



## Why do consumers research their ancestry? Do self-uncertainty and the need for closure influence consumer's involvement in ancestral products?

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### ABSTRACT

This article examines why consumers choose to research their ancestry using commercial available products. Prior research suggests this is a voyage of personal discovery. We take this voyage and review consumer interest in ancestral products (e.g., DNA services) that is driven by a consumer's uncertainty about their sense of self. Focusing on uncertainty-identity theory, the findings from a study with a sample of adult Australian consumers show that people who want to reduce uncertainty about their sense of self respond favourably to a genealogical product that offers insight into a person's ancestry. Finding support the proposition that the need for closure moderates this effect. Consumers who are high in need for closure respond to self-uncertainty through an interest in commercial genealogical products. The study results show that curiosity underlies the effects in several ways; the desire to gain new knowledge about self, a curiosity to understand the past and the desire to reduce self-uncertainty about the past. Research implications for the study of consumer self-identity and uncertainty are presented, how consumers respond to this through the use of genealogical products examined. Managerial implications for the marketing of genealogical products are discussed, and recommendations for future research made.

### 1. Introduction

Many consumers are interested in finding out about their ancestors. Genealogy is a popular activity where consumers seek information about their ancestral background by researching family trees and conducting DNA tests of their genetic heritage (Stahl, 2007; Swarns, 2012). For example, the website [Ancestry.com](http://Ancestry.com), which allows members to trace their ancestry, has two million registered members and annual revenue of over £244 million (Bates, 2012). The television show *Who Do You Think You Are*, which features UK and US celebrities such as Billy Connolly, Nigella Lawson, Bruce Forsyth and Gwyneth Paltrow researching their family backgrounds to find out more about ancestors, reflect this interest. Research in marketing that has sought to explain this consumer interest in genealogy has tended to portray consumers as engaged in a leisurely, enjoyable activity. For instance, prior research identifies genealogy as a hobby (Schau, Gilly, & Wolfinbarger, 2009) where consumers explore their ancestry for positive reasons, such as a journey of self-discovery (Schau & Gilly, 2003).

In the present research, we acknowledge that consumers seek insight into their ancestry for positive reasons. However, we propose that

this is only part of the picture of why consumers buy genealogical products. Although the positive hobby perspective readily fits consumers who are curious to find out, for example, if they are related to Vikings or some famous historical figure, we propose that for other consumers the desire for genealogical products is driven by uncertainty about their sense of self. For these consumers, the answers provided by genealogical products reduce uncertainty and provide useful insight. Thus, the emphasis for these consumers is finding a clear answer that removes a negative state (self-uncertainty) rather than a leisurely exploration of one's background. The outcome of the DNA testing may be positive but the reason for doing the testing can be negative, which is in contrast to the positive reasons-only view of prior research. Drawing on uncertainty-identity theory (Hogg, 2007) and research on group entitativity (i.e., perceptions of whether a group is seen to be cohesive or fragmented, Campbell, 1958; Brewer, Hong, & Li, 2004), we propose that consumers use genealogical products when experiencing uncertainty about their sense of self. We show this effect is most pronounced for consumers who are high in need for closure, which is typified by a desire to avoid ambiguity. The results also reveal that what drives the effects for consumers to pursue genealogical products is a

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feeling of curiosity where self-uncertain consumers are more interested in learning about a genealogical product.

This research contributes to an understanding of the marketing implications of genealogical and ancestral products. This understanding hinges on the premise that individuals make a pragmatic and informed decision to undertake such investigations, based on an independent judgement about their wishes to research genealogical and ancestral context, allowing autonomy which respects the individual's right to control their own destiny (Andrews, Fullarton, & Holtzan, 1994) and make pragmatic, decisions to engage in genealogy and ancestry tracing (Levitt, 2001).

This research contributes to the literature in three ways. First, we build on prior research suggesting that the consumption of genealogical products is motivated by a relaxed journey of self-discovery (Schau & Gilly, 2003) by showing how consumers are also interested in genealogical products to remove a negative state of uncertainty about their sense of self. Second, this research is the first to study uncertainty-identity theory (Hogg, 2007) in terms of consumer identity. We show how consumers are motivated to pursue identity information about the ancestral group they belong to. Thus we add to literature on consumer responses to self-uncertainty (Gao, Wheeler, & Shiv, 2009; Rindfleisch, Burroughs, & Wong, 2009) and identity marketing (Berger & Heath, 2007; Dahl, Argo, & Morales, 2012). Third, we show that a consumer's need for closure moderates the impact of self-uncertainty and offers insight into what drives this effect. We show that a motivation to reduce uncertainty mediates the brand attitudes of high-need for closure consumers toward genealogical products.

## 2. Uncertainty-identity theory

According to uncertainty-identity theory (Hogg, 2007, 2011), when individuals experience uncertainty about their sense of self, they find this uncomfortable and are motivated to reduce this uncertainty. Although uncertainty can be stimulating, uncertainty about your sense of self is a negative experience (Hogg, Meehan, & Farquharson, 2010). Uncertainty-identity theory posits that self-uncertainty motivates people to reduce this uncertainty. They do this by identifying with cohesive groups. This allows people to feel more certain of the world they live in.

Group identification involves a social categorization of the self (e.g., presenting yourself as a loyal fan of a particular football team) that results in an awareness of in-group norms of behaviour (Hogg, 2000). Being a group member can provide guidance to one's behaviour and make the behaviour of others in the group more predictable. Highly cohesive groups with strong behavioural norms for group members should be more effective for resolving a person's self-uncertainty than a less cohesive group (Hogg et al., 2010). Group cohesiveness relates to group entitativity, which is “the extent to which a group is perceived to be a meaningful entity” (Spencer-Rodgers, Hamilton, and Sherman 2007, p. 382). In other words, the group is viewed as a coherent entity rather than as a collection of individuals. Group properties that affect perceptions of entitativity include having similar attributes (e.g., group members being physically alike), the length of history of the group, and the importance of the group to members. Perceptions of entitativity influence how other people evaluate group members. For example, Crawford, Sherman, and Hamilton (2002) found that people are more likely to stereotype group members of high entitativity groups.

Uncertainty-identity theory suggests that when people feel uncertainty about their sense of self they prefer to identify with high entitativity (highly cohesive) groups. Curious consumers are motivated to seek a resolution to this uncertainty (Hill, Fombelle, & Sirianni, 2016) in order to calm this temporary emotional state (Litman & Spielberg, 2003). High entitativity groups offer an identity that is clear and unambiguous. By identifying with such a group, self-uncertain people remove their uncertainty.

Research suggests that uncertainty-identity theory can explain why

people who are uncertain of themselves are attracted to learning more about groups that offer them a way to define their sense of self (Hogg, Adelman, & Blagg, 2009). The notion that consumers remove self-uncertainty by identifying with high entitativity groups has interesting insights for marketing. It is widely accepted that consumers select products for impression management purposes to convey desired meanings to others (Berger & Heath, 2007) and to avoid associations with undesirable out-groups (White & Dahl, 2007). Although people with interdependent self construals tend to activate their threatened group identity in response to social identity threats (White, Argo, & Sengupta, 2012), the literature does not examine how the identification with a person's in-group (e.g., a person's ancestral group) helps them resolve feelings of self-uncertainty. Further, this prior research (White et al., 2012) although insightful tended to use university students as the group membership of interest for their student sample. Ancestral group membership was not examined.

Previous empirical research demonstrates that perceptions of group entitativity differ depending on the type of group being assessed. The most highly entitativity groups are *intimate groups*, which include families, couples in a romantic relationship, and small groups of close friends (Lickel et al., 2000). Ancestral groups such as families are considered the most highly entitativity group due to the levels of interaction members experience, importance of the group to individuals, shared goals and outcomes of the group, and similarity of the group members (Lickel et al., 2000). Given the highly entitativity nature of ancestral groups, we propose that consumers who seek to remove self-uncertainty are likely to address this need by seeking identification with their ancestral group. We contend that a desire to reduce self-uncertainty motivates consumers to evaluate genealogical products favourably because these products provide a consumer with insight into their ancestral group membership. In addition, we show how an individual's need for closure moderates the influence of self-uncertainty on brand evaluations. Thus, the focus of our research is the meaning of the in-group to the consumer to remove self-uncertainty.

Knowledge and understanding of uncertainty identity is directly related to self and extended self. Drawing on the work of Belk (1988), consumers attach self-meaning to possessions. In the context of ancestral and genealogical discoveries, we suggest that possessions are not merely material objects, but also extend to information which forms the self, possession such information helps to manage identity as heritage and ancestry is a perceived characteristic of the self.

Extended self-categories include experiences, persons, places and things that we feel attached to (Belk, 1987, 1988). Since Belk's (1988) formulation of the extended self, digital technology has dramatically changed the way consumer communicate, collect knowledge and consume (Belk, 2013). Extended self in a digital world incorporates self-construction online, access to and engagement with genealogy and ancestry commercial products and services are a key to reduction in uncertainty and providing a tool for the curious consumer to investigate and update of self through ancestry tracing and sharing (Belk, 2010).

## 3. Need for closure

Need for closure (NFC) is defined as “the desire for a definite answer on some topic, any answer as opposed to confusion and ambiguity” (Kruglanski, 1989, p. 14). NFC is a motivational variable. High-NFC people seek definite answers. Underlying NFC is an urgency tendency (the desire to attain closure quickly) and a permanence tendency (the desire to maintain closure) to remove an aversive lack of closure (Kruglanski & Webster, 1996). NFC is associated with a variety of traits and judgments. NFC is associated with authoritarianism and dogmatism (Webster & Kruglanski, 1994), values of tradition, conformity, and security (Calogero, Bardi, & Sutton, 2009), and a greater rejection of opinion deviates (Kruglanski & Webster, 1996). A central theme of this research is that high-NFC (HNFC) individuals experience uncertainty and ambiguity as a negative state and are motivated to gain closure that

relieves them of this uncertainty. In contrast, low-NFC individuals (LNFC) are more comfortable with ambiguity.

Regarding group perception, [Kruglanski, Shah, Pierro, and Mannetti \(2002\)](#) demonstrate that HNFC people show more liking for groups that are homogeneous and self-similar. They suggest homogenous groups provide a consensual reality which appeals to HNFCs. Further [Kruglanski, Pierro, Mannetti, and De Grada \(2006\)](#) argue that HNFC people are group-centric and can regard the in-groups to which they belong as an important source of certainty and structure in their lives. Thus, it is plausible that if HNFCs feel uncertain about their sense of self (i.e., who they are) they will seek to remove that uncertainty by finding a way to affirm their in-group membership. In marketing, NFC offers insight into consumer judgments of advertising and product information ([Kardes, Cronley, Kellaris, & Posavac, 2004](#)). For instance, [Kardes, Fennis, Hirt, Tormala, and Bullington \(2007\)](#) find that the aversion to ambiguity of HNFC consumers can underlie their responses to sales techniques. In sum, research suggests that HNFC consumers regard ambiguity as aversive.

Taking into account uncertainty-identity theory and NFC research, we propose that consumers who feel uncertain about their sense of self will want to reduce this uncertainty, which will be reflected in a desire for information about their in-group. As genealogical products provide insight into in-group membership, self-uncertain people should evaluate genealogical products favourably. This effect should be stronger for HNFC consumers. In contrast, self-certain consumers should be less interested in genealogical products since they are not looking to reduce self-uncertainty.

On the issue of the psychological process underlying the effects, we predict that curiosity will mediate the effects. Curiosity relates to a desire to gain new knowledge that motivates information search behaviour to provide an answer ([Berlyne, 1960](#); [Lowenstein, 1994](#)). For consumers who are feeling uncertain about their sense of self, we expect such consumers to be curious to learn more about a product when they are exposed to a message about DNA investigation. The construction of a coherent identity narrative through high involvement consumption leads self-uncertain consumers to seek genealogy and ancestry products that can help to clarify self concept ([Ahuvia, 2005](#)).

Feeling uncertain about their sense of self should motivate uncertain consumers to want to learn about genealogical products which can offer to reduce self-uncertainty by providing an objective insight into a person's ancestry. In other words, uncertain consumers should be curious to learn more about genealogical products when they are exposed to a message about DNA services. The desire to reduce uncertainty should be particularly strong for HNFC individuals who find ambiguity aversive. This leads to the following hypothesis.

**H1.** Self-uncertain consumers will evaluate a genealogical product more favourably in terms of brand evaluation and purchase intention when they are HNFC than self-uncertain LNFC consumers.

**H2.** Curiosity about the self will mediate the relationship between self-uncertainty and NFC on brand evaluations and willingness to pay for commercial genealogical and ancestral products.

**H3.** For self-certain consumers, differences based on NFC and service type on brand evaluation and purchase intention should be attenuated.

## 4. Method

### 4.1. Participants, procedure and genealogical service message

A survey was conducted to test the proposed hypotheses. The population of interest was Australian adults. The data was collected with an online panel of Australian consumers. A total of 226 participants completed the survey. Participants read an advertising message about a DNA testing service. The message displayed the heading “Virtec DNA testing” with the sub-heading, “Introducing the new Virtec DNA test.”

To aid realism, message wording was based on a content analysis of DNA testing sites. The genealogical product message stated, “By studying your DNA profile, you can discover the answers to your ancestry. With Virtec's DNA test, we test generic signatures to find out who your ancestors are. We offer unique DNA tests and genome scan interpretation not available anywhere else. Our products can help you discover your genealogy and identify your ancestry. It doesn't stop there. You get comprehensive results at an affordable price” (see [Appendix A](#)). After reading the information, participants completed a questionnaire that included the independent and dependent measures and covariates. This questionnaire ordering was designed to minimise any priming effects that might occur from measuring self-uncertainty and need for closure before viewing the ads.

### 4.2. Independent measures

Self-uncertainty was measured by three items which reflected a consumer's uncertainty and desire to reduce uncertainty: (1) I wanted to be certain of my identity, (2) I wanted a definite sense of who I am, and (3) At this moment, I have a need for information that will give me an accurate view of myself. Need for closure (NFC) was measured on a subset of [Webster and Kruglanski's \(1994\)](#) scale (e.g. I think that having clear rules and order at work is essential for success). All of the items were measured using a seven-point scale (strongly disagree/strongly agree).

### 4.3. Dependent measures, mediator, and covariates

Two dependent measures were used: brand evaluation and purchase intention. Brand evaluation was measured on three seven-point scales (unfavourable/favourable, dislike/like, and bad/good). Purchase intention was measured on three items: (1) How likely are you to purchase this service? (2) How certain are you that you would purchase this service? (3) Would you purchase this service? In order to measure the mediating variable, curiosity, respondents were asked, “How did you feel when you read the ad?” Three items were used: curious, inquiring, and inquisitive. All of the items were measured using a seven-point scale (strongly disagree/strongly agree). We included a person's attitude toward their ancestors (favourable or unfavourable) as a control variable. Thus, we asked a single seven-point question, “What do you think of your ancestors?” (unfavourable/favourable). We also measured gender and age as controls. Finally, participants completed measures not reported to save space and a suspicion probe on the purpose of the research, which showed that participants were not aware of the hypotheses.

## 5. Results

Gender was equally balanced in the sample. Half of the sample was female (50.4%). The average age of the sample was 43.8 years (SD = 12.2 years). Since the reliability alphas for uncertainty reduction ( $\alpha = 0.89$ ), NFC ( $\alpha = 0.77$ ), brand evaluation ( $\alpha = 0.94$ ), purchase intention ( $\alpha = 0.92$ ), and curiosity ( $\alpha = 0.95$ ) variables were all acceptable, a composite score for each variable was created by averaging items. Gender was dummy-coded (female: “1”) and all other variables were continuous variables. [Table 1](#) presents descriptive statistics including means, standard deviations, and zero-order correlations among the key variables.

To test the three hypotheses the main effect of self uncertainty (**H1**), the interaction effect of curiosity (**H2**) on brand evaluation and purchase intention, and the main effect of NFC (**H3**), hierarchical multiple regression was run. In order to avoid multicollinearity between main effect variables and their respective interaction term, the two main effect variables were mean-centred prior to the creation of interaction term ([Aiken & West, 1991](#)).

The results for the multiple regression analyses are presented in

**Table 1**  
Descriptive statistics: Means, standard deviations, and zero-order correlations.

|                    | Mean | SD   | Correlation |        |           |                  |                    |
|--------------------|------|------|-------------|--------|-----------|------------------|--------------------|
|                    |      |      | Uncertainty | NFC    | Curiosity | Brand evaluation | Purchase intention |
| Uncertainty        | 3.29 | 1.54 | –           |        |           |                  |                    |
| NFC                | 4.33 | 0.97 | 0.24**      | –      |           |                  |                    |
| Curiosity          | 3.96 | 1.49 | 0.48**      | 0.28** | –         |                  |                    |
| Brand evaluation   | 4.62 | 1.03 | 0.35**      | 0.34** | 0.52**    | –                |                    |
| Purchase intention | 3.26 | 1.46 | 0.55**      | 0.17*  | 0.59**    | 0.59**           | –                  |

\*  $p < .01$ .  
\*\*  $p < .001$ .

**Table 2**  
Results of hierarchical regression.

| Variables                       | Model 1<br>DV = brand evaluation |          | Model 2<br>DV = Purchase intention |          |
|---------------------------------|----------------------------------|----------|------------------------------------|----------|
|                                 | <i>b</i>                         | <i>T</i> | <i>b</i>                           | <i>t</i> |
| Block 1                         |                                  |          |                                    |          |
| Gender                          | 0.01                             | 0.08     | 0.02                               | 0.13     |
| Age                             | –0.01                            | –1.56    | –0.01                              | –1.45    |
| Attitude toward ancestors       | 0.16                             | 2.94     | 0.22                               | 3.05     |
| Block 2                         |                                  |          |                                    |          |
| Uncertainty                     | 0.16                             | 3.72     | 0.48                               | 8.61     |
| NFC                             | 0.22                             | 3.31     | 0.01                               | 0.16     |
| Block 3                         |                                  |          |                                    |          |
| Uncertainty × NFC               | 0.10                             | 2.62     | 0.10                               | 2.01     |
| $R^2$ due to block 1 (%)        |                                  | 9.2      |                                    | 9.4      |
| $\Delta R^2$ due to block 2 (%) |                                  | 13.2     |                                    | 24.5     |
| $\Delta R^2$ due to block 3 (%) |                                  | 2.4      |                                    | 1.3      |
| Total $R^2$ (%)                 |                                  | 24.8     |                                    | 32.5     |

**Table 2.** Since we have two dependent variables, separate regression analyses were conducted for each dependent variable. In the first block, control variables were entered in the model. In the second block, the two independent variables were added while the interaction term was included in the third block.

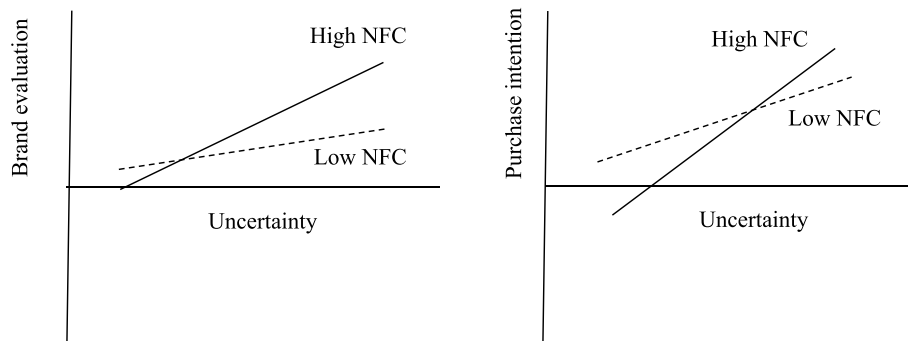
Results of Model 1 show that the main effects of uncertainty ( $b = 0.16$ ;  $t = 3.72$ ;  $p < .001$ ) and NFC ( $b = 0.22$ ;  $t = 3.31$ ;  $p < .001$ ) on brand evaluation were significant controlling for gender, age, and attitude toward ancestors. The positive regression coefficients indicate that an increase of uncertainty and NFC is associated with a more favourable brand evaluation of the genealogical product. In addition, the interaction term was significant ( $b = 0.10$ ;  $t = 2.62$ ;  $p < .01$ ). To better understand the pattern of interaction, we conducted a spotlight analysis at one standard deviation above and below the mean of NFC. Results show that uncertainty has a positive effect on brand evaluation

at one standard above the mean ( $b = 0.25$ ;  $t = 4.73$ ;  $p < .001$ ). However, we did not observe such pattern at one standard below the mean of NFC ( $b = 0.06$ ;  $t = 1.14$ ;  $p > .2$ ). This supports hypothesis 1 and 3. The left panel in Fig. 1 presents the pattern.

Further analysis was conducted using the Johnson-Neyman techniques to identify the range of NFC for which the simple effect of uncertainty was significant. The results indicate that there was a significant positive slope of uncertainty on brand evaluation when NFC was greater than 4.59 ( $t = 1.97$ ,  $p = .05$ ). When NFC values were less than 4.59, the slopes of uncertainty on brand evaluation were not significantly different from zero.

Results of Model 2 indicate that the main effect of uncertainty on purchase intention was significant ( $b = 0.48$ ;  $t = 8.61$ ;  $p < .001$ ). An increase in a consumer's uncertainty is positively associated with purchase intention. While no evidence of the main effect of NFC was observed ( $b = 0.01$ ;  $t = 0.16$ ;  $p > .8$ ), the interaction effect on purchase intention was significant ( $b = 0.10$ ;  $t = 2.01$ ;  $p < .05$ ). Hypotheses 1 and 3 were re-confirmed. A spotlight analysis reveals that a significant interaction was found at both one standard deviation above ( $b = 0.57$ ;  $t = 8.25$ ;  $p < .001$ ) and below the mean ( $b = 0.38$ ;  $t = 5.09$ ;  $p < .001$ ). As the results suggest, the interaction effect was stronger when NFC was high (see the right panel in Fig. 1). The results of Johnson-Neyman significance region indicate that the positive slopes of uncertainty on purchase intention were significant when NFC values were above 2.02 ( $t = 1.97$ ,  $p = .05$ ).

To examine the mediating role of curiosity, we used the PROCESS macro (Hayes, 2013, model 5). In the model, there is a single indirect effect of uncertainty on the dependent measure through the mediating variable, as well as a direct effect that is a function of the moderating variable, NFC. For analyses, we set bootstrap samples to 1000. Thus, all parameter estimates were based on the means of the 1000 bootstrap samples. The significant test of an indirect effect was examined with bias corrected confidence intervals (Hayes, 2013). A significant indirect effect is observed if the 95% confidence interval (CI) does not include the value of zero. Controlling for gender, age, and attitude toward ancestors, bootstrapping results indicate that the indirect effect was



**Fig. 1.** Patterns of interaction: A spotlight analysis.  
Note: High (Low) NFC refers to one standard deviation above (below) the mean.

significant for brand evaluation (95% CI [0.06, 0.18]) and purchase intention (95% CI [0.11, 0.26]). Mediation was established.

When the mediating variable was included in the model, the interaction effect on the dependent measures decreased. In other words, the conditional effect of uncertainty on brand evaluation in the mediation model became weaker compared to the basic moderation model at the mean of NFC ( $t = 3.74$  vs.  $t = 1.15$ ), one standard deviation below the mean ( $t = 1.14$  vs.  $t = 0.9$ ), above the mean ( $t = 4.73$  vs.  $t = 2.86$ ). An identical pattern was found for purchase intention at all three different levels of NFC: the mean ( $t = 8.62$  vs.  $t = 5.81$ ), one SD below ( $t = 5.09$  vs.  $t = 2.99$ ), and one SD above ( $t = 8.25$  vs.  $t = 6.37$ ).

In addition, we have run the data with the PROCESS Model 8 to examine a moderated mediation. The model specifies that uncertainty has both direct and indirect (through curiosity) effects on DVs (brand evaluation and purchase intention), but that the indirect and direct effect of uncertainty is moderated by NFC. We found that the mediator, curiosity is significantly associated with the dependent variables, brand evaluation ( $t = 6.17$ ,  $p < .001$ , 95% CI [0.19, 0.36]) and purchase intention ( $t = 7.04$ ,  $p < .001$ , 95% CI [0.19, 0.36]). It appears that curiosity is a strong driving force to increase brand evaluation and purchase intention. However, although the main effects of uncertainty ( $t = 6.6$ ,  $p < .001$ , 95% CI [0.27, 0.51]) and NFC ( $t = 2.38$ ,  $p = .02$ , 95% CI [0.04, 0.40]) on curiosity were significant, we did not find that any significant interaction effect of uncertainty  $\times$  NFC on curiosity ( $t = -0.42$ ,  $p = .67$ ). As a consequence, moderated mediation was not significant for brand evaluation (95% CI [-0.042, 0.022]) and purchase intention (95% CI [-0.006, 0.031]) in Model 8. Thus moderated mediation was not established.

## 6. General discussion

This research examined how self-uncertainty and a consumer's need for closure influence brand evaluations for a genealogical product. The results show that self-uncertainty and need for closure interact to affect brand evaluation and purchase intention. HNFC consumers who are self-uncertain evaluate genealogical products favourably. This result is driven by curiosity.

This research contributes to literature on consumer responses to situational self-uncertainty (Gao et al., 2009) and identity marketing (Berger & Heath, 2007). We show from an uncertainty-identity theory (Hogg, 2007) perspective, how consumers study their in-groups in response to self-uncertainty. If people feel unsure about who they are, they are motivated to learn about their ancestry and the ancestral group to which they belong. The findings show the importance of how consumers perceive their own in-group (intragroup perceptions) when experiencing self-uncertainty. This is a useful insight as much of the literature addresses how people view other groups than their own (intergroup perceptions). Further, the need for closure is an important moderator of consumer responses to ancestral services under conditions of self-uncertainty. The results also indicate that curiosity mediates the effects. These results build on Hogg's research (Hogg et al., 2010; Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007) in a consumer context by showing how self-uncertainty increases one's desire for group membership, in the case of the present research, one's own ancestral group.

From a managerial perspective, the results shed light on how marketers can design genealogical product promotions. Messages highlighting the joy of exploration will be less persuasive for HNFC consumers. HNFC consumers respond best to ancestral product messages that offer to reduce uncertainty by revealing a consumer's ancestry. The key is to offer a genealogical product that is diagnostic rather than being a fun experience. Managers can identify HNFC consumers either through a brief survey or through their behaviour (e.g., highly committed to being a member of groups where members are very similar to each other; frequently asking for fast answers to questions on uncertain topics) or their readership of media (see Martin, Lang & Wong, 2003, p.

64). Alternatively, managers can test different web pages advertising DNA testing with copy reflecting different motives. Presumably, HNFC are more likely to sign up to pages which offer uncertainty reduction as a reason for DNA testing.

An avenue for future research is to explore the effects of different self-concept dimensions. Do consumers with a stable self-concept or a complex self-concept exhibit stronger or weaker effects in response to self-uncertainty? Do consumers with a stable self-concept more readily engage in-group identification because self-uncertainty results in a rare shaken self (Gao et al., 2009) or does self-uncertainty result in less enduring effects for these individuals? Further research could also examine consumers who discover surprising results to tests of one's ancestry. For example, a consumer may learn that the results of the DNA service are unexpected which could be in a positive or negative direction. Relatedly, insight could be gained by considering the role of self-reflective emotions (Leary, 2007), such as pride and embarrassment in response to genealogical products. Whilst acknowledging the social and ethical implications of such commercially available products this consideration has not been studied in this research. As noted by a reviewer, future research could examine the ethical dilemmas behind genealogical products and DNA testing. Further, a potential limitation is that need for closure was measured before the evaluations. Future research should study whether the placement of the measures (e.g., evaluations before or after the individual difference measure) influences the findings. Future research should investigate the consequences of the psychological wellbeing of the individual should the outcome of genealogical investigations prove to be in conflict with currently held beliefs that forms self-identity.

## Summary statement of contribution

First, we build on prior research by showing how consumers seek genealogical products to remove a negative state of uncertainty about their sense of self. Second, we show that a consumer's need for closure moderates the effect of uncertainty and uncover what drives this effect. Third, we show how curiosity underlies the observed effects.

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## Appendix A. Genealogical product message

### Virtec DNA Testing

Introducing the new Virtec DNA test.

By studying your DNA profile, you can discover the answers to your ancestry.

With Virtec's DNA test, we test genetic signatures to find out who your ancestors are.

We offer unique DNA tests and genome scan interpretation not available anywhere else.

Our products can help you discover your genealogy and identify your ancestry.

It doesn't stop there. You get comprehensive results at an affordable price.

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