

Running head: ACCEPTABILITY OF ONLINE DEGREES

The Acceptability of Credentials Earned Online for Obtaining Employment
in the Health Care Professions

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Abstract

A national survey of health care administrators was used to assess the acceptability of a job applicant's qualifications that included a degree earned either online, partly online, or in a traditional program. A questionnaire was sent in response to job advertisements that were posted in newspapers from 38 metropolitan areas throughout the United States. The respondents were asked to select one of three hypothetical applicants for an advertised position and provide written explanations. The applicant with a traditional degree was overwhelmingly preferred over the applicant holding the degree earned online or partly online. Analyses revealed no statistically significant relationships between acceptability of the type of degree and the respondents' prior experiences with online courses or their ages.

Keywords: *Distance Education; Online Degrees; Acceptability; Health Care Professions*

The Acceptability of Credentials Earned Online for Obtaining Employment in the Health Care Professions

The United States is facing a serious health care crisis in the coming years due to an aging population, the prevalence of chronic and acute health problems, and a shortage of trained health care professionals. Although health expenditures have increased by more than five percent of the GDP over the past 15 years to 1.7 trillion dollars annually, the rates of heart disease, cancer, obesity, strokes, AIDS, and respiratory disorders have not significantly declined (National Center for Health Statistics, 2005). In addition, as the proportion of American citizens over the age of 65 increases, the need for medical services is likely to increase. However, states now face a shortage of medical personnel, including nurses, pharmacists, radiology and laboratory technologists, and respiratory and physical therapists. This shortage has been described as “one of the most pressing problems we face today” (Wertsch, 2003, p.1).

In the past, one solution for addressing shortages of health care professionals has been to hire qualified personnel from afar. Indeed, qualified professionals from other nations have been migrating to better-paid jobs in wealthier nations for some time (Atienza, 2006; Overland, 2005; Parris, 2004). However, many of these nations are currently experiencing severe shortages of health care professionals that will worsen in the years ahead (Nordquist, 2006). In the United States, expected shortages will help fuel the demand for university programs to train nurses and other health care providers. Of the six

professional occupations that are expected to grow the fastest through 2014, three are health related with positions for registered nurses accounting for 64% of the demand for new job growth (Hecker, 2005).

One consequence of this situation is that it has opened a significant market for distance education by traditional and for-profit institutions that offer health-related degree programs, certificates, and course work via the Internet. A report issued by the Sloan Consortium indicated that in the fall of 2004, about 32% of public and private universities offered a health profession major online, and 56% of all universities considered online education as part of their long-term enrollment strategy (Allen & Seaman, 2005). However, the efforts of all of the traditional institutions cannot supply enough health-personnel to fill the need. One reason is because many schools are reporting a shortage of trained personnel to teach in health programs (LaRocco, 2006). Such shortages leave a large opportunity for the for-profit distance institutions to step in and respond to the demand for health personnel and increase their enrollments. In the coming years, for-profit online institutions are expected to grow at more than twice the rate of higher education as a whole. These institutions are expected to offer an increasing number of programs in health fields, such as nursing (Blumenstyk, 2005), where enrollments should be particularly strong (Wills, 2005). Indeed, while enrollments are growing in traditional public institutions, by 2008 one in every ten students taking classes is expected to be enrolled in an online for-profit institution (Golden, 2006).

Evaluating Distance Education for Health Practitioners

Historically, technology-supported instruction has played an important role in university-based health profession programs. Many types of technologies have been used in teaching for the purpose of supplementing instructor-led classroom sessions. These include interactive video (Calderone, 1994; Cohen & Dacanay, 1994), computer tutorials (Lieberman, Abramson, Volkan & McArdle, 2002), interactive television, web casting (DiMaria-Ghalilli, Ostrow & Rodney, 2005), pre-recorded lectures, and technology-supported study guides. All have been common in health care training.

Given the widespread use of technology-supported instruction, plus the demand for qualified health professionals, adopting programs that include earning credits online toward a degree would seem to be a natural progression. However, one important difference between computer-assisted instruction and online education is that, in the past, computer technology has been used to *support* instructor-led classroom instruction, where a professor presents material to a class of students, all of whom are physically present. In contrast, online courses are now being used to *supplant* such face-to-face teaching by sending content to computers of individual students at remote locations. This represents a new direction for health care education that has led to an intense debate as to whether such online instruction can be effective in training health care professionals.

A major issue in this debate is whether online lessons are educationally equivalent to traditional lab and classroom instruction. This issue has been widely studied, but most of

the research that has been conducted to evaluate distance education has focused on student outcomes. Frequently studied are various kinds of test scores (Russell, 1999), grades, student attitudes (Ali, Hodson-Carlton & Ryan, 2004), and overall student satisfaction with their courses (Rodrigues, 2004). Other studies indicate that success in online courses hinges on the degree of personal contact with instructors (National Education Association, 2000). Many of the *no significant difference* studies have led researchers to claim that knowledge acquired by online distance learning is equal to, or even superior to, that obtained in traditional settings (Russell, 1999).

Critics of such research maintain that the quality of online education was not adequately measured with such studies because the research methodologies were poorly designed (Joy & Garcia, 2000). For example, in such research, the achievement of one group of students enrolled in a traditional course is often compared with another group that has chosen to take the same course online. Critics of these evaluations have pointed to methodological weaknesses since the studies often do not follow established scientific principles for comparisons. For example, an internally valid comparative research design typically requires that the subjects be drawn from a pool of participants where each is assigned *by chance* to one of the two conditions. In many of the current evaluation studies, the conclusions are based on results gathered from students who have self-selected and voluntarily enrolled in courses, violating the assumption of random assignment. In addition, test items in the exams used for these comparisons are not always reliable and valid

indicators of learning (Merisotis & Phipps, 1999). The lack of controls in procedures that lead to a direct comparison between two groups, and the potential unreliability of measures increases the possibility that other confounding factors (other than the course format) can influence the non-significant outcomes.

Another potentially confounding factor is the differential drop-out rates that typically characterize traditional and online versions of a course. Dropout rates are usually higher in the online version of a course and lower in the traditional setting. Thus, scores on the final exam or posttest may be skewed in the direction of the higher motivated and higher ability students who remain in the online course. Thus, direct comparisons of learning between students enrolled in online and traditional courses become problematic (Williamson, 2003). Similar questions have been raised about attitude scales and whether student satisfaction ratings are simply the result of a positive bias or *reactive effect* (Phipps & Merisotis, 1999), or result from the responses of students with learning styles better suited for online learning.

Moreover, the bulk of research assessing distance education stems from an evaluation of individual courses rather than entire degree programs, limiting the generalizability of findings (Bernard et al., 2004). When studies focus on one or two classes, one or two teachers, and non-comparable groups of students, generalizing findings beyond the specific data set is problematic. Generally, then, these various methodological shortcomings raise questions about the internal and external validity of the comparisons

(Phipps & Merisotis, 1999). Clearly, by relaxing standards that may eliminate extraneous variables, the more likely it is that researchers will find and erroneously conclude that there are no significant differences.

While some methods used to evaluate distance education courses have been subject to debate, broader research indicates consistent improvement in the quality of distance instruction and learning outcomes (Allen & Seaman, 2005). Benchmarks for the administration, design, and delivery of online instruction have led to improved models and pedagogical practices for distance learning (Phipps & Merisotis, 2000; Bernard et al., 2004).

The number of students who enroll in online rather than traditional courses underscores the importance of understanding online education. A great deal of qualitative information consistently indicates that students enroll in online courses because of the convenience and flexibility that they offer (Ali et al., 2004; Rodrigues, 2004). Convenient access to education has been regarded as one of the most positive aspects of distance education (Grenzky & Maitland, 2001). This feature is in keeping with program goals for a majority of institutions offering online courses (National Center for Education Statistics, 2003). Millions of adults have enrolled in online courses, including health care professionals located in rural or remote areas. Family or work responsibilities may further prevent students from attending traditional classes on campus. Online education offers a way to reduce the distance and increase the convenience of educational opportunities.

The Question of Acceptability of Online Credentials

Without a rigorous research-based defense of online education, the *acceptance* of online degrees by personnel directors, managers or other gatekeepers who make the decision to hire becomes a major concern. When it comes to the job market, how acceptable is an online degree? Will job applicants who seek employment in the health field, and who have completed their degrees or other credentials online, have the same prospects for being hired as those who have completed their studies in more traditional campus settings?

In recent years, several national surveys have been conducted to assess the level of acceptability of credentials earned online in a variety of situations. In one study, DeFleur and Adams (2004) found that deans and program directors who determine admissions to graduate programs were extremely reluctant to accept new students with bachelor degrees earned online. Only 7% of administrators in the public institutions and about 11% in private institutions indicated that they would be willing to consider admission for such applicants. In another study, these researchers found that academic search committee members who screen applicants for faculty appointments are also unwilling to accept applicants with doctoral degrees earned online. In fact, only one respondent was willing to recommend an applicant with a degree earned totally online for a position within his or her institution (Adams & DeFleur, 2005). Finally, in a national survey of hiring executives located through newspaper ads in eight major metropolitan areas of the U.S., only 4% of employers indicated they would be willing to hire an applicant with a degree earned entirely

online (Adams & DeFleur, 2006).

In each of these studies, gatekeeper-respondents were asked to choose between similar applicants whose educational qualifications were different only in terms of whether they earned their course credits or degrees totally or partially online – or completely in a traditional residential program. Thus, the purpose of these investigations was to examine the issue of the *acceptability* of university credits and degrees earned online. In other words, do different types of gatekeepers perceive a degree earned totally, or even partially, online as *an equally valid credential* for an applicant seeking entry into a graduate program or employment?

In extension of that line of research, the present study focuses on the acceptability of online credentials for those who have prepared for careers in the health professions. That is, will applicants for jobs whose credentials have been earned online, or even partially online, have an equal chance of being accepted for employment as health care providers, compared to those who have studied in traditional educational settings? Most importantly, the findings of the present study may have implications beyond the field of health care. If online degrees have low levels of acceptance for the health care profession, particularly when expected worker shortages are at crisis levels, the findings may be an indicator of the overall lack of acceptability of degrees and credentials earned online. On the other hand, if online degrees have high levels of acceptance under such circumstances, the findings may signal increasing acceptance among other professions as well. In other words, the results of

the present study may be an important sentinel indicator, or bellwether, of the level of acceptability of online degrees overall.

Method

Procedures

A questionnaire was used to collect data in a national study of human resource professionals who serve as hiring gatekeepers. The questionnaire was designed to assess how those who hire applicants for advertised health care positions view the scholarly accomplishments of persons who respond to position advertisements that require a college degree when that credential has been earned completely or partially online.

To identify the appropriate hiring managers to study, the first step was to locate “help-wanted” position announcements for health care workers in the classified advertisements of newspapers. To gain this information, newspapers in 38 cities throughout the United States were examined. During a four-week period, job advertisements were culled from those presented in the online versions of more than 50 newspapers published in these cities. A total of 1,200 announcements were identified in this first step. From this list, half of the announcements were randomly selected by using software developed for that purpose. Next, each ad was examined for contact information or a web site that would provide this information. Those that had no such information were eliminated.

Generally, then, each position announcement was examined and included in a

database if the announcement met three criteria: (1) a college degree was required to apply, (2) a physical address for applicant contact was presented in the ad, and (3) the advertisement specified that the position was in an area of patient care or was clinical in nature. From this complex procedure, 296 employers seeking applicants were identified. A questionnaire was mailed to each of these employers. After several attempts to encourage them to return the instrument, 159 completed questionnaires were received. This represents a 54% return rate. Given the complexity of the procedures required to identify potential employers of health personnel, the return rate was judged to be sufficient for providing preliminary data concerning the issue of the acceptability of credentials earned online for health care workers.

Instrumentation

The questionnaire was divided into four parts. In the first section, hiring decision-makers selected the most qualified applicant in two hiring situations. The decision-makers explained the choices they made in the second section. In the third part, hiring officials provided background information, such as whether or not they had ever taken an online course, the age group to which they belonged, and gave their opinions about the benefits and limitations of online courses or degrees. In the final section, respondents had the opportunity to write additional comments regarding their thoughts about online degrees and courses.

Hiring situation scenarios. The major focus of the questionnaire was to assess

employers' responses to hypothetical applicants who held one of two different educational credentials: a fully or partial online degree and a traditional degree. Three applicants were presented in two different hiring situations. Hiring Situation 1 consisted of Applicant A who held a *traditional* degree and Applicant B who held a degree that was obtained *fully online*. Hiring Situation 2 consisted of the same Applicant A who held a *traditional* degree and Applicant C who held a degree that was obtained *partially online* and partially within a traditional classroom context. In all other ways, the applicants' credentials and background were the same. For example, each of the applicants had the same prior work experience, good letters of recommendation, and positive results from personal interviews. Thus, the applicants' qualifications were identical *except* for the academic environment in which their degrees were earned. The educational credentials of the three applicants are described more fully in Table 1. All respondents received both hiring situations, and were instructed to simply select the more desirable candidate in each situation.

Insert Table 1 about here

Results

The results from the study are presented in three ways. One set of findings is summarized in Figure 1, which indicates the judgments of the applicants by the respondents as to whether the applicants were likely to be hired on the basis of their educational credentials. A second set of (statistical) findings is presented in Tables 2, 3 and 4. Finally, a qualitative content analysis of the written comments was used to help contextualize and

interpret the selections made in the different hiring situations.

Quantitative Results

In each of the hiring situations, the job applicant with the degree earned in a traditional manner was the overwhelming choice (see Figure 1). In hiring situation one (Applicant A vs. B), 149 of the respondents selected a job applicant, with 95% ($n = 141$) indicating that they would recommend hiring the applicant with a traditional degree. In hiring situation two (Applicant A vs. C), 139 respondents selected one of the two applicants. In this scenario, the applicant with the traditional degree was selected by 71% ($n = 97$). Only 29% ($n = 39$) of the respondents would accept the candidate holding a degree with one-half of the courses taken online. Finally, a mere 5% ($n = 8$) of the respondents were willing to accept the applicant whose degree had been earned totally online.

To ensure that the findings were not the result of random chance, a binomial test was used to determine whether the respondents' answers were given randomly in each hiring situation. The binomial test assumes that, if the respondent's answers (accepting or rejecting the applicant) have been selected randomly, there is an equal chance for either of the two possibilities being selected. The test, then, compares the expected outcome of 50% for each candidate and the actual number who selected Applicant A or B (or C) for each answer. The statistical analysis indicated that the probability of the questions being answered randomly is $p < .00001$ for both questions, thus eliminating chance as a reasonable explanation.

Insert Figure 1 about here

The questionnaire also asked for background and demographic information about the person making the hiring judgments. The purpose of this information was to investigate whether acceptability might vary by age group, or whether respondents' prior experience with online courses influenced applicant selections. These data showed that the number of respondents who had or had not taken an online course was fairly well distributed in each age group. Interestingly, the older group included the highest percentage (71%) of those who had taken an online course. However, age was unrelated to how the candidates were selected in the hiring scenarios. Table 2 provides the results of the chi square analysis for hiring selections by age.

Insert Table 2 about here

Similarly, the data were examined to determine whether an association existed between candidate selection and respondents' prior experience with online courses. However, the chi square analysis indicated no statistically significant relationship between prior experience with online courses and how candidates were selected in the hiring situations. Table 3 provides of the results of this analysis.

Insert Table 3 about here

Additional analyses were conducted using information from respondents who gave an opinion about whether or not they thought critical health care issues can be taught online. Among the human resource respondents who agreed that important health care issues can

be addressed effectively online, 18.2% would likely recommend an applicant with 100% online courses, and 58.6% would recommend an applicant with a partial online degree (e.g., 50% online and 50% traditional courses). In contrast, among the respondents who thought that critical health care issues cannot be taught online, the corresponding percentages were 2.2% and 20.5%. These differences were statistically significant with p -values of .006 and .001, respectively. These results suggest that *how online courses are perceived* was a deciding factor in the gatekeepers' decision-making processes. Table 4 provides the chi square analysis of hiring selection by perceptions of the suitability of online instruction for critical health care issues.

Insert Table 4 about here

The only predictor of how a respondent selected an applicant, then, appears to be individuals' beliefs and assessments concerning online instruction. For that reason, a content analysis was conducted on written comments provided by respondents to investigate whether themes or patterns might exist to help explain these patterns of belief.

Content Analysis

The two hiring situations posed for the respondents were followed by statements that helped them to qualify their answers. Respondents were also asked whether they agreed, disagreed, or were undecided, about such issues as the importance of the type of institution where a degree is earned, whether a mix of online vs. traditional courses was important, and whether they thought critical healthcare issues can be taught online. Table 5 summarizes the responses to these issues. The respondents were then asked to write additional comments to explain their answers. Finally, respondents were encouraged to

address what they believed to be the benefits and weaknesses of online education, or any concluding remarks they cared to make.

Insert Table 5 about here

The researchers used a computer software tool (Catpak) for a content analysis of the respondents' written remarks. This software allowed the researchers to group keywords and phrases, and to identify recurrent themes. A majority of respondents ($n = 135$) provided written comments totaling 7,790 words. After the comments were carefully examined using the software, keywords were grouped to indicate issues of importance, as defined by the frequency of use and the thematic relationship to each statement.

The first statement addressed whether the type of educational institution (traditional or online) from which the applicant received his or her degree was of any importance in the hiring decision. The majority (57%) confirmed that the type of educational institution was a critical factor in the decision. The content analysis of the respondents' comments revealed *classroom experiences* was the principle reason why the type of educational institution should be considered in hiring decisions. This theme also appeared in response to the second statement as well. The second statement assessed whether the mix of online and traditional courses completed by a job applicant was important for making hiring decisions. The keywords that characterize the comments for this category were *interaction*, *meaningful instruction*, and *hands-on labs* or *clinical fieldwork*. When describing their reservations about online degrees, respondents showed a clear bias toward class work that is completed in a traditional face-to-face setting. The respondents tended to believe that online courses lack some aspect of these personal experiences. For example, representative

responses included:

Classes can be taken over the Internet but you still have to have hands on lab and clinical to get the actual experience of a hospital environment.

I believe you learn a lot from your classmates and questions they may ask an instructor that you didn't think of. Being able to get clarification is helpful.

Learning online shows a lot of discipline and perseverance. But the disadvantage is the stories an instructor tells are missing as well as the lack of reinforcement from classmates.

Generally, those applicants who had prior work-related experience did not appear to be at a disadvantage. In some cases, students who had completed online courses were thought to possess even greater motivation and discipline. Overall, the most prevalent comments focused on the quality, rigor and accreditation of the institution. For example,

responses included:

Experience and track record as well as how well the individual presents [herself] are the most important factors.

If the applicant attended a widely recognized and respected online university then I may weight my decision more evenly in the online vs. traditional course.

The third statement assessed whether respondents believed that critical health care practices can be taught online. The majority (60%) of respondents indicated that they did not believe health care practices could be taught effectively over the Internet. In the analysis of the written comments, the keywords *classroom experience* appeared most often, followed by the keyword *interaction (personal or face-to-face)*. In addition, the

respondents emphasized the value that is gained from clinical field experiences.

Representative examples were:

[Yes,] If appropriate practicum of labs clinical rotations are in place for a real world experience, personal interaction and presentation of projects.

[No,] Face to face interaction is necessary in the teaching because it will be necessary in the treatment.

Finally, respondents were asked to describe the benefits or limitations of online degrees. The majority of comments concerning the benefits of online degrees fell into one of two categories that reflected the availability of the courses and the advantages that an online curriculum presents. The major category identified was *convenience*, supported by the keywords *flexible*, *time-scheduling* and *access* – all of which allow a person to continue working while enrolled in courses. One interesting note is the number of comments that implied the successful completion of an online course demonstrated that the applicant had computer competencies.

The analysis of the limitations of online degrees showed a majority of comments centered on the issue of *classroom and related experiences*, supported by the keywords *face-to-face interaction* (with professor and students), *group experiences* (projects, class discussions) and *personal contact*, through *mentored clinical fieldwork*. Various comments indicated that direct contact improved communication, problem solving and interpersonal skills. As one respondent stated, “too many of the nuances of learning and communicating are lost through the Internet.”

Overall, the written comments provided by the respondents supported the inherent value of classroom experiences, and stressed the importance of being surrounded by peers and professors while engaging in group discussions, face-to-face interaction, and mentored clinical experiences. As one respondent noted, this makes the greatest difference for new graduates, but work experience or a proven track record may level the field considerably:

I think that if we have a position that does not necessarily require work experience, the applicant from the traditional classroom setting will prevail over the applicant with the on-line education. I believe that most hiring managers feel that those who attend classroom education have more developed social skills, interact better with other people and have developed critical thinking and organizational skills.

When I review an application I determine if the applicant meets the qualifications for the position. Those qualifications for the majority of positions include work experience and a certain level of education or certification. Work experience is an important factor.

There were numerous comments that pointed to the discipline required to complete an online course. For positions that do not require a great deal of patient contact, it appeared that online degrees were judged to be little different than traditional ones, provided the program was accredited and noted as being rigorous. As one respondent replied:

My primary concern with schools that operate online only, with no physical campus, is the validity and quality of the education provided. I am not against online courses, but believe they should be held to stricter standards than traditional courses because it is so easy to defraud someone or for the student to defraud the university.

Interestingly, there were several comments that indicated that a mix of classes would be more acceptable than a degree earned completely online – a clear indication that

online coursework was considered to be acceptable in *some* circumstances. For example, completing online coursework was thought to demonstrate an individual's discipline, motivation and the ability to work with new technologies. In these cases, a mix of classes was thought to be a better option than all online classes. In spite of these positives, however, it was clear that the type of class, number of classes, and the nature of the subject matter were all very important considerations, underscoring the importance of residential face-to-face coursework.

The limitations seen in online instruction were primarily expressed through comments pertaining to classroom experiences such as interaction with teachers and peers, mentored clinical fieldwork and the reputation of the universities offering the classes. This was anticipated in a profession whose work settings require direct client contact. Thus, online courses were said to "leave something out." In addition, the results suggest that earning a degree online is viewed with some degree of suspicion and without sufficient rigor, especially when accreditation may be regarded as suspect.

Discussion

While the results from this research are not conclusive, the findings clearly raise questions concerning the acceptability of online courses and degrees in the health care field. Access to education is one of the greatest benefits of distance education, yet there is a balance to be met between health care demands, public need, and adequate training. This raises a question as to whether using educational technologies to supplant classroom

experiences is possible without sacrificing the perception of quality. The central issue, then, is one of public confidence. In a number of studies that examine online instruction, *face-to-face interaction*, *clinical fieldwork* and *mentored experience* are thought to be the activities that are missing and that may affect the quality of instruction.

Overall, then, it would appear that applicants who decide to prepare themselves for careers in health care would do best in hiring situations if they study primarily in traditional settings at the present time. Online study appears, in the minds of hiring decision-makers, to have significant limitations. These shortcomings also leave students with the impression that “something has been left out” (Atack & Rankin, 2002; DiMaria-Ghalilli et al., 2005). The results of previous research show that instructional methods, such as active instructional techniques that include classroom interaction, are very important educational features (Rodrigues, 2004). As educational systems develop greater dependency on distance learning technology, educators must assess whether, and how, the social and behavioral skills needed in a humanistic, practice-oriented discipline can best be developed through the Internet. The findings of this study indicate that gatekeepers perceive the absence of interpersonal relationships that form the social-learning milieu as a limitation (American Association of Colleges of Nursing, 1999).

As discussed earlier, the findings of the present study may have implications beyond the field of health care. In spite of the fact that the United States (and other nations) faces a critical shortage of health professionals at a time when 78 million aging Baby

Boomers are expected to place unprecedented demands on the health care system, it appears that hiring managers in this vital industry are reluctant to hire those with coursework or degrees earned online. If online degrees have low levels of acceptance under the conditions of an anticipated crisis, then under what conditions will online degrees be widely accepted? In other words, the results of the present study may well be an important indicator of an apparently low level of acceptability of online degrees.

Clearly, online or distance education holds great promise and potential. It is imperative that educators and technological experts find ways to continue to improve online education. It is also important to have a better understanding of the conditions under which online education is most (and least) effective, compared to traditional methods of instruction. Employers need guidance from educators about how best to evaluate the role and usefulness of courses and degrees earned online, and to distinguish between good and poor providers of distance education. The demand for online education is increasing, but it appears there is work to do before hiring gatekeepers will accept such degrees as equivalent to those earned in the traditional manner.

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Table 1

Job Applicant Descriptions for Each Hiring Situation

Hiring Situation 1:

Applicant A has the necessary degree. The degree was awarded by a college or university where 100 percent of the applicant's courses were completed via *traditional classroom and lab* instruction.

Applicant B has the necessary degree. The degree was awarded by a "virtual university." This university does not have a campus, classrooms, or labs, and 100 percent of the applicant's courses were taken *online over the Internet*.

Hiring Situation 2:

Applicant A has the necessary degree. The degree was awarded by a college or university where 100 percent of the applicant's courses were completed via *traditional classroom and lab* instruction.

Applicant C has the necessary degree. The degree was awarded by a college or university where *50 percent* of the applicant's courses were taken *online over the Internet*, and the other *50 percent* were completed via *traditional classroom and lab* instruction.

Figure 1

Percentage of respondents who indicated they would be most likely to recommend hiring the target applicant

<u>SOURCE OF DEGREE</u>	
Traditional*	
Partially Online	
Online only	

*Percentages are based on the total number of responses to each scenario. For example, in Hiring Situation 1, 149 respondents selected either the traditional or the fully online candidate; in Hiring Situation 2, 136 respondents selected either the traditional or the partially online candidate.

Table 2

Chi square analysis of candidate selection by hiring situation and respondent age

	<u>Age Groups</u>				Total
	24-34	35-44	45-54	55+	
<u>Hiring Situation 1:</u> <u>Likely to Recommend *</u>					
Applicant A: Degree completed with all traditional coursework	93.9 %	97.4 %	90.7 %	96.7 %	94.5 %
Applicant B: Degree completed with all online coursework	6.1 %	2.6 %	9.3 %	3.3 %	5.5 %
* $n = 145, \chi^2 = 2.132, df = 3, p \leq .545$					
<u>Hiring Situation 2:</u> <u>Likely to Recommend*</u>					
Applicant A: Degree completed with all traditional coursework	58.1 %	80.6 %	66.7 %	81.5 %	71.4 %
Applicant C: Degree completed with 50% online and 50% traditional coursework	41.9 %	19.4 %	33.3 %	18.5 %	28.6 %
* $n = 112, \chi^2 = 5.984, df = 3, p \leq .112$					

Table 3

Chi Square analysis of candidate selection by hiring situation and whether respondent has taken any coursework online

	<u>Have Taken an Online Course</u>		
	<i>NO</i>	<i>YES</i>	Total
<u>Hiring Situation 1:</u> <u>Likely to Recommend *</u>			
Applicant A: Degree completed with all traditional coursework	97 %	92.4 %	94.5 %
Applicant B: Degree completed with all online coursework	3.0 %	7.8 %	5.5 %
			* $n = 146, \chi^2 = .731, df = 1, p \leq .393$
<u>Hiring Situation 2:</u> <u>Likely to Recommend *</u>			
Applicant A: Degree completed with all traditional coursework	70.5 %	72.2 %	71.4 %
Applicant C: Degree completed with 50% online and 50% traditional coursework	29.5 %	27.8 %	28.6 %
			* $n = 133, \chi^2 = .001, df = 1, p \leq .978$

(Note: category totals differ from the raw totals because several respondents did not indicate their choice or did not select an applicant.)

Table 4

Chi Square analysis of candidate selection by hiring situation and whether respondent believes that critical health care issues can be taught online

	<u>Critical Health Care Can Be Taught Online</u>		
	<i>NO</i>	<i>YES</i>	Total
<u>Hiring Situation 1:</u> <u>Likely to Recommend *</u>			
Applicant A: Degree completed with all traditional coursework	97.8 %	81.8 %	93.5 %
Applicant B: Degree completed with all online coursework	2.2 %	18.2 %	6.5 %
* $n=146$, $\chi^2 = 7.660$, $df = 1$, $p \leq .006$			
<u>Hiring Situation 2:</u> <u>Likely to Recommend *</u>			
Applicant A: Degree completed with all traditional coursework	79.5 %	41.4 %	69.6 %
Applicant C: Degree completed with 50% online and 50% traditional coursework	20.5 %	58.6 %	30.4 %
* $n = 112$, $\chi^2 = 13.037$, $df = 1$, $p \leq .001$			

(Note: Category totals differ from raw totals because several respondents did not indicate their choice or did not select an applicant.)

Table 5

Summary of responses to qualifying statements

Statement	Agree	Disagree	Undecided
The type of educational institution (<i>online vs. traditional</i>) from which the applicant obtained his or her degree would be of no importance as a hiring criterion in our organization.	22 %	57%	21%
The mix of <i>online vs. traditional courses</i> taken by the applicant to complete the degree would be of little importance in our organization.	41%	39%	20%
Critical health care issues and health care practices can be effectively taught over the Internet to students enrolled in online courses.	23 %	60%	17%