

## **Brand Identification in Higher Education: a conditional process analysis**

### **Abstract**

The dimensions and dynamics of higher education brands remain excessively informed by general principles of branding, with inadequate empirical testing in the specific context. This paper advances understanding of brand identification in higher education by empirically assessing its antecedents and relating brand identification to brand loyalty and brand support as outcome variables, moderated by time since direct experience of the university. Results of a conditional process analysis with a sample of 791 alumni suggest that brand identification is a good predictor of alumni brand loyalty and brand support. While the indirect effects of social experience on brand loyalty and brand support through brand identification were found to reduce over time, the indirect effects of academic experience strengthened over time. The study makes important theoretical contributions to the branding literature by emphasizing the mediating role of brand identification and by examining the moderating effects of time on these variables. The results also inform marketing of higher education, suggesting that universities which focus on offering great academic experiences to their students will be more effective in developing strong brand identification over time which in turn leads to greater brand loyalty and brand support.

### **Keywords**

Brand identification; higher education; alumni; experience

**Word count:** 7,917

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### **1. Introduction**

Universities are frequently conceptualized as brands. The general literature distinguishes between salient brand dimensions, typically functional/emotional and utilitarian/hedonistic. Brand strength has been conceptualized as the strength of memory of a product which acts as a long-lasting and stable reference in discriminating between otherwise generic products (Kapferer, 2008). The branding literature increasingly emphasizes brand identity as a dynamic process which develops over time (da Silveira, Lages, & Simões, 2013; Stokburger-Sauer, Ratneshwar, & Sen, 2012). Recently, the application of a social identity perspective highlights a pivotal role of brand identification in the process of brand loyalty development (He, Li, & Harris, 2012; Kuenzel & Halliday, 2008).

In the higher education context, the dimensions of brands have been less precisely conceptualized and empirically tested. Furthermore, little attention has been given to the dynamics of brands and brand identification in the sector. This paper advances understanding of the mediating role of brand identification in the higher education context taking into account time since direct experience of the brand. Brand identification is conceptualized here as alumni members' sense of belonging to and identification with a university. This research builds on previous studies that have identified academic and social experience as two key processes and memorable outcomes of attending a university. A model is developed in which recalled academic and social components of experience are antecedents of identification with a university brand. Hypotheses are developed relating to the longevity of brand experience, testing whether alumni identification changes with the passage of time since graduation, and if it does, what might explain this? This paper reflects previous calls for further empirical research to examine antecedents and consequences of brand identification within higher

education and the integration of social identity and social exchange perspectives of brand loyalty (He & Li, 2011; He et al., 2012; Stephenson & Yerger, 2014; Tuškej, Golob, & Podnar, 2013).

## **2. Branding in higher education**

Intensification of market based pressures facing higher education providers has led many to adopt practices of marketing and corporate branding (Asaad, Melewar, & Cohen, 2014; Melewar & Akel, 2005). Despite its importance, little empirical research on branding is directly relevant to the higher education sector (Watkins & Gonzenbach, 2013). The few empirical studies focus on branding policies (Hemsley-Brown & Goonawardana, 2007), brand personality (Watkins & Gonzenbach, 2013), corporate brand identity and management (Balmer, Liao, & Wang, 2010), and corporate brand identification (Balmer & Liao, 2007; Stephenson & Yerger, 2014). Other contributions have been more theoretical in nature, for example, discussing educational brand ecosystems (Pinar, Trapp, Girard, & Boyt, 2011), the emergence of brand identities (Lowrie, 2007), and the concept of successful education brands (Chapleo, 2005). With the exception of Balmer and Liao (2007) and Stephenson and Yerger (2014), most of these studies take a strategic management perspective. Understanding of how consumers and other stakeholders perceive universities as brands remains largely informed by analogy with general consumer goods and service brands.

A number of theoretical challenges to the extension of general branding principles to higher education have been raised. Although many studies now explore the key components of a brand perceived by consumers, often involving qualitative, interpretative techniques (e.g. Gambetti, Graffigna, & Biraghi, 2012; Roberts, 2004), traditional, measurable brand dimensions such as functional/emotional and utilitarian/hedonistic (Aaker, 1991) may have limited use beyond relatively simple products. However, higher education brands typically

comprise complex bundles of benefits, most notably academic and social benefits (Mael & Ashforth, 1992). Superficially, the former may appear to correspond to functional definitions of a brand, representing the fundamental purpose of a university, while social benefits provide supplementary bases for differentiation of universities. In fact, the distinction between these two brand dimensions may be complex, with some students seeing the primary benefit of higher education as a process of socialization.

More recently, Service Dominant Logic (Vargo & Lusch, 2008) recognizes the importance of consumers in co-creating value in products. The nature of higher education processes (academic and social) implies co-creation of value involving students. Therefore brand values may be substantially influenced by students' own efforts.

Graduation offers students life-long identification with their *alma mater* (Balmer & Liao, 2007) and universities have developed alumni associations to capitalize on graduates' need for identity. The value of alumni to higher education institutions is well documented, for example, with respect to their role in generating income and prestige (e.g. Tom & Elmer, 1994). However, despite the importance of alumni, little research has explained *why* former students remain loyal and supportive to their university and identify with its values. One notable exception is Stephenson and Yerger's (2014) study of the antecedents and consequences of alumni brand identification. Although their findings suggest that interpretations of brand, prestige, satisfaction with student affairs, and participation were positively associated with identification, their framework does not clearly ascertain the sources of alumni identification, for example, whether identification is related to their peers, the faculty, the location or its sports teams. A further limitation is omission of the dynamics of university brand identification over time. If a brand is conceptualized as a remembered state of a product (Aaker, 1991), current identification by alumni with their university as a brand is likely to be influenced by the memory of their experience at university.

Although student experience has become widely used as a term to describe students' activities while attending university, the term often fails to distinguish between academic and social elements of attendance. This paper adds to knowledge by studying how alumni members' identification within their university changes over time, reflecting their recall of different components of their experience at university.

### **3. Conceptual framework**

#### *3.1. The concept of brand identification in higher education*

Despite objections from educational “purists” who may see education as a public good, universities are frequently conceptualized as corporate brands (Chapleo, Durán, & Díaz, 2011). In developing branding strategy, universities have sought to cultivate identification with the university as a brand.

A long stream of research stemming from psycho-analysis has sought to define the concept of identification. One meta-analysis of previous studies defines identification as a psychological process whereby an individual assimilates an aspect, property, or attribute of the other and is transformed, wholly or partially, by reference to the other (Koff, 1961). Theories and frameworks derived from psycho-analysis have more recently been used to explain consumers' identification with brands. Identification with brands contributes to the development of individual personality and provides a means of defending that personality (Lam, Ahearne, Mullins, & Hayati, 2013; Tuškej et al., 2013). Exposure to a brand, or messages about it, leads to cognitive and affective linkages between the consumer and the brand contributing to brand identification (Kuenzel & Halliday, 2008; Stokburger-Sauer et al., 2012). Universities recognize the value of their institutions as brands, which students and alumni can identify with and benefit from the brand's associations with social status and

access to life-time opportunities (Asaad, Melewar, Cohen, & Balmer, 2013). Summarizing the emerging debate about brand identification in higher education, Balmer and Liao (2007) conceptualize brand identification as students'/alumni's defining of the self in terms of an association with the brand of their university *alma mater*. They argue that prior experience of a university brand predicts the strength of students' identification with their institution.

### *3.2. Antecedents of university brand identification*

For a university, brand identification can derive from primary and secondary sources. In this paper, only direct sources derived through attendance are studied, and not indirect sources which may derive from exposure to broadcast and personal communication channels. One direct source of long-term identification with a university is students' learning experience (Ng & Forbes, 2008). However, the importance of social experience of attending university is increasingly recognized (Pinar et al., 2011). Even though a university as a service provider can only partially provide social experience, it facilitates its development through co-creation between fellow students (Payne, Strobacka, Frow, & Knox, 2009).

Brand identification has traditionally been seen as a static construct, but more recent literature (e.g. Kapferer, 2008; Stockburger-Sauer et al., 2012) argues that focus should be on *recalled* brand perceptions rather than brand perceptions at the time of consumption. A brand as memory of a product/experience should act as “a long lasting and stable reference” (Kapferer, 2008, p. 37). Stockburger-Sauer et al. (2012) call for research examining the link between recalled brand experience and brand identification in experience based services. The current study further probes this link in the specific context of higher education.

**H1a/b.** (a) Recalled academic experience and (b) recalled social experience associate positively with brand identification.

The established link between satisfaction with a consumption experience and subsequent loyalty to the service provider has been replicated in the higher education sector (Pascarella & Terenzini, 1980; Sung & Yang, 2009). However, the drivers of loyalty/support to a university remain under-researched, with only limited evidence of the differential effects of students' academic and social experience on their subsequent loyalty behaviors (e.g. Berger & Milem, 1999; Hennig-Thurau, Langer, & Hansen, 2001). This study distinguishes the effects of academic and social experience on both general loyalty as an attitudinal outcome and intention to support the university as a more specific behavioral outcome.

**H2a/b.** (a) Recalled academic experience and (b) recalled social experience associate positively with loyalty to a university brand.

**H3a/b.** (a) Recalled academic experience and (b) recalled social experience associate positively with intention of brand support.

### *3.3. Consequences of brand identification*

A general consensus exists in the marketing literature that brand identification leads to loyalty, manifested through repurchase intention (Kuenzel & Halliday, 2008), word-of-mouth recommendation (Tuškej et al., 2013), and a generally favorable predisposition towards the brand (Stokburger-Sauer et al., 2012). This link is particularly evident for brands that are consumed for their hedonistic and emotional benefits rather than their functional and utilitarian benefits (Pallas, Mittal, & Groening, 2014). Brands in general are more likely to have salience where the consumer is highly engaged (Hollebeek, 2011).

Brand loyalty and support are important concepts in higher education, but their consequences are likely to differ compared to manufactured goods or mass consumed services on which much of the branding literature is based. While loyalty in the latter case may focus on repeat purchase, the typical one-off nature of a higher education experience

results in more diverse forms of loyalty and support behaviors, such as donations and continuing participation in the activities of a university (Stephenson & Yerger, 2014). Despite the intuitive appeal and empirical evidence linking brand identification and loyalty, some studies (e.g. Bagozzi & Dholakia, 2006) found no significant direct effect. These apparently counter-intuitive findings may be explained by failure to recognize the nuances of loyalty in contexts where repeat purchase is not the principal outcome of loyalty. This study seeks to validate the link with the following hypothesis in the specific context of higher education.

**H4a/b.** Identification with a university brand is positively associated with (a) loyalty towards the university brand and (b) intended brand support.

Insofar as a university is a social organization, understanding of identification with its brand may be informed by organizational behavior literature. Mael and Ashforth (1992) report that a number of individual and organizational antecedents influence organizational identification and subsequent loyalty. When extending the identification construct to the branding literature, He et al. (2012) noted the pivotal role of brand identification in the process of brand loyalty development, as well as the mediating effect of brand identification on loyalty. While their study examines a number of antecedents of brand identification (e.g., prestige, symbolic meanings of a brand), the role of direct consumption experience in influencing brand identification and subsequent brand loyalty behaviors remains under-researched. This dearth in research is surprising given the acknowledged effects on loyalty of consumers' relationships with brands, revealed through consumption (McAlexander, Schouten, & Koenig, 2002).

**H5a/b.** Brand identification mediates the effects of (a) recalled academic experience and (b) recalled social experience on brand loyalty.

**H6a/b.** Brand identification mediates the effects of (a) recalled academic experience and (b) recalled social experience on brand support.



### *3.4. Time as a moderator*

As argued above, brands can be conceptualized as a state of memory which persists after consumption and informs future choices based on recollection of salient and distinguishing features of a brand (Kapferer, 2008; Stokburger-Sauer et al., 2012). Recall of higher education experience may also change with the passage of time.

Given the discussion above about the ways in which memory can be distorted over time, brand identification may also change with the passage of time. One view is that students may look back at their university experience increasingly favorably through "rose-tinted spectacles" suggesting that individuals are likely to rationalize away poor experiences over time (Festinger, 1957; Hausknecht, Sweeney, Soutar, & Johnson, 1998). In addition, alumni may not immediately appreciate their university experience and only with the passage of time reflect on their university experience more favorably (Iyer, Bamber, & Barefield, 1997), thereby strengthening their brand identification. The effects of brand identification on loyalty and support are gradual as time is needed for alumni identification to translate into actual loyalty attitudes and supportive behaviors.

**H7a/b.** Length of time since direct experience of a university moderates the mediating effect of brand identification between (a) recalled academic experience and (b) recalled social experience and brand loyalty. The mediation effect is stronger, the longer the time since direct experience.

**H8a/b.** Length of time since direct experience of a university moderates the mediating effect of brand identification between (a) recalled academic experience and (b) recalled social experience and intended brand support. The mediation effect is stronger, the longer the time since direct experience.

Abercrombie (1967) notes that humans have a tendency to forget elements of a total experience with time and an element of an encounter which might have previously been "figure" because of its novelty may later merge into "ground" because this element has become part of basic expectations. The current study hypothesizes that with the passage of time, the direct effects of a distant memory of a university experience on loyalty and support atrophy.

**H9a/b.** Length of time since direct experience of a university negatively moderates the relationship between (a) recalled academic experience and loyalty (b) recalled social experience and brand loyalty.

**H10a/b.** Length of time since direct experience of a university negatively moderates the relationship between (a) recalled academic experience and intended brand support and (b) recalled social experience and intended brand support.

## 4. Method

### 4.1. *Sample and procedures*

A largely quantitative survey method involved a sample comprising alumni members who had previously studied at a large, well established UK university. The director of the alumni association sent a survey invitation email with URL link to all 12,763 alumni registered with the association. 883 agreed to participate in the online study with 791 fully completed questionnaires, a response rate of 6.9%. The demographic profile displayed in Table 1 indicates a good representation of the alumni population with 53.4% male (the alumni association population is 55% male). The average age of the sample is 42.1 years (association population = 41.9 years) and the average time since graduation is 19.4 years for the sample (compared to 17.5 years). Non-response bias was assessed by comparing responses to the

focal constructs of early and late respondents (i.e. those who responded after a reminder was sent). No significant differences were found between early and late respondents.

**Table 1 here**

#### *4.2. Measures*

Drawing from Pascarella and Terenzini (1980), recalled academic experience is measured with four items evaluating academic and intellectual development during studies, whilst social experience comprises seven items evaluating peer group interactions during studies. Building on Mael and Ashforth's (1992) organizational identification framework, five items assess brand identification. Response formats range from "strongly disagree" (1) to "strongly agree" (5). Following Hennig-Thurau et al. (2001) and Zeithaml, Berry & Parasuraman (1996), alumni loyalty is captured on a four-item scale. Alumni support comprises two items assessing alumni's intentions to participate in activities supporting the university, anchored at "very unlikely" (1) and "very likely" (5). In addition, the strength of social and faculty networks is measured by asking alumni to what extent they are currently still in contact with their former peers and with former faculty members on a scale from "not at all" (1) to "very much" (5). Appendix A lists the measurement items, factor loadings, and reliability results for the focal constructs of the study.

#### *4.3. Data analysis*

Confirmatory factor analysis (Gerbing & Hamilton, 1996) using AMOS (v.19.0) is employed to assess the psychometric properties for each construct, whilst the hypothesized effects were analyzed with PROCESS analysis for SPSS (v2.13.2). Traditional approaches for examining mediation and moderated mediation have several conceptual and mathematical limitations (Hayes, 2009). SPSS macro syntax PROCESS presented in Hayes (2013) allows estimation

of both, indirect and interaction effects using bootstrapping procedures based on generating multiple random samples. Bootstrapping procedures have received increased attention recently as these test a model's predictive validity, make no normality assumption and provide stronger accuracy in confidence intervals (Hayes, 2009).

More specifically, the current study applies conditional process analysis to understand the conditional nature of the mechanisms by which a predictor variable exerts its effect on other variables (Hayes, 2013). Conditional process modeling estimates the conditional indirect effects and generates bias-corrected 95% confidence intervals (CI) for the indirect effect at various values of the moderator variable. The indirect effect is significant if no zero is included in the 95% confidence interval. PROCESS has been employed by various studies recently published in this journal (e.g. Ertürk & Vurgun, 2015; Lefroy & Tsarenko, 2014) and the application of this approach also responds to an editorial call for research to move beyond multiple regression analysis and structural equation modeling which exclusively rely on tests for model fit towards crafting and testing theory using algorithms for predictive validity (Woodside, 2013).

## **5. Results**

### *5.1. Scale evaluations*

The final measurement model achieved good fit (see Appendix A). Three items are dropped from the social experience scale due to standardized factor loadings of below .5. Standardized loadings and average variance extracted (AVE) are above the .5 threshold for each construct thus supporting convergent validity (Anderson & Gerbing, 1988). The constructs demonstrate adequate reliability with composite reliability indices ranging from .81 to .92. Discriminant validity is supported as AVEs are greater than the corresponding squared inter-construct

correlations (Fornell & Larcker, 1981). Table 2 presents the correlations and the descriptive statistics for the study constructs. Common method bias, assessed by estimating a single latent factor using all the study's scale items as indicators revealed a poor fit to the data. In addition, the correlation matrix found no highly correlated variables suggesting that common method bias is not a major concern.

**Table 2 here**

*5.2. Testing of hypothesized direct and indirect effects*

Hypotheses H1<sub>a/b</sub> to H6<sub>a/b</sub> are tested with a simple mediation model (Model 4) statistically controlling for networking effects (Hayes, 2013). Constructs are estimated as the averages of the indicators. Table 3 shows that a more positive recalled academic ( $a_1=.231$ ) and social experience ( $a_2=.113$ ) leads to higher brand identification, which in turn leads to higher brand loyalty ( $b_{11}=.336$ ) and higher intended brand support ( $b_{12}=.502$ ). The findings support H1<sub>a/b</sub> and H4<sub>a/b</sub>. Recalled academic ( $c'_{11}=.305$ ,  $p<.001$ ) and social experience ( $c'_{21}=.135$ ,  $p<.001$ ) has a significant direct effect on brand loyalty, confirming H2<sub>a/b</sub>. The direct and indirect influence of recalled academic experience on brand loyalty is higher than that of recalled social experience. Regarding brand support, only recalled social experience had a direct significant effect ( $c'_{22}=.202$ ,  $p<.001$ ), confirming H3<sub>b</sub>, but not H3<sub>a</sub>.

**Table 3 here**

The true indirect effect of recalled academic experience on brand loyalty via brand identification ( $a_1b_{11}=0.078$ ) based on 5,000 bootstrap samples is estimated to lie between 0.049 and 0.110 with 95% confidence. Similarly, a bias-corrected bootstrap confidence interval (CI) for the indirect effect of recalled social experience ( $a_2b_{11}=.038$ ) was also entirely above zero (95% CI Lower Limit (LL): .008 and Upper Limit (UL): .070). Recalled academic experience ( $a_1b_{12}=0.116$ , 95% CI LL: .074 and UL: .164), as well as recalled social

experience ( $a_2b_{12}=0.057$ , 95% CI LL: .012 and UL: .112) also exert a significant influence on intended brand support via brand identification. All indirect effects are significant at  $p<.05$  as no zero is included in the 95% CI (Preacher & Hayes, 2004), confirming H5<sub>a/b</sub> and H6<sub>a/b</sub>.

### 5.3. Assessment of the moderated mediation effects

The results for the mediation effects above, however, need to be qualified due to the postulation of the presence of moderating effects on the paths forming the mediated relationships. Time was included as a continuous moderator variables measured as number of years since direct experience (i.e. graduation).

#### **Table 4 here**

Hypotheses H7<sub>a/b</sub> to H10<sub>a/b</sub> were tested with a conditional process analysis (Model 59) following the PROCESS syntax (Hayes, 2013), where the strength of the association between recalled academic and social experience on brand loyalty and brand support directly and indirectly through brand identification is conditional on the value of the moderator, that is, time since experience at university. This study employs 5,000 bootstrap samples to obtain estimates for the conditional relationships. Table 4 reports the results for the moderated mediation analyses for the two antecedents that is recalled academic and recalled social experience on brand loyalty and brand support statistically controlling for networking effects.

The results show that whilst the interaction effect of recalled academic experience and time on brand identification is not significant ( $a_3=.003$ ,  $p>.310$ ), the effect of recalled social experience on brand identification significantly decreases over time ( $a_4=-.008$ ,  $p<.002$ ), thus not supporting H7<sub>a</sub> and H7<sub>b</sub>. The effect of recalled social experience on brand identification significantly decreases over time, whilst the effect of recalled academic experience on brand identification over time does not change significantly.

The effect of brand identification on brand loyalty increases with time since experience for both antecedents, recalled academic experience ( $b_{21}=.007$ ,  $p<.001$ ) and recalled social experience ( $b_{23}=.006$ ,  $p<.001$ ), confirming H8<sub>a</sub>. The interaction effect between time and brand identification on brand support is not significant for both antecedents ( $b_{22}=.004$ ,  $p<.317$  and  $b_{24}=.003$ ,  $p<.435$ ), thus not supporting H8<sub>b</sub>.

Regarding brand loyalty, the results show a significant negative interaction of recalled academic experience and time on brand loyalty ( $c'_{31}=-.007$ ,  $p<.000$ ) and between recalled social experience and time on brand loyalty ( $c'_{41}=-.005$ ,  $p<.008$ ), confirming H9<sub>a</sub> and H9<sub>b</sub>. Thus over time, the direct influence of both academic and social experiences on brand loyalty decreases (see Figure 1). The interaction effect between time and recalled academic experience as well as between time and recalled social experience on brand support is not significant ( $c'_{32}=-.005$ ,  $p<.249$  and  $c'_{42}=-.003$ ,  $p<.486$ ), thus H10a/b are not supported.

#### **Figure 1 here**

With evidence that the indirect effects of recalled academic and social experience on brand loyalty are moderated by time, the next step is to estimate the conditional indirect effects for various values of time, accompanied by inferential tests at those values (Hayes, 2013). PROCESS provides bias-corrected 95% bootstrap CIs for the indirect effects at various values of the moderator variable time. In order to visualize the moderation effect, the following values for the moderator variable, that is, time: 3, 8, 17, 30 and 39 years were selected. These correspond to the 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 90<sup>th</sup> percentile of the distribution of the time since experience scale and give more detailed information than the one standard deviation above and below the mean approach. Table 5 shows that the indirect effects of recalled academic experience ( $X_1$ ) on brand loyalty ( $Y_1$ ) via brand identification is positive and increases with time since experience. The bias-corrected 95% CIs for the conditional indirect effect is above zero for all levels of the moderator and thus significant.

**Table 5 here**

In contrast, the indirect effect of recalled social experience on brand loyalty via brand identification is generally positive but decreasing with time since experience. The bias-corrected 95% CI is above zero only up to the 50<sup>th</sup> percentile (i.e. 17 years). With longer time since experience (i.e. more than 17 years), the indirect effect is not significant from zero, as the bias-corrected 95% CIs include a zero.

**6. General discussion***6.1. Theoretical implications*

This paper makes a number of contributions to knowledge. Empirical research on the antecedents of brand identification with a university and of brand identification as a dynamic concept are scarce (Stephenson & Yerger, 2014). The present research addresses this knowledge gap by integrating recalled brand experience (academic and social), brand identification, brand loyalty and brand support into a framework moderated by time. By doing so, this study expands and builds upon the limited research on higher education branding (e.g. Balmer & Liao, 2007; Chapleo, 2005), as well as previous studies on brand identification (He et al., 2012; Stockburger-Sauer et al., 2012; Tuškej et al., 2013).

More specifically, this study contributes to the growing research on antecedents and outcomes of brand identification. Two aspects of brand experience which are distinctive components of a higher education brand - academic experience and social experience - were empirically investigated. Results indicate that recalled academic and social experiences are significant indicators of brand identification and brand loyalty thus confirming previous general research by Stockburger-Sauer et al. (2012) in the specific context of higher education. Academic experience contributes more to brand identification and brand loyalty than recall of social experience suggesting that different aspects of a service/experience have



distinct effects on outcome variables (Hennig-Thurau et al., 2001). Consistent with Farrow and Yao (2011), social experience has positive effects on alumni's volunteer and support behaviors. In addition, the findings support the pivotal role of brand identification as a predictor and mediator of alumni members' brand loyalty and brand support (He et al., 2012; Stephenson & Yerger, 2014).

Many previous studies have treated branding as a static concept. The results of this study demonstrate that the passage of time moderates the relationship between brand identification and loyalty. The effect of brand identification on brand loyalty becomes stronger as time goes by suggesting that identification to a brand requires time to develop and for its benefits to be appreciated by alumni (Iyer, Bamber, & Barefield, 1997). However, with regard to the antecedents of brand identification, this study shows that time had a negative effect on the relationship between recalled social experience and brand identification suggesting that the importance of social experience in building brand identification decreases over time. The relationship between recalled academic experience and brand identification is not moderated by time.

With regard to the moderating effects of time on the outcomes of brand loyalty and brand support, further contributions to knowledge are made. First, while time does not moderate the direct effects of social experience on brand support, the direct effects of recalled academic and social experience on brand loyalty decrease over time. This suggests that attitudinal aspects of loyalty are more susceptible to change over time compared to behavioral aspects of loyalty. Second, the indirect effects of social experience on brand loyalty decrease over time, whereas the indirect effect of academic experience on brand loyalty via brand identification increases. This suggests that academic experience has a lasting long term impact on alumni's attitudes, whereas the impact of social experience is shorter lived and reduces over time. Third, while the direct effects of recalled academic and social experience on brand loyalty

decrease over time, the indirect effects of academic experience on outcomes via brand identification increases, indicating that the mediation effect of brand identification becomes stronger with the passage of time. This finding suggests that brand identification is a better predictor of brand loyalty over time and empirically confirms the proposition that brand identification, brand loyalty and brand support are dynamic concepts.

### *6.1. Managerial implications*

The findings inform discussion about the positioning of higher education brands. The pivotal role of recalled academic experience on brand identification, and brand loyalty suggests that university brands should not stray too far from their core mission of providing knowledge and education. In addition, the finding that the indirect effect of recalled academic experience on brand loyalty via brand identification is positive and increases over time also supports the importance of academic experience in driving alumni brand loyalty through brand identification, especially for more long-standing graduates. On the basis of this study, universities' branding efforts should focus on the academic experience, given that this has greater longevity in the memory of alumni than the social experience.

The results show that the direct effect of academic and social experience on brand loyalty decreases over time, thus suggesting that unless brand identification is continually developed and renewed, the effects of good experience at university will fade away. The importance found of brand identification as a mediator to brand loyalty and brand support implies that universities should provide a learning experience that emphasizes identification to the university brand. Brand communication efforts should highlight positive comparisons between the focal university and others, especially in terms of the distinctiveness of the academic experience. Academic experience can be further recalled by communications which continue to associate the university with innovative and high academic standards. An

example might be facilitating the entry of alumni teams to participate in highly visible and academically challenging contests such as the BBC competition “University Challenge”.

Also the development of brand communities based around academic experience at university (e.g. groups based on specific study programs and fields of knowledge) could increase brand identification and hence brand loyalty and brand support over time.

The use of moderated mediation analysis revealed points in time when the effects of the relationship between experience, loyalty and support change discontinuously. This finding suggests the existence of trigger points in alumni members’ life course, such as career promotion, relocation or change in family status, which warrant further investigation. Knowledge of such trigger points may help universities’ efforts at targeting messages to alumni which are of contemporary relevance.

## *6.2. Limitations and future research*

A limitation of this study is that identification is studied with a single institution, and although this institution is a middle range university in terms of its age, prestige and size of alumni, recall of academic and social experience and their effects on brand identification may differ in a university with a different history and standing. The study is undertaken in a UK context and academic/social experience may differ elsewhere. Only members of an alumni association are included in the study, and although the alumni association studied had a high level of membership among new graduates, graduates who do not belong to the association may differ in their recall and identification. In the theoretical framework, experience has a causal effect on identity over time. However, it is possible that current identity may influence recalled experience. Although this may be a limitation, the theoretical direction of causation adopted here has been widely tested and accepted (e.g., Mael and Ashforth, 1992; Bhattacharya et al., 1995; Hong and Yang, 2009).

To enhance the generalizability of the findings, future studies should replicate the design at different types of higher education institutions and examine possible cross-cultural differences. Further probing of the complexity and possible dimensions of academic and social experience of university brands would be a fruitful line of enquiry. Another avenue for future research is to examine possible moderating effects of demographic variables such as gender, age and alumni qualifications. While the results confirm that recalled experience is a key predictor of brand identification, brand loyalty and brand support, future research may expand the present framework by empirically testing other antecedents of brand identification over time, for example, the prestige of an institution.

With the passage of time, memory distorts perceptions of experience. This study measures recall of experience over a period of up to 60 years which is very relevant for understanding how a university's brand identification is sustained over time. Future research could replicate this study with longitudinal research, however to obtain data over a period of 60 years (the length of recall provided in this study), would be difficult in practice to achieve.

The effects of brand distortion over time since direct experience remain under-researched and further replication studies may investigate if similar effects to those found here also occur in other high involvement service sectors.

## Appendix A. Measures and results of CFA

Construct item	Loading	$\alpha$	CR	AVE
<i>Recalled Academic Experience</i>		.88	.89	.68
I am satisfied with the extent of intellectual development X has provided me.	.92			
My academic experience at X has had a positive influence on my intellectual growth and interest in ideas.	.86			
I am satisfied with my academic experience at X.	.88			
I have performed academically as well as I anticipated.	.60			
<i>Recalled Social Experience</i>		.89	.87	.64
During my studies I have developed close personal relationships with other students	.85			
The student friendships I have developed at X have been personally satisfying.	.95			
My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.	.73			
My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas.	.61			
<i>Brand Identification</i>		.83	.84	.52
When someone criticizes X, it feels like a personal insult.	.82			
I am very interested in what others think about X.	.65			
When I talk about X, I usually say “we” rather than “they”.	.62			
When someone praises X, it feels like a personal compliment.	.84			
If publicity in the media criticized X, I would feel embarrassed.	.64			
<i>Brand Loyalty</i>		.79	.81	.53
Say positive things about X.	.83			
Recommend X to someone as a place of study over the next two or three years.	.66			
If I was faced with the same choice again, I’d still choose X.	.77			
I am interested in keeping in touch with X.	.61			
<i>Brand Support</i>		.93	.92	.84
Support X by offering to come back and give a talk to students.	.89			
Support X by offering to act as a mentor for students.	.95			

Note: Model fit: Standardized RMR=.048,  $\chi^2(141)=508.18$ ,  $p \leq .001$ ,  $\chi^2/df= 3.60$ , RMSEA=.057, GFI=.94, CFI=.96, TLI=0.95, PCFI=.79, AIC=606.18

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## Tables and figures

**Table 1.** Demographic profile of respondents

Variables		<i>Highest degree from university X</i>	
<i>Gender</i>			
Male	53.4%	University bachelor degree	71.6%
Female	46.6%	Master's degree	19.9%
Age	42.1 years	Doctorate	8.5%
<i>Occupation</i>		<i>Time since graduation</i>	
Full-time employment	64.3%	Up to 10 years	30.1%
Part-time employment	7.5%	10-19 years	25.7%
Self-employment	9.5%	20-39 years	16.8%
Unemployed	2.5%	40-49 years	17.4%
Student	2.5%	50 years or more	10.0%
Retired	10.5%		
Other	3.2%		

**Table 2.** Means, standard deviations and correlations

	Mean	SD	1	2	3	4	5
1. Recalled academic experience	4.1	.7	1				
2. Recalled social experience	4.1	.8	.28	1			
3. Brand identification	3.5	.7	.32	.19	1		
4. Brand loyalty	4.0	.6	.63	.34	.59	1	
5. Brand support	2.5	1.1	.16	.14	.37	.34	1

All correlations are significant at the 0.01 level

**Table 3.** Model coefficients for the hypothesized direct effects (statistically controlling for networking effects)

Antecedent	Consequent											
	<i>M</i> (Brand Identification)				<i>Y</i> <sub>1</sub> (Brand Loyalty)				<i>Y</i> <sub>2</sub> (Brand support)			
	Coeff.	SE	<i>p</i>		Coeff.	SE	<i>p</i>		Coeff.	SE	<i>p</i>	
<i>X</i> <sub>1</sub> (Rec. acad. exp.)	<i>a</i> <sub>1</sub>	.231	.178	.000	<i>c'</i> <sub>11</sub>	.305	.027	.000	<i>c'</i> <sub>12</sub>	-.039	.059	.509
<i>X</i> <sub>2</sub> (Rec. soc. exp.)	<i>a</i> <sub>2</sub>	.113	.043	.009	<i>c'</i> <sub>21</sub>	.135	.030	.000	<i>c'</i> <sub>22</sub>	.202	.066	.002
<i>M</i> (Brand Ident.)					<i>b</i> <sub>11</sub>	.336	.025	.000	<i>b</i> <sub>12</sub>	.502	.054	.000
<i>C</i> <sub>1</sub> (Peer Netw.)	<i>a</i> <sub>c1</sub>	.014	.023	.630	<i>bc</i> <sub>11</sub>	.014	.016	.394	<i>bc</i> <sub>12</sub>	-.059	.034	.085
<i>C</i> <sub>2</sub> (Faculty Netw.)	<i>a</i> <sub>c2</sub>	.024	.030	.789	<i>bc</i> <sub>21</sub>	.009	.021	.670	<i>bc</i> <sub>22</sub>	.341	.046	.000
Constant	<i>i</i>	2.066	.178	.000	<i>i</i> <sub>1</sub>	1.043	.136	.000	<i>i</i> <sub>2</sub>	-.054	.292	.855
		<i>R</i> <sup>2</sup> =.0891				<i>R</i> <sup>2</sup> =.421				<i>R</i> <sup>2</sup> =.191		
		F(4,786) = 19.22, <i>p</i> < .001				F(5,785) = 114.04, <i>p</i> < .001				F(5,785) = 37.04, <i>p</i> < .001		

Note: Unstandardized regression coefficient are reported, SE = standard error

**Table 4.** Model coefficients for the moderated mediation effects of time (statistically controlling for networking effects)

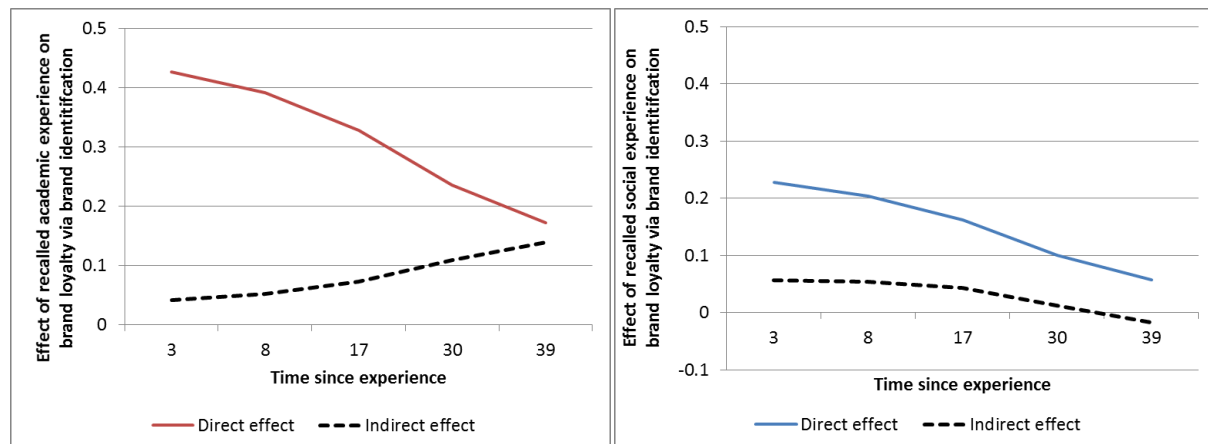
Antecedents		Consequent										
		M (Brand Identification)			Y <sub>1</sub> (Brand Loyalty)			Y <sub>2</sub> (Brand support)				
		Coeff	SE	<i>p</i>	Coeff	SE	<i>p</i>	Coeff	SE	<i>p</i>		
X <sub>1</sub> (Recalled acad. exp.)	<i>a</i> <sub>1</sub>	.181	.063	.004	<i>c'</i> <sub>11</sub>	.448	.044	.000	<i>c'</i> <sub>12</sub>	.083	.096	.385
M (Brand Ident.)					<i>b</i> <sub>11</sub>	.201	.042	.000	<i>b</i> <sub>12</sub>	.428	.091	.000
W (Time)	<i>a</i> <sub>w</sub>	-.011	.011	.304	<i>b</i> <sub>w1</sub>	-.005	.009	.529	<i>b</i> <sub>w2</sub>	-.011	.019	.566
X <sub>1</sub> *W	<i>a</i> <sub>3</sub>	.003	.003	.310	<i>c'</i> <sub>31</sub>	-.007	.002	.000	<i>c'</i> <sub>32</sub>	-.005	.004	.249
M*W					<i>b</i> <sub>21</sub>	.007	.002	.000	<i>b</i> <sub>22</sub>	.004	.004	.317
C <sub>1</sub> (Peer Networking)	<i>a</i> <sub>c1</sub>	.013	.023	.561	<i>bc</i> <sub>11</sub>	-.014	.016	.390	<i>bc</i> <sub>12</sub>	-.109	.035	.002
C <sub>2</sub> (Faculty Networking)	<i>a</i> <sub>c2</sub>	.025	.031	.804	<i>bc</i> <sub>21</sub>	-.010	.021	.637	<i>bc</i> <sub>22</sub>	.298	.065	.000
Constant	<i>i</i>	2.28	.275	.000	<i>i</i> <sub>1</sub>	1.16	.207	.000	<i>i</i> <sub>2</sub>	.210	.453	.643
		R <sup>2</sup> =.0903			R <sup>2</sup> =.464			R <sup>2</sup> =.224				
		F(6,784) = 12.97,			F(8,782) = 84.74,			F(8,782) = 28.15,				
		<i>p</i> < .000			<i>p</i> < .000			<i>p</i> < .000				
X <sub>2</sub> (Recalled soc. exp.)	<i>a</i> <sub>2</sub>	.269	.066	.000	<i>c'</i> <sub>23</sub>	.242	.047	.000	<i>c'</i> <sub>24</sub>	.266	.102	.009
M (Brand ident)					<i>b</i> <sub>13</sub>	.215	.042	.000	<i>b</i> <sub>14</sub>	.440	.091	.000
W (Time)	<i>a</i> <sub>w</sub>	.032	.011	.003	<i>b</i> <sub>w3</sub>	-.010	.009	.245	<i>b</i> <sub>w4</sub>	-.016	.019	.420
X <sub>2</sub> *W	<i>a</i> <sub>4</sub>	-.008	.003	.002	<i>c'</i> <sub>41</sub>	-.005	.002	.008	<i>c'</i> <sub>42</sub>	-.003	.004	.486
M*W					<i>b</i> <sub>23</sub>	.006	.002	.001	<i>b</i> <sub>24</sub>	.003	.004	.435
C <sub>1</sub> (Peer Networking)	<i>a</i> <sub>c1</sub>	.008	.023	.748	<i>bc</i> <sub>13</sub>	-.017	.016	.285	<i>bc</i> <sub>14</sub>	-.111	.035	.001
C <sub>2</sub> (Faculty Networking)	<i>a</i> <sub>c2</sub>	.024	.030	.432	<i>bc</i> <sub>23</sub>	-.006	.021	.772	<i>bc</i> <sub>24</sub>	.301	.058	.000
Constant	<i>i</i>	1.439	.275	.000	<i>i</i> <sub>1</sub>	1.261	.211	.000	<i>i</i> <sub>2</sub>	.311	.461	.500
		R <sup>2</sup> =.100			R <sup>2</sup> =.460			R <sup>2</sup> =.223				
		F(6,784) = 14.53,			F(8,782) = 83.09,			F(8,782) = 28.01,				
		<i>p</i> < .000			<i>p</i> < .000			<i>p</i> < .000				

Note: Unstandardized regression coefficient are reported, SE = standard effort, CI = Confidence Interval, LL = lower limit, UL = upper limit

**Table 5.** Conditional indirect effects of recalled academic and social experience via brand identification on brand loyalty and brand support at values of time as moderator

			Y <sub>1</sub> (Brand Loyalty)		
X <sub>1</sub> (Recalled academic experience)				Bias corrected bootstrap 95% CI	
Mediator	Time	Indirect effect	Boot SE	LL	UL
M (Brand ident)	3	.042	.016	.016	.077
M (Brand ident)	8	.053	.015	.026	.086
M (Brand ident)	17	.074	.015	.046	.105
M (Brand ident)	30	.110	.022	.067	.157
M (Brand ident)	39	.139	.034	.078	.211
X <sub>2</sub> (Recalled social experience)				Bias corrected bootstrap 95% CI	
Mediator	Time	Indirect effect	Boot SE	LL	UL
M (Brand ident)	3	.057	.018	.027	.099
M (Brand ident)	8	.054	.017	.024	.090
M (Brand ident)	17	.043	.016	.012	.074
M (Brand ident)	30	.013	.020	-.023	.055
M (Brand ident)	39	-.017	.029	-.072	.043

Note: SE = standard effort, CI = Confidence Interval, LL = lower limit, UL = upper limit



**Figure 1.** Direct and indirect effects of recalled academic and social experience on brand loyalty via brand identification at values of time as the moderator