Understanding the consumer propensity to observe

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Abstract
Purpose – The purpose of this paper is to explore the tendency of some consumers to use the purchase behavior of unknown other consumers as a purchase decision heuristic, by first developing a measure of the consumer propensity to observe. The effects of likely individual consumer factors are then tested.

Design/methodology/approach – A total of 356 consumers participated in the study by completing a questionnaire containing items measuring the constructs of interest. The modeled relationships of variables were tested using structural equation modeling with interaction terms.

Findings – The specified model was found to explain 43 per cent and 44 per cent of consumers’ propensity to directly and indirectly observe, respectively. Key antecedents identified as significant influencers of propensity to observe are consumer risk aversion, brand choice overload, self-confidence, and propensity to conform to group norms. Additionally, moderating effects are identified, indicating that propensity to observe is higher when certain contingencies interact.

Practical implications – The results of this research suggest that: observation is an important heuristic in choice decision for many consumers; specific consumer characteristics define observational consumers for targeting purposes; and retailers should consider observational tendencies of consumers when marketing and merchandising products.

Originality/value – This study is designed to fill this void in the literature by creating and validating a measure of the tendency to be observational; and by examining influencing factors of the one particular heuristic where consumers look to the purchase behavior of other consumers to resolve their own product choice dilemmas.

Keywords Consumer behaviour, Brands, Consumer risk, Buying behaviour

Paper type Research paper

Consider the number of times consumers are routinely faced with a purchase decision for which they have little or no information to substantiate that decision: where to eat when traveling, which movies to rent, or which gifts to buy for relatives are all common examples. In the complex brand selection environments that exist today, some research has found that consumers defer product/brand selection (Dhar, 1997; Tversky and Shafir, 1992). In situations when consumers are unable to defer the product choice decision, consumers may experience overload and anxiety at worst or develop simplifying decision heuristics to help them make product choices (Swait and...
Adamowicz, 2001) at best. One such readily apparent heuristic is to observe the purchase behavior of known or unknown consumers (e.g. Park and Lessig, 1977).

Observing the consumer behavior of others may simplify consumer decision making by providing information that serves as a source of consumers’ “evaluations, aspirations, and behavior” (Park and Lessig, 1977, p. 102). Park and Lessig (1977) explain that consumers are motivated to be influenced by “others” or reference groups for three reasons:

1. informational, to obtain information from a perceived credible source;
2. utilitarian, to reap rewards or avoid punishments the referents may affect; and
3. value-expressiveness, to protect a self-image or because of liking of the referent or reference group.

The influence of observing others as a source of information “is accepted (internalized) if it is perceived as enhancing the individual’s knowledge of his environment and/or his ability to cope with some aspect of this environment, e.g. purchasing a product” (Park and Lessig, 1977, p. 103). Observation of others for utilitarian purposes is a way of ensuring acceptance and avoiding psychological or physical harm. By purchasing the products referents deem acceptable, the consumer is able to avoid harm, such as feelings of not belonging, name-calling or worse. Finally, the influence of observing others as value-expressiveness is a way of matching self-image with the social world. For example, a college freshman wanting to appear more experienced may observe the clothing of idolized upper classmen, and then buy the same types of clothes, hoping to reinforce and project the same image both to himself and to the world. Regardless of which reason, information about others’ purchases may be either actively sought out by a consumer looking for expertise or “the individual makes an inference by observing the behavior of significant others” (Park and Lessig, 1977, p. 103). This tendency, or general trait, of some consumers to observe the perceived purchase behavior of known, or unknown consumers and to incorporate these observations when making their own purchase decisions we call the consumer propensity to observe.

This consumer propensity to observe consists of the direct observation of other consumers, the indirect observation of other consumers or both. Direct observation occurs by watching the actual purchase behavior of other shoppers (e.g. McGrath and Otnes, 1995; Price et al., 1989) and indirect observation involves the analysis of trace evidence of shopping behavior. For example, some travelers identify good restaurants by the number of semi-trucks in the parking lot and consumers unfamiliar with recent movie releases may rent a movie based on the movie with the fewest remaining DVDs or tapes relative to the number displayed, believing that this trace evidence implies movie popularity. Likely all consumers observe and consider others’ purchasing activities in their own buying, but the extent of the behavior likely varies by individual depending on various consumer traits and by context, such as lack of knowledge. Very little research, however, has examined consumers’ propensity to observe, even though researchers have studied reference groups from various perspectives, (i.e. Kivetz and Simonson, 2000).

This study fills this void in the literature by: creating and validating a measure of the propensity to observe; and by examining influencing factors of the one particular heuristic where consumers look to the purchase behavior of other consumers to resolve
their own consumer choice dilemmas. As modeled in Figure 1, the propensity of consumers to observe and adopt others’ purchase behaviors (hereafter, propensity to observe) is most likely affected by the consumers’ need to avoid or take risks in consumer decisions, need to analyze or think in-depth about decisions, susceptibility to feelings of choice overload, self-confidence in the ability to make satisfying consumer decisions, and need to conform to others. The development of these initial insights into consumer propensity to observe may ultimately provide evidence that enables retailers to take advantage of the marketing and merchandising opportunities afforded by this under-explored aspect of consumer behavior.

Theoretical basis and conceptual model
The tendency to observe others’ purchase behavior may be explained by cognitive learning theory. This theory suggests that when consumers are faced with new tasks, they gather information to varying degrees and synthesize the new information with information stored in memory. They then engage in complex processing of the information using conscious and often complex mental processes to derive a solution to the task at hand (e.g. Bettman, 1979; Edell and Staelin, 1983). In the cognitive theory perspective, others’ purchases may simply be viewed as one more piece of information to consider in the information gathering stage of the consumer purchase decision process. On the other hand, consumers preferring to reduce or simplify mental processing effort may consider the purchase behavior of strangers as a facilitating heuristic. The decision to purchase brands that others have selected virtually eliminates the need for the complex mental task of acquiring considerable external information and mentally processing that information (learning). Prior research indicates that when the opinions of others are readily available and salient to the situation, consumers less motivated to process additional information will follow group opinion (Axsom et al., 1987; Maheswaran and Chaiken, 1991), using a “consensus implies correctness” heuristic (Chaiken et al., 1989).

Social theories also argue for the tendency to observe the purchase behavior of others but attribute the motivation to the consumer need to acquire cues to reduce social risks that may accrue to poor choices, as with Park and Lessig’s (1977) value-expressiveness influence. For example, social comparison theory (Festinger, 1954) explains that individuals naturally compare themselves with others to improve themselves; interpersonal influence or reference group theory (e.g. Deutsch and Gerard, 1955) indicates that individuals are influenced by others, both known others and strangers. Attribution theory, defined as “the study of perceived causation” (Kelley and Michela (1980, p. 458) see this article for detailed explanation of the theory), suggests that one consumer watching the purchases of strangers will attribute favorable characteristics to the product/brand purchased. In a related theory, McCracken (1989) explains how celebrities or even anonymous models possess a complex bundle of meanings, which may be transferred, in consumers’ minds, to the product then to the purchaser of the product through use of the product. Each of these “social” theories and the related marketing literature (e.g. Golder and Tellis, 2003) indicate that consumers rely on the purchase behavior of other consumers in decision making as a cue to social appropriateness. However, to date, no research has explicitly examined the propensity of consumers to observe others, nor has any research attempted to systematically study key antecedents of consumers’ propensity to observe.
Figure 1.
Model of antecedents to propensity to observe
Nevertheless, these cognitive and social theories provide the bases for understanding the consumer tendency to observe others when making consumption choices and they suggest the importance of individual-specific traits that may impact the consumer tendency to observe. Specifically, cognitive learning theories suggest that a consumer tendency toward analytical thinking and cognition (need for cognition), the propensity to carefully consider all ramifications of a consumption decision (risk aversion), and the amount of relevant information available to consider (i.e. choice overload) may be important moderating factors. Social theories suggest that consumers already predisposed to conform to others’ behaviors or who have little self-confidence may use observation as a tool to reinforce the social appropriateness of choices. While the propensity to observe is likely to affect consumer behavior in all consumer choice situations to some degree, consumers are less likely to rely on the observation of others in routine choice situations. For the purposes of explication of our framework, we describe the antecedents of tendency to observe for cases in which choices are non-routine.

Model conceptualization

Propensity to minimize risk. The propensity to minimize risk (or risk aversion) refers to the behaviors of those who feel threatened by ambiguous and novel situations and therefore want to mitigate or minimize uncertainty and/or magnitude of potentially negative outcomes (e.g. Bao et al., 2003; DelVecchio and Smith, 2005). Consumer propensity to minimize risk in consumer choice situations is a well recognized phenomena in the marketing literature (e.g. Okada and Hoch, 2004; Shimp and Bearden, 1982) and is based largely on loss aversion theory and regret theory. Derived from prospect theory (Kahneman and Tversky, 1979), loss aversion theory explains “that the response to losses is more extreme than the response to gains” (Tversky and Kahneman, 1986, p. 8258) and may be a consumer-individual attitude toward risk or may arise from various levels of fear (Camerer, 2005), including financial (e.g. Grewal et al., 1994; Hjorth-Anderson, 1987), performance (e.g. Bauer, 1967; Grewal et al., 1994), and social risk (Harrell, 1986). For example, a consumer may fear buying an expensive product that will not work as promised (fearing the loss of money more than the possible gain derived from having the product) or buying a gift for a special person (fearing the loss of esteem from the gift recipient as the result of a poor choice more than any positive effects generated by the gift) (Simonson, 1992). Regret theory suggests that “… people are motivated to avoid post-decisional regret. This regret aversion has a profound influence on their decisions, because the possibility of regret is anticipated, and subsequently taken into account when making decisions” (Zeelenberg, 1999, p. 101).

The purchase and use of never-before-tried products is one such situation that may result in uncertainty and concern about negative outcomes (DelVecchio and Smith, 2005; Steenkamp et al., 1999). When making these potentially risky consumer choice decisions, risk averse consumers strive to minimize uncertainty by gathering more information (Shimp and Bearden, 1982) or by deferring purchases of unfamiliar products and brands “until the experience of others shows the merit of doing so” (Bao et al., 2003, p. 739). Seeing that other consumers have purchased the product would provide valuable information to risk-averse consumers about the merit of the purchase choice. In contrast, non-risk averse consumers likely have less need to gather
information before making consumer choice decisions, since they are more likely to feel excitement when purchasing new and innovative products (Bao et al., 2003). Hence, extant research hints that risk-averse consumers wanting to minimize purchase risk may be more likely to observe and mimic the purchasing behaviors of others.

\[ H_1. \] The degree to which consumers are risk averse is positively related to consumer propensity to observe.

Need for cognition. The elaboration-likelihood model (ELM) serves as a basis for comprehending need for cognition, explained as the inherent motivation and enjoyment of consumers to think or to avoid thinking (e.g. Cacioppo and Petty, 1982; Cacioppo et al., 1984; Haugtvedt et al., 1992). On the high end of the ELM communication processing continuum, consumers with a high need for cognition tend to carefully deliberate information to assess its credibility and logic. Consumers with little need for cognition operate on the low end of the ELM continuum and are more likely to be influenced by communication cues, such as the purchase activities of other consumers and may rely on heuristics in effortful product choice situations. As Haugtvedt et al. (1992, pp. 241-2) note, “attitude change occurs via the peripheral route when individuals, lacking requisite motivation or the ability to scrutinize message arguments carefully, use some heuristic or cue ... as the primary basis of their judgments.” Thus, consumers not motivated to effortful thinking may develop rules-of-thumb to simplify and facilitate product decision making, in accordance with the ELM.

Empirical evidence provides some support for this notion. For instance, Kivetz and Simonson (2000) find that in an incomplete information context, effortful thinking consumers are more likely to carefully consider unique rather than common product attributes. Similarly, Chatterjee et al. (2002) find that consumers with a low need for cognition are more likely to rely on price, not substantive messages, as a signal of product quality. Finally, Areni et al. (2000) report that consumers with a high need for cognition maintain persistent attitudes, even in the face of opposing public opinion, and are willing to alter their positions only when presented with relevant arguments. These studies emphasize that consumers highly motivated to think, carefully consider cognitive cues, such as product attributes, while less motivated-to-think consumers look for simplifying or readily apparent signals or heuristics. Applying this evidence to an observational consumer:

\[ H_2. \] The degree to which consumers have a need for cognition is negatively related to consumer propensity to observe.

Brand choice overload. The emphasis in many companies on new product development and an increasingly connected global environment has led to the proliferation of products and brands (Money, 2001). While some consumers may welcome greater choice, some consumers may feel confused and overwhelmed by the number of brand choices available – an anxiety we have labeled brand choice overload – when making product decisions (Schwartz, 2004). Brand choice overload is conceptualized as a consumer trait, rather than a task-specific characteristic, because of the variability in consumer response to vast amounts of information. Some consumers are simply more prone than others toward ambivalence and feelings of being overwhelmed by choice (see Sincoff, 1990). Indeed, Sproles and Kendall (1986) noted “confused by overchoice”
as one consumer decision-making style. Consumers subject to this form of decision making perceive an overwhelming number of stores and brands from which they must choose and are prone to information overload (Sproles and Kendall, 1986).

The consumer trait to feel choice overload in decision-making situations may lead to anxiety, stress and even depression (Schwartz, 2004). The stress experienced from brand choice overload may evoke simplifying heuristics as a coping mechanism (Andrews and Manrai, 1998). One such decision heuristic may be to purchase the brands that others have purchased: an overloaded consumer may reason that others have purchased a specific brand because they know it is a good choice. For this reason, we propose:

\[H_3.\] The degree to which consumers perceive brand choice overload is positively related to consumer propensity to observe.

*Brand choice overload under varying levels of risk aversion.* Research suggests that brand proliferation and overload may “psychologically burden high risk-averse consumers because the new brands are attractive to them, yet they feel reluctant to try the products … [As a result] highly risk-averse consumers wait for others’ opinion or turn to shortcut purchasing strategies” (Bao et al., 2003, p. 740). Indeed, evidence indicates that the information sought by risk-averse consumers may result in feelings of overload, thus generating even greater confusion (Gemünden, 1985), encouraging purchasing heuristics. Furthermore, individuals with stronger risk aversion levels may feel greater chances of choice error because of the large number of products and brands from which to choose. Thus, as brand choice overload increases for susceptible consumers, those with higher levels of risk avoidance may be more sensitive to the increases in information load experienced, and may be more motivated to reduce the perceived purchase complexity and risk through the observation of other consumers. Consequently, consumer risk aversion is likely to moderate the relationship between perceived overload and consumer propensity to observe:

\[H_4.\] The positive relationship between the degree of perceived brand choice overload and consumer propensity to observe becomes stronger as consumer risk aversion increases.

*Brand choice overload under varying levels of need for cognition.* The need for cognition will also likely affect the relationship between brand choice overload and the propensity to observe other consumers’ purchase behaviors. Individuals with a high need for cognition tend to organize, elaborate on and evaluate available information (Cohen, 1957). They also tend to conduct more thorough search and purchase decision strategies than their less cognitive counterparts (Bailey, 1997). Vast amounts of information, then, tend to appeal to the highly cognitive consumer. For example, consumers with a high need for cognition are more likely to utilize the Web – where the sheer volume of information can be a cognitive challenge to organize and manage – for product information, news, education, and learning (Tuten and Bosnjak, 2001). Consequently, brand choice overload may feed the information needs of highly cognitive consumers, reducing their likelihood of using observation of the buying behavior of others as a purchasing heuristic. Conversely, consumers with low cognition needs will be even more likely to use the observation heuristic when faced with brand choice overload. Thus,
$H_5$. The positive relationship between the degree of perceived brand choice overload and consumer propensity to observe becomes weaker as consumer need for cognition increases.

**Consumer self-confidence.** Consumer self-confidence is “the extent to which an individual feels capable and assured with respect to his or her marketplace decisions and behaviors” (Bearden et al., 2001, p. 122). Consumers with little self-confidence in their own ability to make satisfactory purchase decisions are likely to employ other resources, including other consumers, as additional sources of information.

Prior research has shown that consumers with low self-confidence relative to a specific product engage in greater information seeking behavior than their self-confident counterparts to avoid social embarrassment or the risk of making a poor purchase decision (Locander and Hermann, 1979). Furthermore, consumers are more likely to look to other referents when products are more complex, conspicuousness, and largely indistinct (Park and Lessig, 1977). As Park and Lessig hypothesized:

- the greater the complexity of the product, the greater the relevance of the informational and utilitarian reference groups;
- the more conspicuous the product, the greater the relevance of the utilitarian and value-expressive groups; and
- the harder to distinguish between brands, the greater the relevance of the informational group.

In general, highly self-confident consumers are less susceptible to interpersonal consumer influence (Bearden et al., 2001) and rely on their own experiences for information acquisition, shopping outlet choice, brand selection, and decision outcomes and will not feel compelled to perform the same level of information seeking (Locander and Hermann, 1979). These studies suggest that:

$H_6$. The degree to which individuals possess consumer self-confidence is negatively related to consumer propensity to observe.

**Self-confidence under varying levels of risk aversion.** Risk is closely linked to self-confidence. Taylor (1974) postulates that specific self-confidence varies with choice situation, affecting consumer behavior by: its relationship with anxiety – the ability to see the risks associated with a product choice, and the use of “risk-reduction strategies.” In a related study, Locander and Hermann (1979) show that specific self-confidence influences information seeking: “as the total risk of the purchase situation increases, a person’s observation and experiences become the favored information source” (Locander and Hermann, 1979, p. 273).

Most likely, risk avoidance will moderate the relationship between consumer self-confidence and the propensity to observe. Consumers with high self-confidence and high risk-taking traits will have less need to observe other consumers’ purchases since they will be both confident in their own ability to make brand choices and willing to assume risks of bad decisions. As the need of consumers to avoid risks strengthens, however, this negative influence of self-confidence on propensity to observe may be diluted, such that consumers may be more prone to supplement their decision-making information with observations of other consumers. Accordingly, we test:
The negative relationship between consumer self-confidence and consumer propensity to observe becomes weaker as consumer propensity to minimize risks increases.

**Self-confidence under varying levels of brand choice overload.** While self-confident consumers are less likely to incorporate observation of other customers into their purchase behaviors, it is also likely that the strength of this relationship may be affected when consumers are faced with the complex choice situation of “too many” brands. For instance, research shows that overload is associated with choice dissatisfaction, lower confidence levels and confusion (i.e. Keller and Staelin, 1987; Lee and Lee, 2004; Malhotra, 1982; Scammon, 1977). Thus, even confident consumers are likely to search for decision simplification heuristics when overloaded with brand choices. Consequently, we suggest the following hypothesis:

**H8.** The negative relationship between consumer self-confidence and consumer propensity to observe becomes weaker as perceived brand choice overload increases.

**Propensity to conform.** Consumers often conform to the product decisions of peers and others in a variety of situations, with some consumers more predisposed than others toward conformity, a trait known as attention to social comparison information (Bearden and Rose, 1990; Lennox and Wolfe, 1984). This tendency to comply with group norms (Burnkrant and Cousineau, 1975) necessitates the monitoring or observing of others for acceptable social cues (Bearden and Rose, 1990; Lennox and Wolfe, 1984). Bearden and Rose (1990, p. 461) recognized that consumers with a high propensity to conform “act on the social cues available at the time a purchase or consumption decision is being made” and illustrated that such subjects are more likely to conform to the decisions of other consumers, regardless of whether those consumers are physically present or not. Consequently, we offer the following hypothesis:

**H9.** The degree to which consumers possess the propensity to conform to others is positively related to consumer propensity to observe.

**Propensity to conform under varying levels of consumer self-confidence.** Consumer propensity to conform to the purchase behavior of others is likely heavily influenced by consumer self-confidence. Consumers with high self-confidence levels, generally stemming from greater self-perceived product knowledge (Bearden et al., 2001; Park et al., 1994), will have little doubt about their own abilities to select appropriate products, even if they have a high propensity to conform. Already confident in the informational or socially relevant implications of their purchase decision, these consumers will have little need to either monitor or conform to the purchase behaviors of others. Conversely, based on prior work (Allen, 1965; Bushman, 1993; Kelley and Lamb, 1957; Lascu and Zinkhan, 1999; Tunnell, 1984), consumers with little self-confidence are posited to have an even greater tendency to seek self-assurance about brand choices by conforming to the perceived purchase norms or behaviors of others.

**H10.** The positive relationship between consumer propensity to conform and consumer propensity to observe becomes weaker as consumer self-confidence increases.
Methodology

Survey instrument and sampling. Two new scales were developed for this study: consumer propensity to observe and brand choice overload. The consumer propensity to observe scale was developed because no known scale specifically incorporates both direct and indirect aspects of how consumers observe, although some other scales, such as the attention to social comparison information scale (Bearden and Rose, 1990) contain some observational type items. Further, no known measure exists that specifically assesses brand choice overload. Accordingly, items considered relevant to the consumer propensity to observe and brand choice overload scales were originally generated and the construct definitions and the scale items were distributed to and reviewed by two marketing colleagues to establish face validity. This process led to 15 items deemed appropriate to capture the two dimensions of consumer propensity to observe (direct and indirect), and 11 items to assess brand choice overload.

All remaining constructs in the model were measured using existing scales: propensity to minimize risks was measured using three items taken from Raju’s (1980) “risk taker” scale; need for cognition was measured using Cacioppo et al.’s (1984) 18-item unidimensional measure of the construct; consumer self-confidence was assessed using Bearden et al.’s (2001) 31-item measure, which captures a six-factor representation of the construct; and consumer propensity to conform was measured using Lennox and Wolfe’s (1984) 13-item unidimensional measure of “attention to social comparison information”.

Each scale used in this study is one-directional. Academics have long debated the issue of reverse-worded items (e.g. Churchill and Peter, 1984), but have found no clear and compelling support for or against either practice. In fact, reverse-wording may confound results in a cross-cultural context (see for example, Wong et al., 2003) and using a combination of negative and positive items often artificially introduces multidimensionality into unidimensional scales (Herche and Engelland, 1996). Consequently, many studies have used scales that are only positive or negative.

To evaluate construct validity and clarity of wording, the initial questionnaire containing all scales of interest was developed and then administered to 11 students in a marketing class as a pilot test. All identified problems were corrected before dispersing to students in several marketing courses for administration to their peers, relatives and acquaintances. These students were trained in administering the questionnaire and asked to directly deliver the self-report, paper questionnaire to up to five adult respondents each for extra credit purposes. This method of questionnaire administration has been used in a number of previous studies (i.e. Bearden et al., 2001; Mick, 1996).

Of the 387 questionnaires returned, 31 were rejected for use because of incompleteness, leaving 356 questionnaires for analysis. Respondents were mostly female (57.6 percent), with a mean age of 35.3, though ages ranged from 15 to 76 years. The mostly Hispanic (48.3 percent) and white (46.9 percent) respondents were generally well educated, with 21.7 percent reporting an education level of 12 or fewer years, 71.4 percent having 13 to 16 years of school, and 6.9 percent having more than 16 years of education.

Measurement assessment. In line with Gerbing and Hamilton’s (1996) recommendations, the scales were first examined using exploratory factor analysis to identify poorly performing items and then confirmatory factor analysis (CFA) for
further measure purification. This process resulted in items in every scale being eliminated. The original scales, noting those retained for further analysis, are indicated in the Appendix. All structural equation models were assessed using LISREL 8 (Jöreskog and Sörbom, 1993) with the maximum likelihood procedure and the covariance matrix. Following conventional practice and to avoid violating minimum sample size to parameter ratios, the scales were initially analyzed in sub-sets chosen to ensure that the convergence of constructs was assessed within maximally similar sets of variables (e.g. Baker and Sinkula, 1999). The first set contained six scales: propensity to minimize risk, need for cognition, brand choice overload, propensity to conform, propensity to observe (direct, as in watching the actual purchase behavior of other shoppers), and propensity to observe (indirect, involving the analysis of trace evidence of consumption behavior) and the second set contained the six scales: information acquisition self-confidence, consideration-set formation self-confidence, personal outcomes decision-making self-confidence, social outcomes decision-making self-confidence, persuasion knowledge self-confidence, and marketplace interference self-confidence. Several items were eliminated from the models because of poor fit and the resulting measurement model fit indexes for the two measurement models, illustrating good fit, are shown in Table I. As additional tests for discriminant validity, a series of two-factor CFA models was conducted for each possible pair of measures. For each model, the correlation between constructs was set at unity, and then freed. In all cases, the $\chi^2$ decreases were significant (see Bollen, 1989 regarding chi-square difference tests).

Of particular interest, the exploratory factor analysis of the consumer propensity to observe scale supports a two-factor structure. The consumer propensity to directly observe measure contains three items, which capture consumer’s tendency to directly observe other consumers and to use the information obtained in purchase decisions (see Appendix for the final item set). The consumer propensity to indirectly observe measure contains two items, both of which capture a purchaser’s tendency to observe the result of other consumers’ purchase behavior. Table II provides a correlation matrix, together with details of each concept’s Cronbach alpha, composite reliability (CR), average variance extracted (AVE), mean, and standard deviation. Overall, the measurement model fit indexes and discriminant validity tests indicate that the

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$ (df)</th>
<th>RMSEA</th>
<th>NNFI</th>
<th>CFI</th>
<th>GFI</th>
</tr>
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<tbody>
<tr>
<td>Measurement (set 1)</td>
<td>488.39 (285)</td>
<td>0.046</td>
<td>0.927</td>
<td>0.936</td>
<td>0.901</td>
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<tr>
<td>Measurement (set 2)</td>
<td>399.78 (174)</td>
<td>0.062</td>
<td>0.905</td>
<td>0.921</td>
<td>0.900</td>
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<tr>
<td>Restricted model</td>
<td>70.62 (45)</td>
<td>0.041</td>
<td>0.934</td>
<td>0.972</td>
<td>0.973</td>
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<tr>
<td>Unrestricted model</td>
<td>51.88 (35)</td>
<td>0.038</td>
<td>0.944</td>
<td>0.981</td>
<td>0.980</td>
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</tbody>
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Notes: Measurement (set 1): propensity to minimize risk, need for cognition, brand choice overload, propensity to conform, propensity to observe (direct), and propensity to observe (indirect).

RMSEA = Root mean square error of approximation; NNFI = Nonnormed fit index; CFI = Comparative fit index; GFI = Goodness of fit index.
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>CR</th>
<th>AVE</th>
<th>1.</th>
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<th>11.</th>
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<td>1. Propensity to observe (direct)</td>
<td>2.98</td>
<td>1.35</td>
<td>0.79</td>
<td>0.56</td>
<td>0.77</td>
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<td>2. Propensity to observe (indirect)</td>
<td>2.95</td>
<td>1.46</td>
<td>0.75</td>
<td>0.60</td>
<td>0.42*</td>
<td>0.74</td>
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<td>3. Propensity to minimize risks</td>
<td>4.36</td>
<td>1.41</td>
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<td>0.45</td>
<td>0.03</td>
<td>0.07</td>
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<td>4. Need for cognition</td>
<td>4.69</td>
<td>1.20</td>
<td>0.86</td>
<td>0.43</td>
<td>−0.23*</td>
<td>−0.24*</td>
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<td>5. Brand choice overload</td>
<td>3.61</td>
<td>1.33</td>
<td>0.81</td>
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<td>0.33*</td>
<td>0.27*</td>
<td>−0.02</td>
<td>−0.33*</td>
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<td>6. SC – IA</td>
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<td>1.36</td>
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<td>−0.15*</td>
<td>−0.12*</td>
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<td>7. SC – CSF</td>
<td>5.68</td>
<td>1.19</td>
<td>0.80</td>
<td>0.67</td>
<td>−0.19*</td>
<td>−0.06</td>
<td>−0.04</td>
<td>0.09</td>
<td>−0.13*</td>
<td>0.43*</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. SC – PODM</td>
<td>4.78</td>
<td>1.42</td>
<td>0.76</td>
<td>0.52</td>
<td>−0.24*</td>
<td>−0.17*</td>
<td>−0.01</td>
<td>0.33*</td>
<td>−0.29*</td>
<td>0.22*</td>
<td>0.23*</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. SC – SODM</td>
<td>4.70</td>
<td>1.11</td>
<td>0.75</td>
<td>0.43</td>
<td>0.03</td>
<td>0.05</td>
<td>0.03</td>
<td>0.03</td>
<td>−0.06</td>
<td>0.32*</td>
<td>0.38*</td>
<td>0.00</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. SC – PK</td>
<td>5.49</td>
<td>1.20</td>
<td>0.85</td>
<td>0.66</td>
<td>−0.20*</td>
<td>−0.10</td>
<td>−0.00</td>
<td>0.21*</td>
<td>−0.18*</td>
<td>0.44*</td>
<td>0.51*</td>
<td>0.18*</td>
<td>0.40*</td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td>11. SC – MI</td>
<td>5.54</td>
<td>1.33</td>
<td>0.87</td>
<td>0.58</td>
<td>−0.39*</td>
<td>−0.28*</td>
<td>−0.03</td>
<td>0.32*</td>
<td>−0.25*</td>
<td>0.22*</td>
<td>0.28*</td>
<td>0.32*</td>
<td>0.07</td>
<td>0.31*</td>
<td>0.84</td>
</tr>
<tr>
<td>12. Propensity to conform</td>
<td>3.69</td>
<td>1.30</td>
<td>0.85</td>
<td>0.49</td>
<td>0.40*</td>
<td>0.39*</td>
<td>0.01</td>
<td>−0.31*</td>
<td>0.30*</td>
<td>−0.03</td>
<td>−0.10</td>
<td>−0.19*</td>
<td>0.03</td>
<td>−0.06</td>
<td>−0.29*</td>
</tr>
</tbody>
</table>

**Notes:** SC – IA: Information Acquisition Self-Confidence; SC – CSF: Consideration Set Formation Self-Confidence; SC – PODM: Personal Outcomes Decision Making Self-Confidence; SC – SODM: Social Outcomes Decision Making Self-Confidence; SC – PK: Persuasion Knowledge Self-Confidence; SC – MI: Marketplace Interfaces Self-Confidence; SD: Standard deviation; CR: Composite reliability; AVE: Average variance extracted; * significant at 5% (two-tailed)
specified measurement structures fit the data well, and that the scales are unidimensional. Furthermore, all scales have CRs greater than 0.60, which is the minimum threshold that Bagozzi and Yi (1988) recommend, and most scales return Cronbach alphas in excess of 0.70, and AVE values greater than 0.50 (Bagozzi and Yi, 1988).

**Analysis.** Ping’s (1995) guidelines for the evaluation of structural models with interaction terms were used to test the model. As recommended, a single indicator for each of the latent variables involved in multiplicative interactions was constructed by averaging across items and scales. For instance, a single score for the self-confidence latent variables was created as follows: initially, a single score was obtained for “information acquisition self-confidence” by averaging across the scale items; similarly, single scores were obtained for each of the remaining five self-confidence scales; finally, a single score was obtained for consumer self-confidence by averaging across the average score for each of the six self-confidence scales. Following a similar logic, single indicants were constructed for propensity to minimize risk, brand choice overload, need for cognition, and propensity to conform. These single indicators were then mean-centered to reduce multicollinearity concerns (Jaccard and Wan, 1996) and interaction terms were created by multiplying the respective component variables of the interactions together. The measurement model was estimated with the error variance of each latent variable set at \((1 - \rho) \times \sigma^2\), where \(\rho\) is the construct reliability and \(\sigma\) is the sample standard deviation of each construct, to generate estimates for the loadings and error variances of the linear terms in the conceptual model. The obtained loadings and error variances were used to calculate estimates of the nonlinear terms’ loadings and error variances (see Ping, 1995).

We then estimated two nested models. The first model is a restricted model in which all indicators’ loadings and error variances are fixed at their previously estimated values, the \(\gamma\) parameters linking the five interaction latent variables to the two propensity to observe (both direct and indirect observation) latent variables are fixed at zero, and the remaining \(\gamma\) parameters are freely estimated. The second model is an unrestricted structural model in which the \(\gamma\) parameters linking the five interaction latent variables to the two propensity to observe variables are freed. As is shown in Table I, on moving from the restricted model to the unrestricted model, \(\chi^2\) decreases by 18.74 with an associated decrease of 10 degrees of freedom, which is significant at \(p < 0.05\) (see Bollen, 1989). Improvements in the root mean square error of approximation, nonnormed fit index, comparative fit index, and goodness-of-fit index are also observed. Thus, we use the results from the unrestricted model to test the hypotheses.

**Results**

Table III provides the path estimates, \(t\)-values, and squared multiple correlations of the dependent variables for the unrestricted model. The percentages of variance explained for the propensity to observe variables, both direct and indirect observation, are both satisfactory at 43 per cent and 44 per cent, respectively.

\(H1\), which states that the greater the consumer’s propensity to minimize risk, the greater the consumer’s propensity to observe, is not supported (\(\gamma = 0.01\), not significant [ns]). Although unexpected, this does not mean that propensity to minimize risk is unimportant. Rather, as we demonstrate in later results, risk avoidance seems to act on propensity to observe solely though its interactions with other variables. \(H2\) is
<table>
<thead>
<tr>
<th>Model path</th>
<th>Standardized path estimate</th>
<th>Unstandardized path estimate</th>
<th>$t$-value$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$ Risk avoidance → propensity to observe (direct observation)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.15</td>
</tr>
<tr>
<td>Risk avoidance → propensity to observe (indirect observation)</td>
<td>0.05</td>
<td>0.05</td>
<td>0.61</td>
</tr>
<tr>
<td>$H_2$ Need for cognition → propensity to observe (direct observation)</td>
<td>0.07</td>
<td>0.08</td>
<td>0.92</td>
</tr>
<tr>
<td>Need for cognition → propensity to observe (indirect observation)</td>
<td>-0.07</td>
<td>-0.07</td>
<td>-0.87</td>
</tr>
<tr>
<td>$H_3$ Overload → propensity to observe (direct observation)</td>
<td>0.24</td>
<td>0.25</td>
<td>3.05</td>
</tr>
<tr>
<td>Overload → propensity to observe (indirect observation)</td>
<td>0.17</td>
<td>0.17</td>
<td>2.08</td>
</tr>
<tr>
<td>$H_4$ Overload $\times$ risk avoidance → propensity to observe (direct observation)</td>
<td>0.21</td>
<td>0.11</td>
<td>1.77</td>
</tr>
<tr>
<td>Overload $\times$ risk avoidance → propensity to observe (indirect observation)</td>
<td>0.40</td>
<td>0.21</td>
<td>3.03</td>
</tr>
<tr>
<td>$H_5$ Overload $\times$ need for cognition → propensity to observe (direct observation)</td>
<td>-0.00</td>
<td>-0.00</td>
<td>-0.03</td>
</tr>
<tr>
<td>Overload $\times$ need for cognition → propensity to observe (indirect observation)</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.13</td>
</tr>
<tr>
<td>$H_6$ Self-confidence → propensity to observe (direct observation)</td>
<td>-0.32</td>
<td>-0.55</td>
<td>-4.10</td>
</tr>
<tr>
<td>Self-confidence → propensity to observe (indirect observation)</td>
<td>-0.13</td>
<td>-0.21</td>
<td>-1.62</td>
</tr>
<tr>
<td>$H_7$ Self-confidence $\times$ risk avoidance → propensity to observe (direct observation)</td>
<td>0.20</td>
<td>0.21</td>
<td>1.88</td>
</tr>
<tr>
<td>Self-confidence $\times$ risk avoidance → propensity to observe (indirect observation)</td>
<td>0.34</td>
<td>0.33</td>
<td>2.87</td>
</tr>
<tr>
<td>$H_8$ Self-confidence $\times$ overload → propensity to observe (direct observation)</td>
<td>0.17</td>
<td>0.20</td>
<td>1.50</td>
</tr>
<tr>
<td>Self-confidence $\times$ overload → propensity to observe (indirect observation)</td>
<td>0.28</td>
<td>0.29</td>
<td>2.22</td>
</tr>
<tr>
<td>$H_9$ Propensity to conform → propensity to observe (direct observation)</td>
<td>0.40</td>
<td>0.41</td>
<td>5.44</td>
</tr>
<tr>
<td>Propensity to conform → propensity to observe (indirect observation)</td>
<td>0.40</td>
<td>0.39</td>
<td>5.10</td>
</tr>
<tr>
<td>$H_{10}$ Propensity to conform $\times$ self-confidence → propensity to observe (direct observation)</td>
<td>-0.32</td>
<td>-0.48</td>
<td>-2.34</td>
</tr>
<tr>
<td>Propensity to conform $\times$ self-confidence → propensity to observe (indirect observation)</td>
<td>-0.30</td>
<td>-0.42</td>
<td>-2.03</td>
</tr>
</tbody>
</table>

**Notes:** $^a$ Critical $t$-values: when $\alpha = 0.05$, critical $t$-value = 1.645; when $\alpha = 0.10$, critical $t$-value = 1.282 (since all hypotheses are directional, we use one-tailed tests). Reduced form squared multiple correlation for Propensity to Observe (Direct Observation) = 0.43. Reduced form squared multiple correlation for Propensity to Observe (Indirect Observation) = 0.44.
also unsupported. Against expectation, higher levels of consumers’ need for cognition are not related to lower levels of propensity to observe.

In line with expectation, H3 is supported, showing that the greater the consumer’s perception of brand choice overload, the greater the direct ($\gamma = 0.24$, $p < 0.05$) and indirect ($\gamma = 0.17$, $p < 0.05$) propensity to observe. Furthermore, H4, stating that the positive relationship between consumer’s perception of brand choice overload and their propensity to observe becomes stronger as risk aversion increases, is also supported (see Figure 2), with significant interaction terms being returned for both direct ($\gamma = 0.21$, $p < 0.05$) and indirect ($\gamma = 0.40$, $p < 0.05$) propensity to observe.

H5 is not supported. Against expectation, the positive relationship between consumer’s perception of brand choice overload and their propensity to observe remains stable across varying levels of need for cognition for both propensity to observe directly ($\gamma = 0.00$, ns) and indirectly ($\gamma = −0.01$, ns). This finding suggests that consumers with a high need for cognition, as well as consumers with a low need for cognition, equally use observation of others to assist in purchase decisions. However, the motives for observation are likely different. Low cognition consumers may use the observation heuristic as a brand selection simplification tool to avoid cognitive effort while high cognition consumers may value the additional information provided by considering others’ brand choices.

H6, indicating that self-confidence is negatively related to direct ($\gamma = −0.32$, $p < 0.05$) and indirect ($\gamma = −0.13$, $p < 0.10$) propensity to observe was supported, as was H7, which argues that the negative relationship between consumer self-confidence and consumer propensity to observe becomes weaker as consumer propensity to minimize risks increases. Specifically, the interaction terms are significant for both direct ($\gamma = 0.20$, $p < 0.05$) and indirect ($\gamma = 0.34$, $p < 0.05$) propensity to observe. The positive interaction coefficient indicates that even when they are self-confident, highly risk-averse consumers are more likely to observe and mimic the purchase behavior of other consumers (see Figure 3).

H8, arguing that the negative relationship between consumer self-confidence and consumer propensity to observe becomes weaker as perceived brand choice overload increases, was also upheld for both direct ($\gamma = 0.17$, $p < 0.10$) and indirect ($\gamma = 0.28$, $p < 0.05$) propensity to observe (see Figure 4).

The analysis provided support for our speculation that propensity to conform is positively related to both direct ($\gamma = 0.40$, $p < 0.05$) and indirect ($\gamma = 0.40$, $p < 0.05$) propensity to observe (H9). H10 (see Figure 5), in which a positive relationship
between consumer propensity to conform and consumer propensity to observe becomes weaker as consumer self-confidence increases, was also supported (direct observation $\gamma = -0.32, p < 0.05$ and indirect observation $\gamma = -0.30, p < 0.05$).

Discussion and conclusions
Although the tendency of consumers to observe and respond based on other consumers is an acknowledged phenomenon in the marketing literature (e.g. Bearden et al., 1989;
Golder and Tellis, 2003), no research to date has sought to understand the factors that may determine that propensity. This study is a first step in encouraging research in this area by developing a scale to identify the propensity to observe consumer purchasing behavior and by isolating factors that contribute to observational tendencies. Understanding the factors that affect the propensity to observe adds to the limited literature of consumer decision-making heuristics, especially under conditions of brand choice overload.

Most importantly, this study identifies four individual-specific factors – brand overload, self-confidence, propensity to conform, and risk aversion – crucial to determining a consumer’s proclivity for observing others prior to making a purchase decision. Perceived brand choice overload, consumer self-confidence and propensity to conform are all found to have direct effects on the propensity to observe, in the expected directions. Consumers experiencing greater levels of brand choice overload, those with low consumer self-confidence and those more prone to conformity are all more likely to select brands based on others’ purchase behavior. Surprisingly, the inherent consumer variable risk avoidance has an insignificant direct effect on observational tendencies, although its effects interact with and strengthen the effects of both brand choice overload and consumer self-confidence on both direct and indirect observation. This finding provides additional support for the appropriateness of loss aversion theory under conditions of uncertainty and suggests that more risk-averse consumers will increasingly employ the observational heuristic in conditions of uncertainty or task complexity.

As hypothesized, other interaction effects are found to affect a consumer’s propensity to base purchase decisions on the observation of others’ brand choices. Brand choice overload further weakens the consumer self-confidence-observational propensity link indicating that even highly self-confident consumers may look to the observational heuristic when facing brand choice overload. Additionally, the level of consumer self-confidence moderates the effects of a proclivity to conform on propensity to observe, such that the need of conforming consumers to observe others’ purchase choices is diminished by higher levels of consumer self-confidence.

Interestingly, no significant direct or interaction effects of the need for cognition variable are found. Considering that the propensity to observe is both a choice simplification heuristic and a source of information, the result may not be unexpected. In this case, highly cognitive consumers look for and consider all available information when evaluating brands; thus, other consumers’ brand choices may simply represent one more piece of helpful information. On the other hand, low cognitive consumers may use the heuristic to avoid cognition. That both groups did have a propensity to observe to facilitate purchase decisions does lend support to Lee and Labroo’s (2004) study arguing that consumers’ choices are heavily influenced by the ease with which the consumer processes information about the brand.

Taken together the findings reported in this study suggest the importance of the propensity to observe heuristic for all types of consumers under conditions of brand choice overload, an increasingly common experience as the number of brand offerings continue to expand. Consequently, retailers and advertisers may want to tailor displays, sales training, and advertising messages to capitalize on the consumer’s propensity to observe others in formulating purchase decisions. For example, retailers may train salespeople to point out other consumers’ product purchases to uncertain
consumers and to identify certain brands as best sellers. Retailers may also select the few profit-maximizing brands within each product category to display in a somewhat “picked over” fashion to create the perception of a best seller and thereby both hasten and secure the purchase of the indecisive consumer. Alternatively, racks of brands labeled “best seller” may facilitate purchase and potentially alleviate cognitive dissonance. These signals may additionally reduce choice stress and, therefore, create a perception of a more enjoyable shopping experience. For example, recent research has indicated that divorced men are eager to patronize retail stores that reduce the risk and uncertainty they experience when shopping for fashion (Moore et al., 2001).

Research limitations and suggestions for future research
This study is limited in several respects. Most notably, the questionnaire administered was quite lengthy which may have influenced consumer responses. Also, the generalizability of the results is limited by the nature of the convenience sample used. The sample tended to be younger than the population in general, with one-half of the sample under the age of 31 years. As a result, the findings may not reflect the attitudes and behaviors of older consumers; however, this shortcoming may provide another direction for advancing this research stream. Also, the sample was largely Hispanic and the results may vary by different ethnic groups, although this limitation, too, affords an opportunity for further research. Another related future research possibility stemming from our findings includes the identification of additional personal, product and “other” consumer specific characteristics (e.g. personality, decision-making style) that would create a more complete picture of the factors that drive consumers to be observational. Further research should also focus on actually observing observational behaviors à la McGrath and Otnes (1995) and determining outcomes of consumer observation. The purchase satisfaction levels of consumers prone to observe may differ from the satisfaction levels of non-observational consumers.

As previously noted, in less complex or routine choice situations consumers may reduce their reliance on the observation of others or even ignore others’ choice behaviors altogether. The potential differentiation of observational tendencies by shopping situation provides additional opportunities for future research. Finally, research in these areas noted would help our understanding of simplifying heuristics and the well-recognized, but little understood consumer propensity to observe, a tendency that may have increasing relevance in today’s product- and information-prolific society.

References


Further reading


Appendix. Measurement Items

**Propensity to minimize risk**

1. “I am very cautious in trying new/different products. [r]
2. “I would rather stick with a brand I usually buy than try something I am not very sure of. [r]
3. “I enjoy taking chances in buying unfamiliar brands just to get some variety in my purchases.

**Consumer self-confidence**

**Information acquisition.**

1. “I know where to find the information I need prior to making a purchase.
2. “I know where to look to find the product information I need.
3. *I am confident in my ability to research important purchases.
4. I know the right questions to ask when shopping.
5. I have the skills required to obtain needed information before making important purchases.

Consideration-set formation.
6. I am confident in my ability to recognize a brand worth considering.
7. *I can tell which brands meet my expectations.
8. *I trust my own judgment when deciding which brands to consider.
9. I know which stores to shop.
10. I can focus easily on a few good brands when making a decision.

Personal outcomes decision making.
11. *I often have doubts about the purchase decisions I make. [r]
12. *I frequently agonize over what to buy. [r]
13. *I often wonder if I’ve made the right purchase selection. [r]
14. I never seem to buy the right thing for me. [r]
15. Too often the things I buy are not satisfying. [r]

Social outcomes decision making.
16. My friends are impressed with my ability to make satisfying purchases.
17. *I impress people with the purchases I make.
18. *My neighbors admire my decorating ability.
19. *I have the ability to give good presents.
20. *I get compliments from others on my purchase decisions.

Persuasion knowledge.
21. *I know when an offer is “too good to be true”.
22. *I can tell when an offer has strings attached.
23. *I have no trouble understanding the bargaining tactics used by salespeople.
24. *I know when a marketer is pressuring me to buy.
25. I can see through the gimmicks used to get consumers to buy.
26. I can separate fact from fantasy in advertising.
Marketplace interfaces.
27. *I am afraid to “ask to speak to the manager”.
28. *I don’t like to tell a salesperson something is wrong in the store.
29. *I have a hard time saying no to a salesperson.
30. *I am too timid when problems arise when shopping.
31. I am hesitant to complain when shopping.

Consumer propensity to observe

1. I like to observe what other unknown consumers are buying before I make a purchase.
2. *I’m more likely to buy a brand I have never tried if I see someone else buying it.
3. *In general, if other consumers purchase a brand, it must be good.
4. *I’m more likely to buy a new brand I have never tried if I see someone else buying it.
5. When I make a purchase selection, I never consider what others buy, even if I don’t know much about the product I am buying.
6. When I am in a restaurant, I like to see what people at other tables are eating before I place an order.
7. When I am purchasing a product I am not familiar with, I buy brands that seem to be popular with other consumers.
8. Other consumers who buy a brand must know more about the brand than I do.
9. I often judge the quality of a restaurant I’ve never been to by the number of cars there.
10. I am usually happy with brands that I buy that I have seen others buy.
11. I enjoy watching other shoppers in a store.
12. Watching what other shoppers buy often helps me to decide which brand to buy.
13. When I am on a road trip in unfamiliar surroundings, I often choose to eat at a restaurant where many semi-trucks are parked.
14. *When I go to a video store to rent a movie, I often select one that is obvious popular because there are not many of them left on the shelf.
15. *If I had to select a product I knew nothing about in a store, I would choose the brand on the shelf that is almost empty.

Propensity to conform (ATSCI scale)

1. It is my feeling that if everyone else in a group is behaving in a certain manner, this must be the proper way to behave.
2. I actively avoid wearing clothes that are not in style.
3. *At parties I usually try to behave in a manner that makes me fit in.
4. When I am uncertain how to act in a social situation, I look to the behavior of others for clues.
5. I try to pay attention to the reactions of others to my behavior in order to avoid being out of place.
6. I find that I tend to pick up slang expressions from others and use them as a part of my own vocabulary.
7. I tend to pay attention to what others are wearing.
8. *The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach.
9. *It's important to me to fit into the group I'm with.
10. *My behavior often depends on how I feel others wish me to behave.
11. *If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others for cues.
12. *I usually keep up with clothing style changes by watching what others wear.
13. When in a social situation, I tend not to follow the crowd, but instead to behave in a manner that suits my particular mood at the time.

Need for cognition

1. I really enjoy a task that involves coming up with solutions to problems.
2. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
3. Learning new ways to think doesn't excite me very much.
4. I usually end up deliberating about issues even when they do not affect me personally.
5. The idea of relying on thought to get my way to the top does not appeal to me.
6. The notion of thinking abstractly is not appealing to me.
7. *I only think as hard as I have to.
8. *I like tasks that require little thought once I've learned them.
9. *I prefer to think about small daily projects to long-term ones.
10. *I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.
11. *I find little satisfaction in deliberating hard and for long hours.
12. I don't like to have the responsibility of handling a situation that requires a lot of thinking.
13. *I feel relief rather than satisfaction after completing a task that required a lot of mental effort.
14. *Thinking is not my idea of fun.
15. *I try to anticipate and avoid situations where there is a likely chance I'll have to think in depth about something.
16. I prefer my life to be filled with puzzles that I must solve.
17. I would prefer complex to simple problems.
18. It's enough for me that something gets the job done, I don't care how or why it works.

Perceived brand choice overload

1. There are so many brands I don't really have the time and energy to consider.
2. I don't have time to consider all the brand choices.
3. I feel I have to select brands hastily and maybe less carefully in order to select anything.
4. There are just too many brands to choose from.
5. *I often get confused when selecting brands because there are so many to choose from.
6. *I am sometimes overwhelmed when I have to select a brand to buy.
7. I sometimes buy brands I know nothing about.
8. *I am sometimes confused about which brand to buy.
9. *I often wish that I had fewer choices to make when I buy products.
10. I have trouble making decisions about which brand to buy when I don’t know anything about the product.
11. It doesn’t bother me to choose a brand about which I know nothing because there are too many brands to compare.

(* all items measured on a seven point scale, with 1 = Strongly Disagree and 7 = Strongly Agree anchors; [r]: reverse coded; * item retained in measurement model.)

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