Although educational researchers and college admissions specialists have long understood the importance of developing admissions systems that accurately and fairly select viable students, the actual utility of any such selection system depends heavily on the ability to attract a large pool of qualified applicants (Boudreau & Rynes, 1985; Murphy, 1986). As with other organizations, for universities to remain competitive, they must screen applicants to ensure that those accepted are likely to succeed, and those who are likely to succeed choose them. Given the evidence showing that perceptions of an institution’s reputation as a high quality or “prestigious” school is one of the most important factors in students’ college choices (Litten & Hall, 1989; Manski & Wise, 1983; McDonough, Antonio, Walpole, & Perez, 1998; Sax, Astin, Korn, & Mahoney, 1995), the effectiveness of university recruitment systems hinges on an understanding of the factors used by students’ and influential others to discern the comparative quality of schools.

Marketing and consumer research clearly shows that brand image (i.e., perceived quality of the brand) is a critical determinant of consumer decisions (Crable & Vibbert, 1986; Goldhaber, 1993; Marken, 1990). Organizational image, a person’s beliefs about the quality of a company as a potential employer, is also a primary determinant of applicant attraction and job pursuit intentions (Highhouse & Hoffman, 2001; Highhouse, Zickar, Thorsteinson, Stierwalt, & Slaughter, 1999; Rynes, 1991). To effectively influence application and enrollment decisions, educational recruiters need to understand what beliefs constitute such an image so that they can effectively influence students’ perceptions of university educational image (UEI; Astin, 1985; Braxton, 1993; Karabel & Astin, 1975; Nordvall & Braxton, 1996).

The purpose of the current study is to apply inductive methods used in organizational image research (e.g., Highhouse et al., 1999; Treadwell & Harrison, 1994), to better understand the nature of students’ UEI. This research methodology adds to current knowledge on university choice in several ways. First, it uses a sample of young adults to determine the factors that are most important to college choice and develop a

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**Understanding Students’ University Educational Image and Its Role in College Choice**

The effectiveness of university recruitment systems hinges on an understanding of the factors used by students to discern the comparative quality of schools. This study drew on methods and theory from organizational image research to better understand the factors that students use in forming their overall image of a university as well as their intentions to attend a particular university. Results found 5 key factors: Program Reputuation, Degree Valuation, Familiarity, Extracurricular Opportunities, and Location. These factors, however, influence overall image and intent to attend differently. Results also show some differences in the importance of factors as a function of student ability, with the 5 factors predicting attraction better in higher as opposed to lower ability students.

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measure that universities can employ to assess and benchmark the perceptions applicants have of their own universities. Second, the method uses an inductive approach, which has not been used in previous studies of college choice. Similar to Highhouse and colleagues (1999), instead of assessing the effects of specific factors on attraction and image, this study found what factors were important to students inductively. This is accomplished through a series of studies that isolate the dimensions of image and determine their relationship to general image perceptions and intent to apply (ItA). Although the purpose for identifying the dimensions of UEI are clear, it is likely that most universities know little of the impressions potential students have of their university as a place to obtain an education. Literature in the popular press will often publish lists of the most prestigious, cost-effective or highest quality universities, but these lists do not tell universities how they are perceived by applicants in relation to other schools. Specifically, the goals of this study were to (a) elicit and identify perceived education-related characteristics that distinguish universities in terms of their “educational image” (i.e., to understand what dimensions underlie differences in students’ UEIs as it is perceived by them), (b) develop a psychometrically sound measure of those dimensions, so that we can (c) empirically investigate the relative influence of those dimensions on students’ ItA and how well those dimensions discriminate among schools.

Possible Factors Underlying Students’ UEI

Despite almost a half a century of research (Holland, 1958), little evidence exists regarding what exactly constitutes students’ images of a university (rather than an administrators’ or researchers’ images), and no research has focused on overall image or ItA (Grunig, 1997; Litten & Hall, 1989; Schmitz, 1993). Nonetheless, the existing research literature does provide promising suggestions regarding what factors we might find. For example, several studies suggest hearsay or indirect experiences, the reputation of a specific academic program, cost and prestige affect image and vary depending on the ability or achievement level of the student (Bowers & Pugh, 1973; Welki & Navratil, 1987).

Additionally, recent research has begun to confirm that students may base their educational decisions on nonacademic variables related to college life. These variables can include such things as high profile athletic programs (Toma & Cross, 1998), the aesthetics of the campus, social opportunities, location, and number of friends attending the same school (Bowers & Pugh, 1973; Douglas et al., 1983; Huddleston & Karr, 1982; Welki & Navratil, 1987). Although a wealth of education related and nonacademic dimensions have been investigated in the extant literature, no research has employed an inductive research strategy to assess how these nonacademic factors influence UEI and ItA.

Study 1

Following the methods established by Highhouse et al. (1999), we first sought to elicit factors that would distinguish one university from another. In this step, an attempt was made to allow participants to freely give their opinions of the universities, while getting at the elements that differentiate universities in attractiveness to students. The forced choice method of the study focuses participants on the differences between the two universities rather than the similarities.

Method

Participants. Undergraduate students (n = 43) at a large Midwestern university participated in this study for course credit. The sample is mostly White (74.4%), 56.4% women, and most were between the ages of 20 and 23 (64.1%).

Materials. Prior to this study, a pilot study was conducted to determine what schools were well-known by students attending the university where all the research was conducted. In the pilot study, students were asked to list all universities they were very familiar with. Participant responses were compiled in a database and the frequency that each was listed was determined. The 12 most frequently listed schools were used for this study. They were: Rose-Hulman Institute of Technology, University of California–Los Angeles, Indiana State University, Indiana University, Notre Dame, Ivy Tech, Yale, University of Illinois, Ball State, Michigan State, University of Michigan and Northwestern. These 12 schools were paired randomly across surveys, with each survey having six comparisons. The survey also asked for demographic information and asked the participant to list the schools he or she applied to.

Procedure. Participants were able to complete the survey at the end of a class period for course credit. They were told the survey intended to assess the perceptions of popular universities among current college students. For each of the six comparisons, participants were asked to indicate which school they would prefer to attend. The participants were then asked to describe the rationale for the preference. The survey (choosing a school for all six pairs and listing rationale) took approximately 10 min to complete. Following survey administration, the first author and a research assistant blind to the study’s purpose independently content coded the free-response items.
The authors identified dimensions that appeared to capture parsimoniously the content of the open-ended responses, yielding 13 potential dimensions. The content coding of the research assistant and the first author matched 94.6% of the time (i.e., interrater reliability was 94.6%). Thus, the 13 dimensions were accepted potential dimensions of UEI, and are given in the left-hand column of Table 1.

### Study 2

The purpose of Study 2 was to develop a psychometrically sound measure of the dimensions identified in Study 1. One of the main goals of the present research was to develop a measure that can be used to assess UEI for future research and application by universities. In this step, an initial measure of UEI was developed and assessed.

### Method

**Participants.** Participants were 135 introductory psychology students. The mean age was 19.83 years ($SD = 1.85$), 66% were men, and most (63.8%) were in their first or second year of college.

**Materials.** Using the results from the first study, four to five items were generated for each of the 13 initial dimensions of UEI. The items corresponding to each dimension were based on popular responses from Study 1, reflecting key aspects of each dimension. Example items are shown in Table 1. Items assessing general university image (GUEI) and ItA were added to the questionnaire. These criterion items were adapted from those originally used by Turban and Keon (1993) and Highhouse et al. (1999) to assess general company employment image and intent to apply. An example GUEI item is “This would be a great place to obtain an education.” An example ItA item is “If this school admitted me, I would attend.”

**Procedure.** The 54-item questionnaire assessing the dimensions of UEI, general university educational image (GUEI), and ItA was administered to a large introductory psychology course. Participants indicated their agreement or disagreement with each item on a 5-point response scale. Students were asked to list any university with which they were generally familiar and respond to the items based on that university.

### Results

Analysis of items’ descriptive statistics, corrected-item total correlations, and item-deleted alpha estimates indicated 11 items from 11 scales warranted...
removal. Items with low or negative corrected-item total correlations, and/or improved item-deleted alpha estimates were removed. Exploratory factor analyses (EFA) using maximum likelihood estimation determined which items loaded most saliently on each factor (excluding the nominal scale based “size” and “type” items). Following an initial EFA using a principal components extraction, eight factors were selected on the basis of the scree plot and lambda matrix. A second EFA using those eight factors suggested five dimensions coming from the previous eight factors ($\chi^2 = 196.38$, $df = 166$, $p > .05$). Using EFA results and alpha analyses, the salient three items that loaded most heavily for each of the eight salient dimensions.

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$M$, $SD$, $\alpha$. Maximum Likelihood estimation with Quartimax rotation. Only salient factor loadings (i.e., $\lambda > .35$) shown.
were chosen. A partial-confirmatory factor analysis of those 24 items is shown in Table 2. The five factors are as follows: (a) Extracurricular Opportunities (comprised of specific dimensions Spectator Sport Opportunities and Social Activities); (b) Degree Valuation (comprised of Postgraduation Opportunities and Name Recognition/Prestige); (c) Familiarity (comprised of Prior Personal Visits and Family Legacy); (d) Appeal of Location; and (e) Reputation of Specific Program. Descriptive statistics for the composite scales based on these five factors are shown in Table 2; only salient factor loadings are shown. The scales for each of these five dimensions demonstrate sufficient reliability, with all factors having Cronbach’s alpha coefficients above .75.

To assess the relationship between the five dimensions and the criterion perceptions of General UEI and ItA, correlational analyses were conducted. The two nominal scales (cost and size) were included in the analyses. Results showed that the five scales and the size and cost items were correlated with the outcome variables. However, these relations should be interpreted cautiously as the sample size is small (N = 135) and that most participants (87.5%) responded with the university they were currently attending as the target, resulting in a restriction of variance. Because of the major limitations of Study 2, we conducted another study using the measure developed in this study to assess the impact of each of the five dimensions on UEI and ItA.

**Study 3**

The purpose of Study 3 was to replicate the correlation analyses of Study 2 and to determine how well the isolated dimensions of UEI differentiate actual universities. This time, we selected five well-known universities (determined through the pilot study) which were thought to differ on the five dimensions. The schools were: Yale, Notre Dame, Ivy Tech, Indiana State and The University of Illinois.

Further, we were interested in determining if differences in ability, measured by self-reported SAT score, affect the importance given to the dimensions of UEI.

**Method**

**Participants.** Undergraduate students participated for course credit (N = 114). A majority were male (58.0%) and in their freshman year (51.8%). The average age was M = 19.82 years (SD = 1.93). The average self-reported SAT score was M = 1207.20 (SD = 158.59).

**Materials.** The refined survey from Study 2, consisting of 43 items assessing the five factors of UEI, was administered to participants.

**Procedure.** Each participant was asked to complete the questionnaire developed in Study 2 five times—once for each of the five schools (with the order randomized). To make the image of each school salient, the school’s logo was provided at the top of each page.

**Results.**

Mean differences between schools were given in Table 3 and demonstrated expected differences. For example, Yale was seen as a more costly and prestigious institution (M = 3.32 and 2.24, respectively) than the community college (Ivy Tech) or a smaller state school (Indiana State).

Next, we assessed the degree to which differences on the key dimensions were related to students’ general UEI and ItA. Overall correlations are shown in Table 4. Most of the correlations were of higher magnitude than observed in Study 2. However, contrary to Study 2, cost correlates negatively with both intent and image (r = -.39 and -.22, respectively) meaning...
that participants who felt a college’s cost was more reasonable had less desirable images of that institution. However, because the overall correlations were sensitive to mean differences between the schools, we replicated this analysis using responses to only one school at a time. These results are shown in Table 4.

As expected, with one exception (Notre Dame), we found that reasonableness of cost was either significantly positively related to both outcomes when evaluating each school individually, or not significantly different from zero. The two private universities, Yale and Notre Dame, had higher base rates of UEI and ItA (likely driven by the Name Prestige factor), but students also appeared to recognize that tuitions were substantially higher in cost. On the other hand, these results also suggested that perceptions of cost were related to the criterion perceptions for some schools, but not for others. There were some differences in other factors as well. For example, Familiarity was related to ratings of UEI for the four regional schools, but not for Yale; meaning that the degree to which any specific factor affected GUEI may vary across schools.

To better understand which factors were the important predictors of UEI and ItA, regression analyses were conducted using the data from the five schools combined (given the issue with the cost item, it was not included in this analysis). UEI and ItA were each regressed on the set of five factors, which were entered simultaneously as a single block. The results, shown in the upper portion of Table 5, indicated that the overall set of factors account for significant amounts of variance in both GUEI and ItA ($R^2$ for GUEI = .81; $R^2$ for ItA = .65). Evaluation of the beta weights showed that most of the variance in GUEI was accounted for by Degree Valuation ($b = .8$), though Extracurricular Opportunities and Reputation of Specific Program were also significant with beta weights of .09 and .08. For ItA, Degree Valuation again uniquely accounted for the most variance ($b = .41$). Unlike ratings of GUEI, all four of the other factors were also significant predictors of ItA.

An additional goal of this study was to investigate whether the five factors were differentially related to UEI and ItA for students who differed in academic qualification. We created two groups based on a median split of SAT scores (Mdn = 1120) and reran the regression analyses on each group. The results are shown in the lower portion of Table 6. Looking at the results of the regression of GUEI first, the results showed that there were no significant differences between the any of the five pairs of beta weights. For both groups, Degree Valuation was the primary predictor. However, although not significantly different from each other, the beta weights for Reputation of Specific Program and Extracurricular Opportunities were significant for the higher ability group, but not the lower ability group. Looking at the regression of ItA, there again are no significant differences in any of the five pairs of beta weights. Overall, these results suggested that
the beliefs that students of different caliber had about universities influenced perceptions and intentions equally.

Looking at the differences in beta weights for each factor with regard to the two outcomes showed that for both groups, the impact of Degree Valuation was significantly smaller on attendance intentions than on perceptions of GUEI. On the other hand, Reputation of the Specific Program and Appeal of Location had a much larger impact on attendance intentions than they did on GUEI. These results clearly indicated students’ perceptions of GUEI and ItA were differentially influenced by these five factors.

**Discussion**

The central findings of the current study are complementary of prior research findings. Specifically, all five of the central factors found to underlie UEI have been identified in earlier work using different methods, such as familiarity with the university, perceived quality of specific academic programs (Huddleston & Karr, 1982), cost (Smith, 1994), postgraduation opportunities (Litten & Hall, 1989), and nonacademic factors such as Extracurricular Opportunities and Location (Bowers & Pugh, 1973). Our results confirm that these factors do form the foundation for students’ UEI. In this sense, the current findings confirm earlier indications of these factors’ influence by not only replicating them using a different methodology, but by also providing the long absent criterion-related validity evidence.

However, at the same time, a number of factors purported to be of import to student college choice were not found to be important in the current study.
For example, Grunig (1997) reported only two dimensions affecting choice, size, and selectivity. Although there was some mention of these factors in the initial stage of the current study, neither of these factors proved to yield an influence on UEI perceptions or choice intentions.

The current study also found that nonacademic factors affect image as well as ItA. Although prior research has also suggested that Extracurricular Opportunities and Appeal of Location may influence ItA, these factors have not been considered as potential influences on students’ perceptions of the quality of the institution as a place to receive an education. The current findings suggest that such nonacademic factors do in fact influence students’ UEI in addition to ItA, although they are not often considered by researchers or administrators as important.

The finding of Degree Valuation, which is partly comprised of Name Recognition and Familiarity as a key dimension, appears to connect to research from marketing and consumer psychology. Although Familiarity did not show as much influence as other factors in the latter studies, reviews of the qualitative data from Study 1 clearly shows its impact on choice. A number of students wrote that they preferred one of the two schools listed in the pairing because “I haven’t heard of the other school.” Even in cases when the student knew of both schools, many participants wrote phrases such as “I know more about this school” or “I have friends/family that went to this school.” This is consistent with research showing that a consumer’s confidence toward a brand may result from his/her familiarity or experience with the brand (e.g., Laroche, Kim, & Zhou, 1996). The factor of Name Recognition likely gains its impact from processes similar to the Familiarity concept, and is likely impacted by nonacademic influences as well such as sporting events (Tomo & Cross, 1998). An obvious implication of these findings is that, in order to increase students’ intention to apply to or enroll in a school, university marketers need to enhance the students’ familiarity with the school’s name.

Assessing the images of various universities can assist institutions in benchmarking their success in specific dimensions. Previous research has assessed the feelings and opinions of current students, applicants, and alumni to identify the strong and weak aspects of a specific university. However, as noted earlier, this information, although potentially useful for other reasons, may not provide the best basis for developing effective recruitment programs. Use of research methods, such as that used in the current study, are likely to identify dimensions of university image that will better enable a university to design recruitment materials that highlight the strengths of particular programs and those dimensions on which they excel, and may provide the needed evidence to encourage other university administrators to improve other aspects (e.g., national name exposure). Additionally, by benchmarking against other schools deemed to be a university’s primary competitors for top students, administrators will be equipped with the necessary information to make more strategic recruiting decisions.

Finally, the current study also found evidence indicating that different types of students may use information differently to form perceptions of UEI and ItA. Results from Study 3 show that high ability students’ ratings of UEI and ItA are more predictable than low ability students. Although the current analysis did not have enough statistical power to detect significant differences in the regression weights between these groups, these results suggest that the five factors capture most of the reliable variance in their perceptions, whereas this is less so for low ability students. That is, the identified set of five factors underlying UEI appear to be more applicable to high ability students (those students universities wish to target) than low ability students whose perceptions are apparently influenced by other factors.

Limitations and Assets

Although the current research successfully isolated dimensions of UEI, several limitations warrant consideration. First, although university recruitment and selection applies to high school seniors, we were unable to obtain access to a sample of high school students and used college students. Although the majority of participants had less than two years of college experience (79.3% for Study 1, 68.3% for Study 2, and 51.8% freshman for Study 3), they were current college students who had been through the choice process previously. Hindsight biases, maturation differences, cognitive dissonance, or other differences between our sample and high-school seniors could influence the decision-making process. Second, because our participants were already attending a university, they may not have considered the information as thoroughly as individuals who are actually making a decision that will have direct impact on them (cf. Brucks, 1985). Third, because all research was conducted at a large Midwestern public university, some of the results may be unique to the characteristics of the population that chooses to attend that school. Applying this methodology to a sample drawn from other types of universities (e.g., a small, private, liberal arts college, coastal) might elicit different dimensions of image, or find changes in the degree of importance placed on the isolated dimensions.
Despite these limitations, the current study provides a significant contribution to the research investigating students’ perceptions of universities and their college choice process by correcting for several of the methodological concerns noted by Grunig (1997), Litten and Hall (1989), and Schmitz (1993). This study looked at factors that discriminate between schools using a student, as opposed to an administrator, sample. Specifically, we isolated six factors (Extracurricular Opportunities, Reputation of Specific Program, Location, Cost, Familiarity, and Value of Degree) that significantly impact image and intent to attend. Furthermore, we found that Reputation of Specific Program and Extracurricular Opportunities were significant factors for higher ability students (based on SAT score) but not for lower ability students.

Future research stemming from the results of this study can employ larger and more diverse samples to more specifically assess how UEI dimensions affect general perceptions of universities and intent to apply. Using samples of high school students that are nearing the time of making decisions about colleges could provide more useful information about college choice. Further, longitudinal studies could be conducted to determine if and how the importance of the dimensions of UEI vary over time, perhaps assessing how perceived fairness of selection practices affects student perceptions. Finally, this study replicated a method developed by Highhouse and colleagues (1999) to assess image in a particular industry. The present study affirms this methodology as a useful tool for assessing image in many diverse areas.

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