Motivation is a state of mind, desire, energy, or interest that translates into an action (Nahavandi & Malekzadeh, 1999). The focus of this investigation is on a subdivision of motivation known as achievement motivation. McClelland (1985) defined achievement motivation as a desire to excel in reference to a standard of excellence. This study builds on these analyses by examining how people of different education levels and gender vary on achievement motivation scores.

Education Level

Research in achievement motivation indicates that upper-level college students score higher on achievement motivation questionnaires than first-year students (Mercincavage & Brooks, 1990). Scores on the NachNaff (need for achievement, need for affiliation) scale (Lindgren, 1976), the questionnaire used in the present study, show a positive correlation with academic and work performance and need for achievement (Lindgren, Moritsch, Thulin, & Mich, 1986). Lindgren et al. (1986) added that many unpublished studies show higher scores for business majors than for students in other fields.

South (1974) compared the need-for-achievement motivation levels of managers working in large corporations with those of manager-owners of small enterprises and undergraduate students majoring in business administration. The business student sample had the lowest mean scores among the samples, which suggests less persistence and fewer tendencies to resume a task when interrupted. The means of the small business managers and the corporation managers were comparable. Similarly, Veroff, Atkinson, Field, and Gurin (1960) found that stories written by business leaders (primarily managers and executives) contained significantly more achievement imagery than the stories written by male college graduates.

McClelland (1982) also found a correlation, for both men and women, between higher levels of education and achievement motivation. College-educated adults are significantly higher in achievement motivation than less educated adults. Immersed into the highest levels of education, these individuals adopt the achievement orientations of colleges and universities. “In these institutions standards of excellence
are not only applied explicitly to course work but are applied subtly to expectations about performance in many arenas of life for which college is expected to prepare students” (McClelland, 1982, p. 107).

Thus people with higher levels of achievement motivation attend institutions of higher learning and people who are socialized by higher education institutions end up with higher levels of achievement motivation (McClelland, 1982).

Gender
In the late 1950s, research showed men scored better and exhibited more motivating traits and abilities than women (Heckhausen, 1967; Hoffman, 1972; Tyler, 1965). Those traits included self-confidence, competence, and independence. Hoffman (1972) indicated men learned to be effective through mastery. Conversely, women’s efficacy was contingent on eliciting the help of others. More specifically, women’s achievement behaviors were motivated by a desire to please and if that achievement threatened affiliation, performance may have been sacrificed (Hoffman, 1972). However, in more recent studies, research has shown these differences between men and women in motivation have disappeared (Lindgren et al., 1986; Mednick & Thomas, 1993; Spence & Helmreich, 1983; Stewart & Chester, 1982).

Horner (1972) believed women might have a motive to avoid success, which may cause low achievement motivation. As negative consequences increase, fear of success becomes abundant and an otherwise achievement-motivated woman will then inhibit her performance and level of aspiration. Yet, as a woman becomes accustomed to her working conditions, her motive to pursue success may increase, resulting in a reduction in the gender difference.

Despite the popularity of Horner’s theory during the emergence of the women’s movement and attention to women’s equal opportunity, a number of researchers (Mednick, 1989; Shaver, 1976; Zuckerman & Wheeler, 1975) have criticized the motive to avoid success. There are also studies (Cherry & Deaux, 1978; Monahon, Kuhn, & Shaver, 1974) that have provided evidence against Horner’s theory. Today, research on the motive to avoid success has disappeared. Horner’s work provides an interesting example of the popular appeal of attributing women’s lesser achievements to internalized factors (Hyde & Kling, 2001).

Spence and Helmreich (1983) described the nearly identical factor structure of men and women as one of their major findings and took this as evidence there is neither a quantitative nor a qualitative difference in motivational structure between men and women. They did cite numerous studies (e.g., Bartol, 1976; Bartol & Manhardt, 1979; Jurgensen, 1978; Manhardt, 1972; Schuler, 1975) in which the primary concern of men was related to their recognition and achievement, whereas women’s primary concern tended to focus on the conditions of the environment. These differences decreased as years of employment increased. Spence and Helmreich (1983) suggest the changes in gender-role attitudes from 1966 to 1974 may be attributed to diminishing differences.

The Present Study
The purpose of this study was to compare achievement motivation across education levels ranging from introductory college students to business managers. It was hypothesized that business managers and upper-level business majors will score higher on the achievement motivation questionnaire than college students enrolled in an introductory business class. Overall, business managers will score the highest on the achievement questionnaire because they have attained the most education and consequently have more managerial experience. Pertaining to gender, overall men and women will have similar scores on the achievement motivation questionnaire.

This study explores an area of research that has been neglected for almost two decades. The recent downturn in the economy has made selection and development criteria an area of interest. The results of this study indicate achievement motivation may be beneficial as an additional criterion in the areas of management selection and development. This study also provides evidence for the equity of achievement motives at work regarding gender. Over the last 30 years, the increase of women in the workforce and higher education has altered the perception of achievement motivation in women (Jackson, 1998).

Method
Participants
Sixty-eight university students and 46 managers participated in the study. Of the 68 university students, 29 participants (13 men, 16 women, M = 19.1 years) were freshmen and sophomores taking introductory business classes at Nebraska Wesleyan University. The remaining 39 university students (19 men, 20 women, M = 21.3 years) were junior and senior business majors enrolled in upper-level business classes at Nebraska Wesleyan University. Forty-six managers from an Omaha-area hospital were also included (15 men, 31 women, M = 44.9 years). The managers’ education level included three different levels: bachelor’s degree (n = 26), master’s degree (n = 18), and doctoral degree (n = 2) (see Table 1). Managers also varied in their area of specialty (e.g., human resources, finance, and customer service).
Materials
The NachNaff scale (Lindgren, 1976) used in the study carries the title, “Prevailing Mood Questionnaire.” This questionnaire is scored for affiliation need or achievement need. In the present study, only achievement scores were calculated. The scale includes 30 items. The range of scores is 0 to 30, and higher scores represent higher achievement motivation. The NachNaff scale requires participants to choose between self-descriptions characterized by achievement (e.g., “ambitious,” “persistent,” and “assertive”) and those characterized by affiliation (e.g., “curious,” “contented,” and “pleasant”). The forced-choice method was selected because of the negative correlation between the need for achievement and the need for affiliation (Heckhausen, 1967). The reported split-half, corrected reliability of the NachNaff scale was 0.80, and in a test-retest situation its reliability was 0.88 (Lindgren, 1976).

The NachNaff scale is less time consuming and is comparable in reliability and validity scores to the Thematic Apperception Test (Lindgren et al., 1986). The forced-choice nature of the NachNaff scale also provides a more objective scoring method than the Thematic Apperception Test. Although the samples used to test both reliability and validity of the NachNaff have been small, it is suggested these results would replicate in a larger sample (Lindgren et al., 1986). (For more detailed information regarding the psychometric properties of the NachNaff scale refer to Lindgren et al., 1986.)

A demographic section asking the participant to indicate gender, degree attainment, age, organization department (for managers), and course section (for undergraduate students) was included on the questionnaire.

Design and Procedure
All participants completed the NachNaff scale for achievement motivation (Lindgren et al., 1986) and the accompanying demographic questions. A letter describing the overall purpose of the study, how data would be utilized, and other test-taker privileges and rights accompanied the scale. The letter provided participants the opportunity to request information pertaining to the results of the study. The undergraduate participants completed the form during the first 10 min of class. The managers received the same material as the students. The questionnaire was distributed through interoffice mail and included a cover letter from a senior executive encouraging participation. The managers were provided a stamped, self-addressed envelope to return the questionnaire. All 56 managers in the organization received a questionnaire; 49 responded within a 1-week deadline (response rate = 87.5%). Three questionnaires had missing data and were discarded from the study.

Results
A 2 × 3 (Gender × Education Level) between-participants analysis of variance was conducted on the need-for-achievement scores. This analysis revealed a significant effect for education level, $F(2, 111) = 5.13$, $p = .007$, $MSE = 27.57$. Achievement motivation scores as a function of gender and education level are presented in Figure 1. Tukey’s honestly significant difference pairwise comparisons indicated a significant difference between the managers and the upper-level business students. The introductory business students did not differ significantly from either of the other two groups, although the Tukey’s honestly significant difference pairwise comparison with upper-level business students approached significance ($p = .08$). An independent samples $t$ test revealed a significant relationship between managers with a bachelor’s degree ($M = 11.65$) and managers with a master’s degree ($M = 16.89$) in their level of need for achievement, $t(42), -3.50, p = .001$. The between-participants analysis of variance revealed no significant effect for gender, $F(1, 112) = 0.40, p = .53, MSE = 27.57$. The interaction between education level and gender was not significant, $F(2, 111) = 1.14, p = .32, MSE = 31.49$.

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<td><strong>Distribution of Education Level by Highest Degree Attained</strong></td>
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Discussion

The purpose of this study was two-fold: to determine education-level differences in overall need for achievement and to demonstrate the leveling of gender differences in overall need for achievement. The results showed no significance for gender differences in need for achievement, but results were found regarding education level. The assumption was that business managers and upper-level business majors would score higher on the achievement motivation questionnaire than college students enrolled in an introductory business class. Overall, business managers were predicted to score highest on need for achievement.

Results showed a significant difference between upper-level business majors and business managers, with the managers scoring higher. As was the case in previous research (Lindgren et al., 1986; McClelland, 1961; South, 1974; Veroff et al., 1960), persons with managerial experience scored higher in need for achievement. Need for achievement is also higher for those managers with a master’s degree than for the managers with a bachelor’s degree. One possible reason for these results is what McClelland (1982) referred to as an overachieving society. Individuals with a high need for achievement enter an organization and then strive to attain management positions. This overachieving cycle then repeats itself until the individual reaches a senior executive position or his/her level of incompetence (Peter & Hull, 1969).

When investigating the need-for-achievement scores, it is important to consider the overall means of the sample. The range of means was 9.95 to 13.78. According to the norms of this test (Lindgren et al., 1986), these scores range from the 29th to 54th percentile, collectively, illustrating a bell curve in the data. With the majority of the participants scoring in this range, it reflects a moderate level of achievement motivation.

This moderate level of achievement motivation is important in a business setting, where both success and social ability are required (e.g., health care). An example might be a manager with high achievement motivation facing a promotion. When promoted she may be less effective because her success depends not only on her work but also on the efforts of her subordinates. Because individuals with high achievement motivation are also highly job-oriented and work to their capacity, they expect the same from others. As a result, this manager may lack the human skills and patience necessary for being an effective manager of people who are competent but have a higher need for affiliation and a lower need for achievement (Levinson, 1998). In this situation, the manager’s overemphasis on producing frustrates her subordinates and prevents them from maximizing their own potential.

Achievement-motivated people are needed in organizations, yet they do not always make the best managers unless they develop their human skills (Drucker, 1989). Being a good producer does not automatically translate into being an effective manager.

At the low end of the achievement motivation spectrum (or high need for affiliation), an individual is cooperative, helpful, and loyal. Although this person may be fun to work with, one may question how much work gets accomplished. This person, too, may become an unproductive part of the organization. When the individual with low achievement motivation is promoted and success depends not only on maintaining the relationships of subordinates but also the efforts of subordinates, this individual may be less effective. Because individuals with low achievement motivation are also highly patient and proficient in human skills, they expect the same from others. In this situation, the manager’s overemphasis on preserving relationships may frustrate his subordinates and prevent them from capitalizing on their capabilities.

A mixture of the two individuals described above, or a person with a moderate level of achievement motivation, would be the most qualified employee for a health care organization. This mixture would be a person who is driven, independent, and hard working but also is fun loving, understanding, and sociable. This theory parallels the contingency model of leadership developed by Fred Fiedler.

Fiedler (1967) proposed that effective group performance depends on the proper match between the leader’s style of interacting with his/her employees and the degree to which the situation gives control.
and influence to the leader. Fiedler viewed the individual’s leadership style as fixed, and as a result there are only two ways in which to improve leader effectiveness: Choose the leader who best fits the situation or change the situation to better fit the leader.

The assumption, based on previous research, was that men and women would have similar scores on the achievement motivation questionnaire. This study and others (Lindgren, 1976; Lindgren et al., 1986; Mednick & Thomas, 1993; Spence & Helmreich, 1983; Stewart & Chester, 1982) provide evidence for a leveling off in achievement motivation across gender.

One potential cause for this gender equity is the increasingly larger roles being played by women within the business setting (U.S. Department of Labor, 2000a). “Glass ceilings” are slowly being removed and society is attempting to level the playing field of gender (Parkhouse & Dyson, 2001). From 1964 to 1999, approximately 71 million jobs were added to the U.S. economy (U.S. Department of Labor, 2000a). Of those 71 million jobs, women occupied 43 million. Another source for the equality in achievement motivation between genders may be attributed to women and their remarkable advances in higher education. In 1970, women earned 9% of the undergraduate business degrees; by 1996, the figure had risen to 48% (U.S. Department of Education, 2000).

A few problems and potential confounds arose from this questionnaire. The selection of the samples was based on the availability and permission of the professors. Optimally, the upper-level business sample would have been selected from all the different sections (e.g., economics, management, and finance).

A number of situational events could have affected the participants’ need for achievement at that time. Problems with friends, a long board meeting, deadlines, and reactions to test feedback are just a few confounds that might have influenced the participants’ need for achievement. For example, the introductory students received feedback from a test they had recently completed. In general, students performed above average and received excellent feedback. The achievement scores may have increased for the introductory students because their moods were enhanced by the positive test results. Individual factors to consider controlling in future studies include desire for prestige and notoriety, historical background, and recent events that may contribute or counteract the need for achievement.

One area of further research important to consider is the family situation of the individual. A person who is married or has children to support may have a higher need for achievement because of individual circumstances of responsibility. The socioeconomic level of the individual and/or the need for money may also influence the need for achievement. Conventionally, the best way to obtain or control these variables is to include more demographic questions on the questionnaire.

Although the data do not entirely confirm the hypotheses, it is safe to assume education level influences achievement motivation. It is also interesting to note the amount of leveling off in the area of gender and achievement motivation. Only a few decades ago, professionals were downplaying the effectiveness of women in the workplace (Jackson, 1998). It now appears women have and will continue to exceed those limitations previously put on them. With a good education and proper social skills, an individual—regardless of gender—has the potential for success.

Achievement-motivated people can be the backbone of most organizations, but what can be said about their potential as managers? As we know, people with a high need for achievement get ahead because as individuals they are producers. However, executives and hiring personnel must be aware that individuals with extreme scores in achievement motivation may hinder the production of their subordinates.

What can organizational psychologists, consultants, and human resources directors do to create a better fit among an organization, a manager, and the managers’ subordinates? According to Fiedler (1967), there are two options: hire managers based on the situation or change the situation to better fit the manager. Knowing the costs associated with restructuring, it seems logical to implement the changes in the selection stage and hire on the basis of the situation. Consequently, measures of achievement motivation may add another dimension to the ever-expanding criteria of management selection and development in organizations.

References
ACHIEVEMENT MOTIVATION


