxes with fun package designs from the 1960s and 1980s (Elliott, 2009; Wong, 2010). Pepsi introduced throwback versions of Pepsi and Mountain Dew with retro packaging and promotions and even modified these products to taste like they had in the 1960s and 1970s (Horovitz, 2011). Microsoft promoted the latest version of Internet Explorer by targeting consumers who grew up in the 1990s with the tagline "You grew up. So did we." Arby's, the fast-food chain, also waxed nostalgic with its new promotion: In honor of reaching 2 million Facebook fans (Weissman, 2013), Arby's introduced Donell Norblom, who was its 2-millionth customer in 1970, in a video ad as a part of a customer-loyalty program meant to connect past and present (Ad Week, 2013).

Since 1950s, marketers have been connecting customers with their memories by adding a mix of nostalgic components to their promotional campaigns (Salinas, 2013). The findings of a recent study on Brand Power Index rankings indicated that doing so enhances brand affinity, social media buzz, and consumer interest (Ad Week, 2013). NBCUniversal (2013) noted that brands evoking nostalgic feelings resonate strongly with their target consumers and thereby rank on the top of its Brand Power Index. Nostalgic brands enhance consumers' brand familiarity, trust, and brand preferences by reminding them of childhood memories and imprinted emotions (Braun-LaTour *et al*., 2007; Holak and Havlena, 1998; Schindler and Holbrook, 2003). Consumers using nostalgic products better recall the past (Goulding, 2001), feel more connected with the past and people (Brown *et al*., 2003; Goulding, 2001; Loveland *et al*., 2010), and are more likely to volunteer and donate (Zhou *et al*., 2012a).

The goal of the research reported here was to advance our understanding of the processes by which consumer attitudes toward nostalgia are shaped. Specifically, this research examines how nostalgia functions differently depending on consumers' self-concepts. Self-concepts are the ways in which people perceive themselves (Morse and Gergen, 1970). People often conceptualize themselves according to two basic aspects of human beings: agency and communion (Bakan, 1966; Wiggins, 1991). Agency represents personal interests and values such as self-assertion, self-improvement, self-protection, and self-esteem. Communion, on the other hand, focuses on social bonding, connections with others, kindness, cooperation, care for others, and group harmony (Bartz and Lydon, 2004). Hence, while agentic individuals tend to show self-centered behavior and try to differentiate themselves from others, communal individuals are inclined to be a part of a group and try to maintain social connections (Bakan, 1966; Wiggins, 1991).

Investigating the role of self-concepts in the influence of nostalgia is important because previous research has shown that consumers purchase products corresponding to their self-concepts as a means of self-expression (Braun *et al*.,

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2002; Kotler and Armstrong, 2012), and nostalgia may fulfill the needs of either personal or social selves (Hart *et al*., 2011; Loveland *et al*., 2010; Wildschut *et al*., 2010). For example, when people engage in nostalgic reflections, they feel high levels of self-positivity (Sedikides *et al*., 2008; Wildschut *et al*., 2006), which satisfies the needs of agentic selves. Nostalgic engagement also enhances feelings of social belongingness (Loveland *et al*., 2010; Wildschut *et al*., 2010), which meets the needs of communal selves. However, these different functions of nostalgia—enhancing the needs of agentic and communal selves—have yet to be tested directly in the field of consumer behavior.

Understanding how agentic and communal self-concepts operate in relation to nostalgia is of great importance to both marketing theoreticians and practitioners, and its interest extends beyond the marketing context that this paper examines. Our findings show that consumers with different self-concepts process nostalgic messages through different functions of nostalgia. This suggests that, to communicate effectively, nostalgic messages should fulfill the functions relevant to consumers' distinct self-concepts. Determining which benefits to communicate to target consumers and how to communicate them is of significant value in the development of persuasive messages and in the more general arena of persuasive communication and advertising effectiveness. To marketing theoreticians interested in the effects of self-concept on decision-making, understanding the processes by which the functions of nostalgia interact with self-concepts to affect consumption will shed light on a gap that has remained largely unexamined. To communication practitioners such as marketers, policymakers, and campaign planners, the effect of the interactive processes between different types of self-concepts (i.e., agentic and communal) and relevant functions of nostalgia (i.e., self-positivity and social connectedness) on consumer behavior and decision-making is important in many consumption and communication contexts. In sum, nostalgia can induce different behaviors from consumers, as it fulfills their different needs. Therefore, identifying the factors that promote an agentic versus a communal individual's positive attitude toward nostalgia is important, because it will help marketers to develop persuasive nostalgic messages depending on consumers' different types of self-concept.

Thus, the present research contributes to the literature on both self-concept and nostalgia. This research shows how nostalgia functions differently for consumers with agentic versus communal self-concepts and suggests message strategies likely to be effective for each group. Although there is evidence that the need for self-positivity is fulfilled by nostalgic experiences (Sedikides *et al*., 2008; Wildschut *et al*., 2006) and the need for social connectedness is satiated by nostalgic engagement (Loveland *et al*., 2010; Wildschut *et al*., 2010), it is not clear how these functions interact with agentic and communal self-concepts. This research demonstrates that agentic consumers depart markedly from their communal counterparts on the processes by which their attitudes toward nostalgia are shaped; Agentic consumers' evaluations of an attitude target with nostalgic components are made favorable through enhanced feelings of self-positivity, whereas communal consumers' evaluations of a nostalgic target are made favorable through enhanced feelings of social connectedness. The next section discusses the theoretical background for these predictions and presents two experiments in which we tested the predicted hypotheses.

DIFFERENT FUNCTIONS OF NOSTALGIA FOR AGENTIC VERSUS COMMUNAL SELVES

Nostalgia, a commonly and frequently experienced feeling, is defined as "a sentimental longing for the past" (Wildschut *et al*., 2006). Nostalgia brings to mind favorable feelings evoked by remembering valuable personal experiences in the past (Holak and Havlena, 1998; Routledge *et al*., 2011; Sedikides *et al*., 2004; Sedikides *et al*., 2008; Zhou *et al*., 2012b). Social psychologists have demonstrated that there are two essential functions of nostalgia: enhancing perceived feelings of social connectedness (Loveland *et al*., 2010; Routledge *et al*., 2011; Wildschut *et al*., 2006; Zhou *et al*., 2012a) and enhancing perceived feelings of social positivity (Hart *et al*., 2011; Sedikides *et al*., 2008; Wildschut *et al*., 2006; Wildschut *et al*., 2010). Wildschut *et al*. (2006) found that individuals engaged in nostalgic experiences rarely described themselves as a sole character. Nostalgic experiences lead individuals to consciously recollect positive relationships with others they had in the past, and this process enhances their feelings of social connectedness. Nostalgia also bolsters feelings of self-positivity. Although nostalgic narratives contain multiple characters, the self is the key player in the nostalgic remembrances. When the self is actively cognized, nostalgic reflections become more positive, and this positive nostalgic engagement induces a redemptive mode through positive self-reflections (Wildschut *et al*., 2006). Pondering nostalgic moments facilitates recollections of positive self-images and thus increases self-esteem (Hart *et al*., 2011; Vess *et al*., 2010; Wildschut *et al*., 2006; Zhou *et al*., 2008).

We propose that these different functions of nostalgia can be facilitated by different types of self-concepts. Nostalgia, which enhances feelings of social connectedness and of self-positivity, can fulfill the needs of either personal or social selves. Agentic versus communal self-concepts are the two fundamental modalities of self-conceptualization reflecting whether one is more concerned with one's self or with others (Abele and Wojciszke, 2007; Bakan, 1966).

Agentic individuals show a self-oriented tendency and try to acquire position and power and to be different from others. Self-esteem and positive self-regard are the dominant characteristics found in agentic individuals. Hart *et al*. (2011) demonstrated that nostalgia serves a self-positivity function for highly narcissistic individuals, who are likely to adopt agentic self-concepts. By enhancing feelings of self-positivity, nostalgia is likely to satiate agentic individuals' need to feel good about themselves and thus lead them to favorably evaluate an attitude target with nostalgic components. Therefore, we predicted that agentic individuals'

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attitudes toward nostalgia would be shaped by enhanced self-positivity.

Communal individuals are more concerned with others. They strive for harmony and cooperation in order to maintain social ties within the community (Bakan, 1966; Bartz and Lydon, 2004; Wiggins, 1991). By enhancing feelings of social connectedness, nostalgia is likely to satiate communal individuals' social needs for harmonious relationships with others and to strengthen relational bonds. Therefore, we predicted that individuals with communal self-concepts would favorably evaluate an attitude target with nostalgic components because of enhanced social connectedness.

Two experiments tested these predictions. Experiment 1 examined how nostalgia in an advertising context functioned differently for agentic and communal participants. To further generalize the role of different functions of nostalgia depending on different types of self-concepts, experiment 2 investigated the relationship between nostalgia and self-concepts in the context of a public education campaign.

EXPERIMENT 1

The purpose of this experiment was to test the predicted hypothesis that nostalgia functions differently when consumers have agentic versus communal self-concepts. We predicted that consumers' favorable evaluations of an attitude target would be found only when they evaluated a product with—not without—nostalgic components. A two (self-concept: agentic vs. communal) by two (nostalgia: nostalgic vs. non-nostalgic) between-subjects design was employed to test these predictions.

Method

Stimuli

A fictitious nostalgic Starbucks advertisement was created by adopting Muehling and Sprott (2004) approach. To induce participants' nostalgic feelings, Starbucks's 1971 logo was inserted into the ad and nostalgic taglines emphasizing a meaningful past moment were used: "Re-live the moment — the good old days. It was a time like no other. Remember? Past is too meaningful to let it pass you. And, Starbucks was there. Two extraordinary Starbucks Reserve Coffees have returned." For the non-nostalgic condition, Starbucks's current logo was inserted into the ad and taglines emphasizing a meaningful present moment were used: "Live the moment - A moment just like this. A stop in the scene. Present is too meaningful to let it pass you. And, Starbucks is there. Two extraordinary Starbucks Reserve Coffees have launched." To manipulate agentic versus communal self-concepts, the ads were designed to include images of objects, people, or events that characterized either agency or communion. To activate agentic self-concepts, images of people that reflected successes, achievements, and aspirations were inserted into the agentic ad (Hart *et al*., 2011). To trigger communal self-concepts, the communal ad was designed to include images depicting people with family, friends, and loved ones (Hart *et al*., 2011). To enhance external validity, we used existing product images and information drawn from the Starbucks website (http://www.starbucks.com).

Procedure

One hundred fifty-seven undergraduates (95 women, 62 men; average age = 21 years) were randomly exposed to one of the four versions of the advertisement in a two (self-concept) by two (nostalgia) design. To ensure successful agentic versus communal self-concept manipulation, two different measures were used. First, participants were given the following measure: "How you would describe the content of the Starbucks ad you saw above? For each adjective provided below, please indicate the degree to which you agree or disagree that the Starbucks ad contains the following subjects." Participants then responded to 16 items drawn from Hart *et al*. (2011) and presented in a random order; half of the items comprised agentic and half communal objects, and ratings for each item were made using a seven-point scale (1 = strongly disagree, 7 = strongly agree). To further ensure successful self-concept manipulation, we asked participants to rate the Starbucks ad on a randomly ordered set of 16 items taken from the Personal Attributes Questionnaire (PAQ; Helmreich *et al*., 1981), using seven-point scales (1 = strongly disagree, 7 = strongly agree). Among the 16 items, eight described agentic traits (e.g., "independent," "competitive," and "decisive") and the other eight described communal traits (e.g., "emotional," "able to devote the self to others," and "gentle").

Next, participants were asked to rate two items, each reflecting how strongly they felt self-positivity ("Looking at the above ad makes me feel 'I have many positive qualities,' 'good about myself' "; $r = 0.83$) and social connectedness ("Looking at the above ad 'makes me feel connected to loved ones,' 'makes me feel loved' "; $r = 0.89$), using seven-point scales (1 = strongly disagree, 7 = strongly agree; Wildschut *et al*., 2006; Hart *et al*., 2011). Participants then indicated their intention to purchase the advertised product (1 = not at all likely, 7 = very likely) and to recommend it to others (1 = not at all likely, 7 = very likely). Finally, participants were provided with a dictionary definition of nostalgia as "a sentimental longing or wistful affection for a period in the past" ("Nostalgia," from The New Oxford American Dictionary) and three items to measure their nostalgic feelings ("Right now, I am feeling quite nostalgic," "Right now, I am having nostalgic feelings," and "I feel nostalgic at the moment"; 1 = strongly disagree, 7 = strongly agree; Wildschut *et al*., 2006).

Results

Manipulation check

To check the self-concept manipulation, we created agency ($\alpha = 0.843$) and communion ($\alpha = 0.916$) indexes by averaging agentic and communal objects' scores. A repeated measures analysis of variance (ANOVA) with objects as a within-subjects factor and self-concept as a between-subjects factor revealed that participants rated the ad with agentic contents as significantly more agentic than the ad with communal contents ($F(1, 155) = 98.42$, $p < 0.01$, $M_{\text{agentic}} = 4.25$, $M_{\text{communal}} = 3.53$). On the other hand, participants evaluated

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the ad with communal contents as more communal than the ad with agentic contents ($M_{\text{agentic}} = 3.31$, $M_{\text{communal}} = 4.83$). To further confirm the successful manipulation of agentic and communal self-concepts, we averaged the responses to each set of eight agentic and communal trait scores to create agentic ($\alpha = 0.847$) and communal ($\alpha = 0.910$) trait indexes. Results from a repeated measures ANOVA with traits as a within-subjects factor and self-concept as a between-subjects factor indicated that participants rated the ad with agentic contents as higher in agentic than communal traits ($F(1, 155) = 41.99$, $p < 0.01$, $M_{\text{agentic}} = 3.60$, $M_{\text{communal}} = 3.07$). In contrast, they rated the ad with communal contents as higher in communal than agentic traits ($M_{\text{agentic}} = 3.89$, $M_{\text{communal}} = 4.83$). To check whether the nostalgic ad induced nostalgic feelings as intended, we averaged the responses to the three items measuring feelings of nostalgia to form a nostalgia index ($\alpha = 0.937$). Participants in the nostalgic condition felt significantly more nostalgic feelings than did those in the non-nostalgic condition ($F(1,155) = 7.59$, $p < 0.01$; $M_{\text{nostalgic}} = 4.11$, $M_{\text{non-nostalgic}} = 3.43$). To check whether the self-concept manipulation affected the extent to which participants felt nostalgia, a one-way ANOVA comparing the effect of agentic versus communal self-concept on the nostalgia index was conducted. The results revealed a significant effect of self-concept. Participants in the agentic condition felt more nostalgic feelings than did those in the communal condition ($F(1, 155) = 5.53$, $p = 0.02$; $M_{\text{agentic}} = 4.07$, $M_{\text{communal}} = 3.49$). However, when the self-concept and nostalgia manipulations were both included as factors, the main effects on the nostalgia index of self-concept ($F(1, 153) = 5.84$, $p = 0.017$) and nostalgia ($F(1, 153) = 7.83$, $p = 0.006$) were significant, but that of the self-concept by nostalgia interaction ($F(1, 153) = 0.38$, $p = 0.541$) was not significant. The insignificant interaction effect between the self-concept and nostalgia manipulations determined that the significant effect of the self-concept manipulation on the induced nostalgic feelings would not affect our investigation of how the functions of nostalgia (i.e., self-positivity and social connectedness) operated depending on consumers' different types of self-concepts. Even though agentic stimuli induced more nostalgic feelings than did communal stimuli, the nostalgic feelings induced by the nostalgia manipulation were higher in the nostalgic condition than in the non-nostalgic condition.

Purchase and recommendation intentions

A two (self-concept: agentic vs. communal) by two (nostalgia: nostalgic vs. non-nostalgic) between-subjects multivariate analysis of variance revealed significant main effects of nostalgia, indicating that the nostalgic ad enhanced both purchase and recommendation intentions (Wilks's lambda $F(2, 152) = 19.79$, $p < 0.001$; purchase intention: $F(1, 153) = 37.40$, $p < 0.001$, $M_{\text{nostalgic}} = 4.02$, $M_{\text{non-nostalgic}} = 2.40$; recommendation intention: $F(1, 153) = 37.30$, $p < 0.001$, $M_{\text{nostalgic}} = 4.06$, $M_{\text{non-nostalgic}} = 2.52$). The main effects of self-concept and the self-concept by nostalgia interaction were not significant (all $p > 0.1$). Thus, agentic versus communal self-concept did not directly influence purchase and recommendation intentions for the advertised product regardless of nostalgic feelings.

Self-positivity and social connectedness

A two (self-concept: agentic vs. communal) by two (nostalgia: nostalgic vs. non-nostalgic) between-subjects multivariate analysis of variance on self-positivity and social connectedness revealed significant main effects of nostalgia, showing that the nostalgic ad boosted both self-positivity and social connectedness (Wilks's lambda $F(2, 152) = 9.85$, $p < 0.001$; self-positivity: $F(1, 153) = 8.39$, $p < 0.01$, $M_{\text{nostalgic}} = 3.60$, $M_{\text{non-nostalgic}} = 2.92$; social connectedness: $F(1, 153) = 17.46$, $p < 0.01$, $M_{\text{nostalgic}} = 4.20$, $M_{\text{non-nostalgic}} = 3.07$). The significant main effects of self-concept revealed that agentic self-concept enhanced self-positivity and communal self-concept increased social connectedness (Wilks's lambda $F(2, 152) = 14.01$, $p < 0.001$; self-positivity: $F(1, 153) = 6.90$, $p = 0.01$, $M_{\text{communal}} = 2.96$, $M_{\text{agentic}} = 3.56$; social connectedness: $F(1, 153) = 11.68$, $p < 0.01$, $M_{\text{communal}} = 4.10$, $M_{\text{agentic}} = 3.18$). The self-concept by nostalgia interaction effects were also significant (Wilks's lambda $F(2, 152) = 6.63$, $p < 0.01$; self-positivity: $F(1, 153) = 3.87$, $p = 0.05$; social connectedness: $F(1, 153) = 4.86$, $p < 0.05$). Contrasts for self-positivity and social connectedness by self-concept across nostalgic versus non-nostalgic conditions showed that in the nostalgic condition, agentic self-concept enhanced self-positivity by yielding a significant effect of self-concept on self-positivity ($F(1, 81) = 12.52$, $p < 0.01$; $M_{\text{nostalgic/communal}} = 3.06$, $M_{\text{nostalgic/agentic}} = 4.13$), whereas in the non-nostalgic condition, self-concept had no effect on self-positivity ($F(1, 72) = .18$, $p > 0.1$; $M_{\text{non-nostalgic/communal}} = 2.85$, $M_{\text{non-nostalgic/agentic}} = 3.00$). Communal self-concept elicited social connectedness by generating a significant effect of self-concept on social connectedness in the nostalgic condition ($F(1, 81) = 16.43$, $p < 0.001$; $M_{\text{nostalgic/communal}} = 4.96$, $M_{\text{nostalgic/agentic}} = 3.44$). The effect of self-concept on social connectedness was not significant in the non-nostalgic condition ($F(1, 72) = 0.71$, $p > 0.1$; $M_{\text{non-nostalgic/communal}} = 3.24$, $M_{\text{non-nostalgic/agentic}} = 2.91$).

Different functions of nostalgia for agentic and communal self-concepts

To examine whether nostalgia functioned differently for agentic versus communal participants, we investigated the mediating roles of self-positivity and social connectedness in agentic versus communal participants' intentions to buy and recommend a nostalgic versus non-nostalgic product using Hayes's PROCESS Model 8 (Hayes, 2013). Following the bootstrapping procedures described by Hayes (2013), we ran two mediation models, one for purchase intention and the other for recommendation intention, using 5000 bootstrap samples for bias-corrected bootstrap confidence intervals. The nostalgic condition was coded as 1 and the non-nostalgic condition as 0, and the communal condition was coded as 1 and the agentic condition as 2. The interactive relationship between self-concept and nostalgia significantly affected social connectedness ($\beta = -1.19$, $t = -2.20$, $p < 0.05$) and self-positivity ($\beta = 0.91$, $t = 1.97$, $p = 0.05$), which then

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enhanced purchase intention ($\beta_{\text{social connectedness}} = 0.47$, $t = 6.95$, $p < 0.001$; $\beta_{\text{self-positivity}} = 0.29$, $t = 3.75$, $p < 0.001$; Figure 1a). There were significant conditional indirect effects of self-concept on purchase intention through social connectedness ($\beta = -0.71$, $SE = 0.20$, 95% confidence interval [CI] [-1.18, -0.38]) and self-positivity ($\beta = 0.31$, $SE = 0.12$, 95% CI [0.12, 0.61]) in the nostalgic condition. As expected, there were no significant conditional indirect effects of self-concept through social connectedness ($\beta = -0.15$, $SE = 0.19$, 95% CI [-0.57, 0.19]) or self-positivity ($\beta = 0.04$, $SE = 0.11$, 95% CI [-0.16, 0.28]) on purchase intention in the non-nostalgic condition.

The results for recommendation intention (Figure 1b) also indicated that the interactive relationship between self-concept and nostalgia significantly influenced social connectedness ($\beta = 1.19$, $t = -2.20$, $p < 0.05$) and self-positivity ($\beta = 0.91$, $t = 1.97$, $p = 0.05$), which then enhanced recommendation intention ($\beta_{\text{social connectedness}} = 0.56$, $t = 9.83$, $p < 0.001$; $\beta_{\text{self-positivity}} = 0.24$, $t = 3.52$, $p < 0.001$). There were significant conditional indirect effects of self-concept on recommendation intention through social connectedness ($\beta = -0.86$, $SE = 0.22$, 95% CI [-1.31, -0.46]) and self-positivity ($\beta = 0.25$, $SE = 0.09$, 95% CI [0.11, 0.49]) in the nostalgic condition. As predicted, the conditional indirect effects of self-concept through social connectedness ($\beta = -0.19$, $SE = 0.23$, 95% CI [-0.67, 0.24]) and self-positivity ($\beta = 0.04$, $SE = 0.09$, 95% CI [-0.13, 0.23]) on recommendation intention were not significant in the non-nostalgic condition.

DISCUSSION

The results of Experiment 1 indicate that nostalgia functioned differently for agentic versus communal participants.

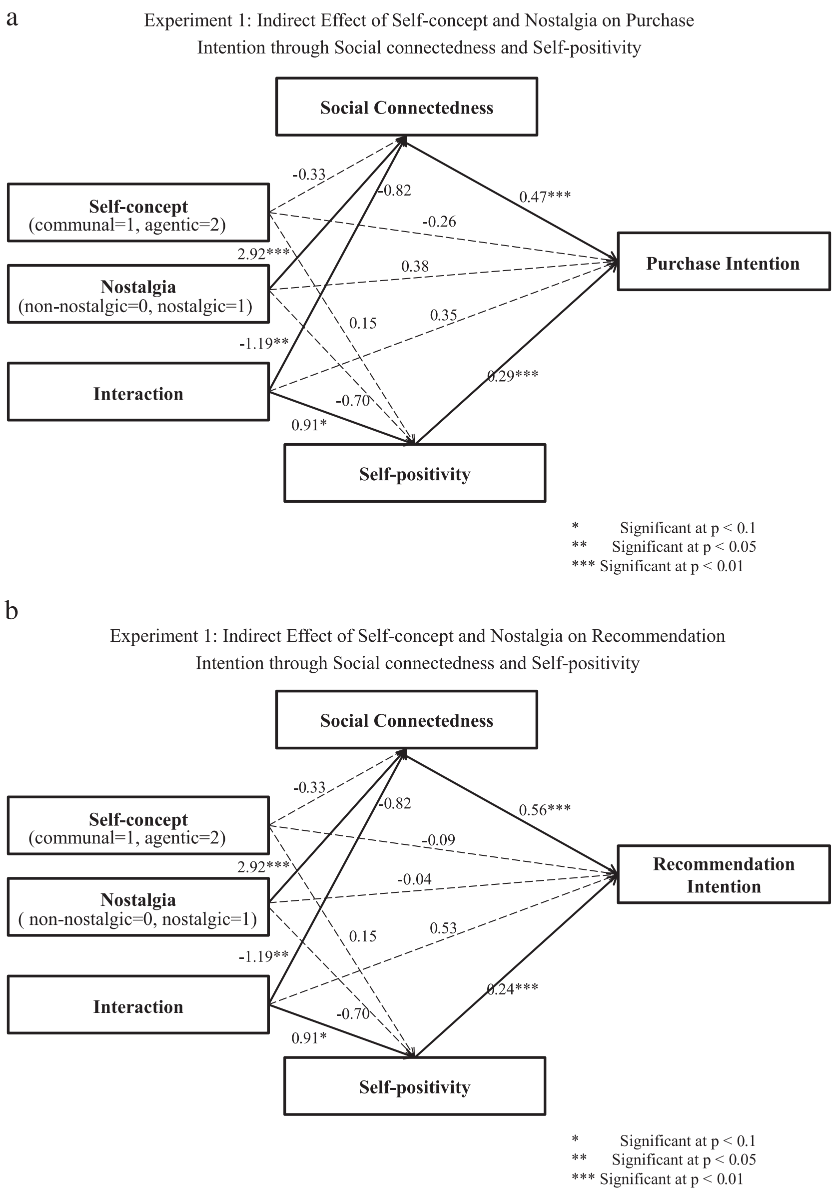

Figure 1. (a) Experiment 1: Indirect effect of self-concept and nostalgia on purchase intention through social connectedness and self-positivity. (b) Indirect effect of self-concept and nostalgia on recommendation intention through social connectedness and self-positivity.

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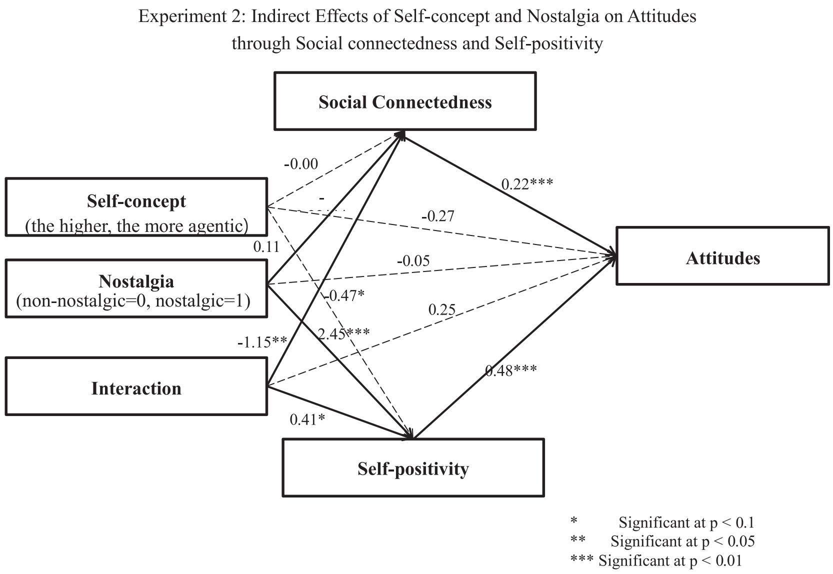

Figure 2. Experiment 2: Indirect effects of self-concept and nostalgia on attitudes through social connectedness and self-positivity.

Agentic participants were more likely to buy a nostalgic product and recommend it to others through enhanced self-positivity, whereas communal participants were more likely to buy a nostalgic product and recommend it to others through enhanced social connectedness. The fact that there were no significant indirect effects of self-concept through social connectedness and self-positivity on purchase and recommendation intentions in the non-nostalgic condition further confirms the different functions of nostalgia depending on different self-concepts.

Experiment 2 tested the theory in a different context using a different dependent variable. Given that self-concepts are chronically shaped by culture and social systems throughout one's life (Kitayama *et al*., 1997; Lee *et al*., 2000), we operationalized self-concepts as chronic tendencies by measuring them using the PAQ.

EXPERIMENT 2

Experiment 2 employed a self-concept (continuous) by nostalgia (nostalgic vs. non-nostalgic) between-subjects design in which participants' self-concepts were measured and the nostalgia variable was manipulated.

Method

Stimuli

We created two versions of fictitious advocacy messages for public education campaigns with taglines meant to elicit versus not elicit nostalgic feelings. The fictitious campaign was about creating a pleasant school environment without violence. The tagline added to induce nostalgic feelings read, "It was a time like no other. Remember? Passing around secret notes with your classmates during class hours, eating lunch at break times, hiding comic books under a textbook." The non-nostalgic read, "A moment just like this. A stop in the action. Texting with your classmates during class hours, snaking at break times, and hiding smartphones under a textbook" (Appendix).

Procedure

Two hundred thirty-two adult participants (111 women, 121 men; average age = 31 years) took part in the experiment. Participants were asked to evaluate themselves using the PAQ. Next, they were asked to review fictitious public education campaign messages with either nostalgic or non-nostalgic taglines. After reviewing these advocacy campaigns, participants responded to the three items used in Experiment 1 to check nostalgic feelings, two items perceived self-positivity ($r = 0.94$), and two items perceived social connectedness ($r = 0.87$). Finally, they rated the campaign messages on how persuasive, effective, useful, helpful, impactful, and informative they were, using seven-point scales.

Results

Manipulation check

To check whether the two different versions of the campaign (nostalgic vs. non-nostalgic) successfully manipulated nostalgia as intended, a nostalgic-feelings index ($\alpha = 0.918$) was created by averaging participants' scores on the three nostalgic-feeling measures obtained from Wildschut *et al.* (2006). A one-way ANOVA on the nostalgic-feelings index with nostalgia (nostalgic vs. non-nostalgic) as a between-subjects factor revealed that participants in the nostalgic condition felt significantly more nostalgia than did those in the non-nostalgic condition ($F(1, 230) = 43.52$, $p < 0.001$, $M_{\text{nostalgic}} = 4.01$, $M_{\text{non-nostalgic}} = 2.81$). As in Experiment 1, we checked whether the self-concept by nostalgia interaction effect was significant on the nostalgic-feelings index. To confirm that the self-concept by nostalgia interaction did not affect the induced nostalgic feelings, agency ($\alpha = 0.710$) and communion ($\alpha = 0.800$) indexes were created

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by averaging responses to each set of eight agentic and communal trait items from the PAQ. An index for the continuous measure of a self-concept was formed by subtracting the participants' communion index score from their agency-index score. The higher the self-concept score, the more agentic the participant was. Regressing the nostalgic-feelings index on the self-concept index by the nostalgia interaction revealed that the interaction effect on participants' felt nostalgia was not significant ($\beta = -0.17$, $t = -1.04$, $p = 0.30$).

Attitudes

An attitudes index was created by averaging the six attitude items ($\alpha = 0.98$). Regression analysis on attitudes using nostalgia (0 = non-nostalgic, 1 = nostalgic), the continuous measure of the self-concept index, and the self-concept by nostalgia interaction as independent variables showed that the main effect of nostalgia was significant ($\beta = 1.65$, $t = 6.68$, $p < 0.01$). The main effect of self-concept and the self-concept by nostalgia interaction effect on attitudes toward the campaign ad were not significant ($p > 0.1$).

Self-positivity and social connectedness

The results of regressing self-positivity on nostalgia, self-concept, and the self-concept by nostalgia interaction indicated that nostalgia ($\beta = 2.45$, $t = 11.12$, $p < 0.001$) and the nostalgia by self-concept interaction had significant effects on self-positivity ($\beta = 0.41$, $t = 1.73$, $p = 0.085$). Separate regression analyses were conducted for the nostalgic and non-nostalgic message conditions. Self-concept score significantly increased self-positivity, that is, higher agentic disposition increased self-positivity ($\beta = 0.52$, $t = 2.46$, $p < 0.05$) in the nostalgic condition, whereas it had no impact on self-positivity in the non-nostalgic condition ($\beta = 0.11$, $t = 1.34$, $p > 0.1$).

Another regression analysis examining the effects of nostalgia and self-concept on social connectedness revealed a significant main effect of nostalgia ($\beta = 2.22$, $t = 10.59$, $p < 0.001$) and a significant interaction effect of nostalgia and self-concept on social connectedness ($\beta = -0.47$, $t = -2.10$, $p < 0.05$). Separate regression analyses for the nostalgic and non-nostalgic message conditions also revealed a significant effect of self-concept on social connectedness in the nostalgic condition ($\beta = -0.48$, $t = -2.60$, $p < 0.05$), whereas the effect of self-concept on social connectedness was insignificant without the presence of nostalgic feelings ($\beta = -0.01$, $t = -0.04$, $p > 0.1$). As predicted, the effect of self-concept on self-positivity and social connectedness emerged only when the campaign advocacy triggered nostalgic feelings.

Different functions of nostalgia for agentic and communal self-concepts

Results from analyses using Hayes's PROCESS Model 8 (Hayes, 2013) indicated that the interaction between self-concept and nostalgia significantly affected social connectedness ($\beta = -0.47$, $t = -2.10$, $p < 0.05$) and self-positivity ($\beta = 0.41$, $t = 1.73$, $p = 0.085$), which led to enhanced attitudes toward advocacy ($\beta_{social} = 0.44$, $t = 7.82$, $p < 0.001$; $\beta_{self} = 0.57$, $t = 11.10$, $p < 0.001$). Further, the bootstrapping procedures using 5000 bootstrap samples revealed significant conditional indirect effects of self-concept on attitudes through social connectedness ($\beta = -0.11$, $SE = 0.06$, 95% CI [-0.26, -0.02]) and self-positivity ($\beta = 0.25$, $SE = 0.11$, 95% CI [0.07, 0.49]) in the nostalgic condition. As expected, in the non-nostalgic condition, there were no significant conditional indirect effects of self-concept through social connectedness ($\beta = -0.00$, $SE = 0.03$, 95% CI [-0.05, 0.07]) or self-positivity ($\beta = 0.05$, $SE = 0.04$, 95% CI [-0.02, 0.14]) on attitudes.

DISCUSSION

The results of Experiment 2 not only replicated those of Experiment 1 in a different context but also supported our hypotheses concerning the mechanism underlying the effect of nostalgia on attitudes for individuals with agentic and communal self-concepts. Agentic individuals' attitudes toward the campaign message were enhanced through self-positivity, whereas communal individuals' attitudes toward the message were enhanced through social connectedness. As in Experiment 1, participants' attitudes in the non-nostalgic condition were not enhanced. These results further confirmed that different functions of nostalgia (self-positivity vs. social connectedness) induced favorable reactions toward the advocacy message among agentic versus communal participants.

The results of Experiment 2 also showed that the effect of agentic versus communal self-concepts on a nostalgic target evaluation generalized from the context of a product advertisement in Experiment 1 to that of a public education campaign. More importantly, the results of Experiment 2 demonstrated that the previous finding of different functions of nostalgia interacting with temporarily manipulated self-concepts was also found for individuals with chronically different self-concept tendencies.

GENERAL DISCUSSION

The present research investigated the processes through which consumer attitudes toward nostalgia are shaped. We investigated the nostalgia effect through enhancement of not only social connectedness but also self-positivity, which has so far been under-researched as a function of nostalgia, especially in the field of consumer psychology. The results of the two experiments indicate that agentic individuals become more favorable toward a nostalgic target because they feel enhanced self-positivity, whereas communal individuals become more favorable toward the nostalgic target because they feel enhanced social connectedness. Experiment 1 showed that agentic individuals' purchase and recommendation intentions for a nostalgic product were shaped by their enhanced feelings of self-positivity, and communal individuals' purchase and

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recommendation intentions for the nostalgic product were shaped by their enhanced feelings of social connectedness. Experiment 2 replicated these findings among participants with chronic agentic versus communal self-concept tendencies in the context of a public education campaign.

The current research makes several theoretical contributions. First, it adds to recent work on behavioral preferences for nostalgic products in consumer behavior (e.g., Loveland *et al*., 2010). Different from prior research, which considered individual differences in nostalgic dispositions (Batcho, 1998; Holbrook and Schindler, 1994) or examined drivers of nostalgic feelings (Holbrook, 1993; Wildschut *et al*., 2006), the current research revealed that consumers experienced an increased preference for an attitude target with nostalgic appeals through a distinct function of nostalgia (i.e., self-positivity vs. social connectedness) relevant to consumers' self-concepts (i.e., agentic vs. communal). The argument that the message about advocacy using nostalgic appeals fulfilled relevant needs of agentic and communal individuals through different functions of nostalgia and thus led to an increased preference is a new insight suggesting message strategies likely to be effective and persuasive.

Second, the conceptual relationship between nostalgia and different self-concepts investigated in the current research provides us with a novel perspective on consumer behavior. The impact of the relationship between these two constructs on persuasion has not been directly examined thus far. Our demonstration of the mediating roles of self-positivity and social connectedness makes a theoretical contribution to the nostalgia and self-concept literature. In particular, the findings in our two experiments showing the indirect effects of self-concept and nostalgia on attitudes through self-positivity and social connectedness render us a better understanding of the role that nostalgia plays in satisfying the needs relevant to consumers' different types of self-concepts.

Third, prior research (e.g., Routledge *et al*., 2006; Wildschut *et al*., 2006) has suggested that nostalgia serves the function of filling an emotional gap when individuals experience negative affect in the face of threat; in contrast, the current findings suggest that an attitude target with nostalgic appeals elicits positive evaluations by fulfilling needs relevant to consumers' self-concepts even in the absence of threat. These findings are consistent with Loveland *et al*. (2010) recent findings showing increased preference for nostalgic products when the need to belong is activated as a relevant goal without explicit threat.

A final contribution of the present research is that it extends the applicability of nostalgia to a public campaign context. The societal implications of nostalgia are substantial, but little research has been done to test and apply the theory of nostalgia with socially meaningful stimuli. Therefore, applying nostalgia to the context of public message evaluations in Experiment 2 was an appropriate and desirable excursion for the field of consumer behavior. In line with Zhou *et al*. (2012a) findings showing the relationship between nostalgia and pro-social behavior, the current research demonstrated how the different functions of nostalgia shape agentic versus communal consumers' attitudes toward a public message about advocacy.

The current research also has practical implications for marketers. More generally, this research is of potential significance to the broader topic of advertising and communication effectiveness. When developing persuasive messages, the most critical issue is determining the right benefits to communicate to message recipients and how to communicate them. The interactive processes between different types of self-concepts (i.e., agentic and communal) and functions of nostalgia (i.e., self-positivity and social connectedness) on consumer behavior and decision-making should be important in various contexts. While the current research emphasized advertising and public campaign contexts, the theorization and findings reported here are potentially applicable to other consumption or communication contexts in which persuasive nostalgic messages may be designed to influence message recipients' behavior or decisions. The theory of the present research has implications for understanding how people with different self-concepts may be better persuaded when contemplating their support for a nostalgic political campaign, their purchase of nostalgic retirement plans, their donation to nostalgic charitable events, and the like. For example, firms might achieve better results through a marketing approach featuring communal nostalgic elements when targeting consumers who crave more intimate relationships and wish to fulfill their need for relationships. For consumers wishing to restore positive self-regard and confidence, agentic nostalgic elements representing success, achievement, dreams, and desires should be applied. To the extent that marketing practitioners are able to activate or identify consumers' different self-concepts, they will likely be able to tailor persuasive nostalgic messages that strategically employ relevant elements stimulating the appropriate functions of nostalgia.

Although this research contributes to consumer psychology theories and practices, there are a few limitations suggesting future research directions. The two experiments conducted in this research incorporated agentic and communal self-concepts through manipulation using groups of images in nostalgic ads or assessment of individuals' self-concept as a trait measure. Agency and communion can also be characterized by masculinity and femininity (Terman and Miles, 1936). Agency orientation is associated with male traits and communion orientation with female traits (Kurt *et al*., 2011; Moskowitz *et al*., 1994). Future research can examine whether consumers' gender or a brand's perceived masculinity or femininity influences the effect of nostalgia and self-concept. Moreover, according to Stern (1992), nostalgia marketing is more useful and effective when consumers are worried about the present, regard the future as dark, and wish to go back to the happiness of the "old days." Future research might consider how consumers' different levels of uncertainty about the future are related to different types of self-concepts, and how this relationship shapes consumer attitudes toward nostalgia.

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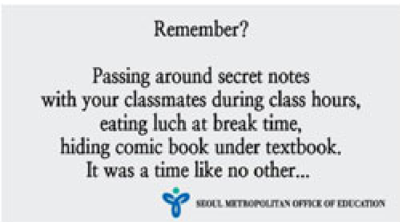
APPENDIX: STIMULI

Experiment 1:
Agentic vs. Communal Nostalgic Advertisement

Agentic vs. Communal Non-nostalgic Advertisement

Experiment 2: Nostalgia vs. Control Advertisement



BIOGRAPHICAL NOTES

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Sharing cathartic stories online: The internet as a means of expression following a crisis event

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ABSTRACT

This research looks at the way that stories were shared online following the magnitude 7.1 and 6.3 earthquakes that hit Canterbury, New Zealand in September 2010 and February 2011. The earthquakes left the city of Christchurch with massive structural, infrastructural and emotional damage as well as leading to 185 deaths. The ground movement was the highest ever recorded to have hit a major city. Four years on, the city is beginning to recover. This research looks at the way in which technology was used as one tool to promote community resilience amongst those affected by the earthquakes and reflects the growing awareness of the contribution that consumer behaviour research can make to disaster research and studies of resilience. Several online tools, social media and online communities, were used by residents in order to cope with the ordeal. We demonstrate that the Internet not only provided a major source of practical information, but also may have facilitated an emotional bond to others in the city and beyond thereby contributing to increased personal and community resilience. We show that the need to share and express one's self following a major crisis event was clearly evident with the volumes of stories submitted, especially when physical travel was impractical or restricted by the authorities. The implications for theories of catharsis and the use of online media during crises are discussed. Policy recommendations regarding the use of online media are also provided as an aid in the victims' emotional recovery from a major crisis. Copyright © 2015 John Wiley & Sons, Ltd.

"I was in a meeting at my work on the sixth floor of the CTV building when it happened…All I remember is holding on while the whole building shook and then getting out and walking home, completely in shock…it wasn't until about 2 hours later that I realised I walked out of the sixth floor on to the street. The whole building had given way below me."

(Charles, Worked in the CTV building that collapsed killing 115 people)

I stood up and told my team it was ok – it had come and gone and we were ok. Then I looked out the window – and watched the CTV building fall down. It was a surreal moment. The building had been there, I had watched it fall – and now, as the dust rose up – through it – just an empty space.

(Mike, Worked in the IRD Building adjacent to the CTV Building)

Few have had the opportunity to experience and survive a natural disaster of the scale felt by the residents of Canterbury, New Zealand on 4 September 2010 and 22 February 2011. The September earthquake measured 7.1 on the Richter scale, 9 on the Mercalli index and was equivalent to 648 kilo tons of TNT or 43 Hiroshima bombs exploding at once (Crowe, 2011). The February earthquake was smaller, at 6.3 on the Richter scale, 8 on the Mercalli index (equivalent to 49 kilo tons of TNT), but it was centred much closer to the city of Christchurch at a shallow depth, causing massive structural and infrastructural damage and leading to the loss of 185 lives. Although tragic, the loss of life was minimal compared to smaller quakes, such as the Haiti earthquake (2010), which left hundreds of thousands dead (Gutman, 2010). In Christchurch, those that survived were left with broken homes, a devastated central business district much of which remains unavailable to the public and significant emotional trauma. Reports of domestic violence rose by 50% immediately after the quake (Lynch, 2010), and overseas therapists were flown into the disaster zone to counsel the residents affected (Gates, 2010). Travel was restricted by the New Zealand Civil Defence in the weeks following the earthquakes, and many traditional meeting places, such as churches, shopping centres, offices, cafes and sports clubs were destroyed or closed for structural safety inspections. In the following months, more community facilities were closed as they were assessed as having a seismic capacity of less than 34 per cent of the new building standard (Rutherford and Cooke, 2012). Much of the public transport network was disabled leaving many physically isolated from society. As a result, many residents turned to the Internet to share their experiences of the earthquake.

This research looks at the use of the Internet as a means for victims to both access information as well as bring a community closer together through residents sharing their experiences online. Examples of online spaces that were used by residents included Facebook, Twitter (with the hashtag #eqnz), the Stuff.co.nz Earthquake Map and Quakestories.govt.nz. By using a narrative analysis we analyse the different ways that people express their experiences of the earthquakes in these online settings and the role that sharing can be a cathartic experience for them and a means of coping with the chaos that follows a natural disaster. We not only show the role of online media as a powerful means of disseminating information and subjective experiences of the earthquake, but also that the Internet also acted as a facilitator of personal introspection and reflection, which could be seen as an invaluable means to aid in the emotional recovery of

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those affected. This research specifically shows the importance of online services and spaces that aid in the transformation and recovery of disaster victims and as such contributes to the growing contribution of consumer behaviour research to disaster and resilience studies (Baker *et al.*, 2007; Baker, 2009; Dube and Black, 2010; Pettigrew *et al.*, 2014) and the more vulnerable members of society (Hill, 2005). Many services are needed in order to recover from a disaster; however, although there is growing recognition of the importance of the Internet as part of the relief effort especially in terms of coordination (Hughes and Palen, 2009; Yates and Paquette, 2010; Gao *et al.*, 2011; Merchant *et al.*, 2011; Dufty, 2012; Zook *et al.*, 2012), its vital social connectivity and resilience function have received little attention. This contribution to consumer welfare and wellbeing through services (Anderson *et al.*, 2013) that allow the sharing of stories is deemed critical, especially when some feel isolated and alone as a result of a disaster. By understanding the behaviour of consumers of technology we aid in the way in which technology not only is used as a means of information dissemination, but also how its consumption and use are directly linked to users' personal benefit. That is, how expression of self and emotions via social media could lead to cathartic experiences. This not only aids consumer researchers in their understanding of online behaviour but also aids social marketers and transformative consumer researchers in their drive to see individual and societal wellbeing maximised, especially post crisis events, such as the one used in this research.

The following sections will outline the literature on disasters and the use of information technology in disaster recovery methods before the methodology used in the current study is presented. Findings and discussion from the current research are then presented before contributions and implications to both theory and policy are presented.

BACKGROUND

The World Bank defines a disaster as, "A serious disruption of the functioning of a community or a society causing widespread human, material, economic, or environmental losses that exceed the ability of the affected community or society to cope using its own resources (Parker, 2006, p. xlix)." Although a number of definitions exist, there is a consensus that disasters affect a large group of people, are out of the realm of normal experience and are traumatic enough to induce psychological distress (Winkworth, 2007).

In a review of 20 years of research on the psychosocial consequences of disasters, Norris *et al.* (2002) found that psychological problems, nonspecific distress, health problems, chronic problems in living, resource loss and problems specific to youth were most frequently found to affect individuals and communities after a disaster, with severe exposure increasing the likelihood of adverse outcomes. Only a minority of people exposed to traumatic events develop long-standing psychiatric disorders (Tedeschi and Calhoun, 2004). In the case of disasters, severe effects are more likely with extreme and widespread damage to property, serious and ongoing financial problems and a disaster that creates a high incidence of injuries, loss of life or threat to life (Norris *et al.*, 2002). Research has consistently found that the poor and other marginalised groups (e.g. children, elderly, women, those in the developing world) are most vulnerable to disaster (Enarson, 2012). However, given the "ripple effect" (Gibson, 1996) of most disasters, there are typically large numbers of people who are indirectly affected (Winkworth, 2007). As Eyre (2006) explains there are a wide range of hidden victims in any disaster situation, and thus it is necessary to provide assistance to both those directly affected (e.g. the bereaved) as well as those indirectly affected or those more distant from the event. That is, resilience is not simply about rebuilding infrastructure but also building back the people and the society after a major crisis (Aldrich, 2012).

Mitchell's (1983) Critical Incident Stress Debriefing (CSID), which advocates debriefings with health care professionals as a post-disaster intervention tool, is the most widely used approach to psychological stress (Hutton, 2001). However, research has questioned the effectiveness of the CISD model (Kenardy, 2000), and other researchers have found approaches, such as talking to family and friends, equally effective (Gist *et al.*, 1998). All this aids in building a community and social capital in an affected area (Aldrich, 2012). Additionally the vast majority of those who experience a disaster recover from the immediate trauma of the event within weeks or months (Salzer and Bickman, 1999), with long-term psychological stress being reflective of the challenges of recovery and rebuilding. Thus, as Hutton (2001) concludes the CSID approach is unlikely to have relevance for the vast majority of those who experience a disaster.

Gordon (2004) suggests a number of approaches to facilitate both individual and community recovery that are relevant to this research. For instance, in order to facilitate bonds through communication, health care workers should establish communication systems that unite the affected communities. Practitioners should, "ensure anecdotes are told that encourage people to communicate about their experiences to each other (p. 21)," and thus enable victims to see what are normal reactions to the experience. Winkworth (2007) argues that communication after a disaster should ideally be a two-way process and multiple channels should be used. The European Network for Traumatic Stress (TENTS) suggests that psychological care activities should include opportunities to listen to and absorb victims' accounts of the incident as well as helping them to piece together their experiences of the disaster. In a longitudinal study of victims of the floods of Kingston-on-Hull in 2007, victims liked the idea of a flood archive to ensure their stories would not be forgotten and others could learn from their experiences (Whittle *et al.*, 2010).

Information technology and crisis events

The literature surrounding disaster recovery efforts is extensive, with much of it focusing on policy implications and practical issues following a major, unforeseen event (c.f. Berke *et al.*, 2008 for a review of the literature). Infrastructure recovery, maintaining order and governmental recovery are all prominent themes from the extant literature. However, relatively little focuses on the needs and voices of the consumer following a crisis event, such as a natural disaster (Baker,

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2009), even though the impact on individuals, informal social arrangements and social ties in a crisis event is considered significant (Norris *et al.*, 2008; Palen and Vieweg, 2008). Despite the high use of the Internet immediately following a major crisis event (Palen and Liu, 2007; Palen *et al.*, 2007), relatively little is known about its role and impact for the individual victims, other than as a practical tool for disseminating and gathering information (Yates and Paquette, 2010; Dufty, 2012; Zook *et al.*, 2012).

Shklovski *et al.* (2010) reported a high use of mobile technology, such as text messaging, immediately following hurricane Katrina in 2005. The main content of the texts were to check friends and family were safe and to gather information about the hurricane. These types of texts not only helped relieve stress associated with the situation but also allowed for a sense of interconnectedness and community during a crisis event that caused significant feelings of isolation (Shklovski *et al.*, 2010). Similarly, Palen and Liu (2007) show extensive use of information communication technology (ICT) to aid tactical and strategic response to crisis events. They also show evidence of ICT as a means of facilitating the spread of news and information from those affected by the crisis event, or *citizen journalism* (Gilmore, 2004). The use of Twitter and other online media as a means of disseminating information from a crisis affected area to the "outside world" is a growing phenomena and one keenly encouraged by news media who cannot readily access the affected areas themselves (Gilmore, 2004; Qu *et al.*, 2009). However, much of the information being passed on is still categorised as extremely practical and for the benefit of those receiving the information, rather than for any benefit to the information provider (Starbird and Palen, 2010). This research takes an alternate approach and focuses more heavily on the role that online activity plays as a means of allowing those affected by crisis to express what they are experiencing to a wider, virtual audience. That is, how is technology mediating the interaction between those affected by crisis and how does that mediated interaction between affected parties allow for communication of their experiences of the disaster event in a way that enhances personal and community well-being and resilience.

Catharsis through expression

The original use of the word *katharsis* in Aristotle's Poetics was in relation to cleansing or purging of one's emotions after viewing or experiencing a tragic event (Whalley, 1997). More recently, the term catharsis has been more closely linked with venting anger to minimise aggressive tendencies, with mixed results (Feshbagh, 1956; Bushman *et al.*, 2001; Bushman, 2002). For example Konecni and Doob (1972) showed that annoyed participants were less likely to display aggressive behaviour when given an opportunity to express their anger and annoyance. This is in line with the experiments of Breuer and Freud (1893) who proposed the hydraulic model of anger, whereby increased retention of negative feelings lead to increased pressure that needs to be purged, resulting in emotional calm. However, Bushman *et al.* (1999) showed contrary results, with participants who were given the opportunity to express their anger more likely to engage in aggressive behaviour. Bushman's (2002) continued work did show that participants who dwell on the actions that made them angry in the first place (*rumination*) felt more anger as time passed; while participants who did not dwell on the actions that made them angry in the first place (*distraction*) felt less anger. However, in both cases, there was no difference in levels of subsequent aggressive behaviours. Again, Kaplan (1975) shows that any form of aggression or expression led to greater levels of hostility in the participants when compared to participants that did nothing at all. In general, the role of catharsis as a means of controlling anger is controversial at best. However, recollection or recounting painful and even fearful events has been shown to be an effective means of confronting one's fears in order to overcome them (Kearney, 2007), while there is also evidence that complaining can be cathartic for customers and lead to greater levels of satisfaction (Bennett, 1997; Nyer, 2000; Clark, 2013). Although there are clearly significant difference in degree between a disaster and product or service-dissatisfaction it nevertheless highlights the importance of being able to talking about a problem or issue in improving state-of-mind.

Kearney (2007) focuses more closely on the Aristotelian meaning of catharsis and describes the power that narrating a prior trauma can have in aiding victims' recovery. Similarly, Spitzer and Avis (2006) show that recounting memories of prior abuse did aid their participants' healing process, but only when the retelling was done as a means to better understand the abuse and improve sense-making regarding the abuse they have suffered. This is supported by Bloom-Feshbach (2001) who promotes that a constructive recounting of a destructive event can aid in the clinical recovery of patients suffering from psychological trauma. However, all of these studies focus on a clinical relationship between a patient and a therapist, with little research investigating the impact that simply sharing one's thoughts and emotions can have on disaster recovery outside of a clinical setting, especially in an online setting.

Vieira da Cunha and Orlikowski (2008) studied the role of online discussion forums as a means of enacting catharsis during times of organisational change. Their study showed that expressing one's feelings did offer employees an opportunity to be heard and save face, but also aided in the organisation to enact the original changes. That is, by discussing issues in a safe, constructive manner, not only are the individuals able to have their voice heard, but those enacting the change or recovery are able to better understand the needs of those they are attempting to aid. Therefore, the question remains, how is the Internet used as a means of sharing one's experiences; and why can sharing one's story online aid the writer? In order to answer this question we adapt Scheff's Theory of Catharsis (Scheff, 1979) to say that that catharsis *is the feeling of relief from tension and increased clarity of thought and perception that follows an emotional discharge*.

METHOD

This research took a netnographic approach to collect data from Stuff.co.nz's Earthquake Map, CEISMIC's Quakestories.govt.nz site, comments shared via Twitter with the #eqnz hashtag

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and stories shared on various Facebook groups, such as Rise Up Christchurch and Christchurch Earthquake Journal. Table 1 outlines the various platforms used and the number of stories analysed from each platform.

Netnography is a methodology that looks to gain greater insights about consumers' lives through participation, observation and personal engagement with participants in an online setting (Kozinets, 2002). As the research site only involves one-way expression of stories there is no option to participate or engage with the users who have posted on the Earthquake Map. As such, the data collection in this case is primarily through observation of posts. This hands-off approach to netnographic research means there is no chance of the researcher influencing the participants' stories. The issue of researcher influence and research bias is particularly pertinent in online studies as it can be difficult if a respondent is actually presenting their real thoughts and self through a mediated platform (Bargh *et al.*, 2002; Ellison *et al.*, 2006; Boyd and Ellison, 2007; Ellison *et al.*, 2007; Hall, 2011).

A total of 1532 stories were posted by affected residents as of January 2013, most of whom discussed their feelings associated with the February 2011 earthquake. Users who posted their stories on the Stuff.co.nz Earthquake Maps were able to self-code their story as being a story that involves "no damage to property", "minor-moderate damage to property", "severe damage to property", "damage to infrastructure or services", "damage to heritage buildings" or "other". Twitter, Facebook and Quakestories accounts did not have the same coding, but more free expression of activities and emotions. As the stories are self-reported by the writers, there is no means of checking the reliability of their accounts. As such, the approach is taken to analyse the account from the perspectives of the narrators and their recollection and perception of the earthquakes.

As the main presentation of data was the expression of self through socially constructed reflexive stories, the use of narrative analysis was deemed most appropriate in this research. Narrative analysis looks to analyse not only the content of the presented data, but the phraseology, structure and the way in which the story is used to express the world view of the individual storyteller (Otnes *et al.*, 2006). In this way, we see stories not as factual accounts, but a means of understanding the culture, identity, perceived truths, sense making strategies and world views of the storytellers (Plummer, 1995). Stories were analysed from the perspective of the storytellers, as much as possible, in order to understand their perception of the crisis event and also the changes that have occurred as a result. That is, not only are we analysing a recantation of the earthquake, but also the ongoing affect that the earthquake has had on the identity and world view of the storytellers. Most of the stories were specific to one storyteller, but there were occasions when a storyteller posted multiple stories as he/she travelled around the city, reflecting on the damage. As the storytellers provided their names we also used those but did not include surnames. Data collection occurred from October 2010 through December 2011. Two coders were used to code the stories and emergent themes were identified both within stories and storytellers and across stories and storytellers (Spiggle, 1994).

FINDINGS

The following section outlines the major emergent themes from the dataset. As to be expected a large number of storytellers described the importance of connectedness and social ties, for example, checking on family members, texting friends to see if they are safe or contacting friends and family overseas to pass on the news. This form of social connection through online communication is well evidenced in the existing literature (Gilmore, 2004; Palen and Liu, 2007; Palen *et al.*, 2007; Qu *et al.*, 2009). As such, rather than reiterating existing theory in a new context, greater emphasis shall be placed on the themes that are unique to this dataset that can aid in extending the current theory and literature. Two themes that do add to the theory on technology use in a crisis event are the role of emotional expression and practical representation.

Table 1. Source of stories used for analysis

Source	Brief description of source type	Number of collected stories from source
Quakestories	Not-for-profit venture to capture stories people recall from the earthquake. Submitters are not restricted by age and are encouraged to speak openly about their personal experience. No commenters or voting allowed for each story.	106
Stuff Earthquake Map	Launched by the online news site www.Stuff.co.nz. The Earthquake map allows individuals to tag spots around the city and report their experiences/damage/information from each area.	231
Facebook	A number of Facebook pages emerged from the earthquakes that aided individuals with connectedness and dissemination of information. Users are able to 'like' a person's contribution and comment on them.	52
Twitter	Twitter allows 140 characters of interaction with others. After the earthquakes Twitter users would use the search hashtag #EQNZ to help others search for and categorise their tweets.	1143

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Emotional expression

As to be expected, a lot of emotions were present at the time of the earthquake. What is interesting is that the recollected stories shared online exhibited high levels of both positive and negative emotion as a result of the earthquake. For example, Lucas tells of his emotions as he drives past his local shops:

> "Driving down Barbadoes street to my home, we pass the edgeware/barbadoes corner shops. Or rather the space where they used to be. I become emotional, starting to get a grasp on what has happened, what my family has been through, and how life in the city I love will never be exactly the same again." (Lucas)

Similarly, Theresa shares the way in which the sudden impact of the earthquake had changed her faith in her own inner strength and her life forever:

> "The earthquake was meant to have only lasted a minute but the impact of that minute will last a lifetime. I have never in all my life thought that I was going to die and on the 4th of September at 4.35 am I was pretty sure my time had come. Up until this point I had thought that I was a strong person." (Theresa)

Similarly, Tina writes that "the heartbreak in the following days of having to see firsthand, not just the damage to this beautiful city, but also family and friends will be forever etched in my memory" (Tina). These storytellers emote not just a sudden shock, as expressed by many who experience a crisis event (Berke *et al.*, 2008), but the lifelong impact that this crisis has had on their life and the city in which they live. This ongoing feeling of dread is exacerbated by more than 4000 aftershocks (Crowe, 2011) that rocked the region following the earthquake, as described by Jane:

> "This quake, and the aftershocks…especially the one on the Wed[nesday] morn[ing], have "damaged" me emotionally. My husband went to Auckland on the Sunday, and by the Mon[day] I was ringing him to come home. I can't sleep in the dark, I'm claustrophobic, and need a TV or radio on to go to sleep. I have taped the handles of the bedroom suite down, so at least the smaller of the night shock don't wake me. I don't think I will ever get used to the aftershocks, and I have lost weight due to nerves." (Jane)

The highly charged nature of the stories is indicative of the emotions felt by those affected and how survivors of crisis events share their stories in order to heal and comfort one another (Walsh, 2004). What is interesting in this case is that there is no familial or plutonic relationship with the receiver of the story. Indeed, there is no known audience at all. The stories are being shared, but are being shared with anonymous recipients. In this case the recipients have no way of interacting back with the storyteller to offer comfort, unlike with more interactive social networking portals, such as Facebook and Twitter. Therefore, the nature of the stories is more of a "sharing out" and less dyadic and reciprocal in nature (Belk, 2010). That is, the stories being shared are there to as a gift to the audience that is outside the familial ties of the storyteller. The unbridled expression of the events and emotions, especially on Quakestories, shows a willingness to express the raw emotions felt during the earthquakes, as demonstrated by Liza:

> "The children were amazingly calm until another huge quake caused a partial collapse of the neighbouring building, the photographers (formerly the Lyttelton Borough Council Chambers); this caused a huge dust cloud to engulf us and set off screaming and cries of 'fire' from the children. I wished my arms could stretch telescopically to cuddle them all, we huddled together and all I could do was reassure them it was brick dust, not smoke. Later on, people who had been on London Street told me they would never forget the sound of those children's screams."
>
> (Liza, Posted on Quakestories)

Liza's shared experience was not just one of being able to show what she felt, but the empathy she showed for others in her care and the expression of others who also experienced her ordeal with the children without being present (hearing the screams from outside). The deeply private nature of these experiences would be retained in personal accounts or lost as time passes and memories fade. Services that allow participants of a crisis event to offer both a historical account of an event as well as to express their experience means that a record is kept indefinitely and the participant is able to process the event in a manner that expresses the event and not ruminate on the emotional experience.

However, not all the expressions of emotions were negative. Many were extremely positive regarding the event, especially in hindsight and after the initial shock of the crisis event had passed. For example, Richard shares his change in emotions while he processes the event:

> "At the time I actually thought it was someone with a sub woofer in their vehicle parked on the street below me close to the building. I opened the window to tell them to shut up and saw the front of a building fall down on the street. By this time I realised it was a severe Earthquake…The feeling at the time it happened was one of excitement mixed with fear. The silence right after it happened made the whole thing more immense as you could hear sirens and fire alarms echoing around the city…In looking back, my response was poor. I was more in awe."
>
> (Richard, Posted on Facebook)

In Richard's story he expresses more of a *eulabeia* or reverential fear, rather than the negatively charged *phobic* terror that other storytellers reported. The fear is still real, but coupled with awe and excitement at the intensity of the situation, offering an almost euphoric effect for Peggy who records: "Outside, I could see the pitch black night like a starless night high up in the sky. It was an amazing sight being able to stare out into such darkness without a single hint of light. I gazed in astonishment" (Peggy). Similarly, Roy remembers "About 6.30 we ventured outside for the first time. A beautiful, frosty morning that belied the night of terror gone before" (Roy). Some even turned to humour

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to recount the event, "I told the kids that I had been so worried about them that I only checked the coffee machine and diet coke supplies before checking on them" (Stephanie). The positive emotions stemming from positive circumstances may have acted as a strong distracter for these storytellers, rather than those that dwelled on negative rumination (Bushman, 2002).

The most common expression of positive emotion was that of thankfulness and joy as people begin to hear that no one was killed in the quake, especially by those posting immediately after the September earthquake and on its anniversary. Posting stories about how friends and family are safe was a common expression during this time:

> "It was quite gobsmacking and humbling to realise the extent of damage to homes and commercial and historical buildings in many places but the most amazing thing was that there was no loss of life, something that Cantabrians will be eternally grateful for. As unsettling as it has been for the region ever since, we are lucky indeed that we are not all in mourning as well."
>
> (Annie, Posted on Stuff Earthquake Map)

Annie was just one of dozens of posts that highlighted the contrast between how devastating the crisis had been, but also how fortunate everyone affected was. Annie is focusing heavily on the positive, as an objective and logical replacement for subjective emotional trauma. This replacement strategy is a commonly used psychotherapeutic technique (Ingram and Wisnicki, 1988), but is often done through training from a counsellor (Stark, 2008; Berry *et al.*, 2010). Here, the storytellers are doing this autonomously through their stories and again, with no opportunity for response from others.

Although the expression of emotions is a fundamental part of storytelling (Gabriel, 2000), the data also showed a number of stories that had a practical emphasis with an emotionally neutral tone, as shown in the following section.

Practical representation

In stark contrast to the emotively charged stories that some told, others offered very analytical and emotionally neutral recollections. Some storytellers took it upon themselves to post multiple short accounts of damage they observed with photos and locations. For example, one of the most prolific posters, Heath, recalls travelling around the city documenting the devastation, even when curfews and travel restrictions were in place:

> "During the morning and early afternoon of the Saturday following the quake I was traveling around key areas of the city which I knew would have issues. I was attempting to document as much as I could and get first-hand information which I would then be able to use in my capacity as being part of the official response."
>
> (Heath, Posted on Stuff Earthquake Map)

Along with each post Heath includes a photograph and brief description, such as "This photo shows the flooding which occurred at the intersection of Palmers Rd and New Brighton Rd. This flooding was the result of cracking in the well head at the nearby water supply pumping station and ruptures in the water supply mains in the road." The narrative is very formulaic and focuses heavily on the factual, rather than the experience. For example Harriett writes her account of the earthquake:

> "On Saturday 4 September, 2010 at 4.35 am, we were sleeping when a 7.1 magnitude earthquake hit Canterbury. We knew we were being risk-takers by living in Christchurch because its near a faultline. A faultline is the place where two plates meet and when they rub together or the mud and dirt rises the plates split apart and that causes an earthquake."
>
> (Harriett, Posted on Stuff Earthquake Map)

The functional representation of the earthquake by Harriett is almost completely opposite to the emotive responses written by others. The use of logical and practical narratives could be a reflection of the writer's personality or could also be another means of replacing the event with explainable and understandable rationale. The writers who provided these types of narratives did also comment on their feelings of fear and worry, but to a far lesser extent. Some recalled stories of using various forms of technology to stay connected and learn more about what was happening around them, especially when many felt isolated. That is, technology not only provides valuable information that aids in immediate survival, but also offers a sense of connectedness that could aid in long-term recovery.

> "Soon, reports came flooding in via Twitter. Twitter was TOTALLY awesome at this time! If the net had been down (or if we'd lost power) the beauty of it was that we could have used our cellphones to check it and/or post. Buildings had collapsed across town, cars were buried under rubble, forecourts of garage stations lifted. Cracks ran across roads, and mud volcanoes were all over the place. It was pretty hardout!"
>
> (Laura, Posted on Quakestories)

> "A txt from a friend in England put an end to dozing and also made us realise that this was big news if it had reached the other side of the world! As the rest of NZ woke up, more txts arrived from around the country, giving us news that we were eager to hear. It wasn't until about 3 or 4pm that we had power back and could see for ourselves on TV what was going on around us."
>
> (Annie, Posted on Facebook)

> "There we stood around in the driveway, listening to the reports on the radio and making phone calls to friends and family. Being from the UK, I quickly called my mother to ensure she heard the news from me first. I asked my sister to post a message on my Facebook wall saying that we were fine as others had already started to see news on Facebook and post messages asking if we were ok."

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(Mark, Posted on Quakestories)

The fact that these forms of ICT played such a large role in the stories of those who used them shows the importance of technology and online infrastructure during a crisis (Dufty, 2012). Not only did the stability of this infrastructure allow people to pass on news, but also offer solace to friends and family who are unable to learn about the state of those affected in the earthquake.

In this way, the stories become less of a personal account and more of a factual representation of the crisis event. The purpose of these stories could be, as described by Cally, the basis for future research or historical records.

> "1. There was no way you even tried standing up, let alone running for a doorframe (unless you had kids, maybe) 2. The direction of the "swing" was THE most notable thing. 3. How it felt: it felt at the time as though the house was swinging about a metre each way, over and over. I hope these reminiscences are of interest to someone sometime in the future, or maybe just add to the body of experience and you may learn/understand what you need to."

(Cally, Posted on Facebook)

Even without a known or definite audience, Cally chooses to use the site to offer her knowledge to whomever would choose to read it and learn from it. This expression of knowledge and self allowed many to feel they were able to contribute to the recovery effort as well as aid in their own emotional recovery.

Catharsis through expression

The process of expressing one's thoughts in an open forum allowed some to actively focus on the crisis event and process its implications in a structured manner. Many wrote about how distressing the event is to them, but were thankful for the opportunity to share their story, especially for those who were regular tweeters using the #eqnz hashtag, such as:

> "Ok shout out to everyone – thanks for being there when I'm scared or just ranting – I need you #eqnz"

Interestingly, some tweeters anthropomorphised the online support network by creating an identity for the #eqnz community and referring to it in the first person:

> "So glad I can tweet u #eqnz –thanx for the support – couldnt do dis wivout u"

> "#eqnz has been awesome when I cant sleep – Im not alone"

Quakestories.govt.nz also offered some the opportunity to share their story in a permanent form, even when their views were not shared by the general populace, such as Mark, who describes his excitement about the aftershocks:

> "The aftershocks have continued for quite some time, much to the horror of some, but much to my excitement. The gravity of what's happened still blows me away when I think about it. I'm amazed at what actually happened, and that I was a part of it. The Canterbury Earthquake is an experience I shall treasure, and I shall always delight in telling its story, even if an account as long as this still misses most of the details"

(Mark, Posted on Quakestories)

Being able to communicate through online media, even if no one replies directly, offered those affected by the earthquakes a means of feeling connected and part of a wider community.

The use of online spaces as a means of expressing emotions was regularly used by younger residents affected by the earthquake. Children were encouraged by some schools to express themselves in narratives so as to release the emotions associated with the earthquakes (Mathewson, 2011). This use of online spaces made expression more accessible (and, in all likelihood, more attractive) to many young people compared with discussing their emotions with a therapist, many of whom were overworked. Parents were encouraged to monitor their children's posts and discuss the emotions expressed. One example is shown in Virginia's recantation of the September 2010 Earthquake:

> "HELP ME!!!
>
> I thought my house and I were sinking into a dark hole at 4.30 on Saturday morning! This experience was worse than a roller coaster and the sound was hurting my ears it sounded like a herd of elephants in my room with everything breaking and crashing around it. Then I hear my Mum shout "Get under your door!" me and my sister got under the door at the same time with nowhere else to go…
>
> With aftershocks still hitting 4.5s, mostly at night time, I'm petrified if it happens again. I'm sure I'll be the first out of there, but I guess I'm lucky to be alive!!"

(Virginia, Posted on Quakestories)

This practice of journaling one's thoughts as a means of developing an understanding of one's emotions and experiences in a logical form is consistent with psychotherapy techniques that encourage journal writing (Stoebe *et al.*, 2002), especially early on in one's recovery (Rabinor, 1991). One could argue that unmonitored expression can be dangerous without the intervention of professional therapy (Bluck and Levine, 1998); however, the fact that many had the ability to express themselves in an open, non-judgemental forum meant that private rumination was not as prevalent and some advancement is made towards expressing potentially suppressed emotions (Stoebe *et al.*, 2002).

DISCUSSION

This research has taken a netnographic approach to understand the use of online forums as a means for victims of a crisis event to express themselves and their views of the

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event. Although it is impossible to know whether these expressions actually lead to any form of tension relief or clarity of thought without interviewing respondents personally, it is possible to see that the participants analysed do present behaviours akin to catharsis. That is, their emotional discharge does offer some form of relief to felt pain, anger or fear (Scheff, 1979). In the current study the forums being used, Stuff.co.nz's Earthquake Map and CEISMIC's Quakestories.govt.nz, were of particular interest as it is more akin to a repository of stories, rather than an interactive or community building site that have been studied in previous research. As such, the site has become a collection of very raw, very powerful stories that traverse from highly emotional and evocative to an objective representation of the facts. Some choose to express their emotions in venting fashion; others choose to replace the negative emotions with positive ones while others simply choose to retell their story in a neutral, almost nonchalant manner. Regardless of the way in which the stories are presented, each story offers the writer the ability to make sense of the event (Palen and Vieweg, 2008) in his or her own way by being able to reflect, comprehend and record his or her thoughts for others to see.

By telling these stories the tellers are not necessarily helping others, although this may be a benefit, but rather using the platform as a means to express themselves (Kaplan, 1975; Ekman, 1984; Bargh *et al.*, 2002). Through this expression some are able to heal (Bloom-Feshbach, 2001), some are able to feel useful (Gilmore, 2004; Palen and Liu, 2007), and some are simply able to express what perhaps they feel they cannot express in face-to-face interactions because of the mediated and anonymous nature of the Internet (Meadows, 2008; Vieira da Cunha and Orlikowski, 2008).

A key theme missing from the data was people's stories regarding cherished or beloved possessions in a crisis event (Ikeuchi *et al.*, 1999; Baker *et al.*, 2007). Despite the literature discussing the importance of cherished possessions to identity (Curasi *et al.*, 2004; Lastovicka and Sirianni, 2011) very few stories discussed the importance of lost possessions. As such, one can reason that the attachment to an object may be explainable and identifiable, but in the event of a life changing crisis, the object of desire does not become a salient theme for discussion (Rosenblatt *et al.*, 1989; Greenberg *et al.*, 1990), or in a crisis situation material possessions are devalued in favour of interpersonal relationships (Baker *et al.*, 2007). This use of a trigger event or crisis as a means of repatterning consumption practices is very much in line with Holt's (1997) perspective on consumption and altering of consumption practices. In this manner, we show that a crisis event led to a substantive altering of online use and consumption by some users and that this repatterning could lead to an altered association of use between users and technology in the future. As marketers, this offers a deeper understanding of how technology and consumer interactions operate during different life events and the impact that social media consumption plays in, possibly, promoting personal recovery after a crisis.

The use of more interactive online media, such as Twitter, offered some users a sense of *communitas* or deep community spirit, togetherness and solidarity (Turner, 1964). Communitas is often restricted to physical spaces but is clearly evident in many of the online communities where interactivity exists. Rather than being a transient form of communitas, the ongoing interactions through years of aftershocks have ensured that many in the online community are able to form normative communitas where a city affected by a series of crisis events is kept in a period of extended liminality (Beech, 2011). Many traditional meeting places where communitas would be formed after a crisis event, such as cafés, churches and community halls were either inaccessible because of damaged infrastructure or unsafe to occupy. As a result, alternative "meeting" place were created in online spaces to make residents feel connected to their wider community and to a worldwide support network sending messages of hope and resilience to those affected.

Key implications from this research include the importance of allowing individuals to be able to tell their stories and the significance of having spaces and places where shared experiences can be fostered, even when the recipient of the story is unknown. As with previous literature (Yates and Paquette, 2010; Dufty, 2012; Zook *et al.*, 2012), this research highlights the importance of technology facilitated communication. However, in this research there is greater emphasis on the importance of online technology not just as a means of sharing practical knowledge or ensuring the safety of loved ones, but also as a means of being able to introspect, reflect and express one's thoughts about an event. Although not all writers "vented" their emotions as suggested by some psychologists, the expression was still able to be cathartic to some as they felt their story could be valuable or useful. The importance that the individual victims are given a voice in the aftermath of a crisis is also evident in this research and future research should continue to investigate ways in which victims' stories can be heard, reflected upon and learnt from.

Implications specific to public policy are also evident from this research. Although many counsellors were available for those affected, many still turned to, and continue to turn to, online engagement as a way to make sense of the crisis. Fostering greater use of online communities, online engagement and encouraging expression online would be an early step in helping those who may not feel comfortable expressing their fears in a face to face situation. Similarly, when infrastructure is heavily damaged or persons feel trapped, the use of online technology to mediate the victim and the outside world is crucial. Many of the writers here expressed the importance of ICT in the first moments following the earthquake. The functional importance of maintaining a stable ICT infrastructure in the wake of an emergency is well recognised; however, the emotional importance for those affected and the immediate contribution this makes to individual and community social resilience has not received the attention it deserves. Finally, the importance of community and connectedness is alluded to in this research. Although not covered in great depth here, many writers spoke of how the event brought the community and family closer together. The importance of ICT to foster this type of connectedness to the greater whole is hugely important immediately following a major crisis event. Future research

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should focus on validating the theories presented here that emotional discharge over a proximal distant medium, such as social media, can still lead to catharsis and that this catharsis can aid in individual and community wide recovery after a major crisis event. By doing this marketers would be better placed to understand means and measures to encourage such behaviour and drive online emotional expression to aid in disaster recovery practices as well as aid in understanding the mental wellbeing of a community. By understanding how technology has been consumed in this manner by its users were are now better positioned to understand a more nuanced association between technology consumers and their behaviour following a crisis event. We are, therefore, better able to explain over-expression of emotion via social media by some of its users as not simply attention seeking (Asur and Huberman, 2010), but rather as a means of self-therapy through catharsis.

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The effect of price discounts on green consumerism behavioral intentions

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ABSTRACT

Green consumerism encourages consumers to demonstrate environmentally friendly behavior for protecting the environment and health of human beings. For example, if consumers wish to purchase take-out beverages, they are encouraged to bring their own cups or water bottles rather than use disposable cups. This study, through 2 experiments, discussed the use of price discounts for encouraging green consumerism behavioral intentions. Experiment 1 examined the relationships among a green promotion setting, perceived nonmonetary and monetary sacrifice, and purchase intention toward the list price. The results of hierarchical regression models based on 120 valid questionnaires showed that perceived nonmonetary sacrifice fully mediated the relationship between a green promotion setting and the purchase intention toward the list price. Experiment 2 investigated the relationship between price discount levels and frames and a green or general promotion setting used by take-out beverage shops. The results of the analysis of variance based on 900 valid questionnaires demonstrated that (i) the variation in consumer purchase intention in response to green consumerism promotion was lower than that in response to general promotion; (ii) the price discount threshold used in green consumerism promotion was 20%, which was higher than that in a general promotion setting; and (iii) consumers preferred a percentage discount offered during green consumerism promotion; however, they preferred a discount with a specific dollar amount in a general promotion setting. These results provide suggestions for improving green marketing and green consumerism.

INTRODUCTION

To protect the environment and health of human beings, firms are encouraged to adopt a green marketing strategy that offers environmentally friendly or ecofriendly products (Grewal and Levy, 2008; Kotler and Armstrong, 2008). Whereas green marketing focuses on the responsibility of businesses toward the environment, green consumerism emphasizes the role of consumers in environmental protection (Ottman, 1998; Smith, 2000). Green consumerism encourages consumers to cultivate an environmentally friendly behavior. For example, if consumers wish to purchase take-out beverages, they are encouraged to bring their own cups or water bottles rather than use disposable cups. Firms selling take-out beverages are also encouraged to offer price discounts to those who bring their own cups. However, this prompts the question as to whether this price discount strategy is effective. In other words, how can firms plan a successful price discount strategy in a green consumerism context?

The aforementioned price discount strategy is defined as a green consumerism promotion strategy. After reviewing related literature, we observed that recent studies have investigated numerous topics related to green consumerism from consumer perspectives, such as consumer behavior toward ecolabeling (Sønderskov and Daugbjerg, 2011; Yau, 2012) and green product cues (Ewing *et al*., 2012), the development of consumer choice, and in relation to green consumerism (Moisander *et al*., 2010), indications of lifestyle and family roles and the family process leading to green commitment (Grønhøj, 2006; Grønhøj and Ölander, 2007; Haanpää, 2007), attitude–behavior inconsistency in environmental consumerism (Gupta and Ogden, 2009), motivational complexity of green consumerism (Moisander, 2007), narratives of green consumer segmentation (Jain and Kaur, 2006; Autio *et al*., 2009; Finisterra do Paço and Raposo, 2010; Huttunen and Autio, 2010), and factors influencing green purchase behavior, such as the perceived seriousness of environmental problems (Dagher and Itani, 2014) and product attributes and value (Schuitema and de Groot, 2015). However, these findings do not seem to provide answers regarding consumer intention toward price discount strategies in a green consumerism context. Regarding purchase intention, the theory of planned behavior ([TPB] Fishbein and Ajzen, 1975; Ajzen, 1991) proposes three considerations that lead to the formation of behavioral intentions; however, the rationale for purchase intention in a green consumerism context remains unclear. Therefore, this study explored the purchase intentions of consumers in response to price discounts in a green consumerism promotion context.

Green consumerism is critical to the environment; hence, we discuss the effect of discounts offered on take-out beverages on the basis of whether consumers bring their own cups to the store (i.e. green consumerism promotion) or use the cups that the store offers (i.e. general promotion). The major difference in buying take-out beverages from a green setting and a general setting is based on whether consumers are willing to make additional efforts to bring their own cups, which is considered as a perceived nonmonetary sacrifice. Perceived sacrifice, derived from consumer perceptions of monetary and nonmonetary sacrifices, describes what must be given up or paid to exhibit a certain behavior (Zeithaml, 1988; Monroe, 2003). A review of studies on perceived sacrifice indicates that studies have discussed perceived monetary sacrifice (e.g. the price required to buy products) with respect to the dual role of price (Bornemann and Hombury, 2011; Chang, 2013) and examined perceived nonmonetary sacrifice (e.g. the effort, time, and energy invested to obtain products) in online (Lin *et al*., 2013; Li and Cheng, 2014),

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service (Luk *et al*., 2013), and price promotion research (Xia *et al*., 2010). Perceived nonmonetary sacrifice seems critical in a green consumerism promotion setting; however, few studies have investigated this topic. This study addresses the literature gap to enrich the research on perceived sacrifice.

Furthermore, this study clarified the relationship between perceived nonmonetary and monetary sacrifice. Consumers who bring their own cups (i.e. perceived nonmonetary sacrifice) may experience a loss in terms of investing additional efforts; however, they may gain by paying less money (i.e. perceived monetary sacrifice). The interrelated gain-and-loss context in a green consumerism promotion setting reflects the essentials of the prospect theory (Kaheneman and Tversky, 1979; Thaler, 1985). The prospect theory claims that the value function is defined as perceived gains and losses and that the utility of losses weighs heavier than that of gains. Based on the prospect theory, a large price discount may be required to compensate the heavier loss of consumers bringing their own cups for buying take-out beverages. The smallest price discount (i.e. the discount threshold) that would encourage consumers to bring their own cups for buying take-out beverages should be clarified. In addition to the price discount threshold, price discount framing is a crucial factor influencing consumer price perceptions (Hardesty and Bearden, 2003; Chandrashekaran, 2004; Darke and Chung, 2005; Kim, 2006). Therefore, this study also investigated the price discount threshold and frames for inducing consumers with notable willingness to bring their own cups in a green consumerism promotion setting.

In summary, we compared price discounts used in green consumerism promotion with those used in general promotion to determine the key factors influencing consumer behavior toward take-out beverage purchase, for example, consumer internal evaluation in perceiving sacrifice, the discount threshold, and the form of price discounts. Therefore, we addressed the following research questions: (i) Do consumers perceive different types of sacrifice in green consumerism and general promotion settings? (ii) What is the price discount threshold in green consumerism promotion? (iii) Does the form of the discount (specific amount vs. percentage) influence consumer purchase in green consumerism promotion? Several hypotheses were developed on the basis of the perspectives of perceived sacrifice, the TPB, and the prospect theory, and two experiments were designed to address these research questions. The results of this research address the crucial role of perceived nonmonetary sacrifice, clarify the relationship between perceived sacrifice and the prospect theory, and provide practical suggestions for green marketing strategies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Purchase intention and perceived sacrifice in green consumerism settings

Consumers are gradually becoming aware that their individual consumption behavior affects the environment and that engaging in environmentally friendly behavior and green purchase intention can help achieve a sustainable environment (Dagher and Itani, 2014). Based on the TPB (Fishbein and Ajzen, 1975; Ajzen, 1991), human behavior is guided by three considerations that lead to the formation of a behavioral intention: beliefs about the likely outcomes of the behavior and the evaluation of the outcomes (attitude toward the behavior), beliefs about the normative expectations of others and motivation to comply with these expectations (subjective norm), and beliefs about the presence of factors that may facilitate or impede the behavioral performance and the perceived power of these factors (perceived behavioral control). Green purchase intention means that consumers are willing to buy green products or prefer green promotion campaigns with a positive attitude toward green consumerism, influenced by the subjective norm of environmental protection and favorably perceive behavioral control (Chan and Lau, 2001; Chowdhury and Samuel, 2014). A literature review on green purchase intention indicated that many studies have examined the antecedents of green purchase intentions, including environmental perceptions (Dagher and Itani, 2014), self-serving motives (Schuitema and de Groot, 2015), types of green claims (Chen and Lee, 2015), and perceived value and risk of green products (Koller *et al*., 2011; Chen and Chang, 2012; Wu *et al*., 2015). However, despite the green concern expressed in many studies, only 16% of people were estimated to act on green purchase behavior (Mahoney, 2011), and a green gap, the distance between the stated importance of protecting the environment and the actual behavior to help the environment, existed (Mahoney, 2011; Gleim and Lawson, 2014). Gleim and Lawson (2014) suggested that the green gap exists because of several reasons, of which price is the most common. This finding may correspond to the phenomenon that firms selling take-out beverages offer price discounts to encourage customers to bring their own cups. However, can this effectively encourage green purchase intention and why? In terms of price discounts reducing the perceived sacrifice of consumers (Monroe and Krishnan, 1985), this research proposed that perceived sacrifice plays a critical role in explaining purchase intentions in a green consumerism context.

Perceived sacrifice, derived from consumer perceptions of monetary and nonmonetary sacrifice, describes what must be given up or paid to exhibit a certain behavior (Zeithaml, 1988; Monroe, 2003). Product price can be considered the most direct monetary sacrifice (Monroe and Krishnan, 1985). Consumers perceive a monetary sacrifice whenever they pay money to obtain products or services. In general or green consumerism promotion, a price discount can reduce the payment of consumers, thus reducing their monetary sacrifice. By contrast, a nonmonetary sacrifice may involve spending time, money, or other resources unsatisfactorily for purchasing and consuming a product (Zeithaml, 1988; Monroe, 2003). Consumers may perceive a nonmonetary sacrifice associated with green consumerism promotion because of additional efforts required for engaging in green consumerism (i.e. bringing their own cups). To compensate the additional efforts of consumers in a green consumerism context, a price discount is often offered as a gain to

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consumers. However, despite the price discount offered, some consumers do not seem willing to bring their own cups to buy drinks. This phenomenon may be explained on the basis of the prospect theory (Kaheneman and Tversky, 1979; Thaler, 1985). The prospect theory claims that the value function is defined as perceived gains and losses and that the utility of losses weighs heavier than that of gains. Based on the prospect theory (Kaheneman and Tversky, 1979; Thaler, 1985), consumers in green consumerism promotion experience a nonmonetary sacrifice by making efforts to bring their own cups, which is considered a heavy loss. To avoid this loss, consumers tend to accept disposable cups offered by the beverage store with a list price and give up monetary compensation in the form of the price discount offered for bringing their own cups. Therefore, we hypothesized that a green consumerism promotion setting induces an increased perceived nonmonetary sacrifice and that nonmonetary sacrifice mediates the relationship between a green consumerism promotion setting and the purchase intention toward the list price.

H1: Green consumerism promotion results in a higher perceived nonmonetary sacrifice than that in a general promotion setting.

H2: Perceived nonmonetary sacrifice mediates the relationship between a green consumerism promotion setting and the purchase intention toward the list price.

In green consumerism promotion, some consumers may be willing to bring their own cups if the price discount is large. A price discount can reduce monetary sacrifice and provide gains to consumers. Thus, the price discount levels are critical to consumer behavioral intentions in promotion settings. According to the prospect theory (Kaheneman and Tversky, 1979; Thaler, 1985), gains are weighted lighter than losses; therefore, consumers may exhibit higher behavioral intentions only when a higher gain from a higher price discount level is provided to compensate the loss. Thus, a higher price discount level can reduce perceived monetary sacrifice, thereby diminishing the consumer purchase intention toward the list price. Hence, we hypothesized that the relationship between the price discount levels and purchase intentions toward the list price is mediated by perceived monetary sacrifice.

H3: A larger price discount results in a lower perceived monetary sacrifice than that in a general promotion setting.

H4: The relationship between the price discount level and purchase intention toward the list price is mediated by perceived monetary sacrifice.

Based on previous discussions, consumers may experience a difficult decision-making process regarding whether to pay the list price for disposable cups offered by stores or to earn the price discount by bringing their own cups. This struggling decision-making process may be conceptualized as a social dilemma (Gupta and Ogden, 2009; Chowdhury and Samuel, 2014), which may be optimally reflected by a variation in consumer purchase intentions, defined as the difference between purchase intentions toward a price discount and those toward a list price. In a green consumerism context, some consumers may exhibit a positive attitude toward the green behavior and follow the normative expectation of a green consumer on the basis of the TPB (Fishbein and Ajzen, 1975; Ajzen, 1991), and therefore be willing to bring their own cups to protect the environment and earn price discounts. However, some consumers may rather pay the list price because of the notable nonmonetary sacrifice perceived in terms of bringing their own cups, impeding the performance of green purchase intention based on the TPB (Fishbein and Ajzen, 1975; Ajzen, 1991). Thus, the average variation in consumer purchase intentions (toward price discounts and the list price) may be lower in a green consumerism promotion context. By contrast, consumers in a general promotion setting can easily gain a price discount because of their positive attitude toward the behavior and without the burden of additional efforts, impeding the behavioral performance based on the TPB (Fishbein and Ajzen, 1975; Ajzen, 1991); therefore, most consumers exhibit an increased purchase intention toward a price discount, resulting in increased average variation in consumer purchase intentions. Thus, we hypothesized that the variation in consumer purchase intentions in response to green consumerism promotion is lower than that in response to a general promotion.

H5: The variation in consumer purchase intentions in response to green consumerism promotion is lower than that in response to a general promotion.

Price discount threshold and price frames in a green consumerism promotion setting

Offering a price discount to encourage consumers to bring their own cups for buying take-out beverages is a common policy for protecting the environment and health of human beings, and the discount threshold indicates the smallest price discount required to induce consumer willingness to bring carryout cups for purchasing take-out beverages. This concept is similar to that of Weber's law, which mentions a just noticeable difference (Webb, 1961). Weber's law states that the response of a person to a change in a stimulus and a just noticeable difference in the stimulus intensity are related to a constant fraction of the initial intensity level (Lambert, 1978). Researchers have discussed price thresholds (Kalwani and Yim, 1992; Kalyanaram and Little, 1994; Han *et al*., 2001; Ofir, 2004; Terui and Dahana, 2006) and discount thresholds (Gupta and Cooper, 1992; Marshall and Leng, 2002; Krider and Han, 2004) on the basis of the concept of Weber's law. Della Bitta and Monroe (1980) empirically determined that U.S. consumer purchase intentions are increased by a minimum of a 15% discount in promotional activities. Marshall and Leng (2002) observed that the promotion threshold for consumers in Singapore is approximately a 10% discount. Thus, this study clarified the minimum discount required in a green promotion setting and whether it is different from or the same as that observed in past research.

Based on the definition of discount threshold proposed by Gupta and Cooper (1992), the price discount threshold in a green promotion refers to the smallest price discount that

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could increase the purchase intention of consumers to bring their own cups to buy take-out beverages. On the basis of the definition proposed by Gupta and Cooper (1992), consumer purchase intention toward the list price, that is, no price discount, is insignificant. Therefore, we measured variations between purchase intentions toward the price discount and list price to analyze the price discount threshold. In green consumerism promotion settings, because of the substantial sacrifice perceived in terms of bringing cups for purchasing take-out beverages, consumers may desire to obtain a higher price discount to offset the perceived nonmonetary sacrifice. Therefore, we hypothesized that the price discount threshold in green consumerism promotion is higher than that in a general promotion setting.

H6: The price discount threshold is higher in a green consumerism promotion setting than in a general promotion setting.

In addition to the price discount level, price discount framing is a crucial factor influencing consumer price perceptions (Hardesty and Bearden, 2003; Chandrashekaran, 2004; Darke and Chung, 2005; Kim, 2006). In green research, researchers also care about the effects of message framing in green advertising, for example, positively or negatively framed messages (Xue, 2015) and gain- or loss-framed messages (Chang *et al*., 2015). In this study, the price discount frame involved the type of discount, exact amount (i.e. $5 less) or percentage discount (i.e. 10% off). The frame of a percentage discount requires consumers to exert considerable effort for calculating the discount and obtaining the final price because the counting process involves the use of additional mathematical skills (Rhymer *et al*., 2002). Particularly, consumers in a green consumerism setting must consider how much discount can compensate the sacrifice perceived in terms of bringing a cup and performing calculations to obtain the final price based on the frame of the price discount. Because of the limitations of the working memory in the human brain (Miller, 1956), consumers may avoid this substantial amount of processing. In other words, consumers in green promotion settings may react indifferently to various types of discounts; thus, the variance in purchase intention caused by various price discount frames in green consumerism promotions would not be substantial. Therefore, we proposed that the variance in purchase intention caused by various price discount frames is smaller in a green consumerism promotion setting than in a general promotion setting.

H7: The variance in purchase intention caused by various price discount frames is smaller in a green consumerism promotion setting than in a general promotion setting.

METHODOLOGY

Two experiments were conducted to test the hypotheses. Experiment 1 was designed to examine the mediation effect of perceived nonmonetary and monetary sacrifice, and Experiment 2 was designed to investigate the price discount threshold and effect of discount frames.

Experiment 1

Variable definitions and measurements

Experiment 1 tested Hypotheses 1–4, with green consumerism promotion and the price discount levels as two independent variables, consumer purchase intention toward the list price as a dependent variable, and perceived monetary and nonmonetary sacrifices as mediators. Green consumerism promotion was manipulated on the basis of presenting a suggestion for bringing own cups or not, and the price discount levels were manipulated as low (NT$5 less) or high (NT$25 less). The dependent variable, the willingness to buy a take-out beverage by paying the list price without any price discount, was measured using two questions (Cronbach's $\alpha = 0.94$) scored on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), on the basis of a study conducted by Grewal *et al*. (1998). Perceived monetary sacrifice was defined as a perceived loss of money because of the absence of a price discount and was measured using two questions (Cronbach's $\alpha = 0.92$) on the basis of a study conducted by Chang (2013), whereas perceived nonmonetary sacrifice was defined as a perceived loss incurred in terms of making an additional effort to bring own cups and was measured using two questions (Cronbach's $\alpha = 0.95$) on the basis of a study conducted by Xia *et al*. (2010).

Experimental design

A 2 (green consumerism promotion: present/absent) × 2 (price discount levels: low/high) between-subject experimental design with cell sizes of 30 samples was used. By using a small price discount level as an example, the following two situations were manipulated: the green consumerism promotion was established as "NT$50 for one take-out cup of black tea. We are offering NT$5 off for consumers who bring their own carryout cup," and the nongreen consumerism promotion was established as "NT$50 for one take-out cup of black tea. We are offering NT$5 off for the anniversary of our store." In addition, the following questions were posed for the manipulation check: "What is the price discount (NT$5 off or NT$25 off)?" and "Is the promotion setting a general setting or not?"

Samples, procedures, and statistical methods

To maintain high internal validity, college students with similar demographics (i.e. similar age and monthly income) were used as samples in the experiment. Convenience sampling from a college in Taiwan was used. E-mails were used to invite college students to participate in this experiment. After college students consented online to participate in this experiment, they were informed to be present in a classroom at specific dates. A researcher first explained the research procedure and purpose of the experiment and instructed the participants to imagine that he or she intended to buy take-out beverages. The participants were then randomly assigned to each experimental condition and they completed an anonymous questionnaire. After completing the questionnaire, each participant received a gift for participation. Hierarchical regression models were used to analyze the results.

Experiment 2

Variable definitions and measurements

Experiment 2 was designed to examine the price discount threshold and effect of the price discount frame (Hypotheses 5–7). Price discount levels and frames and promotion settings were three independent variables in this experiment. To evaluate the price discount threshold, 10 price discount levels, from 5% to 50%, were manipulated. Two types of frames were manipulated, those using specific amounts and those using percentages. In addition, the promotion setting was manipulated as a green consumerism promotion or a general promotion setting. The dependent variable used in this experiment was the variance in consumer purchase intentions, defined as the difference between the two types of purchase intentions scored on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*): one (measured using two questions on the basis of a study conducted by Grewal *et al*., 1998; Cronbach's $\alpha = 0.96$) was the willingness to buy the take-out beverage under the price discount and agree to the stipulations (i.e. bringing their own cups or using disposable cups for purchasing a beverage); and the other was the willingness to buy a take-out beverage by paying a list price without any price discount (Cronbach's $\alpha = 0.95$). A positive value in the green consumerism promotion setting for the difference between the two types of purchase intentions would indicate that the price discount encouraged consumers to bring their own cups for buying take-out beverages. A positive result in a general promotion setting would indicate that the price promotion was effective. In addition, we determined the variation between the two possible intentions in response to the price discount level. Based on the concept of discount threshold proposed by Gupta and Cooper (1992), the price discount level under which the variation in purchase intentions was positive and lowest was considered the price discount threshold in the green consumerism promotion or general promotion setting.

Experimental design

A 10 (price discount levels) × 2 (price discount frames) × 2 (promotion settings) between-group experimental design with cell sizes ranging from 22 to 25 was used. College students (different from those in Experiment 1) were used as samples in the experiment. A cup of coffee with a list price of NT$50 (equal to US$1.67 or EUR$1.19) was manipulated in the experiment. Ten levels in the two price discount frames (percentage or specific amount) were manipulated to be 5% (or NT$3), 10% (or NT$5), 15% (or NT$8), 20% (or NT$10), 25% (or NT$13), 30% (or NT$15), 35% (or NT$18), 40% (or NT$20), 45% (or NT$23), and 50% (or NT$25). Using a 5% discount as an example, the following two situations were manipulated: the general promotion was established as "NT$50 for one take-out cup of coffee. We are offering 5% off for the anniversary of our store," and the green consumerism promotion was established as "NT$50 for one take-out cup of coffee. We are offering 5% off for consumers who bring their own carryout cup." In addition, the following three questions were posed for the manipulation check: "Is the price discount in the advertisement a specific amount or a percentage off?", "What is the price discount level (pick one of 10 choices)?", and "Is the promotion setting a general setting or a green consumerism setting?"

Samples, procedures, and statistical methods

To maintain high internal validity, college students with similar demographics (i.e. similar age and monthly income) were used as samples in this experiment. Convenience sampling from a college in Taiwan was used. E-mails were used to invite college students (different students from those in Experiment 1) to participate in this experiment, and the procedure followed was the same as that in Experiment 1. Analysis of variance (ANOVA) was used to analyze the results.

RESULTS

Results of experiment 1

Initial data analysis

We collected 120 valid questionnaires in Experiment 1 (all respondents voluntarily participated in this study through an e-mail invitation and filled out the questionnaire in a classroom; therefore, the response rate was 100%). Of the respondents, 40% were male and 60% were female, and the average age was 20.32 years. The average score of fondness for black tea was 3.09 (5-point Likert scale, ranging from 1 as strongly dislike to 5 as strongly like), and the average frequency of drinking black tea was 2.87 (5-point Likert scale, ranging from 1 as least frequently to 5 as most frequently). Regarding the manipulation check, all the participants correctly answered the promotion setting and discount level questions; thus, all samples were further analyzed. A green consumerism promotion setting and price discount levels were both treated as dummy variables (i.e. presenting a green promotion setting as 1, and absent as 0; low level of price discount as 0 and high level of price discount as 1) in regression analyses. The results of the two hierarchical regression models are shown in Tables 1 and 2.

Relationships among green promotion, nonmonetary sacrifice, and purchase intention

A green consumerism promotion setting positively affected ($\beta = 0.46$, $t = 5.02$, $p < 0.001$, Model 1 in Table 1) perceived nonmonetary sacrifice, which indicated that a green promotion setting resulted in a higher perceived nonmonetary sacrifice than did a nongreen promotion setting, fully supporting Hypothesis 1. In addition, a hierarchical regression model based on an analysis proposed by Baron and Kenny (1986) and a Sobel test (Sobel, 1986) were used to test the mediating effect of nonmonetary sacrifice. The results of the hierarchical regression model (Models 2 and 3 in Table 1) indicated that the direct relationship between green promotion and purchase intention toward the list price was significant ($\beta = 0.35$, $t = 3.60$, $p < 0.001$, Model 2 in Table 1); however, it was nonsignificant when mediated by nonmonetary sacrifice ($\beta = 0.10$, $t = 1.04$, $p > 0.05$, Model 3 in Table 1). In addition, the z-value provided by the Sobel test was 3.80, $p < 0.001$, which meant that the mediating effect of nonmonetary sacrifice was significant. Therefore, nonmonetary sacrifice fully mediated the relationship between green promotion and purchase intention toward the list price, fully supporting Hypothesis 2.

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Table 1. Hierarchical regression model of the relationship among green promotion, nonmonetary sacrifice, and purchase intention toward the list price

	Nonmonetary sacrifice	Purchase intention toward the list price	
	Model 1	Model 2	Model 3
Green promotion	0.46[a] (5.02[b])***	0.35 (3.60)***	0.10 (1.04)
Nonmonetary sacrifice	—	—	0.55 (5.84)***
ΔR^2	—	—	0.13
R^2	0.21	0.12	0.35
Adjust R^2	0.20	0.11	0.34
F-value	25.21***	12.93***	25.78***

ps1. Green promotion was a dummy variable; presenting green consumerism promotion was coded as 1, and non-presenting green consumerism promotion was coded as 0.
ps2.
[a]Standardized path coefficient (β).
[b]t-value of the path coefficient.
***$p < 0.001$

Table 2. Hierarchical regression model of the relationship among price discount, monetary sacrifice, and purchase intention toward the list price

	Monetary sacrifice	Purchase intention under list price	
	Model 4	Model 5	Model 6
Price discount	−0.61[a] (−7.50[b])***	−0.38 (−3.40)***	−0.14 (−1.25)
Monetary sacrifice	—	—	0.39 (3.43)***
ΔR^2	—	—	0.10
R^2	0.37	0.14	0.24
Adjust R^2	0.36	0.13	0.22
F-value	56.25***	15.98***	14.78***

ps1. Price discount was a dummy variable; large price discount was coded as 1, and small price discount was coded as 0.
ps2.
[a]Standardized path coefficient (β).
[b]t-value of the path coefficient.
***$p < 0.001$.

Relationships among price discount, monetary sacrifice, and purchase intention

The price discount level negatively affected ($\beta = -0.61$, $t = -7.50$, $p < 0.001$, Model 4 in Table 2) perceived monetary sacrifice, which indicated that a large price discount resulted in lower perceived monetary sacrifice than did a general promotion setting, fully supporting Hypothesis 3. In addition, a hierarchical regression model based on an analysis proposed by Baron and Kenny (1986) and a Sobel test (Sobel, 1986) were used to test the mediating effect of monetary sacrifice. The results of the hierarchical regression model indicated that the direct relationship between price discount and purchase intention toward the list price was significant ($\beta = -0.38$, $t = -3.40$, $p < 0.001$, Model 5 in Table 2); however, it was nonsignificant when mediated by nonmonetary sacrifice ($\beta = -0.14$, $t = -1.25$, $p > 0.05$, Model 6 in Table 2). In addition, the z-value provided by the Sobel test was -3.11, $p < 0.001$, which meant that the mediating effect of monetary sacrifice was significant. Therefore, monetary sacrifice fully mediated the relationship between price discount and purchase intention toward the list price, fully supporting Hypothesis 4.

Results of experiment 2

Initial data analysis

We collected 925 valid questionnaires in Experiment 2 (all respondents voluntarily participated in this study through an e-mail invitation and completed the questionnaire in a classroom; therefore, the response rate was 100%). Of the respondents, 41% were male and 59% were female, and the average age was 21.15 years. The average score of fondness for coffee was 3.11 (5-point Likert scale, ranging from 1 as strongly dislike to 5 as strongly like), and the average frequency of drinking coffee was 2.98 (5-point Likert scale, ranging from 1 as least frequently to 5 as most frequently). Regarding the manipulation check, all the participants correctly answered the promotion setting question. Among the participants, 97.68% (464/475) of those in the percentage discount group answered questions regarding the price discount frame correctly, and among them, 97.47% (463/475) answered questions regarding the price discount level correctly. In addition, 97.33% (438/450) of the participants in the specific discount group answered questions regarding the price discount frame correctly, and among them, 97.11% (437/450) answered questions regarding the price discount level correctly. Twenty-five participants failed the manipulation test; thus, only 900 samples were further analyzed.

Main effect of promotion settings

The ANOVA results (Table 3) indicated that the promotion settings significantly affected the variation in purchase intentions ($F = 11.14$, $p < 0.01$) and that the variation in purchase intentions in a green consumerism promotion setting ($\mu = 0.58$)

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Table 3. ANOVA of promotion settings, price discount levels, and frames on variance in purchase intentions

Source	*Type-III square*	*df*	*F-value*	*P-value*
Intercept	540.07	1	105.47	0.00**
Promotion settings	57.03	1	11.14	0.00**
Price discount levels	1372.37	9	29.78	0.00**
Price discount frames	1.84	1	0.34	0.55
Setting × level	94.70	9	2.06	0.03*
Setting × frame	77.04	1	15.05	0.00**
Level × frame	63.03	9	1.37	0.20
Setting × level × frame	17.16	9	0.37	0.95

ps1. **:$p < 0.01$. *:$p < 0.05$.
ps2. The sample number in green consumerism promotion was 452; the sample number in general promotion was 448; the sample number in percentage discount was 463; the sample number of exact amount discount was 437. The sample number of each level of price discount was shown in Table 4.

was lower than that in a general promotion setting ($\mu = 2.89$); thus, Hypothesis 5 was supported.

Price discounts and associated thresholds in various promotion settings

The ANOVA results (Table 3) indicated that the interaction effects of price discount level and promotion settings were significant ($F = 2.06$, $p < 0.05$). Regarding the price discount threshold in various settings (Table 4), when the price discount level in the green consumerism promotion setting was 20% (left column in Table 4), the variation in purchase intentions turned positive ($\mu = 0.93$, significantly larger than zero, $t_{(44)} = 17.32$, $p < 0.01$). This means that 20% was the smallest price discount level that induced consumer willingness to bring carryout cups for purchasing beverages and thereby obtaining the discount. Thus, the price discount threshold in the green consumerism promotion setting was 20%. Regarding the general promotion setting (right column in Table 4), all price discount levels resulted in a positive value for the variation in purchase intentions. Therefore, we concluded that 5% was the price discount threshold in the general promotion setting ($\mu = 0.32$, significantly larger than zero, $t_{(42)} = 6.56$, $p < 0.01$). Comparing the two thresholds revealed that the threshold of the price discount in the green consumerism promotion setting was higher than that in the general promotion setting; thus, Hypothesis 6 was supported.

Price discount framing in various promotion settings

According to the ANOVA results (Table 3), the interaction effects of the price discount frame and promotion setting

Table 4. Price discount levels versus variance in consumer purchase intentions [1]

	Promotion settings			
	Green consumerism		General promotion	
Price discount levels	Variance in purchase intentions *Mean (S.D.)*	Sample number	Variance in purchase intentions *Mean (S.D.)*	Sample number
5% off (or NT \$3 off)	−1.34 (0.36)	45	0.32 (0.32)	43
10% off (or NT \$5 off)	−0.58 (0.36)	46	1.06 (0.31)	47
15% off (or NT \$8 off)	−0.17 (0.37)	45	1.23 (0.32)	43
20% off (or NT \$10 off)	0.93 (0.36)	45	1.40 (0.31)	46
25% off (or NT \$13 off)	1.34 (0.36)	45	2.10 (0.32)	43
30% off (or NT \$15 off)	2.01 (0.37)	45	2.14 (0.31)	47
35% off (or NT \$18 off)	2.57 (0.36)	45	2.50 (0.32)	43
40% off (or NT \$20 off)	2.90 (0.35)	45	2.88 (0.31)	47
45% off (or NT\$23 off)	3.26 (0.36)	45	3.10 (0.33)	42
50% off (or NT\$25 off)	3.75 (0.36)	46	3.60 (0.31)	47
Total sample	1.52 (2.88)	452	2.03 (2.32)	448

ps1. Positive value represents that the price promotion can work well, while negative value represents no effect appear in price promotion.

Table 5. Price discount frames versus variance in consumer purchase intentions [1]

	Green consumerism promotion		General promotion	
Price discount frames	Variance in purchase intentions *Mean (S.D.)*	Sample number	Variance in purchase intentions *Mean (S.D.)*	Sample number
Percentage-off	1.77 (0.16)	229	1.68 (0.14)	235
Dollars-off	1.27 (0.16)	223	2.38 (0.15)	213
Differences[2]	0.50		0.70	

ps1. Positive value represents that the price promotion can work well.
ps2. The difference of the variation values was the absolute value of the variance of purchase intentions under percentage-off minus that under dollars-off.

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were significant ($F = 15.05$, $p < 0.01$). Based on the price intention frames and promotion setting (Table 5), the variation in purchase intentions in the green consumerism promotion setting was higher ($t_{(450)} = 3.24$, $p < 0.01$) within the percentage discount frame ($\mu = 1.77$) than that within the exact amount frame ($\mu = 1.27$). However, the variation in purchase intentions in the general promotion setting was higher ($t_{(446)} = 4.15$, $p < 0.01$) within the exact amount frame ($\mu = 2.38$) than that within the percentage frame ($\mu = 1.68$). The difference between the two variations was smaller ($t_{(896)} = 2.13$, $p < 0.05$) in the green consumerism promotion setting (difference = 0.50) than in the general promotion setting (difference = 0.70). Thus, Hypothesis 7 was supported. The results shown in Table 5 reveal an additional finding: consumers in the green consumerism promotion setting preferred the percentage discount frame, whereas those in the general promotion setting preferred the exact amount frame.

CONCLUSION

We analyzed the effect of price discount in green consumerism promotion through two experiments. Experiment 1 examined the relationships among a green promotion setting, price discount, perceived nonmonetary and monetary sacrifice, and purchase intention toward the list price. Green consumerism promotion was operated on the basis of whether consumers were willing to use personal cups for purchasing take-out beverages to obtain a discount. The results demonstrated that perceived nonmonetary sacrifice fully mediated the relationship between a green promotion setting and the purchase intention, whereas perceived monetary sacrifice fully mediated the relationship between a price discount and the purchase intention. Experiment 2 investigated the relationship between price discount levels and frames and a green or general promotion setting used by take-out beverage shops. General promotion referred to a price discount associated with an anniversary-related activity. Experiment 2 measured the variance in consumer purchase intentions and determined how it reflected the effect of discount levels and frames and promotion settings. The results indicated that the variation in consumer purchase intentions in a green consumerism promotion setting was lower. In addition, the discount threshold was higher in the green consumerism promotion setting (20%) than in the general promotion setting (5%), whereas the difference in the effects caused by the two price discount frames was smaller in the green consumerism promotion setting than in the general promotion setting.

Research implications

This study has several implications for studies in fields such as perceived sacrifice, the TPB, the prospect theory, and price discount in a green consumerism context. First, reviewing studies on perceived sacrifice revealed that perceived sacrifice is usually considered an antecedent of a perceived value, which is defined as a tradeoff between perceived benefits and sacrifice (Zeithaml, 1988; Monroe, 2003). Based on the research on perceived sacrifice, researchers have examined perceived monetary or nonmonetary sacrifice in price (Xia *et al*., 2010; Bornemann and Hombury, 2011; Chang, 2013), service (Luk *et al*., 2013), and online research (Lin *et al*., 2013; Li and Cheng, 2014). However, this study evaluated the crucial (fully) mediating role of perceived nonmonetary sacrifice in a green consumerism promotion setting. In addition, the TPB was applied to explain the different reactions toward green and general settings. The finding of Experiment 1 explains that consumers in a green consumerism context have a higher purchase intention toward the list price (with disposable cups) than toward a discount (with bringing own cups) because of a higher perceived nonmonetary sacrifice. In brief, perceived nonmonetary sacrifice is a critical factor influencing the purchase intention in a green consumerism context; this finding enriches the content of a TPB framework and the research of perceived sacrifice.

Moreover, this study adopted the prospect theory (Kaheneman and Tversky, 1979; Thaler, 1985) for discussing the relationship between perceived nonmonetary and monetary sacrifice. Specifically, each consumer faces a social dilemma (Gupta and Ogden, 2009; Chowdhury and Samuel, 2014) of whether to gain by paying less money (perceived monetary sacrifice) to compensate a loss in terms of an additional effort (perceived nonmonetary sacrifice) or to give up the price discount and pay the list price for disposable cups offered by stores. The results of Experiment 1 indicated that consumers exhibited a higher purchase intention toward the list price, which meant that they were willing to pay the list price for disposable cups rather than bring their own cups. This finding reflects the essentials of the prospect theory—the utility of losses in terms of bringing own cups weighs heavier than gains in terms of obtaining a price discount. In brief, the results not only extend the application of the concept of social dilemma and prospect theory to green consumerism promotion but also embody the concept of gain and loss in the relationship between the two types of perceived sacrifices. Furthermore, most studies have discussed price or discount thresholds in general purchase contexts; however, few have investigated the price discount threshold in a specific context. The results of Experiment 2 not only proved the effects of price discount levels and frames in a green consumerism promotion context but also found that the price discount threshold in a green consumerism context was 20%. Therefore, this study enriches the research of price discount, especially in a green promotion setting.

Managerial implications

These findings indicate that firms should enrich their knowledge regarding methods for planning price promotion strategies to prompt green consumption behavior. Stores selling take-out beverages should offer a minimum discount of 20% to motivate consumers to bring their own cups for promoting green consumerism behavior. Comparing this result with that of related research on promotion thresholds (i.e. 10% or 15% discount), we observed that consumers in this study demanded a greater discount in the green consumerism promotion context. This finding provides suggestions for firms adopting a green marketing strategy.

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Moreover, the result indicated that the difference in the effects caused by the price discount frame was smaller in the green consumerism promotion setting than in the general promotion setting. Consumers in the green consumerism promotion setting preferred the percentage discount frame, whereas those in the general promotion setting preferred the exact amount frame. However, certain stores in the market used the exact amount frame in their green marketing strategy. The price of a beverage is a small amount of money; thus, an exact discount represents a smaller amount of money. Therefore, presenting a discount by using an exact amount in a green marketing strategy is not effective. The study results suggest that firms should implement the percentage discount frame in a green marketing strategy to increase the perceived gain of consumers.

The results can also help the government to establish regulations related to environmental protection. On the basis of the perspective of a subjective norm on green purchase intention from TPB, we advocate that the government considers price discounts as normal policies (and not as temporal stimuli) to induce consumers to regard bringing their own cups as a normal behavior and not as an additional burden. Through a process of social normalization (Rettie *et al*., 2014), bringing own cups for buying take-out beverages, which is initially considered a different and abnormal behavior, can eventually become mainstream and accepted as normal. Sustainable green consumption behavior could then be gradually shaped in the near future.

Limitations and future research

This study used a setting in which bringing carryout cups to stores for buying take-out beverages was encouraged to promote green consumerism, and the generalizability of the study results may be limited. However, the large environmental impact caused by the vessel industry is considerable and controversial in the course of cutting down trees; therefore, studies on price discount strategies for promoting bringing own cups are critical to environmental protection. In addition, the two experiments employed college students in Taiwan as samples. Similar to numerous other emerging markets, the Taiwan government recently introduced regulations requiring beverage shops to offer certain discounts or other incentives on the purchase of take-out beverages if consumers bring their own cups. These regulations and phenomena may slightly influence the response of participants and the results. However, the results of this experiment conducted in Taiwan may be generalized to other countries that are similar to Taiwan, that is, at the initial stages of improving green marketing and green consumerism. Moreover, the convenience sampling method used to recruit college students may limit the generalizability of the results. However, the homogeneity of the college students ensured the internal validity of the experiment, and college students, as a core target market for beverages, represent a large portion of consumers who buy beverages. Future researchers can use other types of sample to examine price discounts in the context of green consumerism. In addition, we discussed only the promotion threshold. Several studies on price threshold have discussed promotion saturation, which refers to the highest price discount that causes consumers to exhibit indifferent purchase intentions (Marshall and Leng, 2002). Future studies can further investigate promotion saturation in the context of green consumerism promotion.

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BIOGRAPHICAL NOTES

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Form 'defines' function: Neural connectivity between aesthetic perception and product purchase decisions in an fMRI study

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ABSTRACT

In the aesthetics literature, object beauty has been emphasized for its non-instrumental benefits, in other words, beauty that is 'rewarding' in itself, without functional considerations. In the context of consumer products, this study examines the influence of aesthetic perceptions on purchase decisions based on integrating both reward (hedonic) and functional value attribution mechanisms. Brain connectivity analysis of functional magnetic resonance imaging (fMRI) data sheds light on the neural route for the influence of product beauty on purchase. Notably, a significant directional connectivity from brain networks mediating 'aesthetic perception' to 'functional value' to 'purchase decision' shows that the left Amygdala, an emotion-related region of the aesthetic network, influences all five regions in the functional network, which then influences the purchase network of the brain, thus supporting the utilitarian goals of aesthetic appraisals and the Antonio Damasio's somatic/emotional marker hypothesis. Further, we find clear evidence that the reward (hedonic) network, which also influences the purchase network, receives information from the functional network of the brain, integrating both the non-instrumental and instrumental value of the product. In other words, beauty in consumer products influences purchase decisions by evoking emotions that importantly define the functional value of products, in addition to their hedonic/reward value uncovered in previous literature. In light of the novel findings, the authors discuss important implications for marketing theory, methodology, and practice. Copyright © 2016 John Wiley & Sons, Ltd.

"A thing of beauty is a joy for ever: Its loveliness increases; it will never pass into nothingness…" – John Keats, *Endymion* (1818)

Beauty outlives function, and beautiful products are treasured even after their functional value deteriorates (Martin, 1998) in part because these products continue to serve new functions, i.e. as pieces of memorabilia serving a symbolic function. The new millennium marked the beginning of two big shifts in the role of design or aesthetics—'form defines function' and 'innovation equals design'. Indeed, there has been a shift from the design philosophy of 'form follows function' ever since Apple successfully re-defined the aesthetic experience of the consumer by employing design to create iconic products and interfaces that captured the consumer zeitgeist. In the current consumer era of aesthetic appreciation and expression, boundaries between art and non-art objects have diminished, making it important to understand consumers' aesthetic experience related to products of everyday consumption.

The classical view on the aesthetic experience is that aesthetic objects are valued for their own sake and that the evaluation of beauty in objects is independent of desire (liking without wanting) and other utilitarian goals, or in other words, 'disinterested' (Kant, 1951). This view is however at odds with evolutionary arguments and findings from neuroimaging and usability studies. From the evolutionary perspective, beauty serves a utilitarian role in mate selection—features judged beautiful also signal a desirable mate (Chatterjee, 2010). The idea of 'disinterested interest' also gave rise to the separation of 'art' and 'non-art' objects because of claims that aesthetic appreciation of 'art' objects is cognitively different because these objects do not have practical use (Brown *et al*., 2011). However, this separation has been challenged with arguments in favor of 'naturalizing aesthetics' because brain areas activated in response to artworks overlap with those activated during the aesthetic appraisal of other objects of evolutionary importance, such as food and potential mates (Brown *et al*., 2011). These findings emphasize the utilitarian goals of aesthetic appraisals. In the realm of interface usability, there has been robust support for the principle 'what is beautiful is usable' (Tractinsky *et al*., 2000), again emphasizing the utilitarian benefits of beauty. Indeed in the context of consumable products, the separation of aesthetics from function is paradoxical considering the 'utilitarian intent' of employing beauty in advertising, product design, and retail environments to increase persuasiveness and sales (Hagtvedt and Patrick, 2008). Hence, in the aesthetics of consumption (Venkatesh and Meamber, 2008), it is important to ask the question: Is aesthetic experience indeed 'disinterested'? In other words, is it motivated by non-instrumental (intrinsic) or instrumental value?

In order to answer the questions, our purpose was to create a mechanistic understanding of the psychological processes that mediate the relationship between beauty and

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purchase. Employing an fMRI study and connectivity analysis, we test our main hypothesis that perceived beauty in consumer products will influence purchase by importantly defining functional value of products, in addition to the hedonic/reward value uncovered in previous literature. We further examine the role of emotional and cognitive responses evoked by beautiful products in driving these value attribution mechanisms that lead to product purchase.

THEORY, LITERATURE, AND HYPOTHESES

Theoretical framework

Chatterjee's (2004) framework for the neural underpinnings of visual aesthetics served as the backdrop for our conceptualization because it links aesthetics to the neuroscience of visual processing, emotion, reward, and decision-making. Specifically, the framework outlines that visual aesthetics has multiple components, namely, early, intermediate, and late vision, which are sequential in nature. Early and intermediate vision process the 'form' of the object by extracting and processing simple elements of design such as color and shape, and segregating and grouping them into coherent configurations respectively. Late vision processes the 'content' of the object by evoking memories that allow for object recognition. Following this, emotional responses are evoked and decisions about the object (e.g. I will eat it) are made (Chatterjee, 2004). This model further suggests that if the an object is found to be aesthetically pleasing, then it elicits emotional responses with distinct neural bases related to the 'liking' or 'wanting' of the object, which feedback into the system via 'attentional' mechanisms. According to Chatterjee (2004), "wanting or the desire for rewards seems to be mediated by the dopaminergic circuits including the ventral striatum and the nucleus accumbens" (p.56); however, the neural mediation of 'liking without wanting' or in other words 'pleasure for its own sake' and 'without utilitarian motivations' has not been demonstrated. The above account is further supported by the somatic marker hypothesis (Damasio, 1999; Bechara and Damasio, 2005) that is discussed in detail in a subsequent section. Hence, the emotional responses elicited from a product's beautiful design can trigger an immediate desire to own the product (Norman, 2004).

Aesthetic perception, emotion, and cognition

Aesthetic perception is the evaluation of beauty, ugliness, prettiness, harmony, elegance, shapeliness, or charm (see Jacobsen *et al*., 2004), which is influenced by stimulus factors such as complexity, novelty, and familiarity (Jacobsen *et al*., 2006). Neuroimaging studies have demonstrated heterogeneous results with respect to the neural correlates of judgments of beauty in aesthetic objects such as artworks, decorative images and photographs (Cela-Conde *et al*., 2004; Kawabata and Zeki, 2004; Vartanian and Goel, 2004), and black and white abstract patterns (Jacobsen *et al*., 2006; see Nadal *et al*., 2008 for a detailed review). These studies have implicated activations in the orbitofrontal cortex (Kawabata and Zeki, 2004) and left dorsolateral prefrontal cortex (Cela-Conde *et al*., 2004) for beautiful stimuli and greater activity in the left cingulate gyrus and occipital gyri with increasing preference for beautiful stimuli (Vartanian and Goel, 2004). In contrast, activations in the motor cortex were found for ugly stimuli (Kawabata and Zeki, 2004), and greater activity in the right caudate nucleus was found for decreasing preference to it (Vartanian and Goel, 2004). In the context of consumer products, Reimann *et al*. (2010) contrasted brain activations when viewing aesthetic versus standardized package designs and found significantly stronger brain activations in the ventromedial prefrontal cortex, striatum (nucleus accumbens), cingulate cortex, primary visual cortices, and precuneus during the aesthetic package presentation as compared to the standardized package.

The above studies indicate that judgments of beauty activate widely distributed circuits; aesthetic experience is hence not a unitary phenomenon and is the result of the activations in the sensorimotor, emotional, and cognitive regions of the brain (Cinzia and Gallese, 2009). Leder *et al*.'s (2004) information-processing model of aesthetic experience differentiates two types of outputs in aesthetic processing—aesthetic emotion and aesthetic judgment (i.e. cognitive aspect of aesthetic processing). In neuroscience, emotions and cognition are represented by well-known limbic and fronto-parietal cortical networks, respectively, and the emotional and cognitive states experienced by an individual can be characterized by the activity in the corresponding networks (Kandel *et al*., 2000). Further, the activity in these networks can influence, and be influenced by, networks involved in perception (Kandel *et al*., 2000). Hence these processes can form a feed-forward and feedback system as defined in Chatterjee's (2004) framework. In a review paper, Cinzia and Gallese (2009) suggest that emotion centers of the aesthetic experience lie in the insula and amygdala. Supporting these assertions, Jacobs *et al*. (2012) recently demonstrated that the amygdala is activated in response to beautiful stimuli under explicit evaluation conditions. They importantly implicate the amygdalar role in guiding attention to selective emotional attributes of the stimulus that are relevant to making beauty judgments. On the other hand, classical cognitive areas such as dorsolateral prefrontal cortex have been shown to be activated for beautiful stimuli (Cela-Conde *et al*., 2004), in addition to activations in the fronto-parietal cognition circuit (anterior and posterior cingulate) reported by Chatterjee (2010).

Based on our discussion above, we hypothesized that:

H1a: There will be greater activations in the amygdala and other regions associated with emotion processing when products are judged beautiful than not.

H1b: There will be greater activations in frontal areas such as the middle frontal gyrus (also referred to as dorsolateral prefrontal cortex) of the brain associated with cognitive processing when products are judged beautiful than not.

Value attribution mechanisms and purchase intent

Value is a multidimensional construct that denotes the consumers' evaluative judgment, resulting from anticipations or perceptions of what is gained (i.e. consumption of a product's benefits) and what is given (i.e. money, time, effort)

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(Zeithaml, 1988; Grewal *et al*., 1998; Holbrook, 1999). Based on this definition, value can be conceived as a construct that integrates perceived gains and losses in the consumption process. The concept of value from a product's design features has been investigated from the perspective of (i) the type of product value (aesthetics, functional, quality, and ease of use) that is important to consumers in the evaluation of design features (Creusen *et al*., 2010) and (ii) the process by which design value (rational, kinesthetic, emotional) is created in new consumer products (Noble and Kumar, 2010). In this paper, value emerging from a product's aesthetic properties is broadly categorized into hedonic or reward value (as used in neuroimaging studies) referring to non-instrumental, intrinsic benefits that are rewarding in themselves; and functional value referring to instrumental benefits that meet a certain consumer requirement.

Mediating role of hedonic value

The appreciation of something beautiful is a rewarding process in itself, and results in a hedonic experience for the appreciator. The reward (or hedonic) value of the aesthetic experience is a well-explored topic in aesthetics and marketing. Further, neuroimaging studies have supported the claim that higher reward value is associated with the perception of beauty in artworks (Kawabata and Zeki, 2004) and faces (Aharon *et al*., 2001; Kampe *et al*., 2001) in terms of activation in the brain's reward circuit. Regions of the brain that have been associated with reward processing in previous neuroimaging studies include: the medial orbitofrontal cortex (OFC) bilaterally (Kawabata and Zeki, 2004; Kirk, 2008), and the ventral striatum (VS) including the caudate nucleus and the nucleus accumbens (Aharon *et al*., 2001; Kampe *et al*., 2001; Vartanian and Goel, 2004). The reward circuit hence consists of the VS, a region that includes the nucleus accumbens and extends into the ventromedial putamen and caudate (Yacubian *et al*., 2007), along with the interconnected medial prefrontal and OFC, and dopaminergic midbrain nuclei (O'Doherty, 2004). The VS is considered the key node of the reward circuit (O'Doherty, 2004; Yacubian *et al*., 2007) and VS activity has been found to predict product preference and purchasing decisions in previous studies (Knutson *et al*., 2007), suggesting that perception of reward is the trigger for 'wanting' or the 'desire for rewards' and purchasing decision (Chatterjee, 2004; Leder *et al*., 2004). Further, the medial prefrontal cortex, implicated in integrating gains and losses in context to purchase decisions (Knutson *et al*., 2007), is also implicated in the reward processing (O'Doherty, 2004). Based on the above, we propose the mediation of hedonic value between aesthetic perception and purchase decisions:

> *H2a :* The brain network involved in processing the hedonic value of products (reward network) will mediate the directional connectivity between brain networks underlying aesthetic perception and purchase judgments.

Role of emotions in hedonic value

Hedonic (or reward) value is also a function of the emotions or feelings of the perceiver (Bamossy *et al*., 1983). The somatic marker hypothesis addresses at depth, the role of emotions in decision-making. According to this hypothesis, certain advantageous (innate or learned) stimuli, also known as primary inducers, produce pleasurable physiological affective (somatic) states and evoke emotional responses that direct attention towards these 'rewarding' stimuli, and exert a 'biasing' effect on behavior toward them (Damasio, 1999; Bechara and Damasio, 2005). The amygdala has been found to be the critical neural substrate in triggering somatic/emotional states from primary inducers; whereas, the ventromedial prefrontal (VM) cortex processes somatic states such as rewards and punishments (Bechara and Damasio, 2005). In neuroimaging studies, the orbitofrontal cortex, a neural correlate of reward value, has been further shown to integrate affective information originating from limbic areas (Krawczyk, 2002). Based on this literature, we propose that emotions will significantly influence the reward network of the brain:

> *H2b:* Emotion-related regions of the aesthetic perception network in the brain such as the amygdala will demonstrate significant directional connectivity with the hedonic (or reward) network of the brain.

Mediating role of functional value

Functional value is perceived when the consumer evaluates the product as the closest to what they want (Dellaert and Stremersch, 2005). In other words, it is experienced when a consumer feels that there is utility in owning and using a product. It is indeed plausible to imagine that a consumer may think of many functional reasons to own and use a truly 'beautiful' product. Despite this, the link between beauty and functional value has been underexplored in the literature on consumer products. Indeed, object beauty has been largely emphasized for non-instrumental, hedonic benefits. Studies on interface design are however an exception here. The principle of 'what is beautiful is usable' (Tractinsky *et al*., 2000) has been well-accepted for over a decade within interface design literature and studies have found consistent support for the influence of interface aesthetics on ease of use, pragmatic quality, display quality, usability, and ability to perform on interfaces (see Hassenzahl and Monk, 2010 for a review). Further, researchers have found value, including hedonic and functional values, to be the antecedent to purchase/repurchase intention (Dodds *et al*., 1991; Grewal *et al*., 1998; Merle *et al*., 2008).

Within neuropsychological literature, studies have conceptualized the functional or instrumental or goal-directed valuation system as one that assigns "values to stimuli based on beliefs about the outcomes that they are likely to generate and the value of those outcomes in the current state of the world" (Rangel, 2009). This valuation system is considered powerful because it has the potential to interact with cognitive processes that facilitate analytical and memory processes in determining stimulus–outcome associations (Rangel, 2009). Across multiple studies, involving simple choices, the OFC was consistently implicated in goal-directed choice (Rangel *et al*., 2008; Plassmann *et al*., 2010; Rangel and Hare, 2010). Based on the above literature, we propose that:

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H3a: The brain network involved in processing the functional value of products will mediate the directional connectivity between brain networks underlying aesthetic perception and purchase judgments.

Role of cognitions in functional value

A product's design can also communicate functional value to the consumer by serving to influence their thoughts on product quality and other performance-oriented product attributes (Dawar and Parker, 1994). For example, a Mac tool bar which is visually more appealing compared to that of a PC may make people perceive that it helps them perform tasks more efficiently, which may enhance the functional value of the Mac interface. Further, a beautiful product design may also motivate a consumer to think about reasons (cognitions) to own the product, which could then lead to perceptions of functional value. Previous neuroimaging studies on goal-directed choice have found that the inferior frontal gyrus (IGF) may serve to provide 'cognitive information' to the OFC (Rangel and Hare, 2010). Based on this and earlier discussions on the instrumental role of aesthetics in consumer products we hypothesize that:

H3b: Cognition-related regions of the aesthetic perception network such as the middle frontal gyrus (also referred to as dorsolateral prefrontal cortex) will demonstrate significant directional connectivity with the brain network involved in processing the functional value of products.

Integrating value attribution mechanisms

Although previous work has emphasized that the reward network of the brain is activated in response to the non-instrumental quality of the object, we argue that reward value experienced in context to consumer products is a culmination of both beauty and function, and benefits and costs associated with both the non-instrumental and instrumental characteristics of the product. From a neuroscience perspective, a meta-analysis has recently shown that the brain's reward system is activated irrespective of the characteristics of the modality causing the computation of subjective value of the stimulus (Clithero and Rangel, 2013). Therefore, subjective value may be inferred through both instrumental and non-instrumental benefits. Given this emerging view, it is plausible to expect that brain regions involved in encoding the functional attributes of products must drive activation of the reward circuits in the brain. Because the focus of previous research has been on objects of art, which have been considered 'devoid of function', their findings have emphasized the 'non-instrumental' benefits of reward processing, which is a limiting view when examining the role of aesthetics in consumer products. For consumer products, we expect that perceived functional value from product design will drive hedonic (or reward value). Hence we proposed that:

H4: The brain network involved in processing the functional value of products will demonstrate significant directional connectivity with reward network of the brain involved in processing the hedonic value of products.

METHOD

A neural study was employed to test the proposed hypotheses. First, we performed mass univariate analyses of the neural data to find regions activated by various neural processes and subsequently employed Granger causality analysis to find directional connectivity between multiple brain regions and networks. The participants for the study were recruited from the population at a major Southeastern university in the U.S. following approval from the Institutional Review Board at the university.

Stimuli and pretests

In selecting the stimuli for the aesthetic and purchase judgments tasks in this study, our objectives were two-fold: (i) select stimuli that are good representations of both hedonic and utilitarian categories of consumer products; and (ii) select paired stimuli that manipulate the aesthetics of the product in controlled pairs. Pretest 1 identified overarching consumer product categories considered to be highly hedonic or utilitarian. Participants were presented with either 20 utilitarian or 20 hedonic product categories in a randomized order with 7-point rating scales with utilitarian (*useless–useful*, *impractical–practical*) and hedonic items (*not delightful–delightful*, *unenjoyable–enjoyable*). Based on the mean ratings 10 most hedonic (e.g. MP3 players, perfume, wall art) and utilitarian (e.g. luggage, toothbrush, can opener) categories were selected. Then images were selected representing hedonic and utilitarian variants of the 20 selected product categories (e.g. luxury cosmetics versus everyday cosmetics) so that hedonic and functional value could be assessed both within and across product categories.

To manipulate the aesthetics of the consumer products realistically and in controlled pairs, we used the object property of complexity, which has been found to have a significant influence on aesthetic judgments of beauty for a broad range of consumer products (Cox and Cox, 2002; Creusen *et al.*, 2010; Noble and Kumar, 2010). We manipulated the 40 selected product images to create less and more aesthetic versions of the same product, using the Adobe Photoshop software. This resulted in a total of 80 stimuli from 40 controlled aesthetic pairs. Pretest 2 confirmed whether the 80 stimuli reflected successful manipulations of hedonic/utilitarian product categories, as well as successful manipulations of the product's aesthetics. Based on the results of Pretest 2 further manipulations were made to the stimuli and tested in Pretest 3. Finally, 64 stimuli were selected for the fMRI study. The final stimuli were standardized with respect to the following: (i) picture quality (pixels/inch) and size, (ii) removal of brand information, and (iii) white background.

Study design and task

In the fMRI study, participants made aesthetic (beautiful or not?) and purchase (buy or not?) judgments, while their brains were scanned for obtaining fMRI data. Twenty four healthy subjects (17 female and 7 male; *Mean* age = 23.6, *SD* = 10.05) were scanned while they performed an event-related task involving viewing 64 product images (chosen

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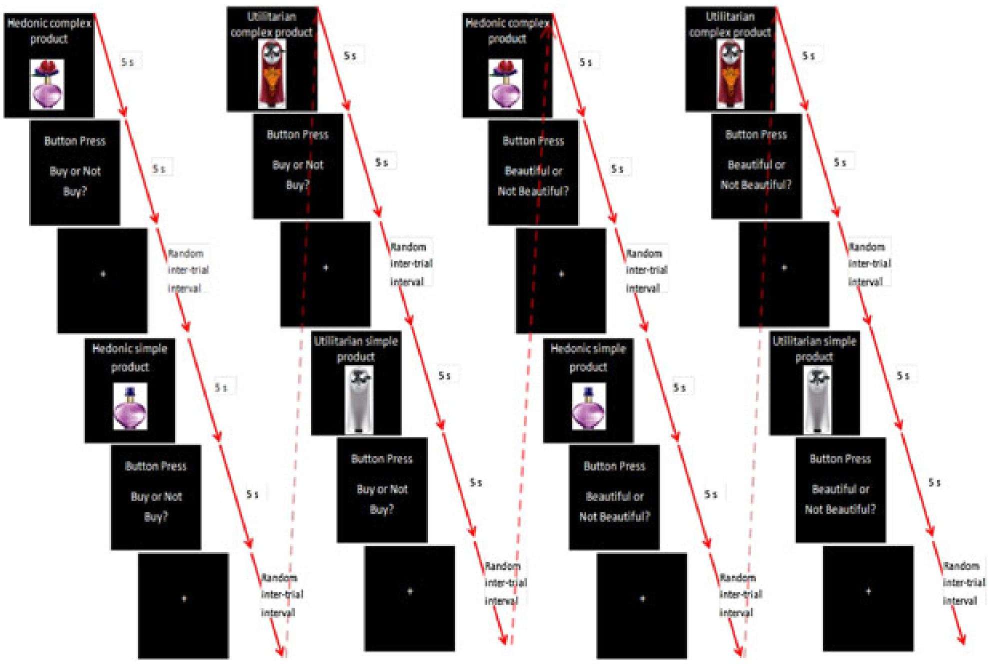
based on three pretests described earlier) and performing both the beauty and purchase judgment tasks for all 64 images in random order. The paradigm consisted of an event-related design where in the stimuli were presented in pseudo-random order, created using the E-Prime software (http://www.pstnet.com/software.cfm?ID = 101). Random inter-trial intervals were determined using optseq software (http://surfer.nmr.mgh.harvard.edu/optseq/), a standard procedure in event-related fMRI designs. A schematic of the event-related design is available in Figure 1.

Data acquisition

fMRI data based on blood oxygenation level dependent (BOLD) contrast was obtained using a 3 Tesla Siemens Verio scanner available at the MRI Research Center at the university. The protocol was approved by the Institutional Review Board at the University, and informed consent was obtained from each participant before the study. The participants viewed the selected 64 stimuli in the form of a visual stimulus presented to them via an MR-compatible projection system while they lay still and supine inside the scanner. Their response to each stimulus was recorded using an MR-compatible button box wherein they had the choice to press different buttons for beautiful/not and buy/not. Echo-planar imaging (EPI) sequence (Poustchi-Amin *et al*., 2001) with a 32-channel head coil and the following parameters were used to obtain the data: repetition time (TR) = 2000 ms, echo time (TE) = 30 ms, field of view (FOV) = 24 cm, matrix = 64 × 64, $3 \times 3\,\text{mm}^2$ in-plane resolution and contiguous slices of 5-mm thickness with whole brain coverage. High-resolution anatomical images were obtained to serve as an anatomical reference using the 3D magnetization-prepared rapid gradient echo (MPRAGE) sequence (Mugler and Brookeman, 1990) with the following scan parameters: TE/TR of 5/35 ms, matrix of $256 \times 208 \times 196$, an FOV of $256 \times 208 \times 192\,\text{mm}^2$, and a $1\,\text{mm}^3$ isotropic resolution.

Data analysis

The brain imaging data were analyzed using statistical parametric mapping (SPM) software (www.fil.ion.ucl.ac.uk/spm/). Accordingly, a design matrix was built based on convolving the canonical hemodynamic response function with the paradigm and input along with the data obtained at each voxel into a general linear model (GLM) (Friston *et al*., 1994). Typical brain connectivity analysis using fMRI employs Pearson's correlation coefficient for finding regions whose activity is synchronized (Friston, 1994). However, this approach does not provide the directionality of connections, which is critical for testing various hypotheses proposed in this paper. Therefore, we adopted a data driven approach called Granger causality modeling which is based on the idea that if past values of time series *A* help predict the present and future values of the time series *B*, then directional causal influence from time series *A* to time series *B* can be inferred (Granger, 1969). Using multivariate autoregressive models (MVAR), the predictive relationship between fMRI time series from different brain regions has been characterized in many previous studies (Roebroeck *et al*., 2005; Abler *et al*.,



Notes: Each black box shows what the subjects saw inside the scanner for the length of time indicated by the arrows. The subjects saw a given product (not the accompanying words) for 5 s and had 5 more seconds to indicate via a button press their decision to buy or not buy the product in half of the trials and judge whether the product was beautiful or not in the other half of the trials. The inter trial interval, the order in which the products appeared and the judgment type were randomized for each subject. The order of products shown in this figure is only illustrative.

Figure 1. Schematic of the event-related experimental design for fMRI.

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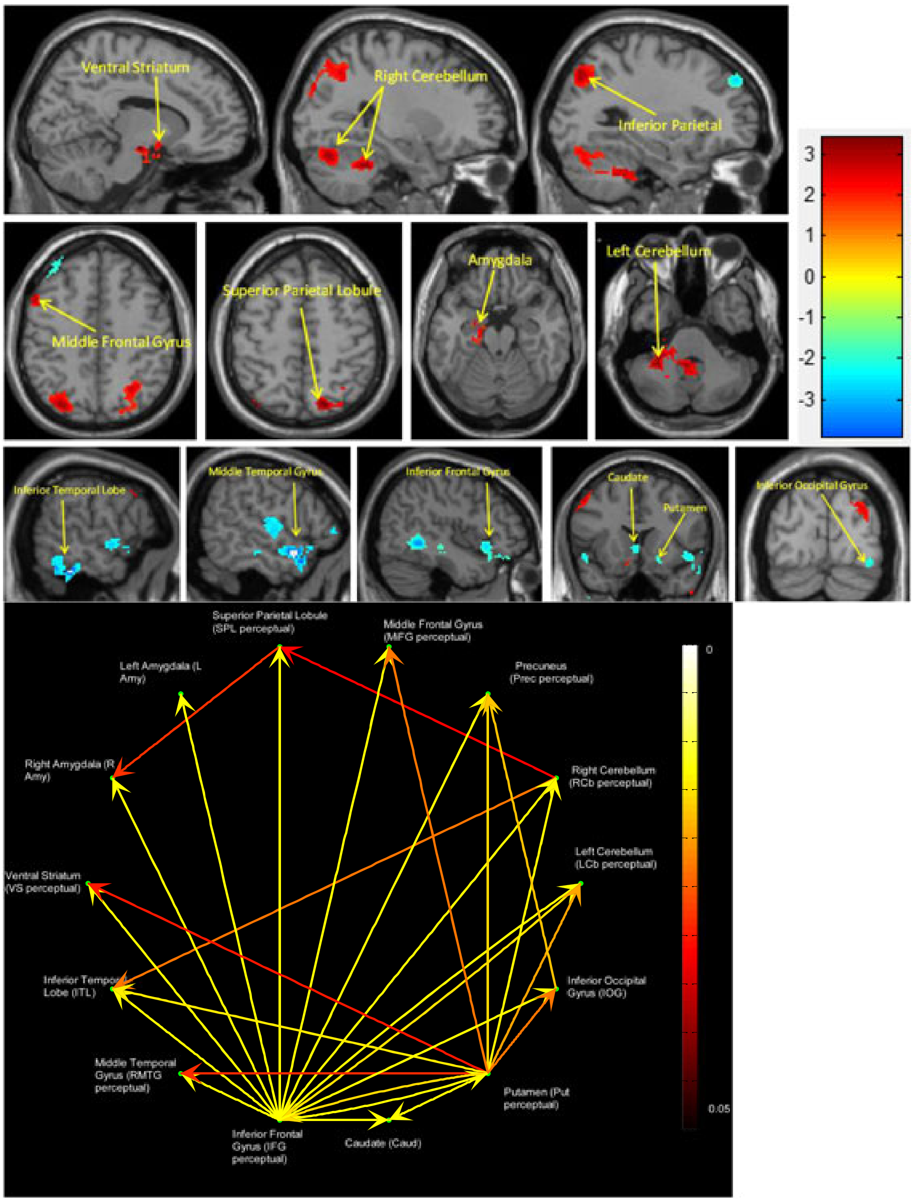
2006; Deshpande *et al*., 2008, 2009; Sathian *et al*., 2011). Previous studies have also indicated that estimates of Granger causality, when calculated directly from raw fMRI time series, can be contaminated by the inter-subject and inter-regional spatial variability of the hemodynamic response (Handwerker *et al*., 2004), which could potentially be driven by vascular, rather than neuronal, processes (David *et al*., 2008; Deshpande *et al*., 2010). Therefore, we performed a Cubature Kalman filter based blind hemodynamic deconvolution (Havlicek *et al*., 2011) of raw fMRI time series obtained from various brain regions and obtained hidden neuronal variables which were input to the MVAR model. For obtaining connectivity specific to our conditions of interest, we made the MVAR model coefficients to vary as a function of time, i.e. a dynamic MVAR model. We then extracted the connectivity during the trial phases of the experiment and statistically compared it with the resting inter-trial phases to obtain condition-specific statistically significant directional connectivity paths in the brain. For details on the mathematical models used to realize the approach above, please refer to Sathian *et al*. (2013).

RESULTS AND DISCUSSION

Aesthetic perception, emotion, and cognition

The most significant activated clusters of voxels in the brain ($p < 0.01$ FDR corrected) when products were judged beautiful and not beautiful are included in Figure 2 (see Table 1 for MNI coordinates of activation clusters). When products were



Notes: In the figure on top, red reflects regions showing more activity when the product was judged beautiful versus not; blue reflects regions showing more activity when the product was judged not beautiful versus beautiful. The figure below reflects the directional connectivity within the beauty judgment network.

Figure 2. The beauty judgment network and connectivity within.

Table 1. MNI coordinates of activation clusters

Network	Condition	Brain region	Peak MNI coordinate		
			x	*y*	*z*
The beauty judgment	Beautiful > not beautiful judgments ($p < 0.01$)	Left Cerebellum (LCb)	−30	44	−38
		Right Cerebellum (RCb)	28	−44	−30
		Precuneus/Inferior parietal (Prec)	−28	−76	44
		Middle Frontal Gyrus (MiFG)	−52	18	44
		Superior Parietal Lobule (SPL)	18	−72	54
		Left/Right Amygdala (L/R Amy)	−14/14	−10	−18
		Ventral Striatum (VS)	13	−3	−10
	Not beautiful > beautiful judgments ($p < 0.01$)	Inferior Temporal Lobe (ITL)	−58	−38	−26
		Middle Temporal Gyrus (RMTG)	58	6	−16
		Inferior Frontal Gyrus (IFG)	46	20	−8
		Caudate (Caud)	−2	16	−2
		Putamen (Put)	18	12	−12
The purchase judgment	The product was decided to be purchased ($p < 0.01$)	Inferior Occipital Gyrus (IOG)	34	−86	−12
		Inferior Temporal Gyrus (ITG)	−52	−36	−24
		Middle Temporal Gyrus (LMTG_purchaseYES)	−50	−74	16
		Superior Frontal Gyrus (SFG_purchaseYES)	−14	32	62
		Medial Frontal Gyrus (MFG_purchase)	1	43	46
	The subjects decided not to purchase ($p < 0.01$)	Left Cerebellum (LCb_purchase)	−28	−46	−22
		Lingual Gyrus (LG_purchase)	16	−74	−6
		Middle Temporal Gyrus (RMTG_purchaseNO)	56	−44	−12
		Cuneus (Cun)	−14	−82	26
		Putamen (Put_purchase)	18	12	−14
		Superior Temporal Gyrus (STG)	−48	8	−10
		Mid Orbito-frontal Gyrus (MOFG)	32	58	−14
		Middle Temporal Gyrus (LMTG_purchaseNO)	−46	−40	−6
		Inferior Frontal Gyrus (IFG_purchase)	50	28	−2
		Precentral Gyrus (PG)	−62	6	10
		Superior Parietal Lobule (SPL_purchase)	−36	−38	64
		Middle Frontal Gyrus (MiFG_purchase)	52	24	38
		Precuneus (Prec_purchase)	10	−62	62
		Superior Frontal Gyrus (SFG_purchaseNO)	12	−18	78
The hedonic	Hedonic versus utilitarian products ($p < 0.01$)	Right Cerebellum (RCb_hedonic)	20	−70	−32
		Left Cerebellum (LCb_hedonic)	−16	−80	−32
		Right Orbito-frontal cortex (ROFC)	46	30	−8
		Left Orbito-frontal cortex (LOFC)	−52	25	−8
		Left Calcarine (LC)	−14	−94	−2
		Right Calcarine (RC)	14	−94	0
		Middle Temporal Gyrus (LMTG_hedonic)	−58	−24	−10
		Medial Frontal Gyrus (MFG_hedonic)	8	60	26
		Ventral Striatum (VS_hedonic)	6	6	2
The functional	Functional products ($p < 0.01$)	Inferior Parietal Lobule (IPL)	50	−42	60
		Superior Parietal Lobule (SPL_hedonic)	32	−62	66
		Brain Stem (pons)	−6	−36	32
		Left Lingual Gyrus (LLG_functional)	10	−49	2
		Right Lingual Gyrus (RLG_functional)	10	−49	2
		Middle Temporal Gyrus (LMTG_functional)	−40	−84	20
		Superior Frontal Gyrus (SFG_functional)	2	−2	76

judged beautiful, brain regions showing more activity included regions in the frontal and parietal lobes as well as regions such as amygdala and cerebellum involved in emotion and ventral striatum involved in reward. Judgments of ‘not beautiful’ activated sub-cortical structures such as caudate and putamen besides cortical activations in the frontal, visual, and temporal lobes. With respect to the role of emotion in aesthetic perception, the amygdala (emotion region of the brain), was activated only during positive beauty judgments for consumer products (see Figure 2). This supports H1a, providing further evidence on amygdala’s role in beauty judgments. Specifically, the directional connectivity within the beauty judgment network (see Figure 2), suggests that the amygdala receives inputs from regions such as IFG encoding the cognitive aspects of aesthetic perception and regions such as SPL encoding the perceptual association related aspects of aesthetic perception, but does not feedback into the beauty judgment network with outputs. These results lend support to Leder *et al.*’s (2004) conceptualization that emotion is an outcome from different stages (cognitive and associative) of aesthetic perception. Frontal areas, which are the substrates of cognition, were active during both positive (middle frontal gyrus or dorsolateral prefrontal cortex) and negative (inferior frontal gyrus) beauty judgments. This only partially supports H1b. In retrospect, this seems logical because it requires some cognitive deliberation to decide that

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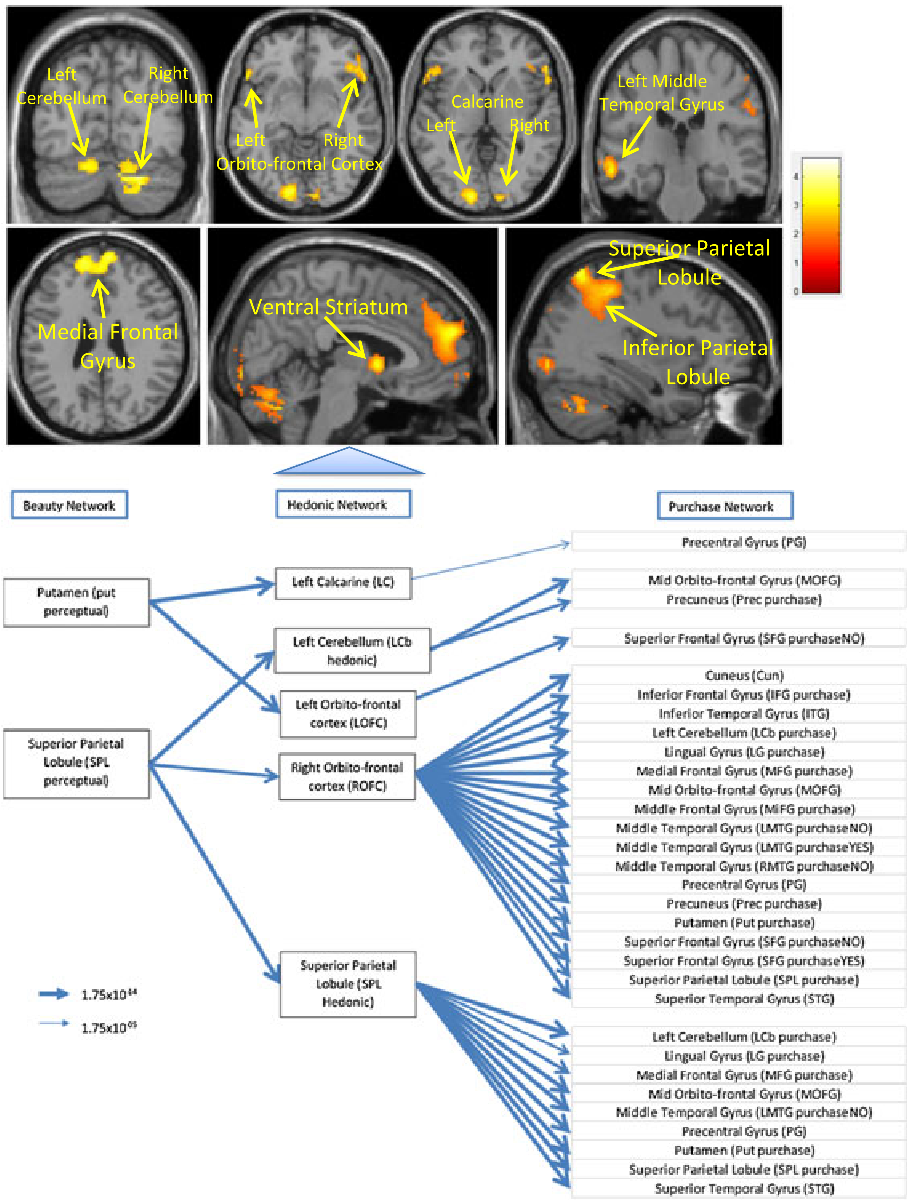
something is not beautiful. A more nuanced conclusion is that positive and negative beauty judgments require different aspects of cognition as evidenced by different frontal areas they activate. For example, middle frontal gyrus or dorsolateral prefrontal cortex is involved in attention and working memory (Petrides and Pandya, 1999) whereas inferior frontal gyrus is involved in inhibitory control (Aron *et al*., 2004) which seems to be required in deeming that something is not beautiful.

Value attribution mechanisms and purchase intent

Mediating role of hedonic value

To test for H2a (mediation of hedonic/reward network between beauty and purchase networks) and H2b (directional connectivity from emotions to hedonic/reward reward), we examined the most significantly activated clusters of voxels in the brain ($p < .01$ FDR corrected) in the hedonic network (regions showing more activity during viewing hedonic versus utilitarian products) shown in Figure 3 (see Table 1 for MNI coordinates). Brain regions involved in emotion (orbito-frontal, cerebellum), reward (ventral striatum and orbito-frontal), visual perception (calcarine, temporal areas), cognition/decision-making (frontal), and association (parietal areas) were involved while processing hedonic/reward value in a product. For testing H2a and H2b, we obtained all possible significant connections (corrected $p < .05$) between beauty, hedonic, and purchase networks using a single MVAR model. In order to test H2a, we specifically focused



Notes: The figure above reflects the hedonic network. The figure below displays the significant directional connectivity paths from beauty to hedonic to purchase networks. The width of the paths are inversely proportional to their p-value.

Figure 3. Directional connectivity from beauty to hedonic to purchase networks.

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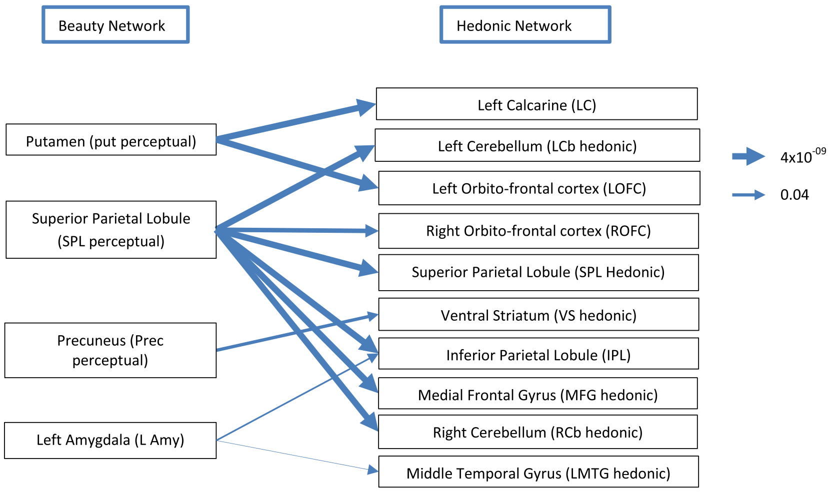

Notes: Significant directional connectivity paths from beauty to hedonic networks. The width of the paths are inversely proportional to their p-value. Paths from emotion-related left Amygdala in the beauty network to IPL and MTG in the hedonic network support hypothesis H4b.

Figure 4. Directional connectivity from beauty to hedonic networks.

on the paths between beauty and purchase networks, mediated by regions of the hedonic network. Results shown in Figure 3 show that the orbito-frontal and parietal regions of the hedonic network mediated directional brain connectivity between superior parietal region of the beauty network and most regions of the purchase network. The left orbito-frontal gyrus and primary visual areas such as calcarine of the hedonic network also mediated the relationship between putamen of the beauty network and frontal and precentral regions of the purchase network to a limited extent. These results clearly show that perceived reward value emerges from judgments of product beauty and triggers a 'desire for ownership' through a purchase decision, supporting H2a.

In order to test H2b, we specifically focused on the paths between beauty and hedonic networks arising from emotion-related areas of the beauty network i.e. Left and Right Amygdala (see Figure 4). Significant ($p < .05$ corrected) connections were: (i) Left Amygdala → Inferior Parietal Lobule ($p = .0098$ corrected); (ii) Left Amygdala → Middle Temporal Gyrus ($p = .04$ corrected). Hence, H2b is also supported, confirming the directional connectivity between emotion and hedonic/reward value.

Mediating role of functional value

The regions activated by functional products revealed significantly activated clusters of voxels in the brain ($p < .01$ FDR corrected) shown in Figure 5 (see Table 1 for MNI coordinates). Compared to the hedonic network, relatively less number of regions were activated by utilitarian products. The activated regions belonged to sensory association areas such as lingual gyrus and middle temporal gyrus as well cognitive decision making areas such as superior frontal gyrus. Even though the activation in the brain stem indicates an autonomic response, there was no explicit activation in emotion and reward-related areas for utilitarian stimuli. For testing H3a and H3b, we obtained all possible significant connections (corrected $p < .05$) between beauty, functional, and purchase networks using a single MVAR model. In order to test H3a, we specifically focused on the paths between beauty and purchase networks, mediated by regions of the functional network. The ensuing results (see Figure 5) show the SFG region of the functional network influencing different regions of the purchase network. Because SFG is in turn driven by Left Amygdala of the beauty network, H3a is supported.

In order to test H3b, we specifically focused on the paths between beauty and functional/utilitarian networks arising from cognition-related areas of the beauty network i.e. Inferior Frontal Gyrus (see Figure 6). We found that IFG influences RLG, which is one of the regions that encode functional value. Therefore, H3b is supported. Importantly, it is also to be noted that Left Amygdala, an emotion-related region of the beauty network, also influences functional value. Although, we did not predict this in our framework, this result demonstrates that brain regions involved with both emotions and cognitions of the beauty judgment network influence the functional value of consumer products, which then influences the intent to purchase. This finding importantly emphasizes the utilitarian goals of aesthetic appraisals based on clear connectivity results.

Integrating value attribution mechanisms

Last, in order to test H4, we calculated significant connectivity (corrected $p < .05$) functional/utilitarian and hedonic networks. The results shown in Figure 7 clearly indicate support for H4. These results provide clear evidence that the reward (hedonic) network receives information from the functional network of the brain, thus integrating both the non-instrumental and instrumental value of the product. These results provide important support for the emerging view that the brain's reward system is activated when determining the subjective value of the stimulus (Clithero and Rangel, 2013), which is inferred through both instrumental and non-instrumental benefits.

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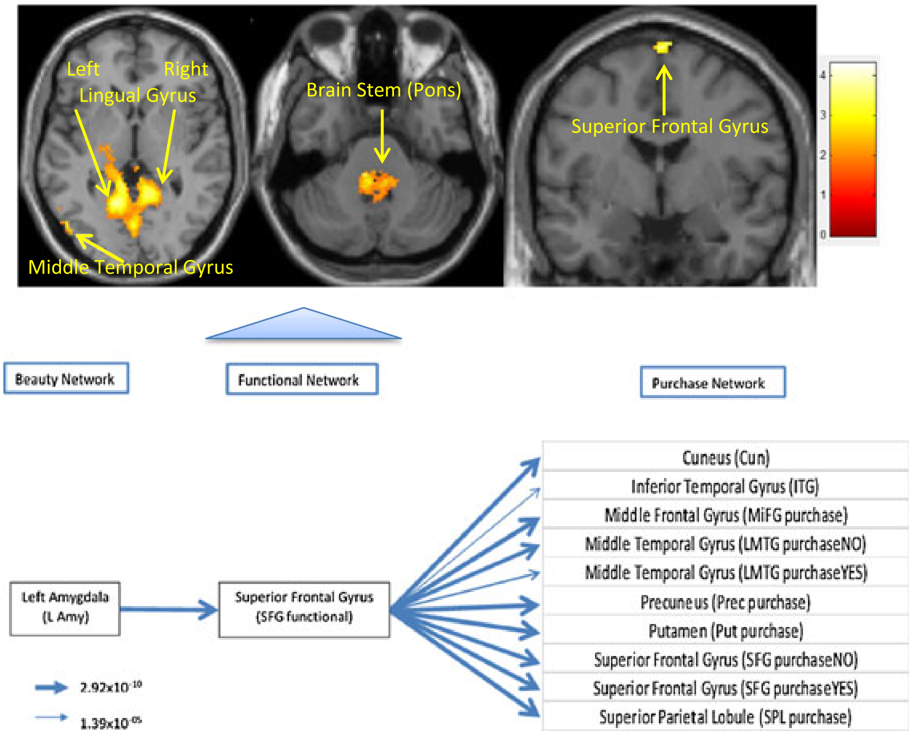


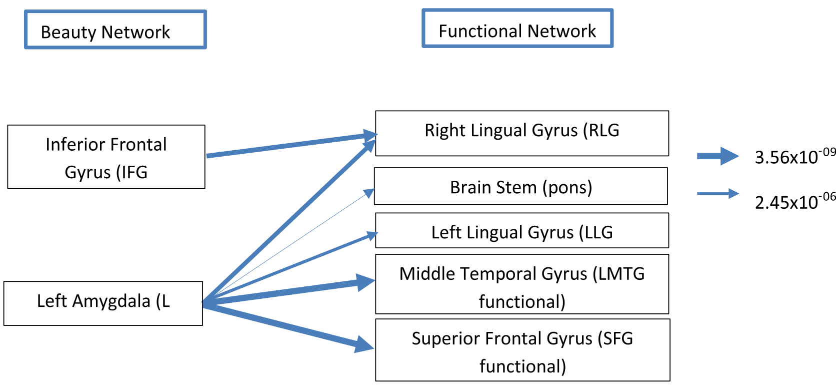
Notes: The figure above reflects the utilitarian/functional network. The figure below displays the significant directional connectivity paths from the beauty to functional to purchase networks. The width of the paths are inversely proportional to their p-value.

Figure 5. Directional connectivity from beauty to functional to purchase networks.

IMPLICATIONS

Theoretical implications

This study makes significant contributions to aesthetics and marketing theory. Literature on product aesthetics and consumer behavior is fragmentary, and a holistic understanding of aesthetic experience particularly with respect to consumer products is lacking. While various elements of product design have been studied individually in relation to consumer response using an effect-focused approach, a mechanistic and process-focused understanding of neural responses to a product's design is missing in the literature. Backed by neuroimaging data, this study creates deep insights with respect to aesthetic judgments of beauty in consumer products and mechanisms through which aesthetic perception influences purchase behavior. We find that value attribution lies at the heart of this explanation. The value attribution mechanisms that we uncover further demonstrate that the reward network of the brain integrates utilitarian considerations before triggering a purchase decision. We also uncover the clear feedforward role of emotion in the neuroscience of aesthetic perception, value attribution, and decision making. Importantly,



Notes: Significant directional connectivity paths from beauty to functional/utilitarian networks. The width of the paths are inversely proportional to their p-value. Paths from cognition-related IFG in the beauty network to RLG in the functional network support hypothesis H5b.

Figure 6. Directional connectivity from beauty to functional networks.

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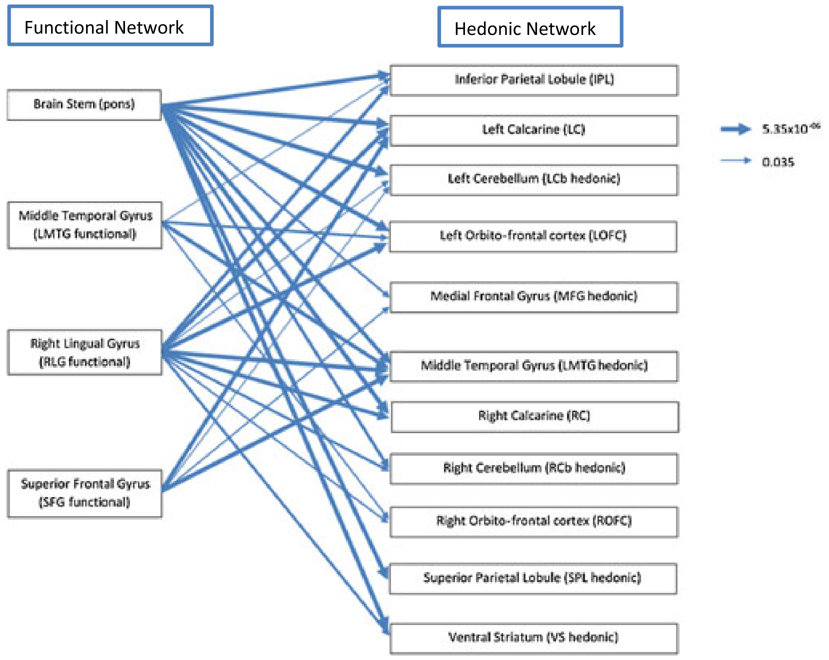

Notes: The figure above reflects the significant directional connectivity paths from the functional to hedonic networks. The width of the paths are inversely proportional to their p-value.

Figure 7. Directional connectivity from functional to hedonic networks.

we reveal that the left Amygdala, an emotion-related region of the beauty network, influences all five regions in the functional network, which then influence the purchase network of the brain.

Managerial implications

In the design management discourse, the intricate connection between beauty and function was implicit in Steve Job's design philosophy: "Design is a funny word. Some people think design means how it looks. But of course, if you dig deeper, it's really how it works" (Valentino-Devries, 2011). In this paper, we have provided a mechanistic insight into what makes this design philosophy work. For Apple, 'form defines function' trickled down to each unit of design: "We made the buttons on the screen look so good you'll want to lick them" (Steve Jobs quoted in Schlender, 2000).Whether or not the 'skeumorphic' design of the original Apple iOS buttons promoted the desire to 'lick'; they definitely promoted the desire to 'touch' among the youngest and oldest users, the biggest breakthrough for the adoption of touchscreen technology. In this paper, we find that object beauty is of critical importance in consumer products because it triggers emotions and utilitarian motivations such as the 'desire to use' products, which drive the decision to purchase or own the product. Importantly, emotional response to product beauty emerged as a neural trigger for things to follow.

This has implications for both product design and marketing. At a design unit level, form 'defining' function can be expected resonate with the flow of connections in the consumer's brain. In other words, product (or interface) design that evokes pleasure, while implicitly cueing the 'use case' for the consumer, will resonate with a purchase decision in the consumer's brain. On a product category level, beautiful design in utilitarian products can be a win–win strategy for product companies because they combine beauty and function and resonate with the decision-making processes of the brain. From a marketing perspective, advertising campaigns that evoke emotions, while 'visualizing' usage scenarios for beautiful products can aid in 'defining' functional value more vividly in consumer brains and become important triggers for purchase.

Methodological implications

This paper demonstrates a novel and successful approach for integrating neural methods in building aesthetics theory. In this paper, we demonstrate the value of building specific directional connections that are tested using brain connectivity analysis (Granger causality modeling). This analysis captures the ability of a variable to predict another, which has natural resonance with the way we understand basic psychological processes as a chain of causal events. The method also has critical implications in creating a mechanistic understanding of processes that mediate different stages of consumer decision-making. Current approaches in integrating neuroscience methods are effects-based that emphasize functional localization data and results. While this is valuable in many instances, the method we implemented is a process-based approach that focuses on functional networks, allowing investigators to examine the directional connectivity in the neural data and offering important implications for decision neuroscience.

With respect to the limitations of this method, it is not straight-forward to obtain directional connectivity in brain networks using fMRI data given that it represents hemodynamically smoothed and downsampled versions of

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underlying neural activity. However, we have used a continuous time generative model for fMRI through which neural activity at a finer temporal scale can be obtained with the hemodynamic response deconvolved (Havlicek *et al*., 2011) before being input into the Granger causal model. This approach ameliorates the disadvantages of raw fMRI data in terms of hemodynamic smoothing and coarse temporal resolution, for obtaining directional connectivity between a large numbers of brain regions in a data-driven fashion. However, it would be ideal if future studies could employ simultaneous EEG/fMRI acquisition (Huster *et al*., 2012) for sampling the underlying neural activity with both high temporal and spatial resolutions, respectively.

BIOGRAPHICAL NOTES

Veena Chattaraman is an Associate Professor in the Department of Consumer and Design Sciences at Auburn University, USA. Her research interests encompass design and consumer neuroscience, social–psychological and cultural aspects of consumer behavior, and intelligent technologies for consumer applications. Her publications have appeared in varied journals such as Journal of Business Research, Psychology and Marketing, Journal of Consumer Behaviour, and Journal of Product and Brand Management.

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Can an organization's philanthropic donations encourage consumers to give? The roles of gratitude and boundary conditions

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ABSTRACT

This study examines whether an organization's charitable donation will prompt consumers who closely identify with the organization to give to the charity as well. We posit that identifying with a benefactor will enhance the perception that consumers are involved in the donation process, which evokes grateful feelings. We also predict that the amount of the organization's donation will positively moderate the influence of organization identification on charity-evoked feelings of gratitude, while attitude toward the organization's charity will positively moderate the gratitude–donation relationship. In Study 1, we show how gratitude arises in the context of corporate social responsibility by demonstrating the mediating role of perceived donation contribution in the relationship between organization identification and gratitude. In Study 2, we demonstrate that organization identification has a significant indirect effect on donation intention through gratitude. Multigroup analyses show that the identification–gratitude link is more salient when the organization commits to donating a larger amount of money to a charity. Furthermore, the impact of gratitude on donation intent is significantly stronger for individuals who hold a favorable attitude toward the organization's corporate social responsibility activity. Our findings indicate that an organization's charitable giving also encourages consumers to give to the community via vicariously felt gratitude. Copyright © 2016 John Wiley & Sons, Ltd.

In 2014, individuals, corporations, and foundations in the US gave \$335bn to charity (givingUSAreports.org). Total charitable giving by American individuals makes up 72 per cent of all contributions received by nonprofit organizations. In 2013, per capita giving by US adults reached \$1016 and average US household giving reached \$2974 (Giving USA Foundation, 2014). Corporations also give to nonprofit organizations to practice corporate citizenship and to show that they give back to society. It is not uncommon for companies to partner with nonprofit organizations and further prompt consumers to give back to community. From placing a small donation box at the counter to creating a cause-related item, the proceeds from which go to a nonprofit organization, companies create various ways to increase the amount of money being donated to beneficiary organizations

In professional sport, FC Barcelona has an agreement with UNICEF that is designed to donate at least €1.5m per year to the United Nation's children agency. Such charitable giving has helped UNICEF to fund programs aimed at combating HIV and AIDS in Africa and Latin America (www.unicef.org). In addition, FC Barcelona contributed €500,000 in publicity assets to promote the partnership each year to remind football fans of the importance of children. Certainly, this philanthropic commitment of FC Barcelona might have helped increase awareness of the children's agency among football fans. Does such giving also increase individual giving among the soccer club's loyal fans? If so, what is the psychological mechanism that entices individual fans to donate to UNICEF? One area that has received relatively little attention is whether individual giving can be motivated by an organization's philanthropic giving. In particular, can an organization's giving encourage consumers who closely identify with the organization to donate more? The present study aims to find answers to these questions.

Research findings have shown that such prosocial initiatives benefit organizations, particularly in terms of enhanced reputation and purchase intentions (e.g., Irwin *et al*., 2003; Roy and Graeff, 2003). However, little is known about whether an organization's charitable giving also encourages consumers to engage in philanthropic actions to benefit the organization-supported charity (cf. Lichtenstein *et al*., 2004). We aim to extend the literature by examining whether an organization's corporate social responsibility (CSR) actions can nudge consumers to follow prosocial behaviors, with benefits extending beyond the organization itself. We posit that feelings of gratitude induced by an organization's giving will play a critical role in inducing intentions to donate to the beneficiary of the philanthropic giving. Recent studies have shown that feelings of gratitude are not limited to an elicited norm of reciprocity (cf. Cialdini and Goldstein, 2004; Goldstein *et al*., 2011; McCullough *et al*., 2001, 2002), implying that gratitude can motivate prosocial behaviors beyond exchange or communal relationships (Algoe and Haidt, 2009). Therefore, we posit that charity-induced gratitude to an organization is an important facilitator that will promote consumer donations to the beneficiary of the CSR.

In the CSR context, gratitude can arise when companies engage in prosocial actions such as protecting the environment, supporting social causes, and resolving ethical dilemmas. Romani *et al*. (2013) found that gratitude is the typical positive moral emotion evoked in response to a company's moral and virtuous behaviors. In the current study, we extend this notion by proposing that individuals' strong identification with an organization engaged in CSR will be an important elicitor of such an emotional response. Consistent with the notion of group-based emotions (Goldenberg *et al*., 2014), the more an individual identifies him or herself with the organization, the more the individual

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will experience gratitude because of an organization's CSR. We posit that this is because consumers who highly identify with the organization are more likely to associate themselves with the benefactor, which would evoke grateful feelings.

Therefore, we aim to extend the previous research by positing that a close psychological connection between the self and an organization (i.e., organization identification) will be an important source of charity-induced gratitude (e.g., Mackie *et al*., 2000; Yzerbyt *et al*., 2003). In addition, based on more recent theorizing on gratitude (e.g., Fredrickson, 2004; Bartlett and De Steno, 2006; Algoe *et al*., 2008), we posit that grateful individuals will move beyond a reciprocal relationship and support the beneficiary of the prosocial behavior. Thus, the present study contributes to the existing research by demonstrating how an organization's giving can encourage prosocial behaviors to benefit the community.

In doing so, we further extend the literature by exploring two boundary conditions that moderate the organization identification–gratitude–donation relationship. First, we propose that the amount of an organization's donation will have a positive moderating effect on the organization–gratitude relationship. Second, we predict that a favorable evaluation of an organization's charitable giving will positively moderate the gratitude–prosocial behavior link. Therefore, our study contributes to the CSR and consumer behavior literature by considering additional context-specific boundary conditions (i.e., donation amount and attitude toward the charity) in examining the relationships between organization identification, gratitude, and donation intent. Our findings will also aid nonprofit managers partnering with sport properties in understanding the dynamic influence of organization identification on the construction of gratitude and its subsequent impact on benefiting the nonprofit through philanthropic giving.

THEORETICAL BACKGROUND

Organization identification as a determinant of gratitude

In the present study, we posit that individuals will experience gratitude even when they are not the direct beneficiaries of CSR. The concept of group-based emotions provides a theoretical explanation for how grateful feelings arise in the context of an organization's CSR activity. Group-based emotions refer to "emotions that are dependent on an individual's membership in a particular social group and occur in response to events that have perceived relevance for the group as a whole" (Goldenberg *et al*., 2014, p. 581). This approach integrates social identity theories (e.g., Tajfel and Tuner, 1986) with appraisal theories (Lazarus, 1991), which offers a new perspective on how individuals experience emotional reactions to events associated with one's group membership. Goldenberg *et al*. (2014) asserts that group-based emotions are elicited by level of identification with the group. Further, several studies have found that people experience group-based emotions when the event is directly relevant to one's social identity (Yzerbyt *et al*., 2003; Kessler and Hollbach, 2005). A close psychological connection between the self and the organization will predispose individuals to appraise the event as personally relevant.

Although the idea of group-based emotions explains how individuals experience emotional reactions indirectly through a social identity, it does not explain why consumers would specifically feel gratitude when they are not the direct beneficiaries of a CSR activity. Earlier theorizing about gratitude asserts that people experience gratitude when they receive benefits from gifts, help, favors, or support from another person or entity (Tesser *et al*., 1968). Likewise, empirical research supports the notion that gratitude is generally elicited when an individual perceives that he or she is the direct beneficiary of another person or entity's moral action (Emmons and Crumpler, 2000; McCullough *et al*., 2001; Haidt, 2003).

However, more recent theorizing of gratitude asserts that gratitude can be elicited in the absence of a direct benefactor–beneficiary relationship (Haidt, 2003; Romani *et al*., 2013). For instance, Haidt (2003) proposes that gratitude is triggered by the good deeds of other people. Altruistic giving by a company (e.g., support for health programs, environmental issues, and poverty) can generate feelings of gratitude in consumers, which promote prosocial behaviors. In the CSR context, Romani *et al*. (2013) showed that a company's CSR activity triggers gratitude even when the consumer is not the direct beneficiary of the prosocial activity. They contend that consumers can perceive benefits by considering organizations' initiatives in different domains as supporting one or more of their moral values. That is, consumers might construe CSR actions to be upholding or surpassing their desired moral values, which would facilitate the feelings of gratitude. Further, we propose that consumers who identify with the organization will consider the philanthropic giving to be personally relevant, which would evoke the perception that they also have contributed to the donation. Therefore, positive moral emotions of gratitude can result through enhanced perceived donation contributions, even in the absence of a direct or material benefit from the CSR (Romani *et al*., 2013). In turn, we posit that perceived donation contributions will evoked grateful feelings. In line with social identity theory and appraisal theories of emotions, we propose the following hypotheses:

> *Hypothesis 1:* Organization identification will have a positive effect on perceived contribution in the donation process.

> *Hypothesis 2:* Perceived contribution in the donation process will have a positive effect on gratitude.

> *Hypothesis 3:* Organization identification will have a positive effect on gratitude.

Feelings of gratitude and prosocial behavior

According to McCullough *et al*. (2001), gratitude functions as a moral motive that urges individuals to behave prosocially themselves, either toward the benefactor, toward others, or both. Fredrickson (2004) further conceptualized that grateful individuals do not limit their actions simply to repaying a benefactor in a tit for tat manner. Rather, grateful individuals consider a wide range of prosocial actions directed to promoting the well-being of other people, above and beyond the original

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benefactor (Fredrickson, 2004; Bartlett and De Steno, 2006). Similar findings support the view of that prosocial behaviors are not simply caused by the norm of reciprocity (Cialdini and Goldstein, 2004; Algoe *et al*., 2008; Algoe and Haidt, 2009). In this regard, some researchers distinguish gratitude from indebtedness, which implies an obligation and is often experienced as a negative state (Tangney *et al*., 2007).

In the present study, we conceptualize gratitude as a positive emotional state that has a moral motive function (McCullough *et al*., 2001), which promotes prosocial behaviors that move beyond mindless tit-for-tat behavior. Following Fredrickson's (2004) conceptualization of gratitude, we propose that gratitude will formulate actions that promote the well-being of other people, including, but not limited to, the original benefactor. Therefore, in the context of CSR, we posit that gratitude will be positively associated with donation intentions to support the beneficiary. We posit that consumers who are highly identified with the organization will feel grateful in response to their extended social identity's benevolence, and that this grateful feeling will motivate them to support the charity (beneficiary). Therefore, we propose the following hypotheses:

Hypothesis 4: Gratitude will have a positive effect on donation intention to support the beneficiary of the charity.

From a social exchange perspective, which is concerned with the processes that govern the transfer of social or psychological resources between a benefactor and beneficiary, it can be expected that an organization's charitable giving will signal prosocial behaviors among those who closely identify with the organization. The more an individual identifies him or herself with the organization, the more likely it is that the person will feel the need to engage in similar behavior and contribute to the organization-supported charity. In the organizational behavior literature, studies have found that organizational identification has a significant direct effect on various in-group prosocial behaviors (e.g., "I help new people even though it is not required"; Bell and Menguc, 2002; O'Reilly and Chatman, 1986). Given that strong organization identification motivates consumers to expend effort to benefit others and promote the welfare of the organization, we could also expect that organization identification will have a direct impact on prosocial behavioral intentions. Therefore, we hypothesize the following:

Hypothesis 5: Organization identification will have a direct positive effect on donation intention to support the beneficiary of the organization's charitable giving.

Boundary condition: organization's donation amount

Based on the notion that organization identification is an important determinant of group-based emotions (Kessler and Hollbach, 2005), we propose that the strength of the identification–gratitude relationship will depend on the amount that an organization donates to a charity. There have been studies examining the effect of donation amount on attitude-related and behavior-related outcomes such as consumers' willingness-to-pay for charity-linked products (e.g., Haruvy and Popkowski Leszczyc, 2009; Folse *et al*., 2010; Koschate-Fischer *et al*., 2012). For instance, Haruvy and Popkowski Leszczyc (2009) found that donation amount expressed as percentage of the auction revenue in a charity context increased participants' bidding and the auction revenues. Given that the amount of proceeds that went to a charity organization increased individuals' giving amount by promoting their bidding behavior, we contend that the organization identification–gratitude relationship will vary with the organization's donation amount. According to Palmatier *et al*. (2009), consumers' perception of a firm's investment increases feelings of gratitude, which then promote gratitude-related reciprocal behaviors in the relationship marketing context. Palmatier *et al*. emphasized consumers' perception of investment as a critical determinant of gratitude. As such, we contend that the larger the amount of money an organization commits to donating, the more likely it will be to increase consumer perceptions of investments, which would evoke greater feelings of gratitude. Therefore, we posit that an organization's donation amount will positively moderate the influence of organization identification on gratitude.

Hypothesis 6: An organization's donation amount will positively moderate the identification–gratitude relationship such that the effect of identification on gratitude will be greater when the organization donates a larger amount of money.

Boundary condition: attitude toward the organization's charity

While the literature suggests that gratitude is a moral emotion closely associated with prosocial behaviors, we propose that individuals' attitude toward the organization's charity will strengthen the gratitude–donation intention relationship. This is because favorable evaluations of the organization's charity will function as a motivator to prompt grateful individuals to act upon their positive moral emotions. In a related study, Arora and Henderson (2007) found that positive cause evaluations influence consumers' choice of a purchase–contingent donation (charity incentive). Similarly, Lichtenstein *et al.* (2004) also found that personal relevance of cause has a positive impact on charity-linked product choice. Although these studies have not specifically examined donation intention, we posit that the gratitude–donation link will be strengthened (weakened) when consumers have more positive (less positive) attitudes toward the organization's charity activity. Given that the call to action we are considering is making a monetary donation to a local charity, we believe that the giving intention will be prompted even more when individuals have a favorable attitude toward the charity activity. Therefore, we predict that attitude toward the organization's charity will positively moderate the effect of gratitude on donation intention.

Hypothesis 7: Attitude toward the organization's charity will moderate the effect of gratitude on donation intention in that the gratitude–donation link will be more salient among individuals who favorably evaluate the charity program.

Two studies are presented to test the proposed hypotheses. Study 1 examines how gratitude arises in the context of CSR by examining the mediating role of perceived donation contribution. Study 2 examines the moderating roles of domain-specific variables (donation amount and attitude toward the CSR) in the identification–gratitude–donation relationship. We utilized the National Football League (NFL) as the research context because of its substantial economic and cultural impact in the US market. The revenue of the NFL is estimated to be about \$10bn per year, and the overall market value of its 32 franchises is estimated to be more than \$46bn (Bloomberg Business, 2014), which is about equal to one-sixth of the market capitalization of Walmart, the top grossing company on the Fortune 500 list (Fortune Magazine, 2015). An average of 17.4 million viewers watched regular season games on television, and more than 112 million people watched the Super Bowl (the final championship match at the end of the season) in 2014 (Nielsen, 2015), making it one of the most viewed sporting events in the USA. (NBC Sports, 2015). The spectator sport context provides unique opportunities for researchers to investigate the dynamic influence of organization identification on various consumer behaviors (e.g., Madrigal, 2001; Trail *et al*., 2005). Thus, the popular professional sport league is deemed an appropriate context in which to examine the influence of organization identification on gratitude and subsequent prosocial behavior.

STUDY 1

This study was designed to examine how gratitude arises in the CSR context. We hypothesized that individuals' perceived donation contribution will mediate the influence of organization identification on gratitude. A close psychological connection with an organization will prompt individuals to perceive that they, too, have contributed to the giving. In particular, when a donation amount is contingent upon sales of merchandise or tickets (e.g., 5% of proceeds being donated to a charity), loyal consumers would believe that they have already made contributions to the organization's philanthropic giving. Therefore, we posit that organization identification will also increase perceived donation contribution, which will lead to grateful feelings.

Participants and procedure

The basic design of the study is a single factor two-level (proximity of charity: local vs. international) between subjects design. Participants ($N=401$) were recruited from a consumer panel from the Qualtrics Research Panel (51% women, average age of 50 years), which was run on computers, in exchange for \$5. Participants were asked to complete the first part of a questionnaire, which included questions related to the general interest of the respondents toward their favorite team in the NFL. Participants were first asked to identify the NFL team that they follow. Then they were asked to rate their team identification level based on the team they selected. Participants then were randomly assigned to one of two scenario conditions (local charity vs. international charity) announcing the team's new partnership with a local (international) food bank to which the team aims to donate marketing proceeds (see Appendix A for the scenario). After reading the scenario, participants completed questionnaires related to gratitude and perceived donation contribution.

Measurements

Team identification, gratitude, perceived donation contribution, and attitude toward helping others were measured in this study. Team identification was measured with Robinson and Trail's (2005) three-item scale (e.g., "Being a fan of the [team X] is very important to me"; $\alpha=0.95$; $M=4.48$; $SD=1.95$). Gratitude was measured with Palmatier *et al.* (2009) three-item scale. This scale was originally adapted from McCullough *et al.* (2002) and consists of three items (e.g., "I feel grateful to [team X]"; $\alpha=0.89$; $M=5.27$; $SD=1.55$). Finally, perceived donation contribution was measured with two items (e.g., "To what extent do you feel involved with the Team X's donation to the charity?"; $\alpha=0.81$; $M=3.05$; $SD=1.74$). Finally, attitude toward helping others, a control variable, was measured with four items (Webb *et al*., 2000) (e.g., "Helping troubled people with their problems is very important to me"; $\alpha=0.92$; $M=5.73$; $SD=1.07$) (see Appendix B for all measures).

Results and discussion

We first assessed whether the proximity of the charity (local vs. international) had any effect on gratitude. Because proximity did not have any effect, we do not discuss this variable further ($p>0.3$). We utilized Hayes' (Nielsen, 2013) regression analysis to examine the mediating role of perceived donation contribution on the effect of team identification on gratitude. We found that organization identification had a significant effect on perceived donation contribution ($b=0.35$, $t=10.44$, $p<0.001$), supporting H1. Results also showed that organization identification ($b=0.27$, $t=9.40$, $p<0.001$) and perceived donation contribution ($b=0.30$, $t=9.44$, $p<0.001$) had significant effects on gratitude, supporting H2 and H3. Attitude toward helping others, a control variable, also had significant effects on the perceived donation process ($b=0.15$, $t=2.53$, $p<0.05$) and gratitude ($b=0.34$, $t=7.56$, $p<0.001$). These findings suggest that gratitude is a direct function of both organization identification and perceived donation contribution, while perceived donation contribution partially mediates the impact of identification on eliciting gratitude.

Findings from this study provide empirical evidence for the charity-evoked gratitude mechanism triggered by one's social identity and perceived donation involvement. The findings suggest that consumers feel gratitude in part because of perceiving themselves to be involved in the donation process. The more closely an individual identifies with the organization, the more likely it is that the person will believe he or she has contributed to the donation process. Considering that the donation amount is contingent upon sales of merchandise and tickets, it seems reasonable to believe that those who closely identify with the team would make more purchases related to the team and thus believe they have contributed to the giving. Our effects can be interpreted as evidence for a CSR-induced gratitude mechanism, explaining how consumers experience gratitude even when they are not the direct beneficiaries of

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the CSR (Romani *et al*., 2013). The next study considers two domain-specific boundary conditions (i.e., donation amount and attitude toward the CSR) that might affect the identification–gratitude–donation relationship.

STUDY 2

Study 2 was designed to further investigate the identification–gratitude–donation relationship by demonstrating the moderating roles of two boundary conditions: donation amount and attitude toward the CSR. We used a single factor two-level between subjects design (donation amount: high vs. low).

Participants and procedure

Participants ($N = 201$; 53% women, mean age of 51 years) were recruited from the subject pool from the Qualtrics Research Panel, via online survey, in exchange for $5. Similar to Study 1, when participants agreed to participate in the study, they were asked to identify the NFL team that first came to their minds. Upon completion of the first phase, similar to Study 1, respondents were randomly assigned to one of two scenario conditions (1% and $2m vs. 5% of proceeds and $10m given to the charity) depicting a charitable giving activity toward a local nonprofit organization undertaken by the team (Appendix A). After reading the scenario, respondents completed questionnaires related to gratitude toward the team engaging in the charitable giving activity, attitude toward the charity, donation intention, and attitude toward helping others.

Measurement

Six variables (i.e., team identification, gratitude, donation intention, attitude toward organization's charity, attitude toward helping others, and perceived investment) were measured with multi-item scales (1 = strongly disagree; 7 = strongly agree; see Appendix B). We used the same scales from Study 1 for team identification ($M = 3.51$; $SD = 1.89$) and gratitude ($M = 4.90$; $SD = 1.76$). Attitude toward the organization's charity was measured with the following four-item scale (Roy, 2011): "Overall, my attitude toward team X sponsoring the charity is *bad/good*; *negative/positive*; *unfavorable/favorable*; *and likable/unlikable* (*reversed item*)"; $\alpha = 0.92$; $M = 5.44$, $SD = 1.22$). Donation intention was measured using three items (Roy, 2011) (e.g., "It is likely that I will donate my money to Feeding America"; $\alpha = 0.95$; $M = 4.65$; $SD = 1.63$). A three-item perceived investment (Schlosser *et al*., 2006) scale was administered as a manipulation check (e.g., "The amount of effort invested by Team X into sponsoring Feeding America seems to be a great deal"; $\alpha = 0.94$). Lastly, attitude toward helping others was measured again as a control variable ($M = 5.64$; $SD = 0.99$). Overall, the six variables used in this study showed acceptable alpha values, ranging from 0.89 to 0.95, within similar ranges from previous literature (e.g., Robinson and Trail, 2005; Palmatier *et al*., 2009; Roy, 2011).

In terms of the relation between the means of demographic variables (i.e., gender, income, and age) and the main variables, the results showed significant mean differences only on gender (team identification: male $M = 4.67$, $SD = 1.91$, female $M = 3.73$, $SD = 2.02$; gratitude: male $M = 4.53$, $SD = 1.77$, female $M = 5.12$, $SD = 1.55$; donation intention: male $M = 4.32$, $SD = 1.63$, female $M = 4.80$, $SD = 1.54$; all $ps < 0.05$).

Manipulation check

In order to assess that the organization's donation amount (1% and $2m vs. 5% of proceeds and $10m expected amount) to the charity was successfully manipulated as intended (Appendix), mean perceived investment scores were compared between the two conditions. Results of a *t*-test found a statistically significant difference in the perceived investment between 1 per cent of the proceeds ($M = 4.37$, $SD = 1.82$) and 5 per cent of the proceeds ($M = 5.00$, $SD = 1.63$; $t = -2.89$, $df = 199$, $p < 0.05$).

Measurement validity

Measurement validity of each construct appearing in the structural model was conducted in two phases (Anderson and Gerbing, 1992) prior to estimating and testing the hypothesized structural paths. In the first phase, to obtain convergent validity of the scale, the composite reliability and average variance extracted (AVE) values were examined. As shown in Table 1, all items loaded significantly on their corresponding latent constructs. In the second phase, two tests were performed to evaluate the discriminant validity across all possible pairs of constructs. First, each maximum shared squared variance score and average shared squared

Table 1. Results of confirmatory factor analysis[1]

Variables	CR	AVE	MSV	ASV	1	2	3	4
1. Organization identification	0.961	0.805	0.114	0.066	0.897[a]			
2. Gratitude	0.963	0.898	0.295	0.155	0.338	0.947[a]		
3. Donate intention	0.910	0.772	0.295	0.175	0.269	0.543	0.878[a]	
4. Helping others	0.901	0.610	0.158	0.076	0.109	0.239	0.397	0.781[a]
Summary of fit indices:	χ^2/df = 2.168; CFI = 0.969; NFI = 0.945; SRMR = 0.050; RMSEA = 0.076; TLI = 0.959; AGFI = 0.829							

[Note]CR, composite reliability; AVE, average variance extracted; MSV, maximum shared squared variance; ASV, average shared squared variance.
[a]indicates the square root of a given construct's AVE.
[1]The study followed a set of rules to determine the appropriateness of our sample size in conducting factor analysis: (1) absolute number of cases and (2) subject-to-variable ratio (Kline, 2011). First, Kline (2011) suggests at least 100 cases as the absolute minimum number. Second, many scholars recommend that a subject-to-variable ratio of 5:1 is appropriate. Given that the current study included 18 variables (N/variables = 201/18 = 11.17), the study sample ($n = 201$) met these two criteria of the minimum sample. We also took a conservative approach in examining model fit indices (e.g., CFI and TLI) because CFI and TLI are relatively less affected by sample size (Anderson and Gerbing, 1992).

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variance of the four factors was less than its AVE score. Second, the square root of AVE exceeded the correlations of that construct and all others (Hair *et al*., 2010). All the constructs in the proposed model met the recommended level, thereby providing evidence of good psychometric properties of the scales (Table 1).

Results and discussion

The study employed structural equation modeling to test the research hypotheses. Following the recommendations of Becker (2005), we analyzed the hypothesized model using the following steps. First, we added a control variable to the hypothesized model and then compared results both with and without the control variable. Second, we eliminated a non-significant path to construct a parsimonious final model and then tested the hypothesized model with the control variable because the model inclusive of the control variable showed slightly better fit indices. Finally, following the procedure outlined by Dabholkar and Bagozzi (2002), an overall chi-square difference test for a moderator variable was conducted.

In the first step, the model was estimated before and after the addition of the control variable (i.e., attitude toward helping others). Both models, with and without the control variable, provided similar results in terms of standardized regression coefficients and *t*-values (Table 2). Of the three basic paths (i.e., H3 through H5), Hypotheses 3 and 4 were statistically significant ($p < 0.001$), while Hypothesis 5 was not statistically significant ($p > 0.05$) in both models. The fit of the model without the control factor (χ^2/df = 3.39 CFI = 0.91; SRMR = 0.03; RMSEA = 0.11) was less satisfactory than the fit indices of the model with the control variable included (χ^2/df = 2.22; CFI = 0.97; SRMR = 0.08; RMSEA = 0.08). Considering these fit indices and the suggestions of Becker (2005), the model with the control variable was chosen for the next step.

To develop a parsimonious final model, a non-significant path from organization identification to donation intention ($p > 0.05$) was eliminated in the second step (cf. Gruen *et al*., 2000). After eliminating the path, the final model was retested. As shown in Table 3, the results of the parsimonious final model provide evidence of a good fit to the data (χ^2/df = 2.22; CFI = 0.97; NFI = 0.94; SRMR = 0.08; RMSEA = 0.08; TLI = 0.96). The results reveal that, with the exception of H5 ($\beta = 0.09$, $t = 1.31$), the other two hypothesized relationships are significant and in the theorized direction (H3: $\beta = 0.34$, $t = 4.92$; H4: $\beta = 0.50$, $t = 6.60$). Finally, attitude toward helping others, a control variable, has a significant and positive effect on donation intention ($\beta = 0.30$, $t = 3.81$).

In the final step, the proposed moderator variables, attitude toward CSR (low vs. high) and donation amount (1% vs. 5%), were included in the model to test H6 and H7. An

Table 2. Results of the models with and without control variable

	Model without control variable		Model with control variable	
	Standardized regression coefficient (β)	*t*-value	Standardized regression coefficient (β)	*t*-value
• Organization identification → Gratitude (H3)	0.335***	4.84	0.338***	4.87
• Gratitude → Donation intention (H4)	0.497***	5.90	0.462***	5.94
• Organization identification → Donation intention (H5)	0.099	1.48	0.088	1.31
• Attitude toward helping others → Donation intention (control variable's relation to outcome variable)			0.290***	3.75
Summary of fit indices for the proposed models tested:	χ^2/df = 3.387; CFI = 0.911; NFI = 0.960; SRMR = 0.034; RMSEA = 0.109; TLI = 0.955		χ^2/df = 2.220; CFI = 0.967; NFI = 0.943; SRMR = 0.079; RMSEA = 0.078; TLI = 0.957	

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

Table 3. Parsimonious basic model effects

	Standardized regression coefficient (β)	*t*-value	Hypothesis	Support
• Organization identification → Gratitude	0.342***	4.92	H4	Supported
• Gratitude → Donation intention	0.495***	6.60	H5	Supported
• Organization identification → Donation intention[2]	0.088	1.31	H6	Not supported
• Helping others → Donation intention	0.297***	3.81	n/a (control factor)	
Summary of fit indices for the proposed model tested:	χ^2/df = 2.215; CFI = 0.967; NFI = 0.942; SRMR = 0.079; RMSEA = 0.078; TLI = 0.957			

Note.
*$p < 0.05$.
**$p < 0.01$.
and
***$p < 0.001$.
[2]To obtain a parsimonious final model, we eliminated the non-significant path (H5: $\beta = 0.088$, see Table 2). After eliminating the path in the proposed model, we re-estimated the hypothesized structural model with the addition of the control variable (i.e., attitude toward helping others).

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overall chi-square difference test for the moderator variables was first conducted for each variable (Dabholkar and Bagozzi, 2002). As shown in Table 4, the chi-square differences between the constrained and unconstrained models were 8.94 ($p < 0.05$) for attitude toward CSR and 7.26 ($p < 0.1$) for donation amount, which indicate that there is a significant moderating effect variable somewhere in the parameters of the research model (Maiyaki, 2013). With regard to the moderating effects of donation amount, the relation between organization identification and gratitude was statistically stronger for those in the 5 per cent scenario condition ($\beta = 0.41$, $p < 0.001$) than for those who read the 1 per cent scenario ($\beta = 0.36$, $p < 0.001$), indicating that Hypothesis 6 was supported. Regarding the specific moderating effects of attitude toward CSR, the relation between gratitude and donation intention was statistically stronger for those who had a more positive attitude toward CSR ($\beta = 0.45$, $p < 0.001$) than for those who had a less positive attitude toward CSR ($\beta = 0.31$, $p < 0.001$), supporting Hypothesis 7.

Results and discussion

The present study empirically tested the roles of gratitude in the relationship between social identity and consumers' prosocial behavior (i.e., donation intention). The study also examined the differences in the magnitudes of the path coefficients across different levels of charity donation amount and attitude toward the CSR activity. Specifically, the organization identification–gratitude relationship was more salient when the charity donation amount of an organization was high (5% of proceedings vs. 1%; Palmatier *et al.*, 2009). We also found that the gratitude–donation intention link was stronger when consumers' attitude toward the CSR activity was high (Lichtenstein *et al.*, 2004; Arora and Henderson, 2007).

Our findings suggest that organization identification alone does not directly increase prosocial behavior, which counters our prediction. Instead, our findings suggest that identification promotes donation through feelings of gratitude, highlighting the important role of moral emotions as a motivator in promoting such prosocial behavior (Haidt, 2003; Fredrickson, 2004; Bartlett and De Steno, 2006). In fact, this finding is in line with O'Reilly and Chatman (1986) view that organization identification is not associated with financially related prosocial behavior. Their study examined two different types of prosocial behavior: (i) the expenditure of personal time and effort (e.g., participation in extrarole activities), and (ii) financial contributions. They found that organization identification was significantly associated with the prosocial behaviors related to assuming extra role activities, but not with making financial contributions. As such, organization identification alone might not be sufficient to prompt consumers to make financial donations. Thus, findings from this study add to our knowledge about the role of organization identification in the charitable giving context.

GENERAL DISCUSSION

Our study makes several theoretical contributions. First, we show that people highly identified with an organization experience gratitude through enhanced perceptions that they have contributed to a donation. This finding provides new empirical evidence regarding the process of how a feeling of gratitude is evoked indirectly through an organization's giving (Mackie *et al.*, 2000; Kessler and Hollbach, 2005). While the notion that a close psychological connection between the self and the group increases the experience of group-based emotions is not new, we show that consumers

Table 4. Chi-square difference tests: donation amount (1% vs. 5%) and attitude toward organization's charity (low vs. high)

	Donation amount (H6)			Attitude toward organization's charity (H7)				
	Fully Constrained model	Unconstrained model	$\Delta\chi^2$ (df = 3)	Fully constrained model	Unconstrained model		$\Delta\chi^2$ (df = 3)	
Fit index:								
Chi-square (df)	397.045 (237)	389.785 (234)	7.260[†3]	440.790 (237)	431.847 (234)		8.943*	
CFI	0.963	0.964		0.952	0.953			
TLI	0.952	0.953			0.938		0.939	
IFI	0.964	0.965			0.953		0.954	
RMSEA	0.058	0.058			0.066		0.065	
	Donation amount		Attitude toward organization's charity					
Paths	1%	5%	Low	High	χ^2	$\Delta\chi^2$ (df = 1)	Hypothesis	Support
• Identification → Gratitude	0.361***	0.413***			394.92	5.135*	H4	Supported
• Gratitude → Donation intention			0.313***	0.452***	437.372	5.525*	H5	Supported

Note.
†$p < 0.1$.
*$p < 0.05$
**$p < 0.01$ and
***$p < 0.001$.
[3]The chi-square difference between the fully constrained model and the unconstrained model on donation amount was 7.260, with a p value of 0.064. We used 0.1 as a p-value threshold (cf. Walsh *et al.*, 2008) and then continued to test the difference on the proposed path from identification to gratitude. The results showed that the difference on the proposed path was significant at $p < 0.05$.

experience gratitude in part by associating themselves with the benefactor, not with the beneficiary. Likewise, our findings contribute to more recent theorizing of gratitude (e.g., Algoe and Haidt, 2009) by demonstrating that gratitude can be elicited in the absence of a norm of reciprocity. In other words, gratitude is still evoked by observing a good deed by an entity closely tied with an individual, even though he or she is not the actual beneficiary of the action (Romani *et al*., 2013).

Second, our findings show that charity-evoked gratitude moves beyond benefiting the benefactor in the charitable giving. Our findings highlight the lasting benefit of gratitude by showing how gratitude motivates consumers' giving intention to further benefit the organization-supported charity (Fredrickson, 2004). While "paying back" the benefactor or "indebtedness" has been identified as one mechanism that explains why gratitude leads to prosocial behavior (e.g., McCullough and Tsang, 2004; Tsang, 2006), our findings provide additional support for the idea that gratitude broadens and builds to function as a moral motivator. This finding also extends the CSR literature, in which emphasis on the outcome of a CSR has been heavily focused on consumers' supportive behaviors toward the company (cf. Romani *et al*., 2013). We also show that the organization's donation size positively moderates the influence of organization identification on gratitude, showing that greater commitment to give back to the community can evoke more grateful feelings.

Third, we empirically show that the gratitude–prosocial behavior link is strengthened by individuals' attitude toward the CSR activity. While the relationship was significant and positive for groups with both more and less positive attitudes toward the CSR, the relationship was significantly stronger for individuals who held more favorable attitudes toward the campaign (i.e., fighting hunger). This finding highlights that the effect of gratitude on giving behavior depends on how consumers appraise a CSR campaign. As such, researchers may find attitude toward CSR an important boundary condition that can stimulate the gratitude–donation relationship.

Managerial implications

Our findings also have several implications for managers. We utilized spectator sport teams to examine the positive function of social identity in the prosocial behavior context. Our findings show that local sport teams could be effective vehicles for leveraging prosocial behaviors in the community. Given that fans develop strong psychological connections with their favorite teams, teams' efforts to support the community by giving back could encourage fans to follow that behavior through enhanced feelings of gratitude. Local governments or charity organizations may find it useful to create strategic partnerships with local sport teams to promote desired behaviors (e.g., reducing waste for environmental sustainability and donating food or blood) that would enhance the well-being of the community. For instance, the Brazilian professional football club Sport initiated an organ donor campaign to boost the rate of organ donations in Brazil, which had been at a very low level (Downie, 2013). The club launched a campaign called the "Immortal Fans" to encourage fans to sign up for organ donation. A short video clip was created to highlight several fans who found new life because of other fans' organ donations. The fans with new life thanked the club, and the video went viral to the followers of the club. As a result, more than 57,000 fans of the football club signed up as donors (Downie, 2013). This campaign highlights the strategic use of strong organization identification associated with a local football team for a good cause.

Managers should also recognize that the positive effect of gratitude on giving intention is stronger when consumers evaluate a campaign favorably. The moderating role of attitude toward the CSR campaign on the gratitude–donation link highlights that communication efforts should be made to create positive images and associate altruistic values with the CSR campaign. It should be noted that not all CSR campaigns promote goodwill images. When a campaign is not carefully managed, consumers might fear that CSR is a marketing gimmick, which results in negative attitudes toward the company (e.g., Webb and Mohr, 1998; Forehand and Grier, 2003). Therefore, it is important for managers to maintain or enhance positive consumer evaluations toward the CSR activity, to maximize the desired call to action in consumers.

Limitations and directions for future research

We acknowledge some limitations of the present study, which suggest avenues for future research along this line. First, the current study examined whether fans' donations would be made to the charity already receiving benefits from the organization. It remains to be examined whether gratitude evoked from organization identification could be extended to benefit another worthy charitable organization. For instance, it would be interesting to see if gratitude could motivate consumers to engage in prosocial behavior to support another local charity in the community. Second, we considered donation intentions as an outcome measure. While measuring behavioral intentions has been generally adopted in the marketing literature, we acknowledge that future research should employ actual behaviors to demonstrate the moral function of gratitude induced by an organization's charitable donation. Additionally, future studies should incorporate different types of moral emotions (e.g., other-praising moral emotions, other-condemning moral emotions; Haidt, 2003) to advance our understanding of the role of moral emotions in the charitable giving context. Different emotional dimensions might motivate different types of processing mechanisms in responding to CSR initiatives. While some positive emotions (e.g., pride) might motivate consumers to prefer promotion-focused messages, negative emotions (e.g., shame, guilt) would motivate consumers to prefer prevention-focused messages (Higgins, 1998). In addition, a recent study suggests that message types (prevention-focused vs. promotion-focused) promoting CSR can also impact consumer responses (Kim *et al*., 2012). As such, exploring additional boundary conditions (emotional dimensions, message type, etc.) in an experimental setting would further advance the current findings.

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APPENDIX A SCENARIOS

Study 1

[Local charity]

Team X announces that it will partner with the local Feeding America-affiliated food bank for the next 5 years. Each year, 5 per cent of the proceeds from merchandise and ticket sales will be donated to the local food bank. It is expected that Team X will generate more than $7m for the local charity over the next 5 years.

About feeding America

Feeding America's mission is to feed America's hungry through a nationwide network of member food banks and engage our country in the fight to end hunger.

[International charity]

Team X announced that it will partner with the World Food Program (WFP) for the next 5 years. Each year, 5 per cent of the proceeds from merchandise and ticket sales will be donated to the WFP. It is expected that Team X will generate more than $7m to the charity over the next 5 years.

About the World Food Program

The World Food Program is the food aid arm of the United Nations system and the world's largest humanitarian agency fighting hunger around the globe.

Study 2

[5% condition]

Team X announces that it will partner with the local Feeding America-affiliated food bank for the next five years. Each year, 5 per cent of the proceeds from merchandise and ticket sales will be donated to the local food bank. It is expected that Team X will generate more than $10m for the local charity over the next 5 years.

About feeding America

Feeding America's mission is to feed America's hungry through a nationwide network of member food banks and engage our country in the fight to end hunger.

[1% condition]

Team X announces that it will partner with the local Feeding America-affiliated food bank for the next 5 years. Each year, 1 per cent of the proceeds from merchandise and ticket sales will be donated to the local food bank. It is expected that Team X will generate more than $2m for the local charity over the next 5 years.

About feeding America

Feeding America's mission is to feed America's hungry through a nationwide network of member food banks and engage our country in the fight to end hunger.

APPENDIX B QUESTIONNAIRES

[Team identification]
Being a fan of TEAM X (team of your choice) is very important to me.
I am a committed fan of TEAM X.
I consider myself to be a "real" fan of TEAM X.

[Gratitude]
I am grateful for TEAM X.
I am thankful for TEAM X.
I feel a sense of gratitude toward TEAM X.

[Perceived donation contribution]
To what extent do you feel involved with the NFL's donation to Feeding America? (1 = not involved at all; 7 = involved very much)
How much do you feel you have contributed to the NFL's donation to Feeding America? (1 = not contributed at all; 7 = contributed very much)

[Donation intention]
It is possible that I will donate my money to Feeding America.
It is likely that I will donate my money to Feeding America.
It is likely that I will encourage my friends to donate money to Feeding America.

[Attitude toward the organization's charity]
Overall, my attitude toward TEAM X sponsoring the charity is *bad/good*; *negative/positive*; *unfavorable/favorable*; *and likable/unlikable* (*reversed item*).

[Perceived investment]
The amount of effort invested by TEAM X into sponsoring Feeding America seems to be a great deal.
The amount of time invested by TEAM X into sponsoring Feeding America seems to be a great deal.
The amount of money invested by TEAM X into sponsoring Feeding America seems to be a great deal.

[Attitude toward helping others]
People should be willing to help others who are less fortunate.
Helping troubled people with their problems is very important to me.
People should be more charitable toward others in society.
People in need should receive support from others.

BIOGRAPHICAL NOTES

Dae Hee Kwak is an Assistant Professor of Sport Management at the University of Michigan, USA, and a co-director of Michigan Center for Sport Management. He earned his PhD in Sport Management from the University of Maryland, USA, and his research focuses on consumer behavior and consumer psychology with emphasis on examining cognitive and emotional factors influencing consumers' decision-making and behaviors in various sport-related consumption contexts.

Youngbum Kwon is a Post-Doctoral Researcher in the Sport Management program at the University of Michigan, USA. His research interests include consumer behavior, brand management, and sponsorship in the sports domain. Recently, he has conducted a series of research on examining the role of multidimnensional value on consuming sport team-licensed merchandise.

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Childhood brand nostalgia: A new conceptualization and scale development

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ABSTRACT

This research seeks to expand the current understanding of nostalgia towards childhood as it relates to consumer brand relationships and provide a framework for better understanding the phenomenon as it appears in both academic and real-world settings. In this paper, the authors use existing literature on nostalgia and consumer interviews to define childhood brand nostalgia as *a positively valenced emotional attachment to a brand because of the brand's association with fond memories of the individual's non-recent lived past*. A scale to measure an individual's childhood brand nostalgia is developed and tested to ensure convergent, discriminant, and predictive validity. The scale is found to capture individual differences in nostalgic feelings towards a single brand, and individuals are found to have varying levels of nostalgic feelings for multiple brands across multiple product categories. This demonstrates the usefulness of this scale in determining a consumer's nostalgia towards a particular brand from their childhood.

In the consumer goods market today, more companies are relying on nostalgia to help sell products. There has been an increase in the reintroduction of previously unavailable brands, as seen in the rerelease of classic films into theatres or the well-known rerelease of the Volkswagen Beetle. These reintroductions frequently attempt to capitalize on the nostalgic feelings some individuals may have towards the brand. For example, Quisp cereal, a cereal geared towards children that was introduced in 1965 and discontinued in the late 1970s, has been reintroduced several times, most recently available for sale in Super Target stores (Quisp, n.d., retrieved 29, April 2012). As part of its most recent reintroduction, the brand was positioned as part of a large nostalgic push, complete with accessory items such as t-shirts and wallpaper graphics for computer backgrounds.

Marketers have also repositioned brands that have been continuously available in ways designed to capitalize on consumers' feelings of nostalgia. Brands like Honey Nut Cheerios have started using packaging, logos, and graphics from the 1980s, while Pepsi Throwback and Mountain Dew Throwback are both produced using old recipes and marketed to emphasize their nostalgic taste. Marketers have even attempted to add nostalgic appeal to brands that are not really old, such as the Chrysler PT Cruiser, a new product with a 'retro' design intended to appear as though it comes from an earlier time and evoke feelings of nostalgia (Brown *et al*., 2003). Retromarketing differs from nostalgic marketing in that while these items were developed and designed to feel as though they come from decades past, they come with all the bells and whistles that are expected of a product in today's marketplace. For example, a microwave oven designed to mirror the look of kitchen appliances from the 1950s, including colour options, is more powerful and less likely to leak radiation than its 1950s counterparts.

An examination of the marketplace shows that these attempts to market products based on nostalgic feelings can be successful. In the case of the new Volkswagen Beetle, sales of 365 000 vehicles in North America were reported between the reintroduction in 1998 and 2002 (Volkswagen New Beetle History, n.d.). In other cases, the updating or reintroduction of the brand is met with passive acceptance or even negativity. For example, G.I. Joe, a military based toy line developed by Hasbro in the 1960s and extremely popular throughout the 1980s (Fletcher, 2009), was reintroduced in the form of two movies, *G.I. Joe: Rise of Cobra* (2009) and *G.I. Joe: Retaliation* (2012). However, if Hasbro was depending on nostalgia to drive the fathers and grandfathers who played with G.I. Joe during its peak popularity to see the movie with their kids, they were not successful. RottenTomatoes.com, a website that allows the public to rate and review movies, found that only 34 per cent of viewers rated the movie positively while the remaining two-thirds considered it to be rotten (Kennedy, 2009). Specific feedback included, "There are bound to be some 10-year-olds who will shout a hearty 'Yo Joe!' (the G.I. Joe battle cry). The rest of us will more likely be crying, 'Say it ain't so, Joe!'" (Breimeier, 2009) and 'Fans will be disappointed unless they're so desperate that they'll like anything that says it's a G.I. JOE movie', (Kennedy, 2009). This suggests that marketers do not fully understand how to effectively use childhood brand nostalgia as a marketing tool and would benefit from a better understanding of how brand nostalgic individuals differ from their non-brand nostalgic counterparts.

While there are many examples of nostalgic feelings for a brand being used as a tool in the marketplace, there has been relatively little attention paid to the construct in academic work. In marketing, nostalgia has most frequently been studied as a psychographic variable, as seen in Holbrook

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and Schindler's work examining nostalgia proneness (Holbrook and Schindler, 1989, 1991) and bonded nostalgia (Holbrook and Schindler, 2003). Nostalgia proneness is defined as an individual's psychographic tendency to display 'a longing for or favourable affect towards things from the past' (Holbrook and Schindler, 1991: 332). This tendency is viewed as a dispositional trait and does not imply nostalgic feelings towards any particular brand.

Bonded nostalgia, in contrast, is defined as 'a consumer's history of personal interaction with a product during a critical period of preference formation that occurs roughly in the vicinity of age 20 [that] can create a lifelong preference for that object', (Holbrook and Schindler, 2003: 109). Holbrook and Schindler (2003) hypothesize that the nostalgic bond forms because of an individual's personal interaction with a particular object at a formative time. These findings have been used to explain consumer tendencies to select specific items for consumption in order to reconnect with a social network (Loveland *et al*., 2010), to remain loyal to a sports team despite poor performance (Bristow and Sebastian, 2001), and even to prefer positively toned song lyrics (Batcho, 2007). While nostalgia proneness is broader than a specific brand, bonded nostalgia is narrower, focussed on a particular object or possession that a consumer interacted with during a critical period in his or her lifetime. Neither of these constructs fully addresses the tendency for a consumer to develop feelings of nostalgia towards a brand.

Nostalgic bonds have also been mentioned as one way an individual can develop a relationship with a brand (Fournier, 1998; Smit *et al*., 2007). For example, Fournier (1998) discusses a particular form of brand relationship driven by nostalgia and equates it with a childhood friendship. Fournier (1998) suggests that these nostalgic relationships may have greater significance for the consumer than other brand relationships, which enables them to endure through the consumer's lifetime despite infrequent contact with the brand. Nostalgia is also included as one of seven dimensions in Fournier's (1998) construct of brand relationship quality, and as a component of Smit *et al*.'s (2007) Brand Relationship Quality (BRQ) scale. This suggests that there is evidence that consumers develop relationships with brands that are based on nostalgia. Despite these few mentions, however, the literature lacks a systematic examination of consumers' nostalgic bonds with brands and how this influences consumer behaviour.

This paper seeks to address this gap by providing the first detailed examination of childhood brand nostalgia. Existing literature on nostalgia and interviews with consumers are used to develop a specific conceptual definition of childhood brand nostalgia and differentiate this construct from similar constructs in the literature, such as nostalgia proneness or bonded nostalgia. A scale to measure childhood brand nostalgia is then developed and validated. Finally, the new measure is used to confirm that consumers do vary in their nostalgia towards specific brands and that this variance in nostalgia is predictive of their attitudes towards the brand. The development of this construct and scale will be useful to both academics and practitioners. For academics, this paper expands our knowledge of nostalgia in general and nostalgic bonds with brands in particular. This has the potential to support further research into the development and maintenance of nostalgic brand relationships, as well as a better understanding of how nostalgic bonds influence consumers' attitudes towards brands and responses to marketing tactics. A deeper understanding of childhood brand nostalgia will, in turn, provide insights to help practitioners target nostalgic consumers with marketing messages and develop marketing programmes to cultivate nostalgic relationships with their consumers, which will benefit brands in the long run.

DEFINING CHILDHOOD BRAND NOSTALGIA

In order to develop a definition for childhood brand nostalgia, a review of existing definitions of nostalgia in the literature was conducted, with special attention paid to those definitions developed in psychology and marketing, as well as common usage of the term. In addition, one-on-one interviews were conducted with 29 undergraduate participants to better understand how consumers conceptualize nostalgic relationships with brands from their childhoods. The results of the literature review and the interview data were combined to arrive at a conceptual definition of childhood brand nostalgia that is distinct from the related constructs of nostalgia proneness and bonded nostalgia.

NOSTALGIA IN THE PSYCHOLOGY LITERATURE

Nostalgia as a construct has been recognized as part of the human condition throughout recorded history. McCann (1941) cites references to nostalgia in sources such as Homer's Ulysses and bible psalms. The first known academic work examining nostalgia is found in Johannes Hofer's (1688/1934) medical dissertation on nostalgia, a term he uses interchangeably with homesickness. In his dissertation, Hofer coins the term 'nostalgias', which is taken from the Greek root 'nosos', meaning return to the native land, and 'algos', indicating suffering and grief. The use of the term was originally intended to represent psychopathological homesickness, which manifested psychologically with symptoms as extreme as anorexia, depression, and 'stupidity of the mind' and physically with symptoms such as insomnia, weakness, and cardiac palpitations. The connection between nostalgia and homesickness is reflected in many non-technical definitions of nostalgia. For example, a brief search of online dictionary definitions of nostalgia revealed numerous instances of the words homesickness, wistful, yearning, longing, and bittersweet associated with feelings of nostalgia.

The treatment of nostalgia as a medical disease persisted into the late 19th century, at which time the definition of nostalgia shifted from a medical condition to a psychosomatic disorder (Batcho, 1998). Prior this time, nostalgia was considered to be an affective condition similar in nature to melancholia or depression (McCann, 1941). It is at this time that the terms 'nostalgia' and 'homesickness' were no longer

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considered to be interchangeable (Wildschut *et al*., 2006). Instead, nostalgia came to be viewed as more of a 'positively toned evocation of a lived past' (Davis, 1979), while homesickness focussed more on the transition and psychological difficulties associated with major life transitions such as going away to school for the first time (Van Tilburg *et al*., 1996). The current psychological work in nostalgia is led by Sedikides and Wildschut (Sedikides *et al*., 2004; Wildschut *et al*., 2006), who view nostalgia as an emotion of varying valences with an increasing tendency to describe the valence as positive (Wildschut *et al*., 2006).

NOSTALGIA IN THE MARKETING LITERATURE

In marketing, nostalgia as an individual characteristic was first defined by Holbrook and Schindler (1991: 332) as 'a longing for or favourable affect towards things from the past'. Holak and Havlena (1998) similarly define nostalgia as 'a positively valenced complex feeling, emotion, or mood produced by reflection on things (objects, persons, experiences, and ideas) associated with the past', (218). Fournier's (1998) characterization of nostalgic brand relationships or 'childhood friendships' as 'infrequently engaged, affectively laden [relationships] reminiscent of earlier times' that 'yield comfort and security' is consistent with this view of a nostalgic relationship being positively valenced and connected to the individual's past (362).

In 2003, Holbrook and Schindler amended their definition of nostalgia to 'a preference (general liking, positive attitude, or favourable effect) towards experiences associated with objects (people, places, or things) that were more common (popular, fashionable, or widely circulated) when one was younger (in early adulthood, in adolescence, in childhood, or even before birth)', (108). Holbrook and Schindler (2003) collected essays from individuals describing items towards which they are nostalgic and found evidence that individuals could develop lifelong preferences for specific objects, possessions, products, and brands.

The definition of nostalgia as being a positively valenced emotion that is associated with a particular object suggests that nostalgia may be conceptualized as a form of attachment, which was defined in Bowlby's (1982) seminal work as an emotion-laden target-specific bond between an individual and an object. Researchers in marketing have consistently found that consumers can perceive an emotional attachment to a brand and that this is distinct from other brand-related constructs, such as brand attitudes, involvement, or brand loyalty (Ball and Tasaki, 1992; Park *et al*., 2006; Thomson *et al*., 2005). However, to be consistent with the current definitions of nostalgia, a nostalgic emotional connection to a brand must be based on fond memories of experiences with the brand in the individual's non-recent lived past.

Across the psychology and marketing literature, nostalgia appears to be viewed as an emotional connection between an individual and an object, possession, brand, or experience from the individual's lived past. While there is some confusion between nostalgia and homesickness, recent literature has distinguished between these constructs and tends to conceptualize nostalgia as a positive emotion linked to the memories of past experiences. While the yearning or longing for past experiences can be experienced as bittersweet, the connection between an individual and an object towards which he/she is nostalgic is generally viewed to be positively valenced.

CONSUMER PERCEPTIONS OF NOSTALGIA

To form a more complete picture of childhood brand nostalgia, 29 undergraduate participants from a large Midwestern university (44.8% male, age range 20–46) were recruited to participate in one-on-one interviews, each lasting between 10 and 20 minutes. Participants were seated in a conference room and asked to talk about a brand or brands from their childhoods towards which they are nostalgic. The goal of the interviews was to gain an understanding of how consumers would articulate their own nostalgic feelings towards brands. The tape-recorded interviews were transcribed and analysed for commonalities among the responses.

Participants reported nostalgic feelings for a wide variety of brands, ranging from foods (Maruchan Ramen Noodles and Lucky Charms cereal) to sports teams (Cleveland Indians and Liverpool Football Club) to toys (GI Joe and X-Men) to movies (*The Sound of Music, White Christmas*). Many participants reported being nostalgic for more than one brand, often with the brands existing in multiple product categories. Analysis of the interview data revealed three key themes that were found to occur regularly across participants: experiences with the brand in the individual's past, the recollection of memories associated with the brand, and positive affect associated with the brand in the present.

Participants consistently indicated that the brands they are nostalgic for were those that they had consumed when they were younger. Discussion of the brand frequently began with comments such as these, both about Lucky Charms cereal, 'I remember my childhood and always trying to beg my parents to get them' (male, mid-20s) and 'I think of when I was little and how I used to like the little marshmallows in there' (female, 22 years old). Some participants identified specific ages at which they had first consumed the product. For example, a male participant elaborately discussed his first experience with Kentucky Fried Chicken at the age of five or six, a female participant described her love for Oshkosh clothes as beginning with a very specific outfit she received at the age of four, and another female participant talked about eating Maruchan Ramen Noodles with her high school best friend every afternoon after school, suggesting that she was in her mid-teens when the consumption occurred. In every case, participants specified that the experience with the brand began in the individual's distant past. None of brands selected were identified as a brand the individual had only recently used for the first time, suggesting a significant time lapse between the first consumption experience and the development of nostalgic feelings. This is consistent with Holbrook and Schindler's (2003) definition of nostalgia as

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being a preference for experiences that were more common when one was younger.

Another theme found among the responses is the association of positive memories with the brand based on interactions in the past. For example, a 21-year-old male participant reported nostalgia for The Cartoon Network and described the comfort he feels today when recalling his childhood memories of waking up and watching favourite shows such as *Dexter's Lab* and *The Power Puff Girls* with his brother:

> The first thing that came to mind when you said [brand nostalgia] was actually the TV channel 'Cartoon Network.' I don't know, when I was a kid that was like my favourite channel ever. I would always wake up early on Saturdays to watch that channel so it was sort of one of those things where I don't even watch TV now but it's like a comforting thought like, 'Oh, as a kid I loved that channel'.

A 20-year-old male participant recalled fond memories of playing with GI Joe action figures when he was younger:

> I remember than my dad and I would always play with them and hash out different missions. I had a lot of different accessories; the vehicles were usually my favourite to play with. We would camp a lot and do outdoor activities, so outfitting them for stuff like that was always pretty enjoyable. It was always exciting to get new things, even if it was just a minor accessory or something, because it would add so much diversity to what you could carry out with them.

This suggests that it is not simply past experience that leads to the development of nostalgic feelings for the brand. The brand's association with positive memories of the past is an integral part of the nostalgic feelings for the brand in the present. This is reflected in Fournier's (1998) definition of nostalgic brand relationships as being 'reminiscent of earlier times' (362).

Finally, participants reported positively valenced affect towards the brand in the present. For example, one participant, a 20-year-old female, talked about her nostalgia for Breyers ice cream, particularly their chocolate flavour:

> It was just the brand of ice cream that my mom always bought and I'm pretty sure every single night I would have a bowl of Breyers ice cream after dinner. That was just something…chocolate, always chocolate. That was just something that reminded me of my childhood…it's in my freezer right now.

Another participant, a 21-year-old male, discussed his love for the Liverpool Football club as stretching back to his childhood and stated that even the mention of the club today reminds him of his childhood interactions with his brother, a Liverpool Football Club fan, and evokes a feeling of anticipation for the next game. 'It just gets me excited for the weekends. Most of the games are on the weekends so I'm just looking forward to it all week'. Similarly, a 20-year-old female who identified Nike as the brand she is most nostalgic towards summed up her emotions quite succinctly as, 'I love my Nike'.

In almost every case, individuals voluntarily shared the existence of positively valenced emotions towards the brand. Although the specific type of affect varied from excitement to love to sweet memories of experiences with the brand, the emotions expressed were uniformly positive. In no case did individuals share negative or even neutral emotions towards the brand. This is consistent with the current conceptualization of nostalgia in both psychology and marketing as being a positively valenced emotion distinct from homesickness.

These findings, coupled with the definitions from existing literature, lead to the definition of childhood brand nostalgia as *a positively valenced emotional attachment to a brand because of the brand's association with fond memories of the individual's non-recent lived past*. This definition is distinct from a more general emotional attachment to a brand, as a nostalgic attachment to a brand must be based on fond memories of experiences with the brand in the individual's non-recent lived past. This definition is also distinct from bonded nostalgia, as it does not consider an emotional connection to a specific object or possession, but a nostalgic connection to a brand. Finally, this definition is specific to the relationship between a consumer and a particular brand, distinguishing it from the more general dispositional tendency of nostalgia proneness.

MEASURING CHILDHOOD BRAND NOSTALGIA

Given the current practical and academic interest in childhood brand nostalgia, there is a need for a scale to measure the construct. The only existing measure of consumer nostalgia is the Nostalgia Proneness scale (Holbrook, 1993), which is designed to measure the psychographic variable of an individual's overall tendency towards nostalgia, but does not measure an individual's nostalgia as it relates to specific brands. The Emotional Attachment scale developed by Thomson *et al*. (2005) captures an emotional bond between a consumer and a brand, but it does not specify that this bond is nostalgic in nature. The BRQ scale developed by Smit *et al*. (2007) does capture nostalgic brand connections as one dimension of the scale, but this dimension is only measured with two items. Thus, in order to better study the construct of childhood brand nostalgia, it is necessary to create a new scale that reflects the unique nature of a nostalgic brand relationship. The development of this scale followed the recommendations established by Nunnally (1978); Churchill (1979) and Anderson and Gerbing (1988) in order to achieve a parsimonious and representative scale.

SCALE DEVELOPMENT

Generation of items

To begin the development of the scale, 10 items were created based on the literature review used to develop the conceptual definition of childhood brand nostalgia. To generate additional items, a focus group of eight experts (one

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marketing doctoral student, six psychology doctoral students, and one psychologist) was shown the definition of childhood brand nostalgia and asked to generate scale items that they would use to determine if someone was nostalgic towards a brand. These items largely centred on past usage and emotional involvement with the brand, but some of the generated items also included the perceived importance of the brand in the individual's past. The resulting items were then reduced and refined though discussion between the authors to select items most closely related to the definition of the construct and to eliminate closely related items. This resulted in a total of 29 scale items. These items were reviewed by the researchers, and 12 items were removed because they were determined to be measuring constructs other than childhood brand nostalgia. The remaining 17 items were retained for further analysis.

Study 1: Purification with student sample

A sample of 124 undergraduate students (57.3% male, age range 19–47) was used to purify the scale structure. Each participant was asked to spontaneously generate a brand towards which he/she is nostalgic and was instructed to respond to the 17 scale items as they pertained to the chosen brand. The items were displayed with Likert-style anchors where 1 = strongly disagree and 7 = strongly agree.

The initial Cronbach's alpha of all 17 scale items was 0.96, showing strong internal reliability. Exploratory factor analysis with direct oblimin rotation revealed a two-factor solution explaining 67.2 per cent of the variance. Nine items were eliminated one at a time for low factor loadings. The remaining eight items loaded on a single factor explaining 80.3 per cent of the variance ($\alpha = 0.97$) with all factor loadings greater than 0.80. Upon further examination, three items were found to duplicate other items in the scale with nearly identical wording. These items were removed for parsimony. The resulting five-item scale loaded on a single factor explaining 79.9 per cent of the variance ($\alpha = 0.95$) with all factor loadings greater than 0.85.

Study 2: Confirming scale structure with non-student sample

A second purification study was conducted to confirm the scale structure with a non-student sample. The five-item scale refined in Study 1 was administered to 309 individuals (8% male, age range 18–86) through a social media website. Participants were asked to identify the brand towards which they are the most nostalgic and were instructed to answer the scale questions as they pertained to that brand. Exploratory factor analysis with direct oblimin rotation resulted in the five items loading on a single factor explaining 73.9 per cent of the variance ($\alpha = 0.93$) and all items loading above 0.80.

A confirmatory factor analysis was run using AMOS 20.0. The initial analysis suggested that one of the items did not fit well with the other four. Removing that item resulted in a well-fitting model ($\chi^2 = 0.844$, $df = 2$, chi square/degree of freedom ratio = 0.422; goodness of fit index = 0.99, normed fit index = 0.99, comparative fit index = 1.00, root mean square error of approximation (RMSEA) < 0.001, confidence interval for RMSEA = 0.000-0.088). The chi-square test was not significant, and the GFI, normed fit index, and comparative fit index values exceed the suggested cut-off value of 0.95 (Hu and Bentler, 1999) and, when coupled with the RMSEA value that suggests a good fit for the population, indicate that this model is a good fit to the data. The final four-item scale had a Cronbach's alpha of 0.93 and acceptable factor loadings (Table 1). The four items were also found to be significantly correlated with each other (Table 2).

SCALE VALIDATION

Study 3: Convergent validity

The first step in validating the Childhood Brand Nostalgia scale developed in Studies 1 and 2 is to demonstrate the convergent validity of the new scale. As discussed earlier,

Table 1. Childhood brand nostalgia scale factor analysis loadings

Item	Student sample $N = 124$ (EFA)	Non-student sample $N = 309$ (CFA)
I have fond memories of this brand from my childhood.	0.940	0.935
This brand features in happy memories of when I was younger.	0.896	0.891
I still feel positive about this brand today because it reminds me of my childhood.	0.880	0.871
This brand is one of my favorite brands from my childhood.	0.876	0.793

Table 2. Childhood brand nostalgia scale item correlations

	Item 1	Item 2	Item 3	Item 4
I have fond memories of this brand from my childhood.	1.00			
This brand features in happy memories of when I was younger.	0.75	1.00		
I still feel positive about this brand today because it reminds me of my childhood.	0.81	0.69	1.00	
This brand is one of my favorite brands from my childhood.	0.83	0.70	0.78	1.00

All correlations are significant at $p < 0.001$.

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no previous scales to measure childhood brand nostalgia exist. However, as childhood brand nostalgia has been conceptualized in the literature as a form of brand attachment and a specific form of brand relationship, it is expected to be related to broader measures of brand attachment and brand relationship quality. In addition, the interview data suggested that most consumers have a lay understanding of the definition of nostalgia. Therefore, convergent validity was also approached by asking participants to self-report their perceived nostalgia towards the brand and comparing the self-reported nostalgia to their scores on the Childhood Brand Nostalgia scale. For the self-selected nostalgic brand, participants were asked to respond to a self-reported nostalgia scale developed for this study. Using a seven-point Likert-type scale, participants were shown the following items: 'How nostalgic do you feel towards this brand?' 'How strong is your nostalgia for this brand?' 'How positive or negative are your memories of this brand?' 'How closely is this brand associated with your childhood?' and 'How special was this brand to you in your childhood?'

To test these relationships, 169 undergraduate students (26% male, age range 19–45) were asked to identify brands towards which they are nostalgic and respond to the four-item Childhood Brand Nostalgia scale as it pertained to these brands. After completing the Childhood Brand Nostalgia scale, participants were given the five-question measure of self-reported nostalgia towards the brand. Participants were then asked to respond to Thomson *et al.*'s (2005) Emotional Attachment scale and Smit *et al.*'s (2007) BRQ scale.

The Childhood Brand Nostalgia scale was found to have a Cronbach's alpha of 0.93, confirming the reliability of the scale, and loaded onto a single factor that explained 77.9 per cent of the variance with all factor loadings greater than 0.8. The convergent validity measures were also found to have acceptable levels of reliability (Self-Reported Nostalgia $\alpha = 0.80$, Emotional Attachment $\alpha = 0.91$, and BRQ $\alpha = 0.92$). Exploratory factor analysis revealed that the two items from the BRQ scale that were specifically identified as capturing nostalgic connection loaded onto their own factor and were significantly correlated with each other ($r = 0.52$). These items were analysed separately.

As expected, the newly developed Childhood Brand Nostalgia scale was found to be positively correlated with Self-Reported Nostalgia ($r = 0.57$, $p < 0.001$) as well as Emotional Attachment to the Brand ($r = 0.26$, $p = 0.001$). While the Childhood Brand Nostalgia scale was not significantly correlated with the complete BRQ scale ($r = 0.12$, $p > 0.10$), it was significantly correlated with the BRQ Nostalgic Connection factor ($r = 0.37$, $p < 0.001$). These results support convergent validity and are summarized in Table 3.

Study 4: Discriminant validity

A fourth study was conducted to test the discriminant validity of the Childhood Brand Nostalgia scale. As childhood brand nostalgia concerns positive affect towards the brand because of its association with the individual's lived past, it is possible that individual responses to the Childhood Brand Nostalgia scale may unintentionally be influenced by the nature of the individual's memories of his/her lived past. Specifically, individuals who have stronger, more vivid, or happier memories of their childhood may be more likely to respond high to the scale items regardless of their true nostalgia towards the brand. To test this possibility, 256 consumers (64.1% male, age range 18–77), accessed through Amazon Mechanical Turk in exchange for a small payment, were asked to respond to the four Childhood Brand Nostalgia scale items as well as scales designed to measure the vividness of childhood memories, emotional intensity of childhood memories, and valence of childhood memories, all taken from Sutin and Robins' (2007) Memory Experiences Questionnaire.

Table 3. Childhood brand nostalgia scale validation results

Convergent validity	Correlation	Significance
Self-reported nostalgia	0.57	$p < 0.001$
Emotional attachment	0.26	$p = 0.001$
BRQ nostalgic connection items	0.37	$p < 0.001$
Discriminant validity	Squared correlation	AVE
Vividness of memory	0.05	0.59/0.72
Intensity of memory	0.09	0.59/0.56
Valence of memory	0.26	0.59/0.71
Predictive validity	Correlation	Significance
Brand commitment	0.40	$p < 0.001$
Brand loyalty	0.38	$p = 0.001$
Nostalgia proneness	0.27	$p < 0.01$

Discriminant validity was tested using the procedure recommended by Fornell and Larcker (1981). A confirmatory factor analysis was conducted on the four scales, allowing the four latent factors to correlate with each other. The squared correlations between the Childhood Brand Nostalgia factor and the other three factors were then compared with the average variance extracted by each factor. The squared correlations were found to be lower than the average variance extracted for vividness of childhood memories ($r = 0.23$, $r^2 = 0.05$, Childhood Brand Nostalgia AVE = 0.59, Vividness AVE = 0.72), intensity of childhood memories ($r = 0.31$, $r^2 = 0.09$, Childhood Brand Nostalgia AVE = 0.59, Intensity AVE = 0.56), and valence of childhood memories ($r = 0.51$, $r^2 = 0.26$, Childhood Brand Nostalgia AVE = 0.59, Valence AVE = 0.71), suggesting that the newly developed scale is not measuring any of the memory constructs listed. These results are summarized in Table 3.

Study 5: Predictive validity

Study 5 tests the predictive validity of the scale. Participants were presented with the four-item Childhood Brand Nostalgia scale along with scales designed to measure brand commitment, brand loyalty, and nostalgia proneness, constructs that are predicted to be closely related to childhood brand nostalgia.

Brand commitment has been defined as an attitudinal construct leading to a 'psychological attachment to a particular brand within a product class' (Traylor, 1981). Brand commitment and childhood brand nostalgia are both constructs that lead to an attachment to a specific brand. Brand commitment is also included as a dimension of brand

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relationship quality in the BRQ scale alongside the nostalgic connection dimension (Smit *et al*., 2007). Therefore, individuals who are nostalgic towards a brand are predicted to exhibit higher commitment to the brand than individuals who are not nostalgic towards the brand.

Brand loyalty has been defined as 'a deeply held commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behaviour' (Oliver, 1999). Much like brand commitment, this construct relies heavily on positive affective associations with the brand (Oliver, 1999) and is believed to stem from ego involvement because of positive associations with the brand from the individual's past (Beatty *et al*., 1988). Brand loyalty stems from a series of positive interactions with the brand, leading to true affection for the brand, and can be used to mitigate a sense of loss from the inability to recapture the past (Oliver, 1999). Consumers' general emotional attachments to brands have previously been found to predict brand loyalty (Thomson *et al*., 2005). Thus, individuals who report high levels of childhood brand nostalgia are predicted to report similarly high levels of loyalty to the brand.

Finally, nostalgia proneness is expected to be predictive of childhood brand nostalgia. It has been proposed that individuals who are nostalgia prone also have an increased tendency to engage in nostalgic bonding (Holbrook and Schindler, 2003). Individuals who are more nostalgia prone are therefore expected to exhibit higher levels of childhood brand nostalgia.

To test these relationships, 95 undergraduate students (22.1% male, age range 18–44) were asked to generate brands towards which they are nostalgic and respond to the four-item Childhood Brand Nostalgia scale as it pertained to these brands. After completing the Childhood Brand Nostalgia scale, participants were given the five-question measure of self-reported nostalgia as a check of the instructions. Participants were then asked to respond to Yoo *et al*.'s (2000) Brand Commitment scale, Ailawadi *et al*. (2001) Brand Loyalty scale, and Holbrook's (1993) Nostalgia Proneness scale.

The Childhood Brand Nostalgia scale was found to have a Cronbach's alpha of 0.92 and to load onto a single factor explaining 75.5 per cent of the variance with all factor loadings greater than 0.75. The predictive validity scales were also found to have acceptable levels of reliability (Brand Commitment $\alpha = 0.74$, Brand Loyalty $\alpha = 0.77$, and Nostalgia Proneness $\alpha = 0.72$). As expected, the newly developed Childhood Brand Nostalgia scale was found to be positively correlated with each of the scales tested (Brand Commitment $r = 0.40$, $p < 0.001$; Brand Loyalty $r = 0.35$, $p = 0.001$; and Nostalgia Proneness $r = 0.27$, $p < 0.01$), supporting predictive validity. These results are summarized in Table 3.

Study 6: Language used in scale items

In order to ensure that the use of the words 'child' or 'childhood' in the scale items, as opposed to 'youth' or 'past', does not bias responses to the scale, a sixth study was conducted in which all participants were given the Childhood Brand Nostalgia scale, but half of the participants were shown the scale items with childhood language, while the other half were shown the scale items with youth language. For example, participants in the childhood language condition were shown 'This brand is one of my favourite brands from my childhood', while participants in the youth language condition were shown 'This brand is one of my favourite brands from my youth'.

Fifty-six undergraduate students (25% male, age range 20–40) were recruited to participate in exchange for extra credit. Participants were asked to identify a brand towards which they were nostalgic and respond to the Childhood Brand Nostalgia scale for the selected brand. The self-reported nostalgia questions were also included as a check of the instructions. Two participants returned values less than 4 out of 7 on the self-reported nostalgia questions. Because the instructions were to select a brand towards which the participant was nostalgic, this was interpreted as the participants not understanding or not following instructions. These participants were therefore eliminated from further analysis to avoid biasing the results.

The Childhood Brand Nostalgia scale was found to have a Cronbach's alpha of 0.91 and to load onto a single factor explaining 74.4 per cent of the variance with all factor loadings greater than 0.75. A one-way ANOVA was run on the remaining data using language type (childhood versus youth) as the independent variable and childhood brand nostalgia as the dependent variable. No statistically significant difference between language types was found ($F(1, 52) = 0.06$, $p > 0.10$), suggesting that participants did not respond differently to the items using the childhood language compared with those using the youth language. These results suggest that the terms youth and childhood can likely be used interchangeably with no discrepancy in results. This increases the applicability of the scale by allowing the youth/childhood language to be tailored to match the population being studied.

Study 7: Confirming variance in childhood brand nostalgia across consumers

In Studies 1 through 6, participants were asked to spontaneously generate brands towards which they are nostalgic to ensure that the scale was capturing nostalgic feelings towards the brand. However, if the Childhood Brand Nostalgia scale is to be useful to researchers and practitioners, it must be able to capture variance in the levels of nostalgia that different consumers would feel towards a single brand or that a single consumer would feel towards different brands. In addition, the scale should be able to predict differences in consumers' attitudes towards the brand, as consumers who are more nostalgic towards a brand are presumed to feel more positively about the brand. Attitude towards the brand can influence individuals' judgments and behaviours about the brand (Ajzen and Fishbein, 1977) and can be related to affective responses about the brand. As such, we would expect

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individuals who have nostalgic feelings towards a brand to report more positive attitudes towards the brand than those reported by individuals who are not nostalgic towards the brand. A final study was conducted to confirm variance in childhood brand nostalgia among consumers and test the predictive validity of the Childhood Brand Nostalgia scale.

In order to confirm that variance among consumers in childhood brand nostalgia can be captured by the Childhood Brand Nostalgia scale, a study was conducted using two brands: Oreo cookies and Mickey Mouse. Each of these brands was also selected by multiple participants in the scale development studies as brands towards which they felt nostalgic. These brands were also selected because they were likely to appeal to participants of a wider age range, as both brands have been available for many years and changed little over that time. Two hundred consumers (36.4% male, age range 18–68) accessed through Amazon Mechanical Turk participated in this study in exchange for a small payment. All participants spent at least part of their childhood in the USA and were therefore likely to be exposed to both Oreo cookies and Mickey Mouse. Participants were shown images of both brands as they would have appeared when the bulk of the participants were children. Participants' attitudes towards each brand were measured, and participants were asked to respond to the Childhood Brand Nostalgia scale for each brand.

For each brand, initial descriptive statistics were run for each brand to test the range of responses to the Childhood Brand Nostalgia scale. For Oreo cookies, the averaged composite score ranged from 1, indicating no or very low childhood brand nostalgia, to 7, indicating very high childhood brand nostalgia. The mean response was 5.22 with a standard deviation of 1.32. For Mickey Mouse, the composite score ranged from 1 to 7 with a mean response of 5.05 and standard deviation of 1.42. These results are compelling because they not only show variation in responses to the Childhood Brand Nostalgia scale for two separate brands but they also show similar patterns of responses across the two brands, each of which is in a distinctly different product category.

To confirm that the Childhood Brand Nostalgia scale was able to differentiate between individuals who were highly nostalgic towards a brand and individuals who did not feel nostalgic for a brand, cluster analyses were run to look for patterns of responses that would identify groups of customers with similar levels of childhood brand nostalgia. A two-step cluster analysis on childhood brand nostalgia for Oreo cookies revealed two clusters. The low nostalgia cluster consisted of 71 participants. The mean childhood brand nostalgia score for this cluster was 3.80 with a standard deviation of 1.00, and scores ranging from 1.00 to 5.50 on a 7-point scale. The high nostalgia cluster consisted of 129 participants. The mean childhood brand nostalgia score for this cluster was 6.00 with a standard deviation of 0.67, and scores ranging from 5.00 to 7.00 on a 7-point scale. The distribution of responses can be seen in Figure 1, row 1.

A two-step cluster analysis on childhood brand nostalgia for Mickey Mouse also revealed two clusters. The low nostalgia cluster consisted of 63 participants. The mean childhood brand nostalgia score for this cluster was 3.30 with a standard deviation of 0.92, and scores ranging from 1.00 to 4.50 on a 7-point scale. The high nostalgia cluster consisted of 137 participants. The mean childhood brand nostalgia score for this cluster was 5.85 with a standard deviation of 0.72, and scores ranging from 4.50 to 7.00 on a 7-point scale. The distribution of responses can be seen in Figure 1, row 2.

To test the predictive validity of the scale, participants' reported attitudes towards the brands were first regressed onto their scores on the Childhood Brand Nostalgia scale for each of the two brands. For Oreo cookies, childhood brand nostalgia significantly predicted attitude towards the brand ($\beta = 0.48$, $t(199) = 8.21$, $p < 0.001$, adjusted $R^2 = 0.25$). A similar pattern of results emerged for Mickey Mouse ($\beta = 0.53$, $t(199) = 9.57$, $p < 0.001$, adjusted $R^2 = 0.31$). To further confirm the predictive validity of the scale, one-way ANOVAs were run using the results of the two cluster analyses as the independent variables and attitude towards the brand as the dependent variable. For Oreo cookies, significant differences were found between the high and low nostalgia clusters (high nostalgia mean = 6.29, low nostalgia mean = 5.06, $F(1, 198) = 56.59$, $p < 0.001$; Table 4). Significant differences were also found for Mickey Mouse (high nostalgia mean = 6.12, low nostalgia mean = 4.89, $F(1, 198) = 43.74$, $p < 0.001$; Table 4).

Participants' scores on the Childhood Brand Nostalgia scale for the two brands were then compared and confirm that the scale can also capture variance in nostalgic feelings for different brands within the same consumer. Participants' composite scores on the Childhood Brand Nostalgia scale for Oreo cookies and Mickey Mouse were significantly correlated ($r = 0.36$, $p < 0.001$). However, the correlation is less than 0.5, suggesting that participants' responses on the Childhood Brand Nostalgia scale were distinct for the two different brands. Participants' cluster memberships for the two brands were then compared. A cross-tabulation of the cluster memberships revealed every possible combination of clusters (Table 5), suggesting that the Childhood Brand Nostalgia scale is able to capture differences in consumers' nostalgic feelings towards different brands.

As an additional test, difference scores were calculated between participants' composite scores on the Childhood Brand Nostalgia scale for Oreo cookies and Mickey Mouse. The raw difference scores ranged from −5.00 to 5.25, suggesting that participants exhibited differences between their Childhood Brand Nostalgia scores in both directions. The absolute value of the difference scores ranged from 0.00 to 5.25 with a mean difference score of 1.05 and a standard deviation of 1.16. This also suggests that participants' responses to the Childhood Brand Nostalgia scale were different across the two brands.

Finally, participants' attitudes towards Oreo cookies and Mickey Mouse were regressed onto their Childhood Brand Nostalgia score for Oreo cookies and their Childhood Brand Nostalgia score for Mickey Mouse. Only Childhood Brand Nostalgia for Oreo cookies was found to be a significant predictor of Attitude Toward Oreo cookies

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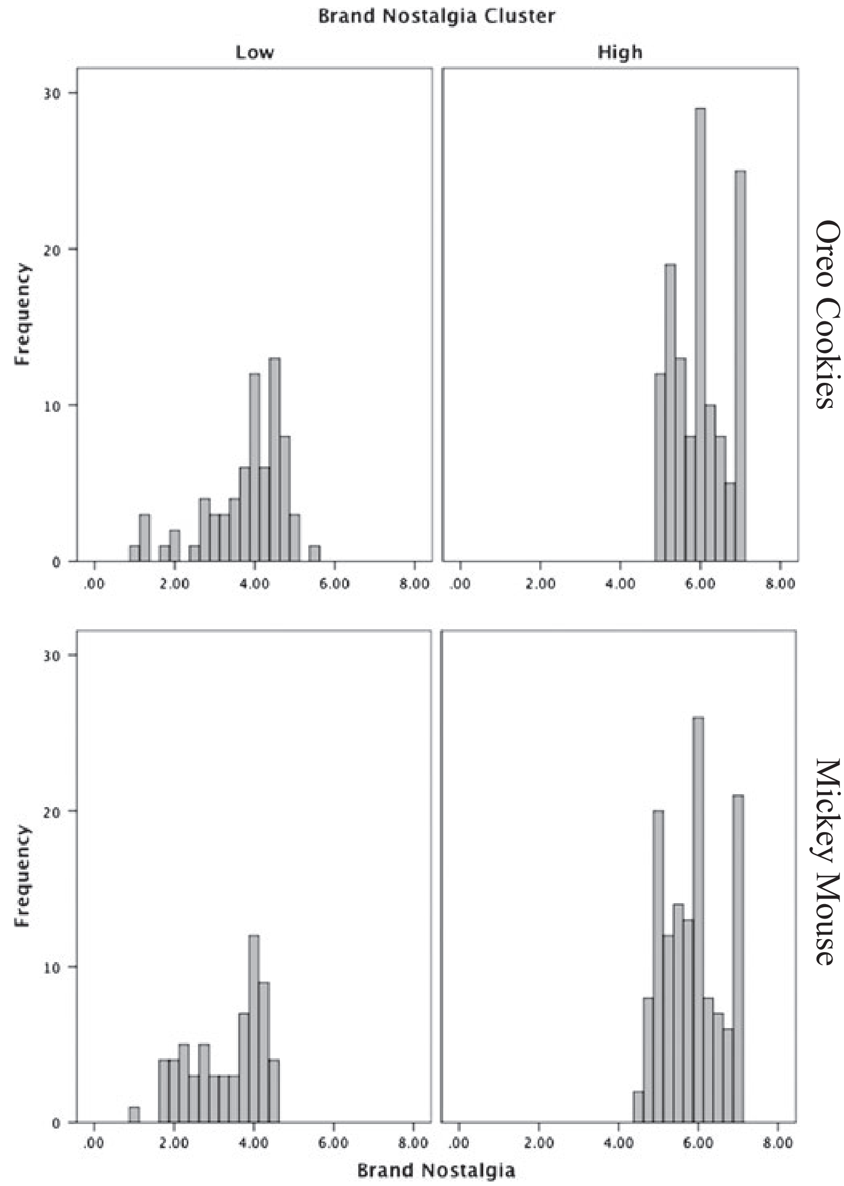

Figure 1. Distribution of childhood brand nostalgia responses across childhood brand nostalgia clusters.

Table 4. Study 7 mean attitude towards the brand responses across childhood brand nostalgia clusters

Brand	Low nostalgia cluster	High nostalgia cluster
Oreo Cookies	5.06[a]	6.29[a]
Mickey Mouse	4.89[b]	6.12[b]

Means sharing the same superscript are significantly different at $p < 0.001$.

(Childhood Brand Nostalgia for Oreo $\beta = 0.49$, $t(197) = 7.96$, $p < 0.001$; Childhood Brand Nostalgia for Mickey Mouse $\beta = -0.05$, $t(197) = -0.83$, $p > .10$). The same pattern was found for Attitude Toward Mickey Mouse (Childhood Brand Nostalgia for Oreo $\beta = -0.04$, $t(197) = -0.61$, $p > 0.10$; Childhood Brand Nostalgia for Mickey Mouse $\beta = 0.55$, $t(197) = 9.14$, $p < 0.001$).

The findings of this study suggest that the Childhood Brand Nostalgia scale is able to detect variance in brand nostalgia among consumers across multiple brands within multiple product categories. In addition, Childhood Brand Nostalgia scale is able to capture variance in a single consumer's nostalgic feelings towards more than one brand. This study also confirms that participants' responses on the Childhood Brand Nostalgia scale are predictive of differences in their attitudes towards the brand.

Table 5. Study 7 childhood brand nostalgia cluster membership comparison across brands

		Mickey Mouse		
		Low nostalgia cluster	High nostalgia cluster	Total
Oreo Cookies	Low nostalgia cluster	32	39	71
	High nostalgia cluster	31	98	129
	Total	63	137	200

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General discussion

This paper expands the current understanding of nostalgia and consumer relationships in several important ways. First, this research identifies a phenomenon readily observable in the marketplace but seldom studied in the academic literature, namely the nostalgic relationship between a consumer and a brand from his or her childhood. Based on a literature review and consumer interviews, childhood brand nostalgia was defined as *a positively valenced emotional attachment to a brand because of the brand's association with fond memories of the individual's non-recent lived past*. Solidifying this definition enables researchers to explore this construct in greater detail and clarifies the differences between childhood brand nostalgia and other similar constructs.

Further, the development of a concise and valid scale has established a means to understand what brands individuals are nostalgic towards and how that nostalgia is distributed within a population. The ability to test an individual's childhood brand nostalgia for a specific brand will allow researchers to more strategically study consumer-brand relationships and fills a gap in the current literature. As noted at the beginning of the paper, individual nostalgia as a marketing construct has been examined on the surface level and acknowledged as a component that influences brand relationships, but has not been studied in great detail. The development of this scale will allow researchers to explore childhood brand nostalgia in greater detail, for example examining why people develop childhood brand nostalgia for one brand but not for another, or how nostalgic brand relationships influence consumer behaviour towards these brands.

This scale may also be of use to marketing practitioners. As noted earlier, practitioners have long been using nostalgia as a tool to increase sales, launch new products, and revive old products. By increasing their ability to identify individuals who are nostalgic for a brand, this scale will enable marketers to more closely tailor their products and advertising to the appropriate market, as well as to test the relative childhood brand nostalgia of the target population before launching a campaign designed to invoke nostalgic memories.

The refinement of the construct and development of a scale to capture an individual's childhood brand nostalgia is the first step to understand how childhood brand nostalgia affects consumers, and opportunities for future study are extensive. One of the first areas to study is the way in which childhood brand nostalgic consumers will interact with their brand when compared with the interactions of non-brand nostalgic users of the same brand. Does childhood brand nostalgia encourage purchase or consumption of the brand once the initial nostalgia-forming period has passed? Further, brands almost always change in some way if they remain in the marketplace for any length of time. How do childhood brand nostalgic consumers respond when the brand towards which they are nostalgic changes? Do they respond differently from non-brand nostalgic users of the same brand?

In addition to understanding the effects of childhood brand nostalgia on consumer behaviours, further opportunities to better understand the construct itself exist. While this paper begins to explore the formation of childhood brand nostalgia, future research should more deeply examine the process through which nostalgic bonds develop between a consumer and a brand. For example, while this paper establishes that nostalgic brands are often those used in one's childhood, and while this is undoubtedly true in many cases, it may also be an artefact of the young population used here and should not be viewed as exclusionary. It is possible that some older adults may have established similar nostalgic bonds with brands used in adulthood, assuming a significant time lapse between first exposure and the current state. Further studies should examine whether nostalgic bonds can be formed in adulthood, when the consumer has moved beyond the sensitive periods of nostalgic bonding identified in previous research. Future research should also examine whether there is a minimum length of time needed between the initial consumption of the brand and the present, or even a necessary lapse in consumption, to move a brand from one with favourable affect to one with nostalgic cache. Finally, further research should examine how consumers maintain their nostalgic feelings to better understand how individuals store, access, and nurture nostalgia towards a brand.

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Consumers who avoid relationships: social anxiety in commercial contexts

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ABSTRACT

This article focuses on the study of consumers with social anxiety who avoid relationships in commercial settings. While relationship marketing recommends fostering personal relationships with customers, our research shows that too much closeness can be a problem for people with social anxiety who are apprehensive about interacting with strangers. A qualitative study based on 17 in-depth interviews with individuals with social anxiety allows us to specify the contexts that give rise to social anxiety—physical closeness between consumer and salesperson, when the interaction is relatively long, in new situations, or in situations designed to be repeated. Our study shows that social anxiety has psychological, economic, and time costs for the consumer. Additionally, the study sets out the relational preferences of people with social anxiety, showing that they prefer neutral, distant or anonymous relationships, that they do not like or benefit from special treatment, nor do they like to be surprised by novelty. The conventional recommendations of relational marketing (e.g., creating a close relationship with customers) are partly called into question by this study, which shows that not all individuals necessarily want such relationships in a commercial context. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

Conversing with the hairdresser, masseur, or florist at the time of service delivery, saying "no" to a favor or a sales proposal, entering an empty store, leaving a changing room, and being flattered by the salesperson, etc. Whereas these commercial situations and relationships are commonplace for most people, they represent a source of anxiety and discomfort for others.

This article deals with a specific consumer profile: individuals with social anxiety and their particular way of behaving and interacting with salespeople.

Relationships between buyers and sellers represent the heart of commercial exchanges, and organizations make significant efforts to improve their quality (Puccinelli *et al*., 2009; Bojei *et al*., 2013; Christopher *et al*., 2013). For sound relationships, consumers and staff need to share a mutual way of thinking (Grönroos, 2000) and pursue similar goals (Liljander and Roos, 2002; Zolkiewski, 2004). A company's goal is to recruit clients and develop long-term relationships with them in order to improve consumer knowledge, consumer satisfaction and ultimately, to increase financial benefits (Grönroos, 2000; Sheth and Parvatiyar, 2002; Christopher *et al*., 2013). Whereas most consumers do not question these goals, they can be inconsistent with the relationship preferences of those who do not wish to have close links with companies. Not all consumers want to be "fully understood" (Fournier *et al*., 1998), "flattered" (Noble and Phillips, 2004), become "close friends" (Fernandes and Proença, 2008) or "intimate" (Ashley *et al*., 2011) with a salesperson, nor do they want to receive small tokens of appreciation (Butori and De Bruyn, 2013). Close or privileged commercial relationships with sellers are not clear goals for everybody, especially for individuals with social anxiety.

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Social psychology has brought to light a form of anxiety, social anxiety, which arises from fear of verbal or non-verbal interactions with strangers or relative strangers (Schenkler and Leary, 1982; Manning and Ray, 1993; Brown *et al*., 1997). In the marketing field, social anxiety has been mobilized predominantly to explain the behavior of salespeople who dare not engage clients for fear of being judged, disapproved, or denied (Verbeke and Bagozzi, 2000; Belschak *et al*., 2006). This article deals with the way in which consumers with social anxiety socialize: We establish the extent to which social anxiety, as an individual determinant, can lead some consumers to avoid relationships in commercial settings. This article addresses the following research questions:

(1) What are the commercial situations in which consumers might suffer from social anxiety?
(2) What are the costs associated with commercial relationships for consumers with social anxiety?
(3) What type of relationship do consumers with social anxiety prefer to have with sellers?

The article is organized as follows. First, we draw on the literature on relationship marketing in service and retail encounters, focusing on the relationship between clients and sellers. Then, we turn to the literature on social anxiety. Having presented our methodology, we present our main results, discuss their theoretical and managerial implications, and conclude with new research avenues.

CONSUMER–SELLER RELATIONSHIPS IN COMMERCIAL SETTINGS

Many research articles promote the establishment of relationship marketing policies in organizations (Grönroos, 2000; Sheth and Parvatiyar, 2002; Christopher *et al*., 2013). Used in distinct business sectors such as mass consumption markets (O'Malley and Tynan, 2000) or finance (O'Loughlin and Szmigin, 2006), relationship marketing is predominant in high-contact service contexts (Grönroos, 2000; Bloemer *et al*., 2003; Puccinelli *et al*., 2009).

Organizations have several relationship marketing tools at their disposal depending on whether they want to focus on the transactional and/or relational aspects of the exchange (Grönroos, 1991). When focused on transactional aspects, organizations try to provide good-quality services (Grönroos, 1991), communicate relevant information to their clients, or provide them with efficient tools (Webster, 1992). When focused on relational aspects, in other words on personal relationships with consumers, organizations work on relationship quality, proximity, and intimacy (Yim *et al*., 2008; Beetles and Harris, 2010) with or without additional material advantages (Odekerken-Schroder *et al*., 2003). They can use several tools: preferential treatments or discretionary advantages (Gwinner *et al*., 1998; Butori and De Bruyn, 2013); rewards such as gifts, coupons, profitable loyalty, or payment cards (Berry, 2002; Boulaire, 2003); and individualized transactions. Relationship-oriented exchanges are often seen as more profitable than transaction-oriented exchanges, both for companies and for consumers. For companies, developing strong relations with their clients is beneficial because it increases loyalty and advocacy and decreases price sensitivity (Dall'Olmo Riley and De Chernatony, 2000; O'Loughlin and Szmigin, 2006; Brodie *et al*., 2009). For their part, consumers engaging in close relationships with retailers and service providers experience social and economic benefits, as well as psychological and customization benefits (Noble and Phillips, 2004). In light of these benefits, Grönroos (1994) advocates a shift from transaction-oriented to relationship-oriented exchanges in order to create competitive advantages.

Given the inherently relational nature of services contexts (Grönroos, 2000; Johnstone, 2012), developing close bonds between service providers and clients is a key element of relationship marketing strategies. Indeed, companies' employees can establish relationships with consumers that can vary in nature and intensity (Coulter and Ligas, 2004; Zolkiewski, 2004; Fernandes and Proença, 2013): professional relationships which, with their mainly functional content, aim to provide information on the product or service sold; casual acquaintances, which are characterized by more emotional conversations where clients might release personal information (Czepiel, 1990); and personal acquaintances where consumers want to socialize with the salesman (Gwinner *et al*., 1998), or even friendships (Price and Arnould, 1999; Grayson, 2007). In the latter case, clients and sellers are linked in a way that extends beyond a commercial relationship. The nature of the relationship depends not only on practical characteristics (interaction duration, physical proximity; Price *et al*., 1995) but also on individual factors such as the employee's physical attractiveness (Koernig and Page, 2002) or emotional attachment (Hennig-Thurau *et al*., 2002), the consumer's willingness to socialize and have intimate conversations with the salesperson (Coulter and Ligas, 2004), the perception that the employee is committed to the relationship (Gazzoli *et al*., 2013), and the employee's emotional intelligence (Mattila and Enz, 2002; Kernbach and Schutte, 2005; Delcourt *et al*., 2013). Given the importance of the interaction between frontline service employees and customers, most firms explore ways to ensure that this interaction leads to positive emotions on the part of the customers, which will in turn increase their level of satisfaction (Pugh, 2001; Hartel *et al*., 2006; Lin and Mattila, 2010).

Given the underlying assumption that developing close relationships with consumers and gratifying them with psychological and material rewards leads to positive emotions, it is worth asking what consumers really feel and want (Fournier *et al*., 1998). These "extras" do lead to positive emotional reactions from those consumers who need to be gratified, flattered, or to feel valued and important (Price *et al*., 1995). However, not *all* consumers are sensitive to these tools (Zolkiewski, 2004; Fernandes and Proença, 2008; Ashley *et al*., 2011); those who are hindered perceive them negatively and escape the relationship (Fournier *et al*., 1998; Noble and Phillips, 2004; Butori and De Bruyn, 2013). According to their own competencies and perceptions, customers can be transactional in some situations and relational in others (Fernandes and Proença, 2008; Lefaix-Durand and Kozak, 2009). Indeed, with respect to the interactions between consumers and sellers, perception variables as well as personality variables can help explain these differences. Some consumers believe that more costs than benefits are associated with the development of a personal relationship with a company (Noble and Phillips, 2004; Ashley *et al*., 2011). These costs include the perceived efforts and/or losses when relating with a company and/or salesperson (Noble and Phillips, 2004; Fernandes and Proença, 2008) such as the loss of intimacy when having to disclose personal information or the loss of dignity or status when consumers wish to remain secretive about the nature of their consumption. One's appetite for (or rejection of) relationships can also be explained by individual characteristics. Consumer relationship proneness is defined as a personality trait that reflects a consumer's relatively stable and conscious tendency to engage in relationships with sellers (e.g., Oderkerken-Schröden *et al*., 2003; Bloemer *et al*., 2003; Fernandes and Proença, 2008). Consumer relationship proneness depends on the need for social affiliation, the need for variety, expertise regarding the product category, and social recognition (Vázquez-Carrasco and Foxall, 2006; Fernandes and Proença, 2008; Parish and Holloway, 2010). The level of this proneness is also determined by the propensity for self-disclosure or the degree of implication in relationship programs (Ashley *et al*., 2011). In sum, consumers' willingness to establish a relationship with the firm is an essential prerequisite in relationship marketing (Fernandes and Proença, 2013). Among the many individual factors that can explain why some consumers do not want to develop and maintain close relationships with companies' front-line staff is that social anxiety has received little attention.

SOCIAL ANXIETY IN COMMERCIAL SETTINGS

Social anxiety is the term applied to all feelings of discomfort felt in social situations (Schenkler and Leary, 1982). People with social anxiety have a strong desire to convey a positive impression of themselves to others but have doubts about their ability to do so (Clark and Wells, 1995). Social anxiety therefore stems from two factors: a judgment of what is expected, acceptable, or desired in a given situation; and a

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judgment of one's own ability to reach the required standard. On the one hand, people with social anxiety have distorted perceptions of others' expectations and tend to overestimate the extent to which their actions and appearance are noted by others, a phenomenon called the spotlight effect (Gilovich *et al*., 2000). On the other, when exposed to unfamiliar situations, they fear that they will behave in an inappropriate or embarrassing way because their interpersonal skills do not reach the required standard (Schenkler and Leary, 1982; Carver and Scheier, 1986). As a consequence, people with social anxiety are inclined to avoid social occasions in order to protect themselves from social disapproval and negative social outcomes (Schenkler and Leary, 1982). For example, they prefer to pay (give monetary support) rather than volunteer (give time and interact with other volunteers) to support a worthy cause (Handy and Cnaan, 2007). They compensate for their fear of social contact by active use of alternative socialization devices: online socialization (Amichai-Hamburger *et al*., 2002; Lo *et al*., 2005; Ho *et al*., 2015) or mobile phone text messaging rather than calling (Peter and Valkenberg, 2006; Lee *et al*., 2014).

Several authors (e.g., Leary, 1983; Mattick and Clarke, 1998) have identified two categories of situations in which social anxiety is more likely to occur: observation situations where the mere feeling of being observed by others leads to discomfort (for example, exercising in a collective sports class) and situations where people have to interact with strangers (for example, initiating and maintaining a conversation with a shopkeeper). Both categories are relevant for marketing, but so far, marketers have mainly explored observation situations and how they lead to consumer embarrassment under certain circumstances: buying contraceptives is more embarrassing when other customers are present (Dahl *et al*., 2001); using a technology-based self-service system in the presence of others creates more anxiety than when alone (Dabholkar and Bagozzi, 2002; Kinard *et al*., 2009; Gelbrich and Sattler, 2014); waiting in line with strangers at a movie theater can even lead to embarrassment for some people (Marquis and Filiatrault, 2002). The simple presence of other people can also influence brand choices (Argo *et al*., 2005), as well as the level of satisfaction in a service encounter (He *et al*., 2012).

While consumer embarrassment in the presence of others has been the subject of several studies, to the best of our knowledge, the anxiety arising from social interactions in commercial settings has only been studied from the perspective of sales staff (Verbeke and Bagozzi, 2000, 2002; Bagozzi, 2006; Belschak *et al*., 2006). Indeed, salespeople sometimes experience what Verbeke and Bagozzi (2000) call "sales call anxiety", an irrepressible fear of being negatively evaluated and rejected by a customer when trying to initiate or conclude a sale. This form of social anxiety translates into physiological symptoms (unsteady voice, blushing, sweating, etc.) and protective actions (avoiding eye contact, avoiding self-disclosures, etc.) that can be noticed by customers. Because of emotional contagion (Hatfield *et al*., 1994; Pugh, 2001; Giardini and Frese, 2008), salespeople's negative emotions can "contaminate" costumers and reduce their overall level of satisfaction (Giardini and Frese, 2008). Table 1 summarizes the literature on social anxiety in the marketing field.

Social anxiety is also worth studying from the consumer's perspective. In interaction situations, specifically in encounters involving customer services or the provision of goods, the mere expectation of conversing with a shopkeeper, bartender, hairdresser, bank employee, etc. can lead to negative emotions. Such emotions can in turn reduce the overall quality of a service or retailing experience as well as the overall level of satisfaction (Mattila and Enz, 2002). In this research, we will focus on social interaction anxiety defined as negative emotions experienced when meeting and talking to strangers (Mattick and Clarke, 1998). Individuals with social anxiety try to avoid self-disclosure (Clark and Wells, 1995) and personal information delivery (Okazaki *et al*., 2012). Also, because of self-focused attention and reassurance-seeking, their interactions with strangers are usually less smooth and coordinated than average (Heerey and Kring, 2007). Marketers, who tend to believe that close relationships with salespeople lead to higher levels of satisfaction, should consider this aspect of social life.

METHOD

We conducted a qualitative study in order to come up with recommendations on what a pleasant and satisfactory marketplace encounter should be for consumers with social anxiety. Our study consists of in-depth interviews with 17 informants who could be identified as people with social anxiety. The recruitment process started with a post in discussion groups on three major French websites (aufeminin.com, doctissimo.fr, and lesmaternelles.fr). Volunteers were supposed to recognize themselves in the following description:

> *Do you know someone among your friends or relatives (or maybe yourself, if you feel like talking about it) who might be afraid of other people's attention, in particular in consumption situations: not daring to ask the salesman for information or advice, enter an empty store, or say no to a salesman, feeling obliged to buy something, avoiding small stores in favor of bigger but more anonymous ones, feeling uncomfortable when walking through a restaurant or a cinema, etc.? These examples are indicative. We are not interested if this has only happened to you once or twice in your life, but rather in those people who experience these situations on a regular basis, to the extent that it complicates their life somewhat. However, their social anxiety should not be too acute, since we are not psychologists and are not in a position to offer help or advice.*

The advert was phrased in such a way that would eliminate respondents with acute psychiatric issues (social phobia). Twelve individuals volunteered for an interview. In order to reach a sufficient level of information on an underexplored and difficult topic, we added six respondents who were recruited through various networks and were not personally known to the researchers. We sent the same advert to our friends and asked them to pass it on to their own friends. Six respondents volunteered and were interviewed.

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Table 1. Social anxiety in the marketing literature

Dimension of social anxiety under study (being or feeling observed by others versus interacting with others)	Research objective	Main results	Methodology	Authors
Social anxiety in observation situations	Examine the influence of non-interactive social presence (mere presence) in retail settings	Size and spatial proximity of social presence influence consumers' emotions and brand selection.	Experimental studies	Argo *et al*. (2005)
	Examine the antecedents of attitudes toward using a technology-based self-service (TBSS)	Consumers in a crowded setting tend to experience social anxiety and attach more importance to the perceived ease of use of technology-based self-service.	Experimental study	Dabholkar and Bagozzi (2002)
	Investigate the influence of social presence in causing embarrassment in the context of an embarrassing product purchase	Imagined or real social presence creates embarrassment in the context of an embarrassing product purchase.Familiarity with the embarrassing product purchase reduces the influence of social presence.	Experimental studies	Dahl *et al*. (2001)
	Propose and test a model that illustrates the impact of technology anxiety on the intention to use a TBSS in public	When perceived crowding coincides with perceived time pressure, technology anxiety almost completely inhibits the intention to use TBSS in public.	Quantitative survey	Gelbrich and Sattler (2014)
	Examine the influence of mere social presence on attitudes and behavioral intentions toward TBSS	Emotional responses and behavioral intentions become more negative when social size increases from zero to one confederate.However, when three confederates are present, reactions inverted thanks to an increase in anonymity.	Experimental study	Kinard *et al*. (2009)
	Examine the influence of self-consciousness on consumer complaint responses	People who score highly on public self-consciousness (i.e. people who are sensitive to social rejection) manage their complaint behaviors in order to be positively perceived by other customers.	Experimental study	Marquis and Filiatrault (2002)
Social anxiety in interaction situations	Introduce the concept of self-regulation of behavior by salespersons and customers as mechanisms for initiating, maintaining, and resolving BtoB exchanges	Literature review on the emotions at stake in business relationships (including social anxiety and embarrassment)	Literature review	Bagozzi (2006)
	Study how salespeople cope with their own social anxiety when interacting with customers	Two coping tactics are effective to reduce the negative effects of social anxiety experienced by salespeople: sale perseverance and task concentration.Task concentration is more effective for dealing with cognitive manifestations of social anxiety, whereas sale perseverance is more efficient for dealing with physiological manifestations of social anxiety.	Quantitative survey	Belschak *et al*. (2006)
	Examine the link between social anxiety and volunteering	People who score highly on social anxiety will rather give monetary support to worthy causes than volunteer their time. When they chose to volunteer, they would rather volunteer with friends.	Quantitative survey	Handy and Cnaan (2007)
	Explore how multiplayer online role-playing games (MMORPGs) can provide psychological and behavioral help for people with social anxiety	Participants showed less anxiety and improved social relationships after moderate exposure to MMORPGs.	Quantitative survey	Ho *et al*. (2015)
	Explore the role of social anxiety and situational involvement on privacy concerns in QR code mobile promotions	When situational involvement is high, social anxiety positively influences privacy concerns and the intention to protect and fabricate personal information.	Quantitative survey	Okazaki *et al*. (2012)

(*Continues*)

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Table 1. (Continued)

Dimension of social anxiety under study (being or feeling observed by others versus interacting with others)	Research objective	Main results	Methodology	Authors
	Develop and test a conceptualization of sales call anxiety (SCA) based on the concept of social anxiety	Salespeople experience social anxiety in two contexts: canvassing (cold calling) and closing a sale.Sales call anxiety has four components: negative self-evaluations, negative evaluations from customers, awareness of physiological symptoms, and protective actions.	Quantitative survey	Verbeke and Bagozzi (2000)
	Explore the role of shame and embarrassment among salespeople selling financial services	The tendency for salespeople to experience embarrassment in personal selling leads to protective reactions (e.g., avoidance behaviors) and lower performance (e.g., sales volume and quality of sales interaction).	Quantitative survey	Verbeke and Bagozzi (2002)

Table 2. Characteristics of the respondents

Name	Gender	Age	Occupation
Emilie	Female	34	Dentist
Diane	Female	28	Engineer
Jeanne	Female	40	Teacher
Héloïse	Female	26	Student
Leïla	Female	22	Student
Adèle	Female	36	Home maker
Marie	Female	29	Project leader
Jean-François	Male	63	Retired
Fabienne	Female	28	Management assistant
Marc	Male	25	Worker
Sabine	Female	32	Employee
Pierre	Male	55	Technical director
Joséphine	Female	20	Student
Sylvie	Female	35	Child minder
Bérénice	Female	58	Teacher
Béatrice	Female	39	Product manager
Sophie	Female	25	Consultant

Before interviewing our informants, we quickly checked the relevance of social anxiety in their consumption experience by asking them on the telephone what made them accept our offer to participate in the interviews. For all the respondents, this procedure provided a quick overview of their social anxiety issues and their relevance for our study. Seventeen volunteers were retained for the final sample.[1] The respondents' characteristics are presented in Table 2.

Our respondents have diverse social backgrounds, but women are over-represented in the sample. This is because of the recruitment method, mostly through online women's forums. To preserve confidentiality, the interviewees' names have been changed. The interviews were either face-to-face (taking place at the university, in the respondent's home, or in a quiet café) or over the telephone, depending on where the respondents lived and whether they agreed to speak openly. One major methodological limitation is that social anxiety is characterized by an apprehension of interactions with strangers, which means that the qualitative interview situation itself is stressful for people with social anxiety. However, this limitation was partially countered by the facts that (i) all interviewees were volunteers; and (ii) we observed that most of our respondents appreciated talking about their social difficulties and were relieved to be able to name disorders they had always linked to their personality. However, three respondents showed signs of discomfort, leading to short interviews. This is why our interviews lasted between 30 min for the most embarrassed respondents and 2 h for those who felt comfortable with the topic of social anxiety in commercial settings. The interviews were structured in three parts. In the first part of the interview, we left the respondents free to express themselves about their social anxiety experiences. They were asked to describe consumer situations that had led or could lead to social anxiety. In the second part of the interview, we explored manifestations of social anxiety (How do you feel? What are your thoughts

[1]One person was quickly dismissed with our thanks because we realized she suffered from strong social phobia.

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at that time?), its causes (Why do you think you felt uncomfortable at that precise moment? What could explain your social fears?), and its consequences (What do you do to avoid social anxiety? Are there some situations you try to avoid? Conversely, are there some situations where you feel more comfortable?). Finally, in the third part of the interview, and when certain situations had not been mentioned spontaneously, we proposed several typical social anxiety situations to the interviewees, asking them how they would react if they were confronted with them.[2] Open and axial coding guided the thematic analysis carried out by the researchers (Spiggle, 1994). We attempted to draw out the manifestations and consequences of social anxiety for the participants. First, we examined their experiences in detail and then gradually developed a holistic understanding of the phenomena being studied through systematic interview comparisons.

FINDINGS

The respondents' responses were set beside the relationship marketing literature about service and retail marketing. This enabled us to identify the commercial situations (buying both services and goods) most likely to provoke social anxiety, improve knowledge of relational costs for consumers with social anxiety (Burnham *et al*., 2003; Noble and Phillips, 2004), and identify the relational preferences of consumers with social anxiety.

Commercial situations that foster social anxiety

Understanding the nature of the interactions between a consumer and company staff can only be achieved in the light of the features of the commercial environment (Price *et al*., 1995; Verbeke and Bagozzi, 2000). For this reason, it seemed important to us to show the contextual features that foster anxiety.

Situations of physical closeness

Physical closeness with a service employee generates intimacy and as a result, leads to a close relationship with the client (Beetles and Harris, 2010). These situations were often mentioned as a source of anxiety by our interviewees. Whole sectors are feared and where possible avoided by these people (body treatments, group classes involving physical closeness, medicine, made-to-measure clothing, and so on). As is pointed out in the literature, physical proximity creates an intimate context (Goodwin and Frame, 1989; Beetles and Harris, 2010) in which touching promotes the development of more personal relationships (Mars and Nicod, 1984; Siehl *et al*., 1992; Beetles and Harris, 2010). Such intimacy, which is said to favor loyalty (Mehrabian, 1981; Parish and Holloway, 2010) and overall satisfaction with the standard of the service, is in fact dreaded by individuals with social anxiety. For instance, Adèle relates how her one visit to the beautician made her uneasy because of the intimacy of the service:

> *I went to a beautician once, for my wedding. I felt ill at ease, as I had expected. Everything made me uneasy, the hushed air of the establishment, the very feminine atmosphere, as if we women were sharing a secret. And then this woman who was working on me made remarks, and while she was doing something really personal could talk away about some completely different thing, as if nothing was going on.* (Adèle)

Similarly, casual physical contact, said to improve how a point of sale or a salesperson is valued (Hornik, 1992a, 1992b), seems counter-productive with people with social anxiety, who say that they hate being touched. Physical contact (touching for instance) not essential to performing the service or to its requirements is experienced as an intrusion, as Jean-François explains:

> *The other day I was in Darty and I wanted to buy a decoder for my television. Normally in these situations I try to sort myself out, but in this case this kind of product is not on display and you have to deal with a salesperson. Now, I happened upon a salesman who seemed quite OK at the beginning and we joked about this and that. And then suddenly he put his hand on my shoulder as if I was one of his mates and said, "Come over here, sir, and we'll take your order." I felt very uneasy. It made me want to run away, to leave straight away, and from then on I did everything I could to get the order taken as quickly as possible so that I could get away.* (Jean-François)

Jean-François's testimony shows how a salesman's over-friendly gesture can induce negative feelings in consumers who are anxious to maintain a certain distance in their commercial relationships.

Lengthy exchanges

While short exchanges can give rise to social anxiety, it appears that long transactions are more conducive to its emergence. Fear of long exchanges is explained by the fact that a lengthy interaction carries with it the duty to feed a conversation. As Joséphine says, echoing many other respondents, it would seem awkward if a haircut at the hairdressers were to take place in silence:

> *When you are at the hairdresser's you have got to make minimum conversation. For me anyway, it disturbs me if nobody speaks; it's OK for five minutes, but then there you are alone with the hairdresser and nobody's talking. Yes, that makes me very uneasy, and I immediately try to think of something to say, about the news, or the local area. But I hate that and I think that's why I always wait till the last minute before getting my hair cut. Yes, to avoid that conversation you've got to have with the hairdresser.* (Joséphine)

Joséphine explains that if she is ill at ease with the idea of having to make conversation with her hairdresser, it is because she doubts her social skills. The literature on social anxiety demonstrates that individuals with social anxiety believe that they have diminished relational abilities and hold themselves responsible for embarrassment during exchanges (Verbeke and Bagozzi, 2000). In long exchanges, individuals

[2]These situations were as follows: getting a haircut, entering an empty store, leaving a store without buying anything, asking for advice from a salesperson, complaining about a defective product, and benefiting from preferential treatment.

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with social anxiety find themselves in an ambiguous situation: On the one hand, they dread silences and conversations about the weather (Heerey and Kring, 2007), and on the other, they are disturbed by the idea of venturing onto more personal subjects that might lead them into sharing beliefs, emotions, or personal experiences with whomever is providing the service. As Pierre explains, it is very difficult to find the right tone between two extremes giving rise to equal anxiety, silence, and intimate conversation:

> *Basically, I think it is fear of silence. I've an aversion to silence; I feel I've got to say something, because I feel responsible for silences in a conversation, even when there are three or four people there. And yet, paradoxically, I'm uneasy if people start out on subjects that are too personal, especially when I don't know the people (…) And there's also the fear of being superficial, of pointlessly going beyond what is essential, of talking too much.* (Pierre)

Individuals with social anxiety fear long interactions because they impose a conversational duty and pave the way for a more personal and intimate tone of conversation (Nisbett and Ross, 1980; McCroskey *et al*., 1986). It is the same with interactions that are sometimes short but repeated over time.

Interactions repeated over time

The theory of social penetration (Altman and Taylor, 1973) holds that relationships develop over time progressively with meetings, moving from a superficial register to an intimate register by way of a series of successive and reciprocal phenomena of self-disclosure between the actors in the relationship. In the field of commerce, Czepiel (1990) asserts that as the relationship develops, trust and dependence on the other are established. According to Czepiel, the relationship process has four stages: (i) building up satisfactory interactions and the prospect of further purchases; (ii) involvement of the actors in the relationship through mutual disclosure and trust; (iii) creation of a double link, economic and personal with the service provider or vendor; and (iv) engagement and loyalty to that individual. The theory tells us that a "normal" relationship between two individuals with recurring contact involves a gradual shift from superficial exchanges (talking about the weather, for example) to increasingly personal mutual confidences (self-disclosure) even if the length of the exchange is brief. So as we continue to visit the baker, hairdresser, or sports trainer, it is normal for our conversations to become increasingly personal. For individuals with social anxiety, it is precisely the second meeting, where it seems normal to touch on more intimate topics (the second stage identified in Czepiel, 1990), which is the source of anxiety, as Emilie explains:

> *In all my relationships with the local shops, like the baker, there comes a moment I really don't like, it's that point when, because one is a neighbor, one feels obliged to switch from a rather formal tone to more personal topics of conversation. I'm not at all keen on that… It is often tricky, that moment when you don't really know if you are meant to know one another well or not, if you are meant to behave in a formal manner or if you can let yourself be a bit more cool. And then again, because I don't necessarily want to talk about personal things with a shopkeeper, I tell myself that my life doesn't really interest him, that he's got plenty of customers, and that I'm just one among many. It's not a very sincere relationship. So suddenly I've got a real fear of going there, and sometimes I avoid it and go to a different shop.* (Emilie)

What Emilie relates shows that local shopping, with its highly experiential and relational nature as opposed to standardized and anonymous shopping malls (Megicks *et al*., 2012), can sometimes lead to negative emotions. For individuals with social anxiety, a friendly relationship with a shopkeeper or service provider is not always sought after, as the repeated interaction causes it to become a source of worry. And yet, paradoxically, new situations are themselves also sources of anxiety.

New or non-standard situations

Solomon *et al*. (1985) demonstrate that the quality of a service transaction depends on the suitability of the roles played by the service provider on the one hand and the client on the other. The roles are written into scripts, cognitive structures describing the different sequences of events expected in a given context (Abelson, 1976). These scripts can be more or less exact in accordance with the experience (a consumer accustomed to going to three-star restaurants could anticipate exactly the different stages of using this service and how to behave at each stage) or how standardized the situation is. They are useful as they direct the style of the interactions that take place with the staff encountered and indicate what manner to adopt (Solomon *et al*., 1985). People with social anxiety, uncertain of their ability to adopt an appropriate manner in their exchanges with shopkeepers or service providers, fear situations where they have no script available. In these new situations, the fear of not knowing how to proceed or in what tone to interact is frequent. Several respondents gave the example of the gym, where, when you go the first time, it is difficult to sort things out by yourself without asking the staff for explanations and advice. Indeed, gyms are places where a social intimacy is being created (Beetles and Harris, 2010) because people are sometimes forced to disclose personal information such as weight or health issues. Similarly, in non-standard situations, the scripts are weaker and more difficult to rely on (Schank and Abelson, 1977). Several respondents admitted that they did not like commercial establishments described as experiences, where the sales environment is, by its very nature, less standardized than elsewhere. For example, while Nespresso stores are often cited as examples of a commercial environment that are friendly to customers and conducive to their well-being (Khamis, 2012), they have the opposite effect on Bérénice:

> *The other day I went to Nespresso, and, well, I left pretty quickly. I'd already had to force myself to go into the shop. Then straightaway there are hostesses springing on you. It happened that I didn't have my customer card, and so I wasn't able to go into a particular part of the shop. I'd have had to go to reception. Anyway, I ran out. If things are too complicated, if I feel stupid because*

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I don't know what to do or who to ask, I'd rather leave. (Bérénice)

On the whole, consumers with social anxiety feel ill at ease in luxury commercial environments offering a more personal and intimate service (Rosenbaum *et al*., 2015) and avoid them. They feel more at home in standardized commercial environments because they have cognitive representations (scripts) describing how the commercial interaction will proceed.

The relational costs of relations with staff encountered

While several authors write about the relational costs underlying commercial relationships (Noble and Phillips, 2004; Ashley *et al*., 2011) or a change of service provider (Burnham *et al*., 2003), our interviews with consumers with social anxiety show that interactions with service providers and salespeople carry two other kinds of costs: psychological and economic. According to equity theory (Adams, 1965), a commercial relationship will be accepted if its benefits outweigh its costs (Noble and Phillips, 2004; Ashley *et al*., 2011). Being aware of these costs is all the more important as there is a risk that the relationship will terminate at the point where the costs associated with the relationship outweigh the benefits (Noble and Phillips, 2004).

The psychological costs of commercial relationships for individuals with social anxiety

Several relational marketing authors suggest that interaction with a service provider or a salesperson can give consumers social pleasure (Hennig-Thurau *et al*., 2002; Bloemer *et al*., 2003; Bojei *et al*., 2013). Gwinner *et al*. (1998) quote a woman relating how her hairdresser makes her laugh with his jokes. Some people even relate a feeling of friendship (Price *et al*., 1995; Gwinner *et al*., 1998; Price and Arnould, 1999; Coulter and Ligas, 2004; Grayson, 2007). It is not like that for individuals with social anxiety, for whom interactions with people they meet do not bring pleasure and are, on the contrary, a source of anxiety (Verbeke and Bagozzi, 2000; Belschak *et al*., 2006). This anxiety about relationships with strangers or near-strangers is explained by an unbalanced evaluation of social interactions (Rehm and Marston, 1968): Individuals with social anxiety underestimate their relational skills (Twentyman and McFall, 1975), make negative self-evaluations of their social interactions (Cacioppo *et al*., 1979), and perceive the reactions of others as being more negative than they really are (Smith and Sarason, 1975), as Sylvie explains:

Actually, I am often convinced that I am not a very interesting person. I hate talking about myself; I say to myself that it is not going to interest anyone. At the same time, I'm very bad at just talking about the weather. I often find myself in situations where I tell myself that my conversation is really uninteresting. I get the feeling that I just don't know how to do it; I'm uncomfortable and it shows, and so in the end I get the impression that people think that I'm a strange girl. (Sylvie)

Individuals with social anxiety have a tendency to dramatize social situations and to remember the negative aspects of their latest exchange better and for longer than its positive aspects (Williams *et al*., 1988; Mogg and Bradley, 1998). This means that social interaction where there is contact with a member of staff is costly at that point – as it is for a salesperson toward a client (Verbeke and Bagozzi, 2000) – and that this social cost is also anticipated in the case of another visit. If the anticipated social cost of the relationship is higher than the benefit that they hope to get out of it, consumers will put an end to it (Noble and Phillips, 2004; Ashley *et al*., 2011). Several of our respondents related this in order to explain the paradox between their desire for routines and their frequent disloyal behavior.

I need routines, so sometimes I am very loyal. For example, I always buy my shoes at the same place, I've been going there for at least 12 years. I don't go round many shops and so it's always the same ones, those I know well and where I feel at ease. And at the same time, there are cases where on the other hand I'm always changing shops and in general it's when the sales assistant starts to recognize me and to become more informal with me. It only takes one occasion where the conversation puts me ill at ease for me never to return. (Béatrice)

We cannot speak about social isolation in relation to our interviewees because according to them, they all have a social life; but by avoiding close relations with store keepers, individuals with social anxiety do nevertheless deprive themselves of one aspect of social life. In fact, the more or less formal or spontaneous exchanges that characterize the commercial world may bring daily pleasure (Gwinner *et al*., 1998) and give access to ideas and information that are socially distant by establishing weak links (Granovetter, 1973).

The economic costs of social anxiety

Close relations with a salesperson or a service provider can bring economic advantages (for example, price reductions or credit) and time saving (gained by an easier, more fluid exchange) (Odekerken-Schroder *et al*., 2003; Mimouni-Chaabane and Volle, 2009; Henderson *et al*., 2011). Yet for individuals with social anxiety, commercial relations are often more costly both in terms of money and time. Our intention here is not to draw up an exhaustive list of the financial costs caused by social anxiety but to give a few examples that will help to illustrate that social anxiety in the commercial world is costly. Individuals with social anxiety are ill at ease when they have to say no or when they have to request something from somebody. According to Latané (1981), social anxiety is fed by the need for recognition and the desire to make a good impression of oneself. This entails the fear of hurting others, making them angry, or simply annoying them. A number of our respondents admitted buying items that they did not want for fear of saying no to an over-insistent salesperson. This is what Marc describes:

"*No*" *is not part of my vocabulary so I often buy stuff I don't need because I haven't dared say no to the salesperson. That often happens to me in shoe shops; I try on lots*

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of pairs, the assistant goes back and forth to the store room, he devotes half an hour to me, so how can I leave without buying in those conditions? (Marc)

Moreover, some people dare not complain even though their claim is legitimate (Chebat *et al*., 2005). Héloïse is one of those people. She explains that she does not exercise her right to claim something that is due to her because of social anxiety:

I bought a microwave and two months later it went on fire for no reason. I never plucked up the courage to take it back to the shop. I am incapable of demanding something even if I am in the right. I would get the impression from the person's face that I am annoying them, that I'm complaining for nothing. (Héloïse)

Social anxiety also has a time cost. Interactions with service providers or sales assistants are feared by individuals with social anxiety, and the anticipation of this discomfort leads consumers with social anxiety to procrastinate over the purchase of goods or services. Joséphine explains that going to the hairdresser's always takes an effort and she puts off going as long as possible. Emilie explains that for several months, she has been putting off the refitting of her apartment because of her social anxiety:

For over a year now I have really needed to redo my bathroom, there is mold everywhere, the water flows poorly, it's ugly. In short, I know I must do it, I have the money to do it, but I haven't done it. Why? Because every day I say to myself that I'll do it tomorrow. Calling up the businesses is an effort as is speaking to people who come to do the estimates, who I have to receive in my home, show them my private life, ask for advice. In short, all that means that I put it off, I put it off, even if I know I really should get on with it. (Emilie)

This procrastination is sometimes accompanied by a preparatory phase during which the consumers make sure that they master the different stages of the script necessary to make the purchase. Héloïse tells how she spent time watching the way in which people used the automatic check-outs in supermarkets before she used them herself. The use of self-service devices can lead to social anxiety for some consumers (Meuter *et al*., 2003).

The loss of time among individuals with social anxiety is also because they avoid asking for advice or information from assistants and from other clients in shops. Sophie explains that she devotes a lot of time to finding out information before making a purchase (in order to prepare the act of purchasing and to avoid asking for advice).

I never go to buy an item of clothing spontaneously, I prepare everything in advance, everything is planned out. I visit websites, I look, I compare, I see what's in stock and generally when I have decided to buy I know exactly where I am going to find it and at what price. That way I don't have to ask for advice from the salespeople. (Sophie)

As we explained earlier, in situations of repeated purchases, the increasing discomfort of the shift from a superficial relationship to a closer one (the self-disclosure process) often leads individuals with social anxiety to flee from the relationship when it becomes too personal. This means that they are often disloyal to shopkeepers, which leads to financial loss—they never leave time for a relationship to be established and so do not benefit from the financial advantages of a long-term association as identified by Gwinner *et al*. (1998). Above all, they waste time by constantly changing suppliers. As Béatrice explains, as soon as a salesperson begins to remember her previous purchases, she feels uncomfortable and tends to change shops. There is therefore a time loss disadvantage in seeking out a new, satisfactory shop and also no time-saving advantage from making a purchase from a salesperson who knows her quite well. Social anxiety therefore has its costs in terms of psychology, economics, and time. In order to minimize the scope of these costs and with a view to increasing the well-being of consumers with social anxiety and their loyalty, we need to understand the type of relations they seek with the personnel they meet in the commercial world.

Relational preferences among individuals with social anxiety

Customer satisfaction is a major issue for companies, and our research has highlighted some commercial environments in which individuals with social anxiety feel most at ease and which match their relationship characteristics: (i) a preference for neutral and distant relations; (ii) anonymity; (iii) an aversion to special treatment; and (iv) a dislike of surprises. To sum up, the commercial environments that they prefer do not meet the recommendations usually made in relational and experiential marketing in order to satisfy customers and keep their loyalty (Hong-kit Yim *et al*., 2004; Christopher *et al*., 2013).

A preference for neutral and distant relations

Relations between service providers and customers are established along a continuum between two extremities, from a transactional nature (impersonal, discrete, episodic exchange) to a relational nature (close and enduring). Transactional encounters are characterized by functional conversations based around the product (Webster, 1992; Coulter and Ligas, 2004). Relational encounters are characterized by varied topics of conversation with no link to the product or service being sold. They include high-quality interactions, with self-disclosure statements where the actors in the relationship disclose information about their personal life (Coulter and Ligas, 2004; Beetles and Harris, 2010). As we saw earlier, consumers with social anxiety feel ill at ease in relationships that are too close and show a preference for transactional relations where sales personnel adopt a relational style based on expertise and the characteristics of the product or service that they are selling. Unlike most consumers (Chan and Sengupta, 2010), they also dislike flattery, which will lead to dissatisfaction and disloyalty. As Jean-François puts it, these exchanges can be friendly but they remain professional.

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If I try to think about the kind of trader that I quite like I would say that it is someone who is warm but not too much, who recognizes you after a bit, but who won't slap you on the back, who will simply say "Hello, sir." And it's someone with whom you can chat but only about his business. I'll happily talk about money with my banker, not my butcher. And with my banker I have no desire to talk about gastronomy. (Jean-François)

This statement illustrates two dimensions of the relational style preferred by individuals with social anxiety: neutrality, thanks to conversations linked to the transaction, and distance, which is both physical and psychological.

Anonymity

Individuals with social anxiety do not like to feel obliged to converse with a salesperson in the same way that they do not like to feel that they are being watched as they make their purchases. This leads them to seek anonymity and to prefer self-service points of sale where few or no exchanges are necessary. Whereas for most people, the lack of human contact in self-service environments is a problem (Howard and Worboys, 2003) or creates anxiety (Meuter *et al*., 2003); it is an advantage for consumers with social anxiety. Thus, Sabine explains that for her, self-service hypermarkets have the advantage of offering both anonymity and autonomy:

Well, with me, it's simple, as soon as I can I go to a big supermarket where no-one is watching you, where you serve yourself, where you sort yourself out, the signs are clear and helpful, you don't need to ask your way or for help. The best thing for me is Auchan, an immense shop, where I can walk about with my trolley, there are plenty of people but I feel alone, it's anonymous, the cashiers change all the time, you never meet the same one. It's the same for the other customers, you never meet the same ones. (Sabine)

Similarly, many people with social anxiety declare that they prefer automatic machines (self-scanning checkouts, once they have learned to use them) and distance buying, which do not require any physical encounter with an employee.

Marketing research often suggests that organizations should encourage social relations between clients in order to promote the appearance of a sense of belonging to a community (Muniz and O'Guinn, 2001; McAlexander *et al*., 2002; Bojei *et al*., 2013; Brodie *et al*., 2013). As Sabine's preference for anonymous hypermarkets shows, not having to make contact with other clients is an advantage for individuals with social anxiety. Similarly, social rituals that aim to connect customers both to each other and to the brand (Otnes *et al*., 2012) are a source of dissatisfaction for consumers with social anxiety, as Emilie explains:

The worst thing that ever happened to me was in a restaurant where I was having dinner with some friends on my birthday. The waiters decided to bring me a cake and sing "Happy Birthday," getting the whole room to join in. The entire restaurant started singing "Happy Birthday, Emilie," in chorus, people that I didn't know. I have never felt so awkward in my life, to have all these eyes on me, people I didn't know. (Emilie)

An aversion to special treatment

There are two kinds of special treatment: contractual, most often formalized in a loyalty program, and discretionary preferential treatment, additional products/services granted to non-regular consumers (Butori and De Bruyn, 2013). In the case of discretionary favors, the employees of service companies or shops can take the initiative by offering advantageous conditions to certain clients (for example, enabling them to jump the queue). These discretionary favors are supposed to consolidate the employee–customer relationship and improve sales (Palmatier *et al*., 2007). Nevertheless, these initiatives can sometimes be embarrassing, especially when they are visible to (and to the detriment of) other clients (Butori and de Bruyn, 2013). This is particularly the case for consumers with social anxiety, who seek anonymity and do not like to put themselves forward. Pierre describes a situation where special treatment that he received made him feel uncomfortable:

It was a few years ago, I had opened a business account at Caisse d'Epargne bank. When you open a business account at Caisse d'Epargne, you get a certain number of advantages including the right to jump the queue. So when I arrived to deposit checks, for example, I would see the long queue of little old ladies come to deposit their savings and I was supposed to push in ahead of them, but that made me feel uneasy and I never did it. I ended up changing banks and I opened an account in a bank where there was one desk especially for business customers so I never felt different from the others. (Pierre)

This episode is a good illustration of the two dimensions of special treatment as a source of embarrassment for individuals with social anxiety: the fact that it is visible and the fact that it has an unfavorable impact on other customers (in this case, on their waiting time). Special treatment, which is likely to draw attention to an individual along with a negative judgment, is therefore little appreciated by consumers with social anxiety.

A dislike for surprises

Experiential marketing aims to immerse the consumer in unforgettable experiences (Carù and Cova, 2006; Lee *et al*., 2010), and one of the ingredients of consumer delight is surprise when it is consistent with the service (Wang, 2011). Some retail encounters can even be qualified as "retail theaters" designed to support and enhance customers' need for fantasy and play (Kozinets *et al*., 2002). In these environments, customers are often agents of their own experience and are expected to be actors who will create their own very special moment. In such settings, there is no script available on what to do and how to behave. Individuals with social anxiety, who like a certain routine to their consumer experiences as it allows them to anticipate the attitudes and behaviors to adopt at each stage of the purchasing act, do not like

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such settings, nor do they like surprises. Individuals with social anxiety tend to control their environment and try to avoid uncertainty (Carleton *et al*., 2010). This leads them to evaluate new events as potentially negative and threatening. As Héloïse puts it, anxiety places her in a situation of vulnerability because her relational skills are (or seem to be) inadequate when facing the unexpected.

> *One day when I got to the gym I found it had all been changed. New machines and also a new concept with a coach who watches you and advises you, and exercises to be done in a certain order, over a certain period of time, etc. It was supposed to be better, but for me it was very difficult to get over this. I didn't know how to go about it, how to use the new machines or interact with the coach. I got the impression that everyone was really at ease but me, I felt stupid, I wanted to run away.* (Héloïse)

People with social anxiety want to come across well but are uncertain of their ability to create a good impression. Even if, just once, they have succeeded in an embarrassing social situation, they will not be able to capitalize on that success and will carry on with self-doubts. Indeed, people with social anxiety have hypervalent cognitive schemas (called "memory biases") that tend to represent reality as threatening and their self as vulnerable (Heerey and Kring, 2007). This is why individuals with social anxiety, who like to have a script for interactions, fear surprising events that do not allow them to use the script in order to know how to behave.

DISCUSSION AND CONCLUSION

Our research has shown that relationships of proximity between clients and the personnel in contact with them are neither sought nor desired by all consumers. There is a relatively sizeable category of the population (about one-third according to André and Légeron, 2000) for whom interactions with strangers is a source of anxiety. In order to improve the well-being of these people and to make these relationships more permanent, it is necessary to understand their preferred relationship mode (Zolkiewski, 2004; O'Loughlin and Szmigin, 2006; Ashley *et al*., 2011). Our study and its qualitative results have allowed us to shed light on the characteristics of the contexts that engender social anxiety (interactions where there is close physical proximity, long exchanges, interactions repeated over time, and non-standardized interactions). We have also shown that social anxiety has psychological as well as financial and time costs for consumers. These costs sometimes lead to instances of customer disloyalty (Burnham *et al*., 2003; Noble and Phillips, 2004; Butori and De Bruyn, 2013). Ensuring that clients remain loyal is a major issue for companies (Henderson *et al*., 2011), and our research has been able to show the commercial environments where individuals with social anxiety feel most at ease. These consumers display four relational characteristics: (i) a preference for neutral and distant relations; (ii) anonymity; (iii) an aversion to special treatment; and (iv) a dislike for surprises.

This paper makes its principal contribution in the area of relationship marketing. It offers answers to the fact that "there are additional variables conductive to relationship construction and success in these environments that are not being explored in current analyses" (Beetles and Harris, 2010: 349). In the relational and experiential literature, it is recognized that stores and large companies should develop made-to-measure relations with their clients (e.g., Zolkiewski, 2004; O'Loughlin and Szmigin, 2006; Grewal *et al*., 2009). In an article summarizing relational marketing, Puccinelli *et al*. (2009) call for a better understanding of different types of shopper, depending on their aims, individual characteristics, and emotions before, during and after the purchasing experience. Our research contributes to a better understanding of individual differences between consumers: Any individualization of the marketing offer should be able to take into account their personalities. By introducing social anxiety in marketing, our research proposes an antecedent that allows a better understanding of the reasons why some consumers try to avoid relationships (Noble and Phillips, 2004; Ashley *et al*., 2011) and preferential treatments (Butori and De Bruyn, 2013).

In sum, our main contribution is to show that social anxiety, an individual variable that has received little attention in the marketing literature, can help explain why some consumers do not want close relationships with firms in services and retailing contexts. This complements the literature on both relationship marketing and service marketing by adopting the buyer's perspective on what comfortable and pleasant relationships should be under certain circumstances.

This research has managerial implications related to the way of socializing with consumers. Successful exchange episodes and properly managed relationships between buyers and sellers can enhance buyers' satisfaction (Delcourt *et al*., 2013). In order to reduce buyers' anxiety costs, sellers should be made aware of the existence of such a form of anxiety and better trained on how to interact with consumers with social anxiety (Menon and Dubé, 2000; Hennig-Thurau *et al*., 2002). Raising awareness among sales personnel seems to us to be of prime importance because we can assume that sales staff and service providers who have chosen professions where they have relations with others have sociable personalities which are very different from those of individuals with social anxiety. The training program could include two dimensions: a diagnosis dimension (diagnostic cues in terms of context and displays of negative emotions) in order to help salespeople identify signs of social embarrassment in their clients; and an action dimension (a set of acting strategies) to help them adapt contact intensity, the degree of mutual disclosure, and favorable treatments. We have also shown that people with social anxiety would sometimes rather not have relations with salespeople and use self-service devices once they know how to use them. Retailers could take this preference into account by developing self-service options without forgetting to include tutorials on how to use them.

This research remains exploratory and carries certain limitations that point to possible future research avenues. First, we would like to underline that we treated social anxiety as

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a personality trait by taking an interest in consumers who experience this kind of anxiety frequently and in differing contexts. This approach allowed us to understand more easily the conditions where social anxiety appears as well as the likely responses. Nevertheless, in order to extend the scope of this study, our research needs to be developed by starting not with individuals with social anxiety but rather anxiety-causing situations. This would enable the shift from "personality trait" to a more general approach by identifying the anxiety-causing characteristics in different commercial situations not only for consumers with social anxiety but also for other consumers. Second, most of our respondents were young women. Future studies could include more men and older people in order to be able to make assumptions on the socio-demographic profile of individuals with social anxiety and their coping strategies. Third, we only interviewed French people. Because socialization norms are highly dependent on culture (Sanchez-Burks *et al*., 2003; He *et al*., 2012; Kalliny *et al*., 2014), this research should be replicated in other cultural contexts where relational and conversational norms are likely to be different from French culture. Fourth, we studied manifestations of social anxiety and the way consumers deal with it, but we did not explore the content and nature of their conversations with salespeople.

This study therefore points to other lines of research into salesperson/client relations and the role played by language in building and maintaining these relations. The theory of social penetration (Altman and Taylor, 1987) suggests that a close relationship is built up over time through successive and reciprocal processes of self-disclosure. A more in-depth study of these stages in the building of closer relations would allow each stage to be identified, as well as the specific and pertinent levers that mean that the relationship can be perceived as sincere and natural. Also, research into understanding the dynamic character of staff/client relationship-building would make it possible to identify the precise moment in the relationship, and following what kind of exchange or conversation, customers with social anxiety are likely to put an end to it. Moreover, little research has been performed on the role of language in interactions between sales staff or service providers and clients (Otnes *et al*., 2012); this is an area that could be explored further. A better understanding of the registers of conversation that are expected and legitimate, according to the type of point of sale and the nature of the clientele, would help to improve the training of sales personnel. Finally, it would be relevant to study social anxiety in other marketing contexts, such as collaborative consumption situations. The latter rely on peer-to-peer relationships which, except in specific cases (Bardhi and Eckhardt, 2012), lead to more intimate relations than conventional commercial exchanges: hosting strangers or staying at a stranger's house; sharing a confined space, for example, a car in the case of a carpooling journey that may last several hours; and asking for/offering objects, etc. (Möhlmann, 2015). In all these situations, the encounter with other people is highly important (Guillard and Del Bucchia, 2012). Such situations might cause anxiety for some people. Some research studies have explained the ambiguity of personal relationships while borrowing/lending objects (Jenkins *et al*., 2014) without specifying the profile of those concerned. Future research should address issues of social anxiety within these new types of relations between consumers.

Drawing on the concept of social anxiety in an effort to understand consumer behavior opens up interesting research possibilities for the future.

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