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University Image: The Benefits of Assessment and Modeling

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ABSTRACT. Residents across a state were asked about their opinions about a regional university. Using closed- and open-ended questions in mailed surveys, information about university image was collected. Results indicate that residents have one of two opinions about the university–either they have a general, positive opinion (halo effect) or no opinion. LISREL modeling of the data point to the significant components of university image and how they influence the decision to send a son or daughter to the university, which in turn leads to a better understanding of the impact of university image. More work with varying populations and a variety of universities needs to be published to contribute to a general, overall understanding of the impact of university image. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]*

KEYWORDS. Image of regional university, university image

INTRODUCTION

In an era of shrinking budgets and increased competition, a university's image is a valuable asset in the competitive arena. This image, however formed, and based in fact or fiction, influences a number of decisions about a university's future. It influences not only who will apply, but also the community's attitude about the institution and

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perhaps the level of funding by the state or private donors. In order to better comprehend the attitudes and characteristics that lead to the composite image or images, the attributes upon which image impressions are formed need to be better understood. Social psychologists, for some time now, have been studying the mechanisms under which attitude formation takes place (e.g., Ajzen & Fishbein, 1980; Davidson & Jaccard, 1979), as well as the decision-making processes that follow (Jaccard, 1981; Jaccard & Becker, 1986; Turrisi & Jaccard, 1992). The present study was designed to apply many of these techniques to the study of university image.

As with many consumer-driven, market-force type situations, more work has been done in this area than is published. Many universities internally study their image, and choose not to make this information public in order to preserve the integrity of their own competitive advantage as well as not to provide their competitors information about strengths and weaknesses. Hence, it should be understood that the following is only a brief review of the published literature and that, in all likelihood, more work has been conducted in this area that remained unpublished.

Image Formation. Much of the work in image formation comes from the corporate sector. For instance, Dowling (1988) reports on a study by Reynolds (1965) that two processes that influence the formation of an image are halo effects and simple inferences. Halo effects occur when an overall image of a company or institution is extrapolated to specific segments on which the person is less familiar. That is, people use an overall "good reputation" to fill in the missing details. Simple inference suggests that people expect certain attributions to be linked together, such as "bigger is better." Interestingly, Dowling (1988) discussed the formation of multiple publics and multiple images for corporations, and that "exploratory and confirmatory factor analysis seem suitable techniques for describing the properties of a company's overall image" (p. 33).

Perceptions and Multiple Images. Dowling (1988) raises the issue that corporations do not have just one image, but multiple images. In their study of corporate image, Gatewood, Gowan and Lautenschlager (1993) found only moderate levels of external agreement about a company's corporate image. They also found that people can hold different corporate and recruitment images of the same organization, *and* that corporate and recruitment images are significant predictors of

the decision to pursue contact. Although not writing about universities specifically, it is easy to see how well the conclusion from Gatewood et al. (1993) fits into a college and university situation–recruitment and first contact are particularly important.

While Gatewood et al. (1993) studied how external constituents felt about a corporation, Gaulard (1992) examined the images held by internal employees and external customers. Her advice was for corporations to try to minimize the disparities between actual and desired images, and to minimize the disparities between employee perceptions and customer perceptions. Parameswaran and Glowacka (1995) in their study of university image found that academic institutions need a distinctive image to maintain a competitive edge in the marketplace. This begins with knowing what the image is, what its strengths are, and knowing what the university does best. Sounding a theme similar to Dowling (1988), Parameswaran and Glowacka (1995) suggest that brand image or brand loyalty is that halo that influences consumer beliefs about performance. The halo effect is useful to consumers because the halo helps to reduce risk when the consumer must rely on the brand rather than unfamiliar product attributes. In this study of university image, they assessed image by asking local human resources managers about the employability of college graduates. Image formation is a manageable process as well. Fielder, Goff, and Wilson (1993) completed a content analysis of college recruitment videotapes. The major themes that emerged from the videos as strategies for universities to communicate their image were: testimonials, student-teacher classroom interactions, campus buildings/town aesthetics, varsity athletics, student activities, and the use of academic symbols. This research may be helpful to those attempting to shape the perceptions of individuals outside of the university.

Image Assessment. The methods used to assess image vary widely. The importance of this effort, however, should not be understated. Beal (1980) asked students in a survey about their reason for staying at a particular university, and their No. 1 answer was academic reputation. The popularity in measuring university image or reputation has grown rapidly. Bess and Shearer (1994) discuss the impact of the *U.S. News and World Report*'s process of reporting academic reputations. They find that a well-defined selectivity index (based on distinctions at the levels very good, average, and very poor) can be helpful to potential university students, but wisely warn that "reputation alone

does not unequivocally connote good education" (p. 8). The importance of image is also critical in the retention of students as well as the attraction of students (Fielder, Hilton, & Motes, 1993).

Approaches to the study of university image range from relatively simple to relatively complex. Ogbuehi and Rogers (1990) suggested that the way to build a university's image is to identify excellent high school students and attract them. Marburger (1993) contrasts the university's image and actual reality–they do not always match. Martin and Dixon (1991) acknowledge that academic reputation is an influential factor in a student's college choice, but they chose to develop models and measures to precisely ascertain attitudes toward higher education in general and specific institutions in particular. Martin and Dixon (1991) found four types of influences: academic programs, social climate, cost and location, and the influences of others (e.g., parents, friends, peers, guidance counselors, teachers, etc.). Morrow, Doyle, Ogletree and Parsons (1995) found in a survey of adult learners that reputation of university was an important factor in deciding to attend a particular health education program.

Weissman (1990) strongly argues for the need for continual image assessment and modification by colleges and universities. She presents a flowchart of the process including the components of (a) image assessment, (b) identification of problems, threats, and opportunities, (c) formulation of the desired images, (d) image modification, and (e) implementation and control of desired images. Weissman makes a number of very practical suggestions on how these types of plans can be implemented in higher education settings. In part citing Kotler (1975), Weissman (1990) reminds us that "nevertheless, colleges and universities need to keep in mind that it is the organization's image, not necessarily its reality, that people respond to" (p. 67), a sentiment echoed by Marburger (1983).

Recent work by Yavas and Shemwell (1996) has demonstrated the use of correspondence analysis in understanding university image. This study focused on the measurement of image in the context of competing institutions–a competitive profile, if you will. Students were asked to rate eight different institutions (one of those institutions being the institution of interest, or the target university). They found that certain attributes were associated with the target university more than its competitors, and vice versa. Mapping these results in two-dimensional space revealed not only the universities similar to the target

university, but also identified the attributes more and less associated with the target university (in a spatial orientation). The benefit of this approach is that it provides a competitive profile and provides some prescriptive insights as to how to strengthen the university's image.

Suggestions for Improving University Images. One theme that clearly emerges from this literature is that the perception of the university image and reality are often different. Fram (1982) echoes this sentiment when he states "an institution's actual quality is often less important than its prestige or reputation for quality" (p. 6). He found that for outside constituencies, university image was often composed of ideas about (a) the faculty, (b) the curriculum, (c) teaching quality, and (d) the tuition-quality relationship. Fram emphasizes that in maintaining and enhancing a university image, once it is established, it can provide valuable marketing support for years.

Fram (1982) makes some specific recommendations for improving the university image. These suggestions include (a) highlighting faculty activities and achievements, (b) monitoring current student attitudes, (c) surveying alumni about their satisfaction with the university experience, and (d) researching the attitudes and opinions of the local community. In the present study, we examined the perceptions about a regional university from a statewide perspective.

Conceptual Approach. The conceptual framework we utilized is based on the evolution of over 17 years of research on social psychological theories of decision making (e.g., Ajzen & Fishbein, 1980; Jaccard, 1981; Jaccard & Becker, 1985; Turrisi & Jaccard, 1992). The approach involves the theoretical relationship between cognitive variables and behavioral decisions. According to the framework, an individual's behavior is primarily a function of the attitude the individual has toward performing the behavior (e.g., Jaccard, 1981). In the context of the present study, parents of a college-bound student have at least two options: send their child to the university or do not send their child to the university. The parents will have a general orientation toward each of these alternatives, but because the orientations will be highly negatively correlated, psychologists have generally only examined the orientation toward one. These general orientations are considered to be a psychological summary of all of the beliefs (i.e., cognitions in the model) the individual has toward the object under investigation (i.e., university). The beliefs tend to be a product of one's personal experiences, observational learning, and information from

other sources (e.g., media). For example, parents may hold beliefs about an insitution's reputation, academic programs, faculty, ability to prepare graduates for employment, emphasis on athletics, and so on. In the present research, we examined the relationships among these cognitive variables and the orientation toward a given university. The orientation toward the university was conceptualized in terms of the likelihood of parents sending their sons/daughters to the university. Of psychological and practical interest then, will be the beliefs that are relevant to the likelihood of sending a son or daughter to the university.

In sum, the present study attempted to add to a growing body of literature on university image by using a well-developed theory of decision making to examine the relationship between cognitive variables and the orientation toward a given university.

METHOD

Participants. The participants were the citizens of a Western state. The sample was stratified based on a proportional representation from all parts of the state. Random sampling based on telephone book entries was performed within each strata to obtain the original sample frame of 849 participants, or 0.075% of state residents (based on 1994 Census data). Participants were asked questions regarding a State University (SU). SU is largely a metropolitan university located in the state's largest urban area, which also serves as the center of government and also is the center of many areas of commerce and industry. Only 6% of the university's undergraduate students live on campus. Enrollment of both undergraduate and graduate students stands at about 15,200. The average age of undergraduate students is 26, making for a relatively non-traditional university.

Materials. A summary of the Likert scale-type questions is presented in Table 1, and open-ended questions are presented in Table 2. There were additional questions that were asked that are not reported here. These questions were developed with the overall survey goal in mind (e.g., identify the beliefs participants hold about SU's academics, athletics, faculty, etc.) and were developed with university officials to address specific issues as well as to compare current image information with previous institutional surveys. The scaling approach

has a rich tradition of yielding reliable and valid measures in numerous behavioral contexts (e.g., Jaccard, 1975).

The survey was printed, front and back, on one piece of paper. Other materials in the mailing included a cover letter from the University President, and a postage-paid self-addressed business-reply envelope.

Procedure. Participant's addresses selected from the original sample frame were printed onto labels and mailed with university letterhead stationary. The survey contained a variety of question types. Questions 1-19 (presented in Table 1) were Likert scale-type questions with 1 = strongly disagree to 5 = strongly agree. Questions 20-28 included multiple-choice and fill-in-the-blank questions about campus familiarity, opinions about SU, and demographic questions. Questions 29-31 were open-ended questions about SU, its relative standing in the state, and suggestions from citizens (questions 30-31 are presented in Table 2).

First class mail allowed for the determination of the accuracy of the address list. From the original sample frame of 849, 724 were valid and current addresses (85.3%). In sum, 257 completed surveys were received, for a response rate of 35.5% (257/724). The surveys were originally mailed November 1996, and two follow-up mailings to nonrespondents included the complete mailing (new cover letter, new survey, and an additional business-reply envelope).

RESULTS AND DISCUSSION

This section is divided into three areas: the presentation of the results in a question-by-question format, content analysis of the open-ended questions, and analysis of the conceptual models.

Question-by-Question Results. A general summary of the question results is presented in Table 1. This table summarizes the Likert-type responses into three categories: disagreement, uncertainty, and agreement. Generally, people in the state hold one of two opinions about SU–either they tend to be favorable or they are uncertain. From another perspective, when asked about SU in general terms (e.g., SU is an asset, SU has a good reputation, SU's location is an asset, SU is a fine university), university image appears to be excellent, with at least 60% of the respondents agreeing on all of those questions. However, when pressed for the perceptions about the particulars (e.g., SU graduates, SU faculty members, athletics, SU environment, recent improve-

TABLE 1. Percentages of Agreement, Uncertainty, and Disagreement on the Closed-Ended Questions

Questions	Disagree	Uncertain	Agree
1. SU provides high-quality academic programs.	3.8%	38.1%	58.1%
2. In general, higher education in the state is adequately funded.	31.7%	33.6%	34.6%
3. I am more familiar with SU today than I was five years ago.	33.5%	23.0%	43.5%
4. SU is an asset to state citizens.	0.5%	15.2%	84.3%
5. Graduates from SU are well-prepared for employment.	1.0%	54.1%	44.9%
6. SU is the state's university of the future.	14.6%	53.7%	31.7%
7. In my part of the state, SU has a good reputation.	12.8%	21.9%	65.2%
8. SU professors are good teachers.	1.4%	62.3%	36.3%
9. Athletics is more important at SU than at other universities in the state.	21.7%	51.9%	26.4%
10. I believe that SU is a dynamic, progressive university.	4.8%	49.8%	45.4%
11. SU attracts good students.	3.8%	49.3%	47.0%
12. The citizens of the state get good value for the money spent to operate SU.	4.8%	47.9%	47.4%
13. SU values athletics over academics.	23.9%	54.1%	22.0%
14. The environment at SU seems warm and friendly.	1.9%	52.7%	45.4%
15. Over the past 2-3 years, SU has become a better university.	0.5%	61.7%	37.8%
16. SU's location is an asset.	4.7%	21.7%	73.6%
17. I would send my son or daughter to SU.	12.1%	30.9%	57.0%
18. SU should offer its programs in other parts of the state.	13.8%	30.0%	56.2%
19. Overall, I think SU is a fine university.	3.3%	30.0%	66.7%

TABLE 2. Open-Ended Questions with Most Frequent Answers

What Does SU Do Well?	
Do not know	19.8%
Athletics	8.9%
Business programs	7.3%
Academics	4.7%
Provides quality education	4.7%
Variety of classes	4.2%
What Two Suggestions Do You Have So That SU Can Better Serve State Citizens?	
Do not know	6.3%
More satellite centers	4.6%
Better advertising	4.6%
Keep costs down and tuition low	4.6%
Coordinate better with other universities	4.2%
More outreach and extension programs	4.2%

ments), for each of these questions the uncertainty rate is over 50%. The overall image or halo seems to be good, but the specific attributes about SU are not well understood by the public. This provides an opportunity to build on the areas in which SU is not well understood (evidenced by the high levels of uncertainty). Coupled with the regional nature of this survey, this type of information provides detailed knowledge in guiding and targeting the future marketing programs for the enhancement of university image. Again, it is the perceived image that is of great influence.

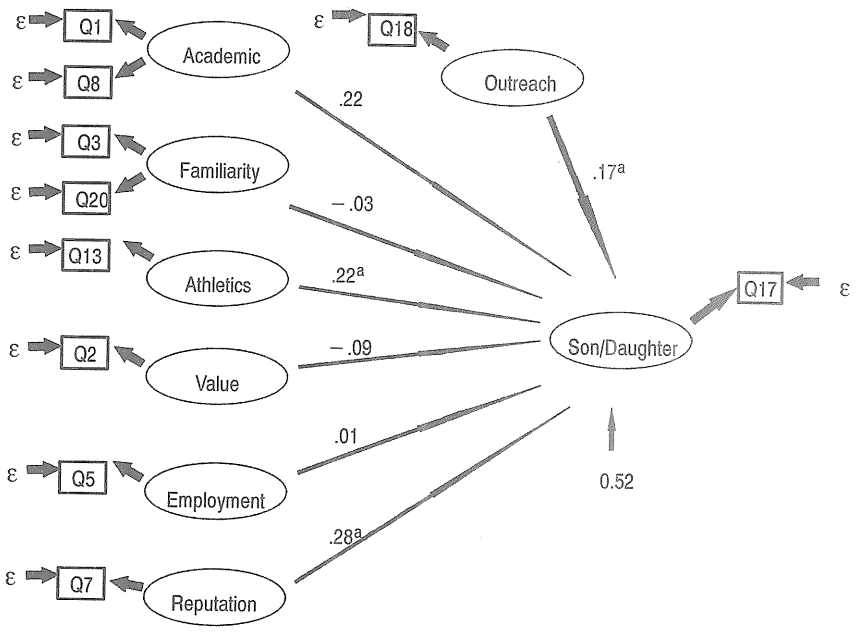
Content Analysis of Open-Ended Questions. In examining the closed-ended questions from Table 1, it becomes clear that areas potentially in need of targeting in any image campaign are those with high levels of uncertainty (e.g., quality of graduates, quality of faculty, recent improvements). Additional insights for image assessment and modification come from the open-ended questions. As seen in Table 2, the most frequent response to "what does SU do well?" was "I don't know" (19.8%). Residents are again uncertain about our specific

strengths yet SU enjoys a general halo effect. Suggestions for future marketing/image campaigns may come from the next most popular responses, including athletics, business programs, academics, and providing a quality education. Similar results occur when asking residents about suggestions for SU. The most frequent response is "do not know" (6.3%). Interestingly, the results of these two questions taken together suggest that not much detail is known about SU's specific strengths nor specific areas in need of improvement, yet the positive halo exists.

It is important to note that much of the real value of this data comes from the insight that it provides. While it is hard to argue against the value of understanding your image, it is another matter altogether to go to the time, energy, and effort to assess and measure image. The value of the endeavor comes from the foresight of those who appreciate image assessment, much in the spirit as suggested by Fram (1982) and Weissman (1990).

Analysis of the Conceptual Models. In this section, the focus was to identify beliefs that were relevant to the likelihood of sending a son or daughter to the SU. The first segment of the analysis examined the relationship between sending a son or daughter to the university and the items measuring the beliefs about the university using a confirmatory factor analytic framework. This approach is conceptually similar to a multiple regression analysis, but preferable because the estimates of the relationships between the variables (path coefficients) that are generated in the analysis are derived without the biases attributable to measurement error (for a more thorough discussion, see Jaccard and Wan, 1996). The models implied by this approach are illustrated in Figure 1. Variables in the circles represent estimates of latent constructs underlying the perception of academics at SU, familiarity with SU, the perception of the athletics (relative to academics), the value of SU (e.g., tuition costs), SU's graduates preparation for employment, SU's reputation, SU's outreach programs, and the likelihood of sending a son/daughter to SU. Variables in rectangles represent the observed measures of each construct (items from the questionnaire, e.g., Q1 and Q8 for academics, Q3 and Q20 for familiarity with SU, and so on). Residuals or estimates of measurement error reflected by the epsilon symbols, were also included in the model in Figure 1, were estimated in the analysis, and were assumed to be uncorrelated (as per classic reliability theory, see Cohen, Swerdlik,

FIGURE 1. Model Specification and Parameter Estimates Relating Sending a Son or Daughter to the University and the Cognitive Factors (Questions)



Note: [a] indicates $p < 0.05$

and Phillips, 1996). For the sake of presentation, correlations between the predictors were not represented in the model.

The fit of the model and the parameter estimates were evaluated using a sample covariance matrix as input and a maximum likelihood function in the context of LISREL VIII (Jöreskog & Sörbom, 1993). Utilizing the suggestions of Jaccard and Wan (1996; see also Hayduk, 1987) a variety of fit indices were utilized to evaluate the fit of the data to the model presented in Figure 1. Together, the indices point toward good model fit (e.g., X^2 (13) = 22.52, $p < .06$; *RMSEA* = .059 with 90% confidence intervals of .006 and .099, p value for the test of close fit = .32; CFI = .98; *GFI* = .98). Together the seven latent factors accounted for 48% of the variance in sending a son or daughter to the university. All variables except familiarity had significant zero-order relationships with sending a son or daughter to a university in the

predicted directions (see Table 3). Examination of the path coefficients revealed a statistically significant unique effect between sending a son or daughter to a university and reputation, outreach programs, and athletic emphasis. As perceived reputation of the university increased, as outreach program availability increased, and as perceived athletics over academics decreased, the perceived likelihood of sending a son or daughter to a university increased.

The magnitude of the relationship between the cognitive predictor perceived reputation of the university and sending one's son/daughter to SU was relatively impressive. Thus, a second analysis was conducted to examine potential determinants of perceived reputation of the university using a confirmatory factor analytic framework using similar procedures as described above (see Figure 2). In this analysis, reputation was conceptualized to be a function of the perception of academics at SU, familiarity, the perception of athletics (relative to academics) at SU, the value of SU, students preparation for employment, and the availability of outreach programs. The evaluation of statistical indices suggest a good model fit (e.g., X^2 (11) = 17.11, $p < .10$; *RMSEA* = .052 with 90% confidence intervals of .00 and .097, p value for the test of close fit = .43; CFI = .99; *GFI* = .98). Together the six latent factors accounted for 66% of the variance in perceived reputation of the university. Strength of the academic programs and faculty and emphasis on athletics over academics both had significant zero-

TABLE 3. Zero-Order Correlations Between Sending a Son or Daughter to the University and the Cognitive Factors (Questions)

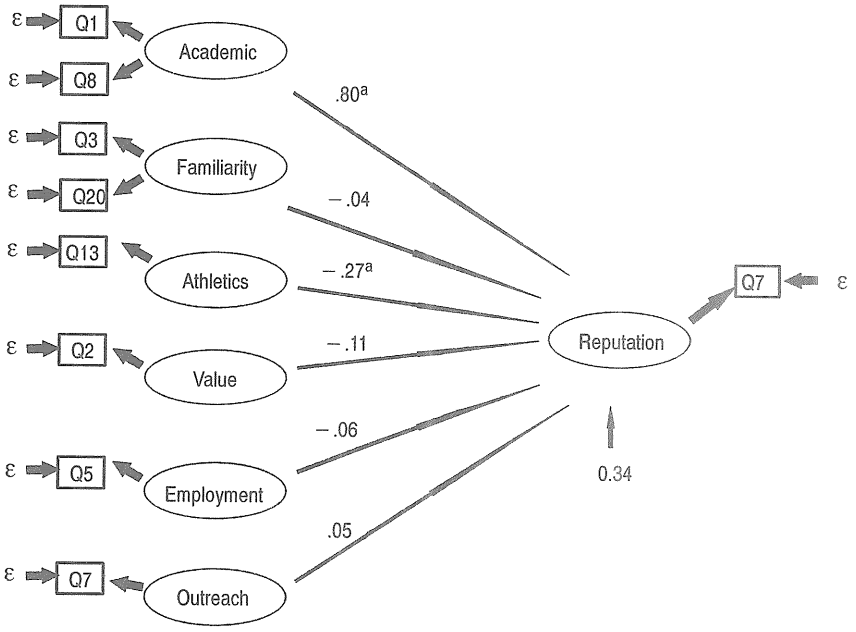
	r
Perceived strength of the academic programs and faculty	.50[a]
Perceived familiarity	.10
Perceived value for dollars spent	.31[a]
Perceived value on athletics over academics	−.38[a]
Perceived preparation of graduate for employment	.34[a]
Perceived availability of outreach programs	.47[a]
Perceived reputation of the university	.59[a]

Note: [a] Correlations are significant, $p < .05$.

order relationships with perceived reputation of the university in the predicted directions (r's = 0.76 and -0.34, respectively, p's < .05). The perceptions of graduates being well prepared for employment, receiving good value for dollars spent, and availability of outreach programs were also positively related to perceived reputation of the university (r's = .53, .20, and .40, respectively, p's < .05). Examination of the path coefficients revealed a statistically significant unique effect between perceived reputation of the university and strength of the academic programs and faculty and emphasis on athletics over academics. As strength of the academic programs and faculty increased and perceived value of athletics over academics decreased, the perceived reputation of the university increased.

Taken together, these models begin to suggest the attributes of university image from the perspective of statewide residents, and one very practical influence of university image, whether a person would

FIGURE 2. Model Specification and Parameter Estimates Relating Perceived Reputation of the University and the Cognitive Factors (Questions)



Note: [a] indicates $p < 0.05$

send their son or daughter to the university. The results from Figure 1 suggest that in making the latter decision, level of outreach, appropriate balance between athletics and academics, and image or reputation play important roles to citizens when thinking about where to send their son or daughter. When the image/reputation component is more closely explored (those results are presented in Figure 2), academic quality plays a large role in the formulation of image, and the athletics-academics relationship continues to be influential.

CONCLUSIONS

Universities need to continually assess their image for many of the same reasons why it is important for corporations to do so. From both exploratory and confirmatory factor analytic approaches, strength of academic program and the appropriate emphasis on athletics are significant components of the image model. Reputation or image then plays a significant role in the implementation or practical application of that image construct, namely, whether a person would send their son or daughter to the university.

From the standpoint of universities having multiple images, our findings are consistent with Dowling (1988) and Gatewood et al. (1993). Despite that approximately 20% of the sample was unsure what SU did well, halo effects were observed regarding the beliefs about providing high-quality academic programs, reputation of the university, an asset to the citizens of the state, etc. Similarly, the image assessment observed was consistent with Beal (1980) regarding the importance of academic reputation and Ogbuehi and Rogers (1990) and Martin and Dixon (1991) regarding the importance of academic programs, cost, and location. These findings are more impressive when the numerous methodological differences between these studies are taken into consideration (e.g., samples, survey methods, outcome variables, analytic approach). Taken together, the findings underscore the importance of universities building their image by developing a strong academic reputation rather than through the appeal of athletics. Although our data suggest that athletic programs are important in bringing individuals to the campus that might not otherwise visit the campus, the perception that a university values athletics over academics results in a negative academic reputation and parents not wanting to send their sons and daughters to the university. It is also important to note that what exists in reality (a university valuing academics) becomes irrelevant once the "perceived image" is otherwise.

Despite the consistencies observed with previous studies, more work needs to be conducted *and* published in this area. For instance, are the models evidenced by the present data university-specific, or do they apply generally? State University is an urban, metropolitan commuter university, generally non-traditional in age of students and located in a Western state. Also, in the present study, only citizens across the state were studied. What happens to university image when regional citizens are surveyed, or current students, or university employees, or alumni? These important variations on the university image theme remain to be tested.

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