University image and its effect on applying intentions
Case: Aalto University School of Business

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Abstract

Existing literature underlines a relationship between university image and attracting new students. Nevertheless, the topic lacks empirical evidence. The purpose of the study is to investigate effect of university image on applying intentions of potential applicants. University image is studied through cognitive and affective attributes with an objective to build a comprehensive model for university image research. Also direct influences of different image factors on university image and applying intentions are investigated. Moreover, an important aspect of this study is to examine how the results differ between males and females.

The current study is a case study of Aalto University School of Business. A quantitative study is based on sample of 1037 high school students around Finland. Data is collected with a web survey. To start with, a proposed model is tested with exploratory and confirmatory factor analysis. Subsequently, structural equation modeling (SEM) is used to test hypotheses. Factor structure's invariance is tested between male and female sub-samples, followed by multi-group SEM that is implemented to assess differences between male and female high school students. Further, statistical support for the differences is tested with chi-square tests.

The findings of this study indicate that university image has influence on applying intentions of potential applicants. However, this relationship is not as strong as expected based on the literature. The findings indicate that university image is a multidimensional construct that is formed through cognitive and affective attributes. Furthermore, cognitive and affective attributes both have an important role in predicting the applying intentions. In addition, the results show that gender has a moderating role in university image formation and male and female high school students seem to use different determinants when considering to apply to university. The study offers valuable theoretical and managerial contributions by revealing the drivers of university image and applying intentions, as well as offering a tool for universities to identify the drivers in their institutions. The current study is a start for research of relationship of university image and applying intentions of potential applicants. However, the subject needs more contributions from future research.

Keywords: university image; corporate image; applying intentions; cognitive image attributes; affective image attributes

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1 Introduction

1.1 Research gap and objectives

Organizations have long understood importance of their images but in university sector the topic has gained relatively insufficient attention. Organizational image can be understood as a synonym for organizational brand. However, the term image has a stronger emphasis on outsiders' perceptions. Universities are nowadays competing for the best applicants nationally and internationally and hence, face the necessity to gain better understanding of how their stakeholders perceive them. Therefore, universities are today acting more like commercial businesses and assessing their corporate brands and images has become urgent (Curtis et al., 2009; Mazzarol et al., 2000; Bunzel, 2007; Williams & Omar, 2014; Melewar & Akel, 2005). However, we can see that existing models that are used in business field are not directly generalizable to university context as universities have very diverse and unique service features compared to business organizations (Hemsley-Brown & Oplatka, 2006). Accordingly, there is a demand for developing new models for university branding and university image assessment. The topic of university image is still very little discussed in marketing research and university sector, especially in Finland where this study is placed. Universities in Finland have only recently started to think how to attract new applicants.

Universities compete for getting the most applicants but especially getting also the best applicants (Hemsley-Brown & Oplatka, 2006; Melewar & Akel, 2005). While the competition has increased, universities pursue to brand themselves more unique and create desirable images to differentiate themselves from competitors (Sung & Yang, 2008). Image is a valuable asset for universities as it can impact decisions that ensure the future of university, like whom will apply to the university (Landrum et al., 1999). Nonetheless, the corporate image has received much attention in academic research but only limited amount of attention has been given to image in service-oriented organizations like universities (Sung & Yang, 2008, p.358; see also Aghaz et al., 2015; Kazoleas et al., 2001).

Further, issues like reduced enrollments, decreased student's retention, competition and willingness to improve the image are big motivations for universities to invest in branding (Williams & Omar, 2014; Joseph et al., 2012). Strong branding leads to clear positioning

in the minds of consumers, positive attitudes towards the organization and strong corporate image (Curtis et al., 2009). With an objective to be attractive, companies strive to build a strong corporate image (Andreassen & Lindestad, 1998) that is an important resource for any organization (Curtis et al., 2009). Corporate image has an influence on person's behavioral responses (Treadwell & Harrison, 1994) and helps companies to retain their customers as well as attract new ones (Andreassen & Lindestad, 1998).

The objective of this study is to research university image and its relation to applying intentions of potential applicants. The current study is implemented as a case study of Aalto University School of Business. The case university has encountered a problem of reduced female students, as female high school students are not applying as eagerly as before to B.Sc. programme of the school. Approaching the problem by studying the image of Aalto University School of Business and its relation to applying intentions, this study gives contribution to university image research from four different perspectives.

Firstly, this study's objective is to examine university image in a new environment and context. Research of university images and brands has focused on countries (e.g. U.S. and UK) where universities are in large extent defined through tuition fees, athletic programs and the type of the university (whether it is public or private). According to studies, these components have often had a significant role in university images (e.g. Kazoleas et al., 2001; Landrum et al., 1998; Arpan et al., 2003). However, in countries like Finland university sector does not typify these characteristics. Therefore, there is a need for studies of university image in a new surrounding to indicate which factors are emphasized when for example athletic programs do not have an effect.

While there is a lack of university image research in the environment like Finland, there is also a lack of research among the most important stakeholder group: potential applicants. A majority of studies on university brands and images are focused to examine perceptions of current university students (e.g. Sung & Yang, 2008; Palacio et al., 2002; Aghaz et al., 2015; Alwi & Kitchen, 2014; Nguyen & LeBlanc, 2001; Duarte et al., 2010) and only scarce research is implemented among potential applicants of universities. Universities have many important stakeholder groups but without recruitment of new students universities will not survive (Ali-Choudhury et al., 2009). In this sense, research of university images among potential applicants is needed.

Secondly, the purpose is to study how university image affects potential applicants' intentions to apply. The topic of university image has only recently gained more attention and academic literature about the topic is still very limited. Wilkins and Huisman (2013) emphasized that image formation and the influence of image on students' choice is a largely under-researched subject. Consequently, university image is an interesting topic to study but it is also an opportune way to study factors that affect applying behavior of potential applicants. Authors have highlighted the importance of image in situations where consumers do not have direct experiences with an organization (e.g. Sung & Yang, 2008; Dowling, 1986). When consumers have a lack of direct experiences, the image can play a salient role in directing consumers' perceptions and behavior (Sung & Yang, 2008; Dowling, 1986). Accordingly, university image can have a strong impact on applying intentions of potential applicants who generally have limited direct experiences with universities. In addition to the objective to indicate the effect of overall university image on applying intentions, direct effects of different image attributes on applying intentions are studied. Examining factors that affect choices of potential applicants can offer very valuable information for university marketing (Soutar & Turner, 2002).

Further, even though it is widely acknowledged in the literature that image has effect on attracting and getting new students (e.g. Sung & Yang, 2008; Ivy, 2001; Belanger et al., 2002; Zaghloul et al., 2010; Duarte et al., 2010; Landrum et al., 1999; Arpan et al., 2003), previous research of university image has hardly scratched the surface of examining the relation of university image and applying intentions. Moreover, Nguyen and LeBlanc (2001) remarked that despite of a general understanding about the effect of institutional image on consumer behavior there is a lack of empirical evidence. This is the second contribution that this study strives to deliver to university image research.

Thirdly, this study proposes a comprehensive model for assessing the university image by applying components from previous university image studies. Alves and Raposo (2010) describe that people make their perceptions of an organization through many different attributes. Because university image, like image in general, is a complex construct with multiple different factors affecting to overall image, it should also be measured using multiple factors concurrently (Duarte et al., 2010). Moreover, Keller (2003) emphasizes that by focusing on too narrow perspectives and disregarding the multidimensionality of image, consumer research will lack richness. Nonetheless, few university image studies

have strived to measure images with comprehensive measures (Sung & Yang, 2008). Hence, there is a lack of comprehensive models for university image evaluation and this is the issue that this study hopes to respond.

Furthermore, image can be seen formed through two different kinds of attributes: cognitive image attributes that refer to functional characteristics and affective image attributes that represent intangible characteristics and emotions (Aaker, 1996). Traditionally, cognitive approach has gained more attention in image research while more recent image studies have concentrated to examine the abstract and intangible characteristics of image, like for example studying image through metaphor of personality traits (Keller, 2003). Still, existing studies have generally taken only one aspect under consideration and empirical research of corporate image studying both of these attributes is very limited. Similarly, the majority of university image studies have concentrated to examine images from one-sided perspectives (Alwi & Kitchen, 2014). This study's purpose is to examine the image more comprehensively and assess both cognitive and affective dimensions of image.

Finally, this study gives contribution to corporate image research by examining gender as a moderator of image perceptions and behavioral intentions. The gender perspective has not been studied much among university or corporate image field and therefore, it is an interesting viewpoint to study. Few studies have found that different attributes of an image affect male and female students' satisfaction (Parahoo et al., 2013; Roper & Davies, 2007). In addition, more studies about the gender effect are implemented in university choice literature. Those studies have indicated that university choice criteria differ between males and females (e.g. Briggs, 2006; Wiese et al., 2010; Broekemier & Seshadri, 2000). Even though the research is scarce, there is a support for a hypothesis that males and females consider different image attributes when evaluating the overall university image and thinking about applying to the university. However, also contradictory findings exist. It is suggested that socio-economic characteristics should be regarded in university image research to develop deeper insight into the phenomenon (Palacio et al., 2002). Besides, the gender effect is emphasized in this study because of the case university's issue of decreased amount of female students. Possible differences between male and female high school students can offer valuable insights into planning university's marketing communications.

Margulies (1977) proposes that when studying corporate image the studying should begin by defining organization's assets and identity from organization's point of view. Identity can be seen as a key element for building strong brands (Aaker, 1996). Nowadays universities need to communicate their desired images to their most important audiences (Kazoleas et al., 2001). Wilkins and Huisman (2013) noted that improving the image requires identifying the gap between desired image and perceived image. This study follows the idea and starts with a pre-study of university's desired image with an objective to realize the most important assets and attributes of the university identity and the desired image among high school students from university's marketing and communications specialists' point of view. The purpose is to develop better understanding of the case university and subsequently, reveal possible gaps between desired and perceived images.

Combining studies of desired and perceived image can result in valuable insight for the case organization. Firstly, because organizations cannot directly manage their images that are perceived by the audience, rather they can only impact on the image by managing the identity (Abratt, 1989; Dowling, 1986; Margulies, 1977; Markwick & Fill, 1997). Secondly, the ideal image can be seen to be based on identity (Gioia et al., 2000) and a possible gap between how organization want to be seen and how consumers perceive the organization should be reduced (Dowling, 1986; Gioia et al., 2000). However, the focus of this study is on the empirical research of university image and applying intentions among potential applicants.

To sum up, studying the relation of university image and applying intentions of potential applicants is an important aspect that suffers from a lack of contribution in university image literature. This study strives to take the first step to close the gap. Further, the purpose is to develop a comprehensive model for assessing drivers of university image and applying intentions, both for marketing research and universities. Moreover, an important aspect of the study is to offer knowledge of gender effect on the formation of university image and applying intentions. Accordingly, research questions of this study are:

1. How university image is formed among potential applicants and how do the university image and its factors affect applying intentions?

2. How gender affects university image formation and the determinants used when considering to apply for university?

1.2 Structure of the study

This study of university image and applying intentions of potential applicants is based on a case study of Aalto University School of Business and leans highly on previous studies of university brands and images. Through exploring corporate and brand image literature alongside with university image literature, the next chapter discusses image and its main features with regard to the current study. More specifically, the literature review of university image research focuses on studies measuring university image formation and assessing effects of university images on attitudes and behavior. Furthermore, literature of university choice criteria is presented. Hypotheses and a conceptual model of the study are developed based on the literature review and support for each hypothesis from existing studies is presented.

Before the actual study, the case university is discussed shortly, followed by a pre-study of two interviews that were conducted with marketing and communications specialists of the university. The pre-study gives more insight into the case university and the knowledge is used in scale development. Scales and items are developed based on previous studies. The study of university image and applying intentions of potential applicants is implemented as a quantitative empirical research using a web survey to collect data. Data analysis is based on a sample of 1037 high school students around Finland.

The data analysis consists of model assessment and testing the hypotheses. First, exploratory and confirmatory factor analysis are implemented to test proposed multidimensional image construct, its validity and reliability. Subsequently, a structural model is formed to test hypotheses. The purpose of the study is to analyze relationships between image attributes and overall university image and each role as a predictor of applying intentions. Moreover, the purpose is to indicate whether gender has moderating effect on the results. For that reason, the analysis consists of the results of structural equation modeling (SEM) using the full sample, followed by multi-group SEM and separated results of male and female high school students. Differences between genders are assessed and statistical support for the differences is tested. After that, conclusions, discussion of the results and managerial implications based on findings are presented. Finally, limitations of the study and suggestions for the future research are proposed.

2 Literature review

This study is framed based on two assumptions that are widely accepted in image literature: 1) Image is a perceptual and subjective phenomenon, located in the perceiver's mind; and 2) Image is formed through cognitive (functional) and affective (emotional) dimensions. Next, the statements are introduced more precisely through existing literature of corporate and brand image and literature of university image. University image is further viewed through previous research, focusing on studies of measuring a multidimensional structure of university image and effects of university image on attitudes and behavioral intentions. In addition, literature of university choice criteria is viewed.

2.1 Image as perceptual phenomenon

It is not the reality but the perception of reality that defines the image (Dobni & Zinkhan, 1990; Martineau, 1958). Corporate image is "what stakeholders perceive the organization to be" (Markwick & Fill, 1997), it is a construct of beliefs, attitudes and impressions that person has of the company (Barich & Kotler, 1991). Although images are not always based on facts and reality, they still guide consumers' behavior and decisions (Barich & Kotler, 1991; Dowling, 1986) and even the best company may fail if it is not able to convey its eminence to its target audience (Nandan, 2005).

Corporate image is a mental picture of the corporation that corporation's audience has formed (Tran et al., 2015). Many authors agree corporate image should be understood as perceived by organization's external publics (e.g. Dowling, 1986; Treadwell & Harrison, 1994) and there is a general understanding to see corporate image existing only in consumers' minds (Barich & Kotler, 1991; Stern et al., 2001). Image is a subjective and perceptual phenomenon (Dobni & Zinkhan, 1990; Treadwell & Harrison, 1994). Consequently, images are completely determined by organization's audience. Biel (1993) describes image as the sum of attributes and associations that consumers link with the brand. These associations can be divided into hard or functional attributes and soft, emotional attributes (Biel, 1993).

When exploring the literature we can see that there is no constant and simple definition for image. Defining image is not unambiguous and using different terms increases the confusion (Abratt, 1989). For example some authors use terms of corporate image and

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corporate identity interchangeably (Abratt, 1989), as well as terms of image and reputation. While reputation is sometimes used as a synonym of image (Markwick & Fill, 1997), it is also seen as a component of image (Barich & Kotler, 1991) and formed when stakeholders perceive consistent images over time (Wilkins & Huisman, 2013). Nonetheless, reputation can be seen more permanent whereas image can be influenced more easily for example through communication programs (Cornelissen & Thorpe, 2002; Markwick and Fill, 1997). Wilkins and Huisman (2013) state that reputation can be an antecedent as well as a consequence of an image as people can be influenced by reputation when they make their image perceptions.

As image is a perceptual phenomenon, different stakeholder groups more likely perceive it differently and accordingly hold dissimilar images of a same organization. There is a general understanding that organizations do not have one congruent image but rather multiple images that differ upon a public whose perception is assessed (e.g. Barich & Kotler, 1991; Markwick & Fill, 1997; Martineau, 1958; Dowling, 1986). Different stakeholders hold diverse images of an organization because they use different cues when determining the image. Abratt (1989) states that not all attributes affect at the same level to overall image and individuals choose consciously or unconsciously which attributes constitute the image. The importance of different attributes in image formation varies among different stakeholder groups (Barich & Kotler, 1991). Martineau (1958) stated that because publics have different aspects, expectations and wishes, they also see the image differently. In turn, Wilkins and Huisman (2013) describe that individuals or stakeholder groups can have dissimilar images of the same organization as they all have different experiences with the organization, different information sources and they determine the image by emphasizing different attributes. Stern et al. (2001) demonstrate that for example an investor may have a positive image of an organization because of good profitability, whereas at the same time customer may have a very negative image of the same organization because of poor customer service. Therefore, organizations can have very contradictory images among different stakeholder groups. Further, the image perceptions can vary within a group based on characteristics of a person (Barich & Kotler, 1991).

In university field for example Arpan et al. (2003) studied image among current university students and non-student adults. The study indicated that different stakeholder groups used different criteria in determination of overall image. The research of university images is

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focused on studying perceptions of current university students (Sung & Yang, 2008; Palacio et al., 2002; Aghaz et al., 2015; Zaghloul et al., 2010; Alwi & Kitchen, 2014; Alves & Raposo, 2010; Arpan et al., 2003; Simões & Soares, 2010; Brown & Mazzarol, 2009; Nguyen & LeBlanc, 2001; Helgesen & Nesset, 2007; Marič et al., 2010; Duarte et al., 2010; Davies & Chun, 2008; Treadwell & Harrison, 1994) and few studies have examined images among general public (Arpan et al., 2003; Kazoleas et al., 2001; Landrum et al., 1998). However, as demonstrated, different stakeholder groups more likely hold varying images toward the same organization (e.g. Barich & Kotler, 1991; Wilkins & Huisman, 2013) and hence, the university image should be studied separately among current university students and potential applicants, because it cannot be directly assumed that potential applicants use same determinants at the same level in image evaluation than current students. It is important that organizations identify their image's strengths and weaknesses in each different group and modify the image separately to all these groups (Dowling, 1986; Sung & Yang, 2008). Review of the existing literature indicates that there is a lack of studies that focus on potential applicants, whose importance cannot be ignored as they continually ensure the operation of the university in the future.

Images are dependent on receiver's perception, exist in stakeholder's mind and therefore, cannot be managed directly. Organization cannot directly change its image but it can impact on the image by managing its corporate identity (Margulies, 1977; Markwick & Fill, 1997; Abratt, 1989). While image represent how an organization is perceived from its audience, identity can be seen to represent what the organization is in reality (Marič et al., 2010), how it presents itself to its target audience (Melewar, 2003; Alessandri, 2001; Gioia et al., 2000; Markwick & Fill, 1997; Abratt, 1989) and as a sum of features that organization considers to be its main assets and distinguishing characteristics (Margulies, 1977; Melewar, 2003). Coherency of identity and image cannot be taken for granted (Nandan, 2005) and hence universities need to be aware of their images to ensure that perceived images are consistent with the university image held by the stakeholders (Ivy, 2001; Williams & Omar, 2014).

Purpose of the identity is to communicate the individuality of an organization and make a distinction to competitive products in the minds of relevant publics of the organization (Nandan, 2005). Corporate identity represents the conscious cues that company present whereas corporate image is the impression that audiences shape in their minds through

these cues (Abratt, 1898). According to Markwick and Fill (1997) corporate identity represents organization's desired image as it indicates how the organization would like to be perceived by its stakeholders and like image, also identity can vary in different contexts (Gioia et al., 2000). Margulies (1977) proposes that exploring organization identity and image the studying should start by identifying how the organization perceives its assets.

Image can be seen as ideally based on identity (Gioia et al., 2000) and studying images is important because it will reveal whether the perceptions of stakeholders are similar to perceptions of the organization (Barich & Kotler, 1991). When there is a dissimilarity between identity and image, organization should consider actions to shrink the gap by trying to change its identity or audience's perceptions through better communication of organization's identity and emphasizing the aspects of the identity that are socially desirable (Gioia et al., 2000). This gap between individual's perceived and company's desired image indicates that company should consider modifying its marketing strategy (Dowling, 1986). Also Nandan (2005) notes that the distinction between identity and image can be seen as a communication gap that arises when consumer's decoding do not match with messages that company encoded and sent.

The image is an end result of university branding (Curtis et al., 2009) and identity can be seen to represent these purposeful and strategic efforts to impact on stakeholders' perceptions and achieve positive images (Alessandri, 2001). Nevertheless, it is argued that company can impact only limited amount on its perceived image through communication. Images are constructed through various factors and messages sent by organization are only one influencer among others (Biel, 1993). The cues of identity that organization presents to its audience will usually contribute the image evaluations, but still everything depends how receiver interprets these cues (Markwick & Fill, 1997).

Images of higher education institutes are formed through word of mouth, experiences and marketing activities (Ivy, 2001). Kazoleas et al. (2001) found in their study that university image was influenced most by actual experiences and close personal relationships had also great impact on perceptions. Moreover, their findings indicated that marketing communication efforts were not as important. Bennett and Ali-Choudhury (2009) indicated in their study of university brand that many other factors, like for example perception of graduation prospects and location, had more impact on applying intentions of prospective

students than had university's marketing communications actions. In general, word of mouth especially from close acquaintances and direct experiences are seen to be very important formers of an image. However, while high school students' direct experiences with universities can be scarce and limited to open houses where few attend, word of mouth and marketing efforts can be seen to be highlighted in university image formation among potential applicants (Nguyen & LeBlanc, 2001).

2.2 Two dimensions of image

Worcester (2009) says corporate image is "the net result of all experiences, impressions, beliefs, feelings and knowledge people have about a company". Martineau (1858) classified image in two dimensions, functional attributes and emotional meanings that both shape the image. Similarly, Biel (1993) described image as a set of associations that consumers have toward a brand and divided these associations to hard attributes representing functional attributes and to soft emotional attributes. Likewise, several other studies have emphasized that image is formed by two dimensions, cognitive and affective, and both of these dimensions should be considered when evaluating the image (e.g. Aaker, 1996; Agarwal & Malhotra, 2005; Malhotra, 2005). Even though the importance of both of these dimensions is widely acknowledged in corporate brand and image literature, the earlier empirical research has adopted either cognitive or affective perspective and there is only limited number of studies considering the both dimensions together (Da Silva & Alwi, 2006).

The cognitive dimension of image refers to functional and tangible attributes and beliefs. In turn, the affective dimension represents emotions and psychological characteristics and consequently, more intangible and abstract attributes of image. (e.g. Agarwal & Malhotra, 2005; Nguyen & LeBlanc, 2001; Aaker, 1996) While it is easier to study for example perceptions of the quality of company's products (cognitive attributes) it is not as easy to expose consumers' feelings toward the company. However, it is essential to study these both dimensions simultaneously as both of them are found to contribute to the overall image and to have an impact on consumer behavior and brand choice (Da Silva & Alwi, 2006; Agarwal & Malhotra, 2005; Alwi & Kitchen 2014).

Keller (2003) emphasizes the importance of seeing image from broader perspectives as multiple factors affect customer's response. For decades image research has focused on

cognitive perspective and studies have assessed only tangible and product-related attributes of image. More recently, also affective dimension has gained more attention in the image research. (Malhotra, 2005; Keller, 2003; Agarwal & Malhotra, 2005) Affective approach, considering more abstract and intangible attributes of image, has become more common in image research especially through studies using personality traits to describe image (Keller, 2003). Hence, one way to assess the affective dimension of image is through brand personality (Biel, 1993), which enables to capture emotions and feelings that are evoked from the brand or company (Keller, 1993). Using metaphor of personalization (organization as a person) offers a tool to examine and illustrate the complex subject of organization image (Aaker, 1996; Davies et al., 2004). Besides, describing brands with humane characters is inherent as consumers easily describe brands to be for example selfish, sophisticated or charming (Biel, 1993; Aaker, 1996). Furthermore, personality can take an important role influencing consumers' behavioral intentions and creating brand equity as consumers are looking for brands or companies that match to their self-concept. Martineau (1958) described that potential customers are looking for a fit between their own self-image and image of the store. Further, it has indicated that the fit between consumer's self-image or ideal self-image and image of a product positively affect consumer's product preferences and behavioral intentions (see e.g. Sirgy, 1985). Similarly, Aaker (1996, p.153) says that people can use brands to express their self-image or ideal self-image and hence the personality affects their purchase intentions and creates brand equity.

Affective attributes are important also in branding (Keller, 2003), because they offer companies a way to differentiate themselves in the competitive marketplace where all products can be considered to perform well and identically in their functions (Martineau, 1958). These intangible attributes can offer companies a valuable source for positioning, differentiating themselves from competitors, enriching marketing communication, creating brand equity and understanding people's perceptions and attitudes more deeply (Aaker, 1996, p.150). Still also cognitive attributes are important at the same time and there is a need for understanding and studying both of these perspectives simultaneously (Keller, 2003). Cognitive attributes can be also seen as the main drivers of affective attributes (Aaker, 1996, p.145). Malhotra (2005) emphasizes that more research is needed to indicate the roles of cognitive and affective attributes as influencers of overall evaluation, intention and behavior.

Similarly to image research generally, the mainstream of existing research of university brands and images have concentrated to examine cognitive attributes (e.g. Landrum et al., 1998; Bennett & Ali-Choudhury, 2009; Arpan et al., 2003; Duarte et al., 2010; Kazoleas et al., 2001; Marič et al., 2010) and affective dimension has got much less attention. Despite the fact that the two sides of image, cognitive and affective, are noted widely in the literature, the research of university image have only scratched the surface of studying both of these dimensions. One of the few studies that have examined the both dimensions is Palacio's et al. (2002) research that emphasized that university's overall image is constructed not only through beliefs but also through emotions. They studied university image by assessing cognitive and affective attributes and found out that both dimensions had an effect on overall university image. Similarly, Alwi's and Kitchen's (2014) study indicated that both, cognitive and affective, attributes had a significant role in explaining corporate image. Moreover, their findings suggest that generally omitted affective dimension has even more influence on image than the cognitive one. Furthermore, few studies have concentrated to study only the affective dimension of the university image through personality traits (Roper & Davies, 2007; Davies & Chun, 2008).

2.3 University image

The concept of corporate image has stabilized in marketing research field but research of image in service-oriented organizations like universities is still insufficient (Sung & Yang, 2008). Although organizations in business field have long noticed the importance of their images the topic has gained only recently more attention in university sector. Nonetheless, because of a service-oriented character of universities, images can have a great importance. As services can be described intangible and experience-based products, which can be evaluated only after consumption, the image play a significant role in predicting the outcome of the service production and can be the most important cue for consumers to evaluate the ability of the service (Nguyen & LeBlanc, 2001).

Universities' increased understanding of the importance of attracting students has increased attention towards university images in research field (Sung & Yang, 2008). In the context of university and potential applicants it is noteworthy to study images. According to Dowling (1986) corporate image is important in long-term survival of company because not all people have direct experiences with the company and a good

image can affect consumers' behavior. Sung and Yang (2008) disclose that image is usually seen to have bigger significance on consumers perceptions if consumer do not have much direct experiences with the organization. Consequently, image can have a relevant impact on potential applicant's perceptions and applying behavior because of their limited or nonexistent direct experience with the university.

Furthermore, choosing the university which to apply is a decision that has a long-term impact on person's life and career, and therefore includes a high risk (Simões & Soares, 2010). Brands' purpose is to lower the perceived risks, help consumers to differentiate product from another and do buying decisions more confidently (Nandan, 2005). Similarly, Mourad et al. (2011) emphasized the role of brand equity as risk reducer in university selection. In their study image was the main driver of brand equity. Wilkins and Huisman (2013) stated that consumers pay more attention to corporate image and its evaluation when purchasing includes services, expensive products or require long-term engagement, as it is the case in choosing the university.

Kazoleas et al. (2001) studied university images with an idea that image is constructed through multiple images. They divided factors that affect image formation in three different perspectives. Personal perspective included factors like gender, age and income; environmental perspective considered for example location and entry requirements; and organizational perspective contained factors like buildings, size of campus, academic programs and sports programs. The multi-image concept means that an individual can have favorable and unfavorable images of the university at the same time, for example having favorable images in teaching quality and unfavorable images in sports programs. (Kazoleas et al., 2001) Arpan et al. (2003) proposed that instead of that individuals hold multiple images of one organization they have different beliefs towards the organization that contribute to the overall image.

Images are multidimensional constructs and it is essential to know the factors that form the images. Aghaz et al. (2015) point out that even a prestigious university may lose its status if it disregards the components that contribute to its institutional image. Universities need to measure the university image among target group and also evaluate how the image is formed, so that it could be modified to reflect the desired image (Alves & Raposo, 2010). However, recognizing all these sources or factors affecting the corporate image is not a

simple task because of the subjective nature of image (Duarte et al., 2010). Previous studies have included different university image factors under examination and hence, also the results of which factors affect the university image differs. For example, Duarte et al. (2010) studied university image through four cognitive components that arose from previous literature. These components were communication, social life, job opportunities and course image. In turn, Kazoleas et al. (2001) identified seven components affecting university image formation. These components included overall image, program image, teaching and research emphasis, quality of education, environmental factors, sports programs and financial reasons. In turn, other studies have indicated that the most important factors determining the university images are for example: academic quality (Arpan et al., 2003; Landrum, 1999), relevant other's opinions (Wilkins & Huisman, 2013), employment and graduation prospects (Duarte et al., 2010; Bennett & Ali-Choudhury, 2009) and social environment (Treadwell & Harrison, 1994; Duarte et al., 2010). Consequently, university image is a complex and multidimensional construct.

Nevertheless, potential applicants consider also less tangible aspects of the university that affect their choices as they think for example questions like: "Will they fit in?" (Davies & Chun, 2008). Palacio et al. (2002) found that cognitive and affective dimensions contribute to the overall university image that in turn contributed to satisfaction. In addition, cognitive and affective attributes had separate influences on satisfaction (Palacio et al., 2002), and therefore it is relevant to study also separate effects of image factors on applying intentions. Also Alwi and Kitchen (2014) found in their study that cognitive and affective attributes contributed to university brand image and student's satisfaction. They measured the affective dimension using personality traits. Few other studies have examined the effect of personality on satisfaction by examining the university image through personality traits (Davies & Chun, 2008; Roper & Davies, 2007) or having personality as one aspect of the university image (Sung & Yang, 2008).

Cognitive attributes that are most studied and found to have an effect on behavior and image formation and those that are relevant for this study context are: academic excellence, graduation prospects, external prestige, social environment and physical actualities. Moreover, as affective attributes have started to gain some attention in university image research (e.g. Palacio et al., 2002; Alwi & Kitchen, 2014; Davies & Chun, 2008; Sung & Yang, 2008) they have found to have a great influence on image

formation and behavior in university context. Even though the research of university images has grown lately and more knowledge of factors affecting the image is received, the factors suffer from dissimilarity and discontinuity among previous studies. For example, there are studies indicating that attributes of academic, graduation prospects and atmosphere form one factor (Palacio et al., 2002) or that the overall image considers attributes of facilities and teaching quality for instance (Duarte et al., 2010; Kazoleas et al., 2001) while other studies have separated them as own factors. The multidimensional construct of an image is indicated in the literature but knowledge of which factors influence on university image formation and to what extent is scarce (Duarte et al., 2010).

2.4 Image, behavioral intentions and university choice

Images are perceptual phenomena that consist of people's beliefs rather than actual reality, however they are guiding consumers' behavior, decisions, (Barich & Kotler, 1991; Martineau, 1958) satisfaction and loyalty (Andreassen & Lindestad, 1998). The impact of image on behavior is emphasized in situations where consumer's direct experience with the company is limited (Dowling, 1986; Sung & Yang, 2008) and the service is complex and hard to evaluate (Andreassen & Lindestad, 1998). Consequently, because of the complexity of evaluating services of university (Mazzarol et al., 2000) and the lack of or limited direct experiences, the image can play a significant role in potential applicants' university selection and direct their decisions whether to apply. It is widely noted in the university image literature that images impact on attracting and getting new students (e.g. Ivy, 2001; Sung & Yang, 2008; Aghaz et al., 2015; Zaghloul et al., 2010; Duarte et al., 2010), however only limited number of studies have presented any empirical support for this statement and even less studies have additionally focused on perceptions of potential applicants. Next the relationship of image and applying intentions is viewed through studies of examining the implications of university image and literature of university choice.

To begin with, university choice decision is a complex process with multiple factors affecting to it, not only university characteristics (Kallio, 1995), therefore it is not assumed that university image and its different factors would entirely explain applying intentions. Furthermore, as a study program or major can be seen to be the most important factor affecting the choice of the university (Broekemier & Seshadri, 2000; Stephenson et al.,

2015; Wilkins & Huisman, 2013) the university image is assumed to have only partial influence on the applying intentions. Besides of university's curriculum, other factors like entry requirements can effect on the applying intentions of potential applicants (Wilkins & Huisman, 2013). Moreover, Joseph et al. (2012) noted that even though branding can enhance the awareness and the image of university, word of mouth is a significant factor influencing on university selection.

In university image literature, Bennett's and Ali-Choudhury's (2009) study is one of the few studies that have strived to indicate which brand attributes impact on applying intentions of prospective students. Their study indicated that more positive evaluations of brand attributes led to higher values in conative responses like intentions to apply. Consequently, Bennett and Ali-Choudhury (2009) introduced support for the relationship between university brand and probability to apply to university. Nonetheless, they did not measure the overall image but only separate image factors' effect on person's behavioral intentions. In Bennett's and Ali-Choudhury's (2009) study the most affective factors predicting the applying intentions were covenant that consisted of graduation prospects, social environment and learning environment and quiddity, including for example location of the university and a composition of student body. In turn, Mourad et al. (2011) studied brand equity in the university context and found that brand is a significant influencer in university choice and because image was found to be the main driver of brand equity they also emphasized that universities should concentrate to evolve positive images rather than implementing marketing promotions for creating awareness.

University image studies have concentrated to study relations of image for example to satisfaction and trust of current university students rather than applying intentions of potential applicants. Moreover, university choice studies are not generally combined with the university image. However, the university image research seem to highlight same factors that have found to be important in the university choice studies, like for example: academic reputation/quality, social life and friendly environment, graduation prospects and location and campus (e.g. Simões & Soares, 2010; Broekemier & Seshadri, 2000; Kallio, 1995; Joseph et al., 2012; Briggs, 2006; Stephenson et al., 2015; Capraro et al., 2004). For instance, Soutar and Turner (2002) studied determinants affecting high school students' university preferences. Four factors that contributed the most to university preferences

were: course suitability, academic reputation, teaching quality and job prospects (Soutar & Turner, 2002).

Overall, a number of studies have focused to identify the choice factors affecting university selection by examining perceptions of potential applicants (e.g. Pampaloni, 2010; Broekemier & Seshadri, 2000; Soutar & Turner, 2002; Capraro et al., 2004) and some studies have implemented as post-studies by asking current university/college students what affected their choice (Joseph et al., 2012; Stephenson et al., 2015; Briggs, 2006; Kallio, 1995). Nonetheless, these university choice studies have considered only cognitive factors.

3 Conceptual model and hypothesis development

Next a conceptual model for the study is presented and hypotheses are set based on the literature review. The purpose is to build comprehensive model for measuring the university image from cognitive and affective perspectives and assessing its relationship to applying intentions. Cognitive and affective dimensions are found to be significantly important in university image formation, respectively (Palacio et al. 2002; Alwi & Kitchen, 2014) and to have impact on consumer behavior and decision making (e.g. Da Silva & Alwi, 2006; Agarwal & Malhotra, 2005; Alwi & Kitchen 2014). For those reasons, in this study university image is considered to consist of cognitive and affective attributes.

Based on the literature review the cognitive attributes that contribute to image formation and are relevant in the study context are: academic excellence, graduation prospects, external prestige, social environment and physical actualities (e.g. Arpan et al., 2003; Nquyen & LeBlanc, 2001; Sung & Yang, 2008; Duarte et al., 2010; Bennett & Ali-Choudhury, 2009; Wilkins & Huisman, 2013). In turn, the affective attribute is examined through personality traits. According to few previous university image studies (Alwi & Kitchen, 2014; Davies & Chun, 2008; Roper & Davies, 2007), corporate character scale of Davies et al. (2004) is applied. The corporate character scale consists of seven dimensions: agreeableness, enterprise, competence, chic, ruthlessness, machismo and informality (Davies et al., 2004). Next the hypotheses based on the literature review are presented. Figure 1 represents the conceptual model of the study.
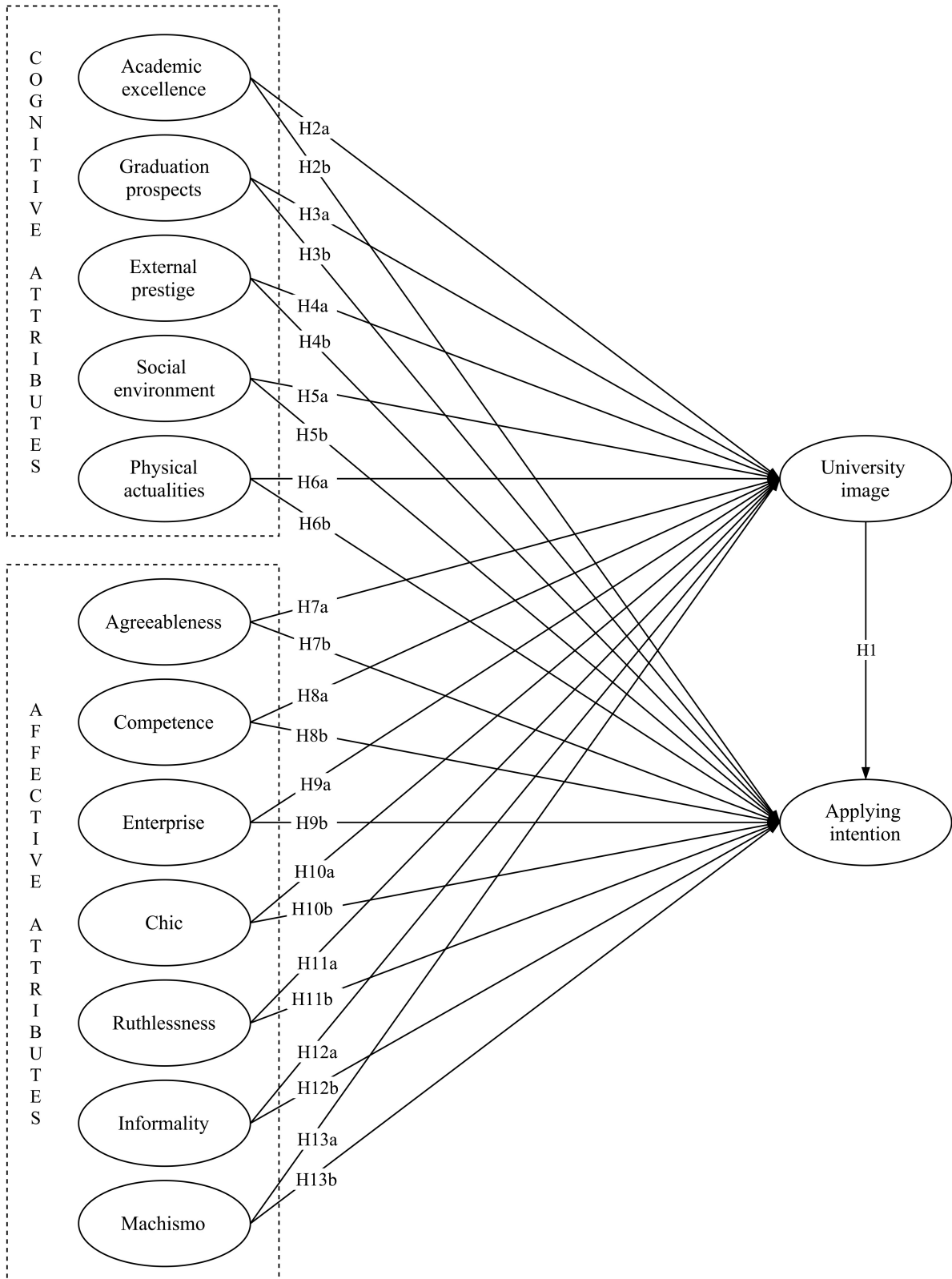
Figure 1 Conceptual model of cognitive and affective image attributes, university image and applying intention.

3.1 University image and applying intention

Existing university image research has proved image to have effect on behavior and behavioral intentions, which makes understanding and measuring university images of great importance (Alves & Raposo, 2010). University image has been studied to have impact on for example students' satisfaction (Palacio et al., 2002; Alwi & Kitchen, 2014; Alves & Raposo, 2010; Davies & Chun, 2008; Brown & Mazzarol, 2009), loyalty (Nguyen & LeBlanc, 2001; Alves & Raposo, 2010; Helgesen & Nesset, 2007), trust (Aghaz et al., 2015) and supportive attitudes (Sung & Yang, 2008). Less attention is indicated to study of the relation of university image and university choice or applying intentions of potential applicants.

University image literature emphasizes that images influence on attracting and getting new students (e.g. Ivy, 2001; Sung & Yang, 2008; Aghaz et al., 2015; Zaghloul et al., 2010; Duarte et al., 2010), but the existing research have only starched the surface of studying potential applicants image perceptions' influence on applying intentions. Mourad et al. (2011) indicated that image is the main driver of university brand equity which in turn influences on university selection. In complex and intangible service settings where the service is hard to evaluate and consumers have lack of direct experience with the company, the influence of image guiding behavior is emphasized (Andreassen & Lindestad, 1998; Dowling, 1986; Sung & Yang, 2008). Based on the findings of university image's effect on behavior and behavioral intentions and the general supposition of the influence of university image on attracting new students, it is set following hypothesis:

H1. Overall university image has a positive relationship to applying intentions.

3.2 Academic excellence

Academic excellence is usually found to be one of the most important factors affecting university image formation and university choice. Arpan et al. (2003) found that academic attributes strongly predicted students' overall image ratings of the university. In turn, Soutar and Turner (2002) studied high school students' university preferences and found that academic reputation and teaching quality had a great influence. Also Simões and Soares (2010) studied which factors were considered as the most important motive for choosing a university. In their findings academic reputation of university and degree were ranked to the most important factors after geographical proximity.

According to many other studies, academic reputation and faculty quality have found to be one of the most important factors of university image (Nquyen & LeBlanc, 2001; Treadwell & Harrison, 1994; Marič et al., 2010; Landrum et al., 1998; Aghaz et al., 2015) and university/college choice (e.g. Wiese et al., 2010; Joseph et al., 2012; Kallio, 1995; Shank & Beasley, 1998; Broekemier & Seshadri, 2000; Briggs, 2006). Accordingly, the following hypothesis is presented:

> H2. Academic excellence has a positive relationship to university image (a) and applying intentions (b).

3.3 Graduation prospects

The importance of job opportunities and usefulness of a degree after graduation are emphasized in previous research. Duarte's et al. (2010) study indicated that employment opportunities were significant predictor for university image. Graduation prospects were also in Bennett's & Ali-Choudhury's (2009) study an important factor in the university brand formation. In turn, Mazzarol et al. (2000) studied which factors were the most important in attracting students. Their study presented that current students consider future employment as the most important factor. Consequently, Mazzarol et al. (2000) emphasized that it is important for education institutions that they present evidence of qualifications recognized by employers in their marketing to attract better students. Employment prospects after graduation were also emphasized for example in Soutar's and Turner's (2002), Broekemier's and Seshadri's (2000) and Wiese's et al. (2010) studies as one of the most important determinants in college choice. Based on the previous studies that indicate the influence of graduation prospects on university image formation and university choice, a third hypothesis is formed:

> H3. Graduation prospects have a positive relationship to university image (a) and applying intentions (b).

3.4 External prestige

Bennett and Ali-Choudhury (2009) saw reputation to be consequence of brand rather than contributing factor in brand formation, whereas Barich and Kotler (1991) presented reputation as part of the image. Aghaz et al. (2015) found in their study that reputation had the strongest contribution to perceived university image. Reputation is generally included

in university image studies using definition of prestige that can be seen to reflect to reputation. Prestige is often considered as attribute of university image or brand. Therefore, as reputation or external prestige can be seen as source of knowledge and beliefs or consequence of consistent image, it can be also seen as an important component of university image. External prestige represents the appreciation indicated by external audience like family and friends, media and school ratings (Sung & Yang, 2008).

Palacio et al. (2002) found that reputation had a great influence on university image formation and satisfaction of students. In turn, Kazoleas's et al. (2001) study indicated that close personal relationships have a great impact on university image; opinions of family members and friends who had attended the university affected person's perceptions of the image. Wilkins and Huisman (2013) presented that relevant others' opinions had the most effect on the perceived university image evaluation and moreover, predicted over 50% of the variability in the applying intentions of prospective students. Similarly, relevant others' perceptions were found to be one influencing factor when choosing the university in Stephenson's et al. (2015) qualitative study. Also Soutar and Turner (2002) found family opinion has influence on university preference, however it was lower than some other factors. Sung and Yang (2008) indicated that external prestige had the most significant effect on supportive attitudes of students. According to Sung and Yang (2008) external prestige includes not only relevant others' opinions but also prestige communicated via media and presented through different university rankings. Arpan et al. (2003) found relationship between news coverage and university image while in turn Bunzel (2007) emphasized how different school rankings are in the center of attracting students. Accordingly, external prestige has found to have a great impact on university image formation, attitude and applying intentions and hence, the following hypothesis is set:

> H4. External prestige has a positive relationship to university image (a) and applying intentions (b).

3.5 Social environment

Bennett and Ali-Choudhury (2009) indicated that social environment is an important factor of university brand. Moreover, when prospective students consider applying to university they may also think about the social environment of university, like for example is it easy to get friends and is there clubs and societies which to join (Bennett & Ali-Choudhury,

2009). Duarte et al. (2010) found that social life, including perceptions of university's social life and availability of sport and leisure activities, had significantly more influence on university image than other factors. In turn, in Pampaloni's (2010) study high school students adduced that desirable atmosphere and environment are affecting their decisions to apply to college. Similarly, other studies indicated that high school students prefer universities that have a great campus atmosphere (Soutar &Turner, 2002) and attractiveness of social life is at least as important as education quality in decision to apply to university (Capraro et al., 2004). Friendly environment and social life are emphasized as a factors affecting university choice (Joseph et al., 2012; Stephenson et al., 2015; Kallio, 1995; Broekemier & Seshadri, 2000) and university image formation (Treadwell & Harrison, 1994). Social environment's effect on university image and university choice are indicated, hence it is hypothesized:

> H5. Social environment has a positive relationship to university image (a) and
> applying intentions (b).

3.6 Physical actualities

Physical actualities, referring to attractive location and campus, contribute to university image formation (Bennett & Ali-Choudhury, 2009; Kazoleas et al., 2001) and university/college selection (Shank & Beasley, 1998; Joseph et al., 2012; Briggs, 2006). Based on their qualitative study, Stephenson et al. (2015) described that location and attractive campus environment affect university choice. For example, in their study current university students told they chose the university because it was close/far (based on student's preferences) from home and because they thought the environment, where the campus was located, was attractive. Based on the previous studies indicating the effect of university's physical actualities, the following hypothesis is proposed:

> H6. Physical actualities have a positive relationship to university image (a) and
> applying intentions (b).

3.7 Personality

One perspective for assessing and measuring affective side of corporate image is to use human personality traits (e.g. Davies et al., 2004; Dobni & Zinkhan, 1990; Biel, 1993; Aaker, 1996). Alavijeh and Hosseinabadi (2014) proposed that universities can gain

competitive advantage by improving and enhancing their brand personality components. Only few studies of university images have concluded affective attributes under examination. Palacio et al. (2002) examined affective component of university image only with four semantic differential items (agreeable/disagreeable, boring/simulating, stressful/relaxing and sad/cheerful) while the main focus seemed to be in cognitive dimension with 21 items. Nevertheless, their study indicated that affective dimension had greater effect on university image and students' satisfaction with the university than cognitive attributes. Sung and Yang (2008) studied personality as one component of university image and indicated that personality had effect on supportive attitudes of students. Also their personality scale contained only four items: friendly, stable, practical and warm.

One of the most applied personality models is Aaker's (1997) developed brand personality model. Brand personality is "the set of human characteristics associated with a brand" (Aaker, 1997). Aaker's (1997) objective was to develop reliable and generalizable scale for brand personality based on human personality structure of "Big Five" dimensions. She defined five dimensions of brand personality: Sincerity, Competence, Sophistication, Excitement and Ruggedness. Davies et al. (2004) developed corporate character scale for measuring corporate reputation through personality. They defined human characteristics that can be used describing an organization. The corporate character scale consists of seven dimensions which each contained several facets that included multiple items. Davies et al. (2004) end up with five main dimensions: Agreeableness, Enterprise, Competence, Chic and Ruthlessness; and two minor dimensions: Informality and Machismo.

Davies et al. (2004) found that while agreeableness is the key trait in human personality it also had the strongest correlation with satisfaction in organizational context. Competence and enterprise traits were also found to be indicators of corporate reputation and to have positive correlation with satisfaction. Competence organization represents characters like ambitious, hardworking and leading while enterprise organization is modern and innovative. The chic dimension is similar to sophistication scale of brand personality and represented for example prestigious and elegance characters of organization and it has found to have effect on reputation and satisfaction in some cases. Ruthlessness that reflects to neuroticism trait of human personality was the only trait that negatively correlated with satisfaction. Ruthless organization is controlling and inward looking. (Davies et al., 2004)

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The two minor factors (informality and machismo) were not strongly defined in the study, however the factors validity was found and Davies et al. (2004) noted that these factors might have relevance in other context and in specific cases which is why they included the factors in the corporate character scale.

Some university image studies have studied affective dimension more comprehensively by using these personality scales. Alavijeh and Hosseinabadi (2014) studied a relationship between university personality and behavioral loyalty. They applied Aaker's (1997) brand personality model and identified six components (exciting, sincerity, higher class, ruggedness, up to date and education) in university personality. Their study indicated that the university personality had positive impact on students' loyalty and the relationships of students and university. Other few studies that have studied affective dimension of the university image and its effect on behavior have used Davies et al. (2004) corporate character scale. Alwi and Kitchen (2014) studied cognitive and affective brand attributes' correlations to business school's corporate image and effect on student's satisfaction and loyalty. They studied affective attributes of business school image by studying it through corporate character scale and found out that student's behavioral responses were mostly explained by affective component.

In turn, Davies and Chun (2008) studied image of a business school using corporate character scale, which indicated relation between personality traits and students' satisfaction. They found out that all seven traits correlated with satisfaction. Agreeableness seemed to explain satisfaction most strongly while ruthlessness trait had negative correlation with satisfaction. Another study of Roper and Davies (2007) used also Davies's et al. (2004) corporate character scale to study business school's corporate brand and the effect of personality traits on satisfaction. In their study agreeableness, chicness and competence correlated positively with students' satisfaction and ruthlessness was again correlating negatively. Moreover, these studies have used corporate character scale to make comparisons between different stakeholders' perceptions.

With the objective to measure university image comprehensively also from affective perspective and to develop the knowledge of affective attributes influence on image and behavioral intentions in university context, Davies et al. (2004) personality traits are applied. The following hypotheses are set:

H7. Agreeableness trait has a positive relationship to university image (a) applying intentions (b).

H8. Enterprise trait has a positive relationship to university image (a) and applying intentions (b).

H9. Competence trait has a positive relationship to university image (a) and applying intentions (b).

H10. Chic trait has a positive relationship to university image (a) and applying intentions (b)

H11. Ruthlessness trait has a negative relationship to university image (a) and applying intentions (b).

H12. Informality trait has a positive relationship to university image (a) and applying intentions (b).

H13. Machismo trait has a positive relationship to university image (a) and applying intentions (b).

3.8 Gender moderation

Limited number of studies have examined and reported influences of demographic factors like gender on university image formation. Barich and Kotler (1991) stated that image perceptions can vary between different stakeholder groups but also within them based on characteristics of the person. Kazoleas et al. (2001) presented that personal factors like age and gender seemed to have influence on university image formation but the influence was very low while organizational factors (e.g. academic program and campus) had much greater impact on the university image. Nonetheless, some studies have found out that the personal factors, especially gender have more significant influence.

Gender has found to have an influence on which factors students evaluate when assessing their satisfaction with university and which factors potential applicants consider when selecting the university. For example Parahoo et al., (2013) found that gender had influence on which factors affected students' satisfaction. Female students considered only reputation factor while male students considered also perceived faculty and academic competence factors when evaluating their satisfaction with the university. Roper and Davies (2007) studied business school's corporate brand through corporate character scale of Davies et al. (2004). They found out that factors affecting satisfaction differed between

male and female students. While both connected traits of agreeableness and chic to overall satisfaction, females considered also competence and ruthlessness when assessing their satisfaction.

The effect of gender is indicated also in university choice research. For example Broekemier and Seshadri (2000) found significant differences between genders when they asked to consider the importance of different factors on college choice: for males social life and athletic programs seemed to be the most important, while females valued more academic reputation and safe campus. The differences in university/college choice criteria between males and females have found in several other studies (e.g. Mansfield & Warwick, 2006; Shank & Beasley, 1998; Briggs, 2006; Wiese et al., 2010). It is also suggested that socio-economic characteristics should be regarded in university image research to develop deeper insight to the phenomenon (Palacio et al., 2002). Hence, based on previous studies the next hypothesis is proposed:

H14. The results of this study differ among genders.

4 The study

The study is implemented as an empirical quantitative study examining image of Aalto University School of Business among high school students of Finland. Before scale development the case university is presented and the pre-study is implemented to gain better understanding of case university's characteristics and the new research context. The pre-study considers two semi-structured interviews for marketing and communication specialists of the university and gives also insight into university branding. After the pre-study, measures for the study are developed based on previous studies of university image. The model's validity and reliability are assessed, after which the structural model is constructed and tested.

University image, as image in general is a multidimensional construct and therefore it should also be measured using multiple factors (Duarte et al., 2010). Duarte et al. (2010) tried to respond to the multidimensionality by using several indicators in their study, nonetheless they studied only cognitive components and ignored the affective perspective, even though they also acknowledged the affective side of the image. Similarly, Zaghloul et

al. (2010) introduced image's two components, functional and emotional, but claimed that only functional characteristics can be measured and their study did not include any affective elements. Only few studies have studied organization image using comprehensive measures with variety of attributes (Sung & Yang, 2008) and even fewer studies have also considered both cognitive and affective components (e.g. Alwi & Kitchen, 2014; Palacio et al., 2002).

Many authors have presented that there is a lack of studies that would study university image comprehensively through various factors at the same time. For example Wilkins and Huisman (2013) state that the topic of university image has got insufficient attention and propose that further research of university image's impact on student choice is needed with broader models including several university image factors. In turn, Alwi and Kitchen (2014) emphasized that previous studies of university brands have mainly focused on one-sided perspective by studying for example only cognitive brand attributes like service quality and therefore can also only partially explain the influence of the corporate brand. For example Alwi's and Kitchen's (2014) findings showed that the university image is affected not only by cognitive attributes but also affective attributes that they measured with personality scales. Another study of university image that took into consideration cognitive and affective dimensions is Palacio's et al. (2002) study which indicated that both dimensions influenced on overall university image and student's satisfaction. Nonetheless, their affective image component included only four items. This study aims to supplement these studies by providing wider scales for both cognitive and affective dimensions for measuring comprehensively the university image in Finnish surroundings, which means that the study excludes the effects of athletic programs and tuition fees.

As organizations have various stakeholders groups that have different objectives it cannot be assumed that perceived images among different stakeholder groups would be same (e.g. Markwick & Fill, 1997; Cornelissen & Thorpe, 2002). Stern et al., (2001) noted that it is more preferable to study corporate image separately among different stakeholder groups because treating different stakeholder groups as congruent the validity of the instruments can decrease. Aghaz et al. (2015) also emphasizes that it is troublesome to try to identify all the factors that contribute to university image as different people use different criteria in image formation. For this reason, it is relevant to study the image among one specific

stakeholder group at time. Moreover, this highlights the possible need for modifying the previous scales and items to meet with the new research context and target group.

Further, it is important to note that when studying corporate image among single stakeholder group, it cannot be assumed that the results indicate the overall corporate image (Stern et al., 2001). This research is based on the assumption that different stakeholder groups use different cues when determining the overall image, in addition personal characters can affect the perceptions and images can vary between individuals (Dowling, 1986; Wilkins and Huisman, 2013). Therefore, the study is not trying to represent results generalizable to all the different segments of the university but considering only specific group, the potential applicants. Furthermore, the aim is to see if the findings vary within the group, between male and female high school students.

Nguyen and LeBlanc (2001) noted that measuring and analyzing the image is challenging because of the concept's high abstraction level. In the context of universities the task will become even more difficult because of service products' intangible feature (Nguyen & LeBlanc, 2001). The multidimensional construct of image and limited conscious of which factors affect university image and in which extent, increase the complexity of measuring university image (Duarte et al., 2010).

4.1 Case University

The empirical focus of this study is on Aalto University School of Business. Aalto University was formed through a merger of three existing Finnish universities with an objective to create a world-class university. The merger combined Helsinki University of Technology (HUT), Helsinki School of Economics (HSE) and the University of Art and Design Helsinki (UIAH) which all represented the top institutions in their own fields in Finland. Aalto University started to operate in 2010. The decision of the Aalto merger was a part of the new universities act that changed tightly controlled publicity owned university sector towards a more "entrepreneurial culture". The new act offered universities more autonomy with independent legal status, which enables universities to react more flexible and quickly to the changes in environment. One important and distinctive feature of Finnish university sector is the fee-free education, which is still guaranteed in the constitution. Even though the reformation enabled the universities to look for funding more

diversely, the government however kept its role as the main financier of universities. (Aarrevaara et al., 2009)

HSE was established in 1911 and had the status of leading business school in Finland. Later, HSE achieved three major international accreditations of business schools: the Association of Advanced Collegiate School of Business, European Quality Improvement System and Association of MBAs. HSE gained this 'triple crown status' in 2007 which is held by only few other business schools worldwide. HSE and subsequently Aalto University School of Business has performed well also in business school rankings like for example in European business school ranking of Financial Times, where the ranking of Aalto University School of Business has varied between 17th and 32th in the last 10 years (Financial Times).

The tangible changes that the merger has brought from the Business school's perspective are for example the location of the school and wider opportunities in studies. Location of the Aalto University School of Business is physically changing from the key place in Helsinki to the Aalto University campus in Espoo. While undergraduates moved to Espoo campus in 2015, graduates, rest of the education and all research functions will follow the movement in the near future. Moreover, the merger diversifies the studying opportunities and enables mobility between different studying fields. Nevertheless, the effects of the merger on the status of HSE can also be concerned. The prestigious, old HSE is now part of Aalto University representing relatively new university, which makes the case university interesting focus to study.

In general, business schools have enjoyed a place as the most popular field to study in Finland, which has enabled schools to be selective in their student intake, Aalto University School of Business being the most difficult to get in (in 2015 8% of the total applicants were accepted). Even though the amount of applicants is not a problem for Aalto University School of Business, the trend of decreasing amount of female students is now a concern for the school. Female students do not seem to apply as eagerly as before to school's schools B.Sc. programme. While in 2005 47% of admitted students were women, in 2014 the proportion of women was only 32%. In ten years amount of women applicants has decreased 4%-units (from 2005: 44% to 2015: 40% of the all applicants). The purpose here is to study gender effect in university image formation and factors predicting applying

intentions to indicate possible aspects that the university could for example emphasize in marketing communication to attract more female students.

4.2 Pre-study

Several authors have emphasized the importance of understanding organization's identity and assets from organization's point of view before to be able to understand and manage the image (e.g. Abratt, 1989; Margulies, 1977). Wilkins and Huisman (2013) for example noted that image improvements should be based on identifying the gap between desired and perceived images. Few studies have tried to identify gaps between students and university staff with quantitative methods using affective approach to study image (Davies & Chun, 2008; Roper & Davies, 2007). However, as Mazzarol et al. (2000) studied differences between institution and students with quantitative study, it appeared to be difficult to compare the perceptions because different factors were formed among different stakeholder groups. Therefore, the objective of this preliminary research is to gain better understanding of the university and the new research context and further, bring forward key factors of university's desired image and its assets by using qualitative methods neither than comparing the results directly. Ali-Choudhury et al (2009) emphasized the importance of understanding universities' marketing managers' interpretations of the university brand as they direct the university's marketing activities. Two semi-structured interviews were conducted with marketing and communications specialists of Aalto University.

The pre-study base on Ali-Choudhury's et al. (2009) study where they interviewed marketing and communication managers with an objective to reveal their opinions of which components form the university brand in the context of student recruitment. The interview schedule consists of six main subjects mostly applied from Ali-Choudhury's et al. (2009) study. These six subjects were: 1) University brand and image (the main attributes in general and specific for the university); 2) Vision and mission; 3) University personality; 4) Communication (attributes emphasized in attracting potential applicants) (Ali-Choudhury et al., 2009); 5) Constructed external image (perception of how potential applicants perceive the university) (Gioia et al. 2000); and 6) Desired image. According to Ali-Choudhury et al. (2009) interviewees were asked to answer from the perspective of potential applicants.

According to the interviews, the main assets of Aalto University School of Business from the potential applicant's perspective are: being leading, prospects of students after graduation and versatility in opportunities and student body. Furthermore, other factors that were mentioned in the interviews and considered to affect image formation of potential applicants were location and atmosphere. In addition, family and friends' opinions were considered as very important source for images. Next the three themes of leading, graduation prospects and versatility are introduced in more detail. The knowledge from pre-study is exploited in the scale development.

Leading

"Leading the way.", is the phase that sums up the identity of Aalto University School of Business, as university's marketing specialist described. Aalto University's objective is to be a world-class university with internationally recognized academic brand and a number one university in business, technology and arts in Finland. Aalto University School of Business was combined with prestigious, high reputation and quality. Moreover, the image that high school students are considered to hold was "pioneer, international, prestigious and number one in Finland".

"And about our current position. We want to be the best known and the most prestigious university nationally, especially in the minds of young and young adults if we think about student marketing."
- Marketing Specialist at Aalto University

"We are the trendsetters. It is our specialists who are asked about the difficult economic situations. It is our professors who are seen in the news and media, and their opinions and comments and evaluations are asked and appreciated."
- Marketing Specialist at Aalto University

Graduation prospects

"Made in Aalto." Graduation prospects were strongly emphasized under many subjects. Aalto University trusts on content marketing and currently the most visible marketing concept is "Made in Aalto" which highlights the stories of Aalto people, especially creations and achievements of Aalto students and alumni. Career opportunities, high value

in the eyes of employers and usefulness of the degree in the future were considered to be the most important assets from potential applicants' perspectives.

"High school students probably think most of what they benefit if they come to study here ... it (Aalto University School of Business) is a guarantee for quality, you get a degree which gets you work and a good future."

- Communications Specialist at Aalto University

"You get more than a degree… Aalto students and graduates are highly wanted in the life after graduation."

- Marketing Specialist at Aalto University

Versatility

"Freedom to choose." The versatility was a theme that was repeated under the subjects of graduation prospects, academic opportunities and student body. The wide range of opportunities are also emphasized in student recruitment campaign's Made in Aalto – concept which pursues to tell varying different stories of Aalto people and opportunities after graduation, moreover emphasizing the versatility of Aalto people. The idea of "Freedom to choose" is highlighted in marketing communication targeted to potential applicants. It emphasizes the wide opportunities in studies, the opportunity to create your own path. The university strives also to indicate that the university is suitable for different kinds of people.

"Our (Aalto University School of Business) people end up in wide variety of jobs and work in every area of the society, so this is actually a good degree for anything. So this is something where we strive to communicate to the possible applicants."

- Communications Specialist at Aalto University

"Here (at Aalto University School of Business) you can do so many things… you can create your own path that can be very different."

- Communications Specialist at Aalto University

4.3 Scale development

Next measures of the quantitative study and questions for the questionnaire are developed. Four main theoretical constructs with twelve independent variables and two dependent variables will be measured to test proposed model and hypotheses. Based on the conceptual model, the measures consist of five independent variables of cognitive dimension (academic excellence, graduation prospects, external prestige, social environment and physical actualities) and seven independent variables of affective dimension representing personality traits (agreeableness, enterprise, competence, ruthlessness, informality and machismo). Two dependent variables are university image and applying intentions. Moreover, university image acts as independent variable while testing the relationship between overall image and applying intentions. All items are measured with five-point Likert-type scale from 1 = strongly disagree to 5 = strongly agree. In addition, eight questions of background information are asked, including personal information (high school year, name of the high school, place of residence and gender), where the respondent answered the survey, professional aspirations (interest toward studying in university and interest toward studying business) and degree of familiarity of Aalto University School of Business.

Pre-study's objective was to verify content validity of the questionnaire and support item and scale development. Scale development base strongly on review of the existing literature of university image (Kazoleas et al., 2001; Arpan et al., 2003; Bennett & Ali-Choudhury, 2009; Sung & Yang, 2008; Landrum et al., 1998; Duarte et al., 2010; Palacio et al., 2002; Alwi & Kitchen, 2014) and the literature of corporate personality (Davies et al., 2004). Scales that are the most suitable for Finnish environment were adopted from existing literature, still some scales needed modifications because of the new research context of Finland and potential applicants. Consequently, questionnaire consists of items stated in the previous studies as well as items relevant to the context and the case university. Next, scale and item development is present in more detail.

Cognitive image attributes

Purpose of the cognitive dimension is to measure tangible and functional characters of the image. The cognitive image attributes consists of: academic excellence, graduation prospects, external prestige, social environment and physical actualities. Scales are adopted from previous university image studies and modified to fit to the new context of this study

if needed. Based on the pre-study, versatility is an important part of academic excellence, graduation prospects and social environment. Therefore, three items are developed to supplement these scales. The scales for cognitive image attributes are next presented.

Academic excellence scale is adopted from Arpan et al. (2003). Their scale measured excellence in academic with five items and all the items loaded well to the construct. Moreover, several other unexpected items loaded to their academic excellence construct but in this study only the original academic items are included to the scale. In addition, as several previous studies have used a question of general education quality (e.g. Kazoleas et al., 2001; Duarte et al., 2010; Zaghloul et al., 2010), it is considered to be an important item for academic excellence and added to the scale. Based on the pre-study an item of versatility of courses and degrees is also included in the scale. The item development is supported by other studies that have used questions of range of courses (Duarte et al., 2010; Palacio et al., 2002). Consequently, the scale of academic excellence consists of seven items: (1) The university has high quality education; (2) The university has excellent professors; (3) Most students at the university are very intelligent; (4) The university is tough to get into; (5) The university has nationally known academic programs; (6) The university is committed to academic excellence; and (7) The university has a wide range of degrees and courses.

Graduation prospects are measured with four items: (1) Graduates of this university have excellent job and career prospects; (2) Degrees from this university have a high status in the outside world; (3) A degree from this university will be useful to a person throughout his or her entire life; and (4) A degree from this university prepares to a wide range of job and career prospects. The scale is based on a three-item scale introduced in Bennett's and Ali-Choudhury's (2009) study and supplemented with versatility item that is developed based on the pre-study.

External prestige attribute is measured with four-item scale adopted from Sung's and Yang's (2008) study. One modification is implemented by dividing an item of "I think my acquaintances think highly of this university" to two items to measure prestige among parents and friends/siblings separately. Hence, items to measure external prestige are: (1) This university is looked upon as prestigious school in society overall; (2) I think my parents think highly of this university; (3) I think my friends and siblings think highly of

this university; (4) This university successfully retains a prestigious place in various university ranking systems; and (5) Media coverage about this university is very positive.

Scales for measuring social environment and physical actualities are adopted from Bennett's & Ali-Choudhury's (2009) study. Original three-item scale of social environment is complemented with two new items. An item of friendly and warm environment based on Landrum's et al. (1998) study is added in the scale because friendly environment has been found to have an important effect on overall image and decision to apply (e.g. Treadwell & Harrison, 1994; Stephenson et al., 2015; Joseph et al., 2012). A second item that is added to the scale considers the versatility of student body. It is supported in the previous research that student body has effect on university brand (Bennett & Ali-Choudhury; 2009), perception of university atmosphere and image (Treadwell & Harrison, 1994). To sum up, the scale of social environment includes following items: (1) Environment at the university is warm and friendly; (2) The university has a lively social environment with many opportunities to make new friends; (3) The university has many clubs and societies; (4) The university has excellent sports and leisure facilities; and (5) The university has a versatile student body.

Physical actualities represent the physical location and campus of the university. The scale is adopted from Bennett's & Ali-Choudhury's (2009) study with one modification due to the differing study context. An item of location safety is considered irrelevant in Finnish environment and therefore the item is removed. The scale is supplemented with an item of general geographical location's valuation based on existing literature (Landrum et al., 1998; Kazoleas et al., 2001; Duarte et al., 2009). Hence, the scale contains three items: (1) University's location is an asset; (2) The university has attractive campus; and (3) The university is located in geographical are that has many attractions and entertainment facilities.

Affective image attributes

The affective dimension purpose is to capture the emotional side of image. It represents intangible and abstract attributes of image. This study adopts the idea of measuring the affective dimension of university image through personality traits according to Alwi's and Kitchen's (2014) and Davies's and Chun's (2008) studies. The affective image attribute scales are adopted from Davies's et al. (2004) 'Corporate Character Scale' that includes 49

humane characteristics. These 49 items are divided in five main factors: Agreeableness; Enterprise; Competence; Chic; and Ruthlessness, and two minor factors: Informality; and Machismo. Table 1 presents personality dimensions and items adopted from Davies et al. (2004) corporate character scale. Based on the original study of Davies et al. (2004) respondents are asked to imagine that the university was a human being and to evaluate how well in this situation the adjectives would represent the university. Moreover, personality items are presented for respondents in random order.

Table 1 Corporate character scale (Davies et al., 2004).

Dimensions	49 items
Agreeableness	Friendly, pleasant, open, straightforward, concerned, reassuring, supportive, agreeable, honest, sincere, socially-responsible, trustworthy
Competence	Reliable, secure, hardworking, ambitious, achievement-oriented, leading, technical, corporate
Enterprise	Cool, trendy, young, imaginative, up-to-date, exciting, innovative, extrovert, daring
Chic	Charming, stylish, elegant, prestigious, exclusive, refined, snobby, elitist
Ruthlessness	Arrogant, aggressive, selfish, inward-looking, authoritarian, controlling
Machismo	Masculine, tough, rugged
Informality	Casual, simple, easy-going

Dependent variables

Overall university image is measured according to Arpan's et al. (2003) overall image scale with three items: (1) General impression of university; (2) This university is evaluated positively by most people; and (3) Overall impression of university. Applying intentions are measured with two items adopted from Bennett's and Ali-Choudhury's (2009) conative responses scale. One item of original scale was removed as it was not directly related to applying intentions but to positive word-of-mouth that is not an objective to examine in this study. Applying intentions scale consists of items: (1) I would seriously consider applying to this university; and (2) I intend applying to this university.

4.4 Data collection and sample

Data was collected via a web survey in December 2015. A total amount of received responses was 1746, including 632 incomplete answers that were removed instantly. Also responses that were easily recognized as false (e.g. straight row -responses) were deleted.

The final applicable sample consists of 1037 responses from high school students around Finland. The data was gathered in three different ways: in Studia-fair (the largest further education fair in Finland) and with the help of high school student counselors and union of upper secondary school students in Finland. Student counselors of 72 high schools around Finland were contacted and asked to distribute the survey to their students, especially to third and fourth year students. Thirty of contacted student counselors answered and 28 agreed to distribute the survey to their students. Student counselors shared the link to the web survey through a web portal they use in high schools. A total of 410 completed responses arrived through student counselors' shared link. Subsequently, union of upper secondary school students in Finland was contacted and they agreed to share the link to the web survey in their member newsletter, which brought 310 applicable responses. In turn, two-day Studia-fair brought a total of 147 completed and usable responses. The aim was to get as many Finnish high school students as possible to notice the survey and responding based on voluntariness.

The distribution of respondents' gender is 75% female respondents and 25% males. Most of the responses (70%) are third or fourth year high school students'. Responses spread around Finland. 32% came from Helsinki Metropolitan Area, 26% from elsewhere southern Finland and rest 42% elsewhere around Finland. Appendix 1 presents more information about the characteristics of the full sample and separately for female and male sub-samples.

4.5 Data analysis and results

Data analysis consists of model assessment and hypothesis testing. First, the factor structure is assessed with exploratory and confirmatory factor analyses that present support for nine constructs of the proposed conceptual model. After the model's validity and reliability are tested, a structural model is constructed. Structural equation modeling is applied to test proposed hypotheses. After the analysis with full sample, the sample is divided to sub-samples of males and females. Invariance of the factor structure is tested among groups to indicate that comparison of structural model can be implemented. The structural coefficients are measured separately for male and female samples and statistical support for differences is tested.

Model assessment

Before testing the hypotheses, the measurement model's validity and reliability need to be addressed (Fornell & Lacker, 1981). Hence, the structure of the model was first tested. The factor structure based on previous studies' scales, nonetheless it was first assessed with exploratory factor analysis (EFA) using SPSS Statistics 23, because of the new context where the existing scales are used. Moreover, scales that are used to measure affective attributes based on Davies' et al. (2004) corporate character scale that was developed generally to corporates and it has not yet widely assessed in education context. For example Alwi and Kitchen (2014) found in their study that affective attribute of university image consisted only four factors from Davies' et al. (2004) scale and included only 17 items from original 49 items. Due to this, using EFA first was thought feasible. Subsequently, confirmatory factor analysis (CFA) was applied using Amos 23 to measure the factor structure's validity and reliability.

Maximum Likelihood and promax rotation method were used in EFA. Items with low loadings and high cross-loadings were excluded one by one. An item with the lowest loading was removed, after which the factor analysis was re-run. This process was executed until all the items had satisfactory loadings (threshold > 0.40). Similarly, factors with high cross-loadings were excluded one at a time. EFA presents support for nine constructs from the proposed conceptual model. Four factors from the theoretical model were removed as they did not form constructs based on the data and therefore, could not be used in later analysis. In addition, two original factors found to represent one factor, as academic excellence and graduation prospects loaded to the same factor. This was considered to be a theoretically acceptable change and factors were combined to one factor: Academic and graduation prospects. This was supported also with CFA that showed high correlation (>0.80) between the factors. CFA was executed with maximum likelihood estimation and presents good support for the factor structure. However, a few items were removed based on low loadings in CFA. Items were again excluded one at a time by starting from the lowest loading. Finally, all the items loaded on the constructs with loadings exceeding a threshold of 0.50 recommended by Bagozzi and Yi (1988).

EFA and CFA support the final model of four factors of cognitive attributes: academic and graduation prospects; external prestige; social environment; and physical actualities, and three factors of affective attributes: agreeableness; competence; and ruthlessness. In

addition, the model includes two dependent factors: university image and applying intention. Approximately half of the original items were removed based on the factor analyses. Appendix 2 presents the final list of constructs and items with values for factor loadings of CFA and Cronbach's Alphas that indicate reliability for the scales with values over 0.70, respectively.

Model's validity is next indicated with a procedure suggested by Fornell and Lacker (1981) by assessing reliability, average variance extracted and discriminant validity of each construct. Composite reliabilities (CR) reveal good internal consistency as values are greater than 0.70, and hence exceed the benchmark of 0.60 recommended by Bagozzi and Yi (1988). Also average variance extracted (AVE) for all constructs are above the minimum threshold of 0.50, which means that more than 50% of variance is captured by the construct and hence less of the variance can be indicated to be due to measurement error (Fornell & Lacker, 1981). Finally, discriminant validity of the model is assessed according to the method proposed by Fornell and Lacker (1981). The AVE for each construct is compared to squared correlations between the construct and any other construct. AVE should exceed these squared correlations to indicate good discriminant validity. The largest squared correlation in factor correlation matrix between any pair of constructs is 0.46, while the smallest AVE is 0.51. Hence, the discriminant validity is also proved. Table 2 presents AVE, CR, correlation matrix and descriptive statistics comprising means and standard deviations for the constructs.

Table 2 Construct means, standard deviations, reliabilities, average variances extracted and correlation matrix.

Construct	Mean	SD	CR	AVE	1	2	3	4	5	6	7	8	9
1. Academic and graduation prospects	3.94	0.76	0.93	0.57	1.00								
2. External prestige	4.00	0.73	0.82	0.54	0.59	1.00							
3. Social environment	3.75	0.67	0.80	0.51	0.41	0.48	1.00						
4. Physical actualities	3.52	0.76	0.79	0.56	0.26	0.33	0.57	1.00					
5. Agreeableness	3.59	0.68	0.89	0.54	0.46	0.47	0.68	0.43	1.00				
6. Competence	4.12	0.68	0.86	0.55	0.66	0.64	0.38	0.30	0.58	1.00			
7. Ruthlessness	2.86	0.98	0.72	0.56	-0.10	-0.07	-0.40	-0.19	-0.46	0.02	1.00		
8. University image	4.05	0.83	0.88	0.79	0.49	0.71	0.61	0.47	0.57	0.48	-0.31	1.00	
9. Applying intention	2.54	1.30	0.94	0.89	0.20	0.35	0.32	0.18	0.28	0.14	-0.16	0.38	1.00

Fit indices present acceptable fit for the model. Even though Chi-square test suggests rejecting the model (p < 0.001), the sensitivity of chi-square test to sample size was regarded. As sample size increases the probability that χ^2-test suggests rejecting the model also increases, whether the model was right or false (Bagozzi & Yi, 1988). Therefore, because of the large sample size of the study, rather than rejecting the model based on χ^2-test, other goodness-of-fit statistics are assessed to indicate fit for the model. The root mean square of approximation (RMSEA) shows good fit with index of 0.046 (threshold < 0.05). Comparative fit index (CFI) = 0.94 and Tucker-Lewis index (TLI) = 0.93 present also acceptable fit for the model (thresholds > 0.90).

After the factor structure assessment, structural model is constructed to test hypotheses by measuring structural coefficients for the paths. As the model was modified during the factor analyses, hypotheses need to be redefined. Consequently, Table 3 presents the reduced list of hypotheses and paths that are next tested with structural equation modeling (SEM) and multi-group SEM.

Table 3 Reconstructed list of hypotheses and paths to be examined.

Hypotheses	Path
H1 University image has a positive relationship to applying intentions.	Image → Apply
H2a Academic and graduation prospects have a positive relationship to university image.	AGP → Image
H2b Academic and graduation prospects have a positive relationship to applying intentions.	AGP → Apply
H3a External prestige has a positive relationship to university image.	EP → Image
H3b External prestige has a positive relationship to applying intentions.	EP → Apply
H4a Social environment has a positive relationship to university image.	SE → Image
H4b Social environment has a positive relationship to applying intentions.	SE → Apply
H5a Physical actualities have a positive relationship to university image.	PA → Image
H5b Physical actualities have a positive relationship to applying intentions.	PA → Apply
H6a Agreeableness trait has a positive relationship to university image.	Ag → Image
H6b Agreeableness trait has a positive relationship to applying intentions.	Ag → Apply
H7a Competence trait has a positive relationship to university image.	Com → Image
H7b Competence trait has a positive relationship to applying intentions.	Com → Apply
H8a Ruthlessness trait has a negative relationship to university image.	Ruth → Image
H8b Ruthlessness trait has a negative relationship to applying intentions.	Ruth → Apply
H9 The results of this study differ among gender.	

Hypothesis testing

The structural model with standardized path coefficients is illustrated in Figure 2. The results suggest that overall university image has a positive and significant influence on applying intentions as hypothesized. Hence, H1 is supported ($\beta = 0.18$, p < 0.01). According to the results academic and graduation prospects have a negligible and insignificant relation to university image ($\beta = 0.04$, p = 0.25) and applying intentions ($\beta = 0.01$, p = 0.76) and thus H2a and H2b are not supported. In turn, external prestige seems to have the strongest positive relation to both, university image ($\beta = 0.54$, p < 0.01) and applying intentions ($\beta = 0.27$, p < 0.01). Therefore, support for H3a and H3b is provided. Also H4a and H4b are supported as social environment show positive significant relations to university image ($\beta = 0.16$, p < 0.01) and applying intentions ($\beta = 0.10$, p = 0.09). Physical actualities indicate a significant positive influence on university image ($\beta = 0.14$, p < 0.01), which support H5a, but significant relation between physical actualities and applying intentions is not found ($\beta = -0.04$, p = 0.33) and for that reason H5b is not supported.
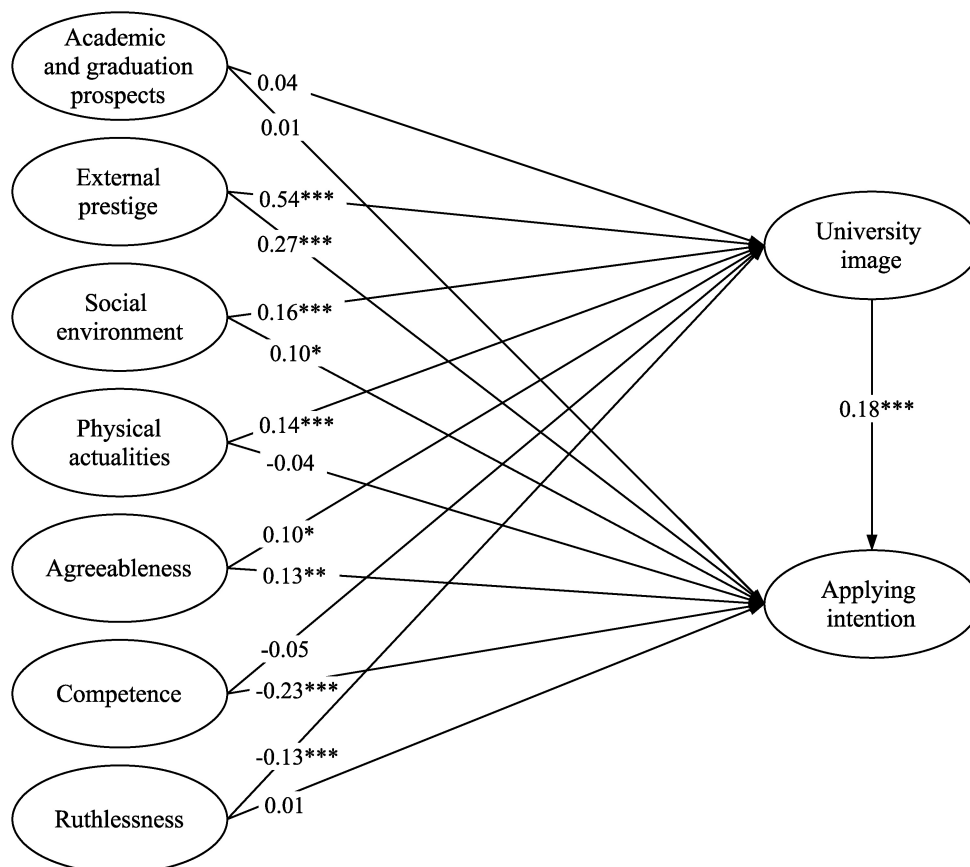

Figure 2 Structural model with standardized path estimates (***p<0.01; **p<0.05; *p<0.1). R²=0.63 (University image); R²=0.20 (Applying intention). Model fit: χ²(664)=2108.69; p<0.0001, RMSEA=0.046, CFI=0.94, TLI=0.93

Agreeableness has significant positive relationships to university image (β = 0.10, p = 0.06) and applying intentions (β = 0.13, p = 0.05) and consequently, H6a and H6b are supported. Competence trait does not have a significant relation to university image (β = -0.05, p = 0.36). Instead, a significant relationship of competence to applying intentions is indicated (β = -0.23, p < 0.01), however the relation is unexpectedly negative and therefore, H7b is not supported. Finally, ruthlessness trait shows negative and statistically significant relation to university image (β = 0.13, p < 0.01) but negligible and insignificant relation to applying intentions (β = 0.01, p = 0.81). Hence, H7a is supported and H7b is not supported. The explanatory power of the model for university image is 63% (R^2 = 0.63) and for applying intentions 20% (R^2 = 0.20). Table 4 sums up the results.

To compare the results between genders, the sample is divided to sub-samples of male and female high school students and multi-group SEM is implemented. Chi-square test is used for multi-group analysis. It can be exploited to test invariance of factor structure as well as invariances of individual path coefficients between different samples (Bagozzi & Yi, 1988). To begin with, χ^2-test is used for indicating that comparison of structural models between genders is suitable (factor structures are invariant). Then χ^2-tests for structural model and individual path coefficients are implemented to indicate which paths have statistically significant differences between males and females.

Table 4 Results summary.

Hypothesis	Path	Full sample	Support	Males	Females	χ^2-test
H1 (+)	Image → Apply	0.184***	Supported	0.314**	0.126*	0.229
H2a (+)	AGP → Image	0.044	Not supported	0.040	0.016	0.783
H2b (+)	AGP → Apply	0.014	Not supported	0.051	-0.007	0.622
H3a (+)	EP → Image	0.535***	Supported	0.562***	0.569***	0.627
H3b (+)	EP → Apply	0.268***	Supported	0.093	0.328***	0.218
H4a (+)	SE → Image	0.155***	Supported	0.323**	0.101*	0.079
H4b (+)	SE → Apply	0.104*	Supported	0.170	0.058	0.518
H5a (+)	PA → Image	0.138***	Supported	-0.010	0.165***	0.102
H5b (+)	PA → Apply	-0.043	Not supported	-0.125	-0.032	0.425
H6a (+)	Ag → Image	0.100*	Supported	-0.091	0.191***	0.061
H6b (+)	Ag → Apply	0.131**	Supported	0.183	0.153*	0.771
H7a (+)	Com → Image	-0.048	Not supported	0.022	-0.099	0.369
H7b (+)	Com → Apply	-0.231***	Not supported	-0.215	-0.223***	1.00
H8a (-)	Ruth → Image	-0.131***	Supported	-0.176*	-0.105**	0.434
H8b (-)	Ruth → Apply	0.011	Not supported	0.205*	-0.068	0.029

***p<0.01 (two-tailed); **p<0.05 (two-tailed); *p<0.1 (two-tailed)
Image = overall university image, Apply = applying intention, AGP = academic and graduation prospects, EP = external prestige,
SE = social environment, PA = physical actualities, Ag = agreeableness, Com = competence, Ruth = ruthlessness.

First, equality of factor structures of CFA model between genders is tested with Chi-square test to confirm that comparison between male and female groups can be executed. Unconstrained model that allows all parameters to be free is compared to fully constrained model where factor loadings and covariance matrices are fixed to be equal across groups. Chi-square test compares chi-squares and degrees of freedom of unconstrained and constrained model. The test shows insignificant result ($p = 0.56$), indicating that factor structure is statistically invariant between males and females (Bagozzi & Yi, 1988). Consequently, the model functions similarly in both groups (Bagozzi & Yi, 1988), which permits to do comparison between male and female high school students. Thus, path coefficients separately for males and females are calculated. Structural models for male and female high school students with standardized path estimates are presented in Figure 3 and 4. Fit indices for sub-sample models are showed in Appendix 3.

As the factor structures are testified to be invariant, χ^2-test can be next conducted to structural model. Comparison of unconstrained structural model and fully constrained structural model indicate insignificant result for chi-square test ($p = 0.30$), meaning that groups are not different at the model level. Still, the groups can show differences at path level. Consequently, chi-square difference tests are next conducted to structural model's individual path coefficients respectively, to indicate paths that are statistically different between groups. Unconstrained structural model and structural model, where the particular path (e.g. external prestige and university image) is fixed to be equal across groups, are compared. Significant result for the chi-square test of unconstrained and constrained models means statistically significant difference between groups (Bagozzi & Yi, 1988). The results of χ^2-tests indicate that there are four structural paths that have a statistically significant difference (threshold is set at 0.10) between male and female high school students. Table 3 presents path coefficients for genders and results of chi-square tests.

Social environment has a significant positive relation to university image, however the relationship seems to be stronger among male high school students ($\beta = 0.32$, $p = 0.01$) than females ($\beta = 0.10$, $p = 0.08$). Difference in the relationship of social environment and university image is statistically significant between male and female high school students with 90% confidence level ($p = 0.08$). Physical actualities have a statistically significant positive influence on university image for female high school students ($\beta = 0.17$, $p < 0.01$) while for males there is no influence ($\beta = -0.01$, $p = 0.91$). The difference is almost

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statistically significant at 90% confidence level (p = 0.102). Third difference at 90% confidence level (p = 0.06) occurs in the relation of agreeableness trait to university image. While for females, agreeableness trait shows significant positive influence on image (β = 0.19, p < 0.01), it does not have significant influence for males (β = -0.09, p = 0.46). Finally, ruthlessness trait shows a strong positive relation to applying intentions for males (β = 0.20, p = 0.08) and insignificant relation for female high school students (β = -0.07, p = 0.20). This difference is statistically significant with confidence level of 95% (p = 0.03). Consequently, H9 is supported based on the χ^2-tests that indicate statistical support for the differences between genders in these four paths.

Furthermore, comparison of path coefficients of male and female groups shows that there are group differences in two paths that do not exceed the significance threshold of 0.10, but can still be considered to be significant to a certain degree, instead of just as result of randomness. The path of university image to applying intentions is considerably stronger for male high school students (β = 0.31, p = 0.01) compared to females (β = 0.13, p = 0.08). Chi-square test resulted p-value of 0.23 for the difference. In turn, external prestige has a strong effect on female high school students' applying intentions (β = 0.33, p < 0.01) but no effect on male high school students' applying intentions (β = 0.09, p = 0.52). For this difference p-value of χ^2-test is 0.22.

Other paths are indicated to be invariant between groups. External prestige has the strongest influence on university image for both, males (β = 0.56, p < 0.01) and females (β = 0.57, p < 0.01). Ruthlessness has a statistically significant negative correlation with overall image in both groups (males: β = -0.18, p = 0.05; females: β = -0.11, p = 0.02). In turn, competence trait seem to have statistically significant negative relation to applying intentions only for females (β = -0.22, p < 0.01), however for males the relationship is very close to significance threshold of 0.10 (β = -0.22, p = 0.11). Therefore, it is an insignificant difference (p = 1.00). Moreover, positive relationship of agreeableness and applying intentions is statistically significant for females (β = 0.15, p = 0.06) and insignificant for males (β = 0.18, p = 0.24). However, χ^2-test does not offer statistical support for the difference (p = 0.77).
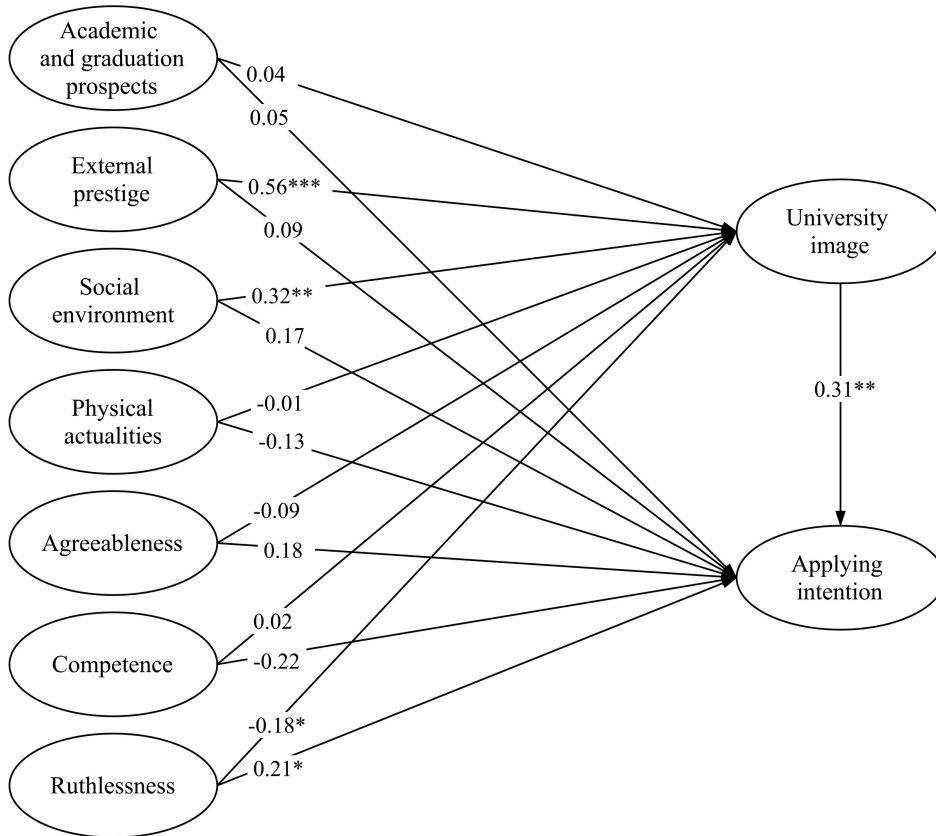
Figure 3 Results for male high school students (***p<0.01; **p<0.05; *p<0.1).
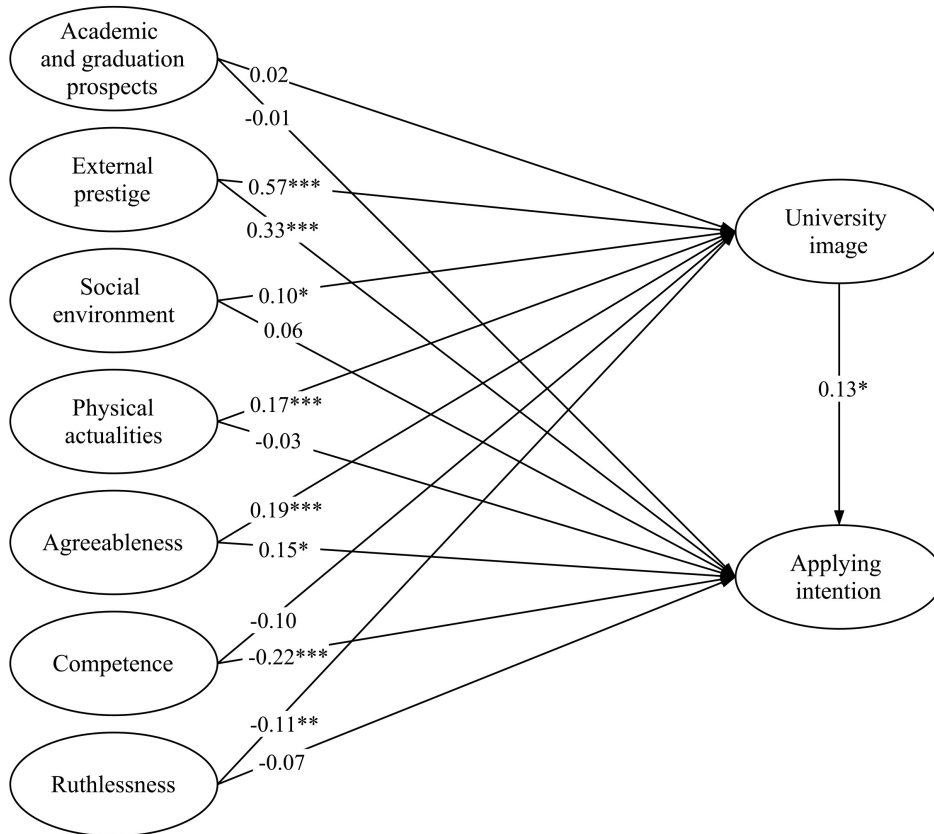

Figure 4 Results for female high school students (***p<0.01; **p<0.05; *p<0.1).

5 Discussion and conclusions

The objectives of this study were to examine the multidimensional construct of university image, analyze the influence of overall university image and its sub-factors to applying intentions and moreover, compare the results between genders. Results of the study indicate that several factors have an effect on overall university image evaluations and applying intentions of potential applicants. The results differ between male and female high school students indicating the moderation effect of gender.

The current study offers a start for more profound research of the relationship of university image and applying intentions of potential applicants, which is an important aspect to study and needs more attention in university image research. Firstly, due to the fact that different stakeholder groups tend to hold diverse images as they have different experiences, expectations, wishes and aspects to see the image (Martineau, 1958; Wilkins & Huisman, 2013), it cannot be assumed that previous studies of perceptions of current university students would represent perceptions of potential applicants. Secondly, even it is generally assumed that university images help universities to attract new students, there is a lack of empirical evidence for the relationship of university image and applying intentions of potential applicants. Altogether, it is essential to universities to better understand their most important public that ensures the future of their institution. The findings of this study indicate which factors contribute to the university image and applying intentions of potential applicants. With this knowledge universities can enhance the effectiveness of their student recruitment marketing communication.

The study highlights the importance of examining images from broader perspectives, considering both cognitive and affective dimensions of an image. Cognitive and affective attributes are found in this study to be important predictors of image and behavioral intentions in university context. Moreover, usually neglected affective attributes offer insight into factors that can negatively affect university image evaluation and applying intentions of potential applicants. Affective image attributes have also an important role in indicating differences between genders, which can explain why the impact of gender is not strongly supported in previous studies as they have examined university images only from cognitive perspective.

The conceptual model of the study changed partly during the factor analyses. Because of the relatively new study context and target audience, it is reasonable. The developed model explains the university image well (63% of the variation) and some portion of the applying intentions (20% of the variation) of potential applicants. Accordingly, we can see that university image may not have as strong effect on applying intentions as could be assumed based on the literature and the general supposition. University image is only one influencing factor among others and it can be assumed that other factors, like study program and major are defining the university selection to a large extent (Broekemier & Seshadri, 2000; Stephenson et al., 2015; Wilkins & Huisman, 2013). Nevertheless, the current study offers empirical support for the relationship of university image and applying intentions. In addition, this study contributes to general understanding of institutional image's influence on consumer behavior, which has lacked empirical evidence according to Nguyen and LeBlanc (2001).

The study indicates that potential applicants and their perceptions should be considered differing form current university students. When comparing the findings of this study to previous research that has focused on current university students' perceptions, we can see that potential applicants use different determinants when evaluating the overall university image. This is congruent with the knowledge that different stakeholder groups most likely hold dissimilar images of the same organization and use different cues when making the evaluations of the organization (e.g. Barich & Kotler, 1991; Markwick & Fill, 1997; Stern et al., 2001). However, still only little attention is given to potential applicants in university image research.

Based on the findings a more positive view of external prestige, social environment, physical actualities and agreeableness of the university predict more positive evaluations in overall university image. Moreover, ruthlessness trait has a negative effect on the university image. In turn, applying intentions of high school students are affected by overall university image, external prestige, social environment, agreeableness and competence of the university. Surprisingly, competence trait has a negative effect on applying intentions. High school students that consider the school as hardworking, ambitious, achievement oriented, leading and corporate are less likely intending to apply to the school. Overall, both image dimensions, cognitive and affective, are important in university image formation and predicting the applying intentions of potential applicants.

Against the assumptions, academic and graduation prospects did not have effect either on university image nor applying intentions. Based on the literature review it was expected that academic and graduation prospects would have been one of the most important factors affecting both, the overall university image and applying intentions, but the findings indicate the opposite. However, few studies have also presented similar results. Duarte et al. (2010) proposed according to their findings that quality of education may be taken for granted and therefore, it is not necessarily a differentiating factor. Similarly, Martineau (1958) described that functional attributes like quality might not serve companies a way to differentiate, as consumers may consider it as self-evident.

Furthermore, as different stakeholders most likely hold diverse images (e.g. Barich & Kotler, 1991; Markwick & Fill, 1997; Arpan et al., 2003; Stern et al., 2001) and most of the university image studies are implemented among current students, differing results are expected. In university choice studies for example Broekemier and Seshadri (2000) found that academic reputation was only the ninth most important factor affecting the university choice, while Simões and Soares (2010) found it to be one of the most important factors. The difference of these studies was that the latter studied university choice among current university students and the former among high school students. This study supports the idea of Duarte et al. (2010) that for universities academic quality is not a source for differentiation and moreover, this may be emphasized when considering the perceptions of potential applicants.

External prestige explained significantly more the overall university image as well as applying intentions than any other factor. Education is an intangible and complex service, and potential applicants may have difficulties to evaluate the attributes of the university (Mazzarol et al., 2000). Therefore, they seem to rely on relevant others' opinions and general evaluations of the university, while aspects like academic and graduations prospects can be hard to evaluate. Consequently, the results indicate that word-of-mouth has its role as an important source for university image formation.

The results differ between male and female high school students, suggesting that gender has an influencing role in the formation of university image and applying intentions. Statistical support for differences in results between genders is provided for four relationships: social environment and university image; physical actualities and university

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image; agreeableness and university image; ruthlessness and applying intentions. Consequently, it can be said that the gender affect the image formation and male and female high school students use different determinants when considering applying to university. The findings contribute to the knowledge that the importance level of different components in image formation varies among different stakeholder groups but also based on the characteristic of persons (Barich & Kotler, 1991).

Male high school students seem to consider only few aspects when creating overall image evaluations and considering to apply to university. In turn, females use more criteria in the determination of the overall university image and also more factors affect their applying intentions. External prestige is the strongest influencer of overall image perceptions across genders but only for females external prestige shows effect on the intentions to apply. For male high school students, social environment has the second-largest effect on university image evaluations while for women the effect is almost three times lower and other factors like agreeableness and physical actualities have more influence. Agreeableness of the university and physical actualities do not seem to have effect on males' image. Hence, only females consider where the university is located and whether the campus is attractive, when evaluating the overall image of the university. Based on the results, it seems that for males it is important that the social environment is pleasing while for females it is more important that the university is agreeable. Moreover, ruthlessness trait has negative relation to overall university image evaluations of both, male and female high school students.

However, ruthlessness has unexpectedly a positive effect on males applying intentions. So, when male high school students consider the university as arrogant and selfish they more likely also intend to apply to the school. Overall university image has the strongest contribution to male high school students' applying intentions. Applying intentions of female high school students are most affected by external prestige. They also consider overall image and agreeableness of the school when thinking about applying. However, for females the overall university image shows much weaker effect on applying intentions than for males. In addition, competence trait seems to have unexpectedly a negative influence on male and female high school students applying intentions.

As Davies and Chun (2008) describe, potential applicants think especially intangible aspects when considering whether they fit in to a university. One possible explanation for

the differing results of male and female high school students could be that consumers compare the images to their own self-image or ideal self-image as presented in corporate, brand and product image contexts (see e.g. Martineau, 1958; Sirgy, 1985; Aaker, 1996). From this point of view, ruthlessness trait fits better to male high school students' self-concept. For example being selfish and arrogant can enhance males' willingness to be independent, in turn females prefer to think others' opinions and trust on external prestige. Furthermore, female high school students rely even more on external prestige and others opinions than their own overall image evaluations, while males show more independency and trust their own evaluations of the image when consider applying. Moreover, a competence university being "leading and ambitious" seem to be unattractive trait from high school students' perspective, as results indicated it has a negative effect on applying intentions. Consequently, high school students might have difficulties to fit competence with their own self-concept.

5.1 Managerial implications

This study identifies specific components that can be significant for universities' strategic positioning in the eyes of potential applicants. Further, the findings show that different factors affect male and female high school students' university image formation. Moreover, males and females evaluate different criteria when making their applying decisions. Therefore, the findings present that universities can consider diverse marketing and recruitment strategies for males and females.

Universities' marketing communication departments can exploit the knowledge provided in this study when designing marketing communication targeted for potential applicants. According to the results of this study, academic excellence is not an efficient way to differentiate positively in the minds of potential applicants as it has no influence on university image evaluations nor applying intentions. Nonetheless, this does not exclude the importance of having quality education but it may not offer universities efficient way to position themselves. Graduation prospects alongside with academic excellence are not a significant determinant in the minds of high school students. However, as the pre-study revealed it is considered to be one of the most important aspect that high school students think when forming university image and moreover, it was highlighted in the marketing communication of the case university. Another subject that was in the center of Aalto

University School of Business' identity and marketing communication was being "leading". Nevertheless, this is definitely something that should be considered as the study's findings propose that emphasizing the competence trait (e.g. leading, ambitious) of the university it can negatively affect potential applicants' applying intentions.

The suggestion based on the findings of this study is to emphasize social environment, agreeableness (e.g. friendliness, supportiveness and openness) of the university and especially external prestige (e.g. school rankings and prestigious status in society overall) in the marketing communications to enhance positive position in the minds of potential applicants and to increase applying intentions of female high school students. While universities can affect potential applicants' applying intentions with more positive image evaluations, it is still only one affecting factor among others. Moreover, image evaluations and applying intentions of potential applicants seem to rely strongly on external prestige. Hence, the potential applicants consider primarily how they think others evaluate the university: do their family and friends appreciate the university, is it considered prestige in society overall and does the school perform well in school rankings.

However, it should be considered how generalizable the results of this study are, as they may not be extended to all universities. The results can be considered to have validity in similar countries like Finland. Hence, it is supposed that the results are generalizable to Nordic countries and moreover, with some extent to other European countries. However, different factors will be more likely emphasized among Finnish universities. For example, the applying intentions to universities outside the Metropolitan area may be more driven by physical actualities, especially location. Besides, the findings may vary when examining universities of other academic disciplines than business. Nevertheless, also similar results are expected. As high school students have limited experiences with universities the external prestige is assumed to maintain its role as one significant factor affecting university image evaluations and applying intentions. On the contrary, some findings can reflect to a certain status of the case university. For example, competence may indicate negative correlation to applying intentions because Aalto University School of Business is the leading business school in the country. Hence, in this context the competence trait (e.g. leading, ambitious) may represent "too much competence" in the eyes of some high school students and indicate for example to too demanding school to apply.

Before being able to indicate the generalizability of the results more studies of more universities is needed. The study offers universities tools for identifying drivers of image and applying intentions of their own institution. Consequently, one important managerial contribution of this study is the developed questionnaire and the model. Moreover, for Aalto University School of Business the developed model and questionnaire offer tools for image tracking over time and they enable the school to see whether new marketing campaigns produce favorable changes in the perceptions of potential applicants. It would be interesting to see for example if the competence of the university could be changed to refer to a positive image.

5.2 Limitations and suggestions for future research

Although the study gives contribution to knowledge of university image and its effect on applying intentions, it is necessary to discuss the limitations of this study. Due to the fact that only one university is considered in this study, the findings can reflect the specific situation of the target university as described above. Therefore, the future research is needed in this same context of potential applicants assessing more universities to see whether the model indicates consistent results. Several proposes for the future research can be given based on the current study. Firstly, as the multidimensional construct and cognitive and affective dimensions of the image are widely recognized in the literature, this knowledge should also be exploited in university image research. As Keller (2003) emphasizes too narrow perspectives and disregarding the multidimensional construct of image will destroy the richness of consumer research.

Furthermore, the current study has presented that cognitive and affective attributes contribute to the university image. Generally less attention has given to affective dimension which however, indicated in this study its role in image formation and predicting applying intentions. Moreover, the affective attributes revealed important evidences of differences between genders. Hence, the affective attributes may offer appropriate way to better disclose the effect of gender as the differences may appear on these emotional and more abstract attributes. Future research aiming to examine gender differences in university image and university choice contexts can benefit from considering also the affective dimension. Overall, more contribution should be given to image research considering both cognitive and affective attributes simultaneously.

This study is the beginning for the research of university image and applying intentions of potential applicants. Future research should concentrate to examine the relationship of these two constructs. Also the university image perceptions of potential applicants need more attention in the academic research because of the importance of this specific stakeholder group. Moreover, this study offers evidences that potential applicants' perceptions vary from current students', which indicates the need for studying university images also among potential applicants as previous studies of current university students' perceptions are not generalizable to represent the perceptions of potential applicants.

Finally, this study provides a comprehensive model that was formed through profound review of literature and existing research. The model is developed for measuring university image and its effect on applying intentions. The proposed model could be exploit in similar studies in the future. The model is considered suitable for measuring university image among potential applicants as it explains 63% of the variation of the image. However, the study is limited to assess only factors relevant to countries like Finland. Therefore, the proposed model should be supplemented with factors like athletic programs, when research is implemented in an environment where these factors are important components of university images. Another limitation of this study is that only direct relationships are assessed and hence, future studies could also examine indirect effects between image factors, overall image and applying intentions.

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Appendixes

Appendix 1 Sample characteristics.

	Male (n=257, 24,8%)		**Female** (n=780, 75,2%)		**Full sample** (n=1037)	
	Frequency	Percent	Frequency	Percent	Fraquency	Percent
Studying year						
First	23	8.95%	78	10.00%	101	9.74%
Second	52	20.23%	160	20.51%	212	20.44%
Third or fourth	182	70.82%	542	69.49%	724	69.82%
Place of residence						
Helsinki Metropolitan Area	83	32.30%	250	32.05%	333	32.11%
Southern Finland	155	60.31%	451	57.82%	606	58.44%
Elsewhere in Finland	102	39.69%	329	42.18%	431	41.56%
Considering to apply to university						
Yes	198	77.04%	616	78.97%	814	78.50%
Maybe	41	15.95%	112	14.36%	153	14.75%
No	10	3.89%	30	3.85%	40	3.86%
Do not know	8	3.11%	22	2.82%	30	2.89%
Interested to study business						
Yes	74	28.79%	174	22.31%	248	23.92%
Maybe	81	31.52%	198	25.38%	279	26.90%
No	88	34.24%	331	42.44%	419	40.41%
Do not know	14	5.45%	77	9.87%	91	8.78%

Appendix 2 Final measurement items and constructs.

Construct	Loadings*	Items**	Cronbach's Alpha	Based on
Academic and graduation prospects	0.80	The university has high quality education	0.90	Kazoleas et al. (2001)
	0.76	The university has excellent professors		Arpan et al. (2003)
	0.73	Most students at the university are very intelligent		
	0.63	The university is tough to get into		
	0.77	The university is committed to academic excellence		
	0.65	The university has a wide range of degrees and courses		*Pre-study*
	0.78	Graduates of this university have excellent job and career prospects		Bennett & Ali-Choudhury (2009)
	0.85	Degrees from this university have a high status in the outside world		
	0.76	A degree from this university will be useful to a person throughout his or her entire life		
	0.77	A degree from this university prepares to a wide range of job and career prospects		*Pre-study*
External prestige	0.73	This university is looked upon as a prestigious school in society overall	0.82	Sung & Yang (2008)
	0.73	I think my parents think highly of this university		
	0.76	I think my friends and siblings think highly of this university		
	0.70	This university successfully retains a prestigious place in various university ranking systems		
Social environment	0.79	Environment at the university is warm and friendly	0.80	Landrum et al. (1998)
	0.80	The university has a lively social environment with many opportunities to make new friends		Bennett & Ali-Choudhury (2009)
	0.61	The university has many clubs and societies		
	0.63	The university has versatile student body		*Pre-study*
Physical actualities	0.68	University's location is an asset	0.79	Landrum et al. (1998)
	0.78	The university has attractive campus		Bennett & Ali-Choudhury (2009)
	0.79	The university is located in geographical area that has many attractions and entertainment facilities		
Agreeableness	0.78	Friendly	0.89	Davies et al. (2004)
	0.78	Pleasant		
	0.67	Open		
	0.64	Concerned		
	0.76	Reassuring		
	0.77	Supportive		
	0.73	Agreeable		
Competence	0.79	Hardworking	0.86	Davies et al. (2004)
	0.76	Ambitious		
	0.80	Achievement oriented		
	0.67	Leading		
	0.65	Corporate		

Ruthlessness	0.82	Arrogant	0.71	Davies et al. (2004)
	0.68	Selfish		
Overall university image	0.89	General impression of the university	0.88	Arpan et al. (2003)
	0.89	Overall impression of the university		
Applying intentions	0.97	I would seriously consider applying to this university	0.94	Bennett & Ali-Choudhury (2009)
	0.91	I intend applying to this university		

* All loadings are significant at p < 0.01

**All items were measured on a 5-point likerts scale, ranging from 1 = strongly agree to 7 = strongly disagree

Appendix 3 SEM model fit for groups.

(df = 664)

Gender	χ^2	RMSEA	CFI	TLI
Male	1101.25	0.051	0.923	0.914
Female	1844.47	0.048	0.934	0.926