Factors Influencing Students to Enroll in Health Information Management Programs

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Abstract

This nonexperimental quantitative descriptive-correlative research study was performed to describe the sources with the greatest influence on the participants' decision to enroll in a postsecondary educational program with the intent of working toward a career in health information management.

Participants were asked, "Which sources have the greatest influence on an individual's decision to enroll in a postsecondary educational program with the intent of working toward a career in health information management (HIM)?" The study population was composed of matriculated students enrolled in accredited postsecondary schools offering an undergraduate medical billing and coding program at a brick-and-mortar campus in a two-county area of a South Atlantic state. The study found that an environmental source, specifically career job opportunities, was statistically significant as the greatest source of influence for these participants. This research aims to support efforts to provide the health information management subsector of the healthcare industry with a sufficient number of trained professionals to fill the identified need for trained HIM professionals, particularly medical coding specialists.

Key words: HIM careers, workforce

Introduction

The 2008–2018 National Employment Matrix from the U.S. Bureau of Labor Statistics identified an approximate 20 percent increase in job opportunities for medical record and health information technicians projected for the ten-year period 2008-2018.[1] Within the industry, ambulatory facilities, including physicians' offices, are expected to require 34 percent more health information management (HIM) workers, home healthcare services are projected to need 33 percent more trained HIM workers, and nursing care facilities are looking at a potential 25 percent increase in need for these skilled employees.[2] The upcoming adoption of electronic health records as well as the implementation of ICD-10-CM/PCS (International Classification of Diseases, Tenth Revision, Clinical Modification, and International Classification of Diseases, Tenth Revision, Procedure Coding System) will also increase the need for educated individuals to manage patient data.[3]

Background

The 2006–2007 HIM Education Strategy Committee of the American Health Information Management Association (AHIMA) investigated shortages in many aspects of the healthcare industry. There is evidence of a need for additional education for current members of the profession as well as a need to increase the overall number of competent HIM professionals in the workforce.[4] AHIMA also reported that there is a serious need for educated professional coding specialists and HIM professionals. The nature of the work requires that these individuals be proficient in healthcare law, medical terminology, anatomy, and physiology so that physician notes and records can be accurately interpreted for purposes of reimbursement and statistical evaluation.[5]

AHIMA, the American Hospital Association, and the American Medical Association conducted research in which 1,109 participants reported the ongoing need for qualified, well-trained coding professionals, with 76 percent reporting a "difficult to extremely difficult" time hiring people to fill staff openings. Almost 30 percent had job openings for an average of 5 months; 23 percent dealt with vacancies lasting 7 to 12 months.[6]

Healthcare professionals and patients alike will benefit from trained coding specialists.[7] Facilities and physicians will receive more accurate reimbursement. Fewer third-party claims will be denied, thus lessening the amount of money patients must pay out of pocket. Fewer coding errors will lessen the instances of claims fraud. The healthcare industry will have a segment of its massive infrastructure working more efficiently. Increasing the number of students enrolling in HIM educational programs will thereby increase the number of trained coding specialists available.[8] AHIMA studies have established the need for the industry to actively "train existing healthcare information workers, recruit new ones, improve healthcare information education, and make the goal of a truly 21st century healthcare system a reality."[9]

Theoretical Framework

This study used the sources of influence and self-efficacy theories of Blythe,[10] Anderson,[11] Vroom,[12] and Bandura[13] to identify and quantify the source or sources of influence individually and by type as well as to determine any statistical relationship between those sources.

Definition of Terms

For the purposes of this study, the term HIM refers to the profession responsible for protecting and ensuring the accuracy and availability of clinical information for purposes of continuity of care, reimbursement, and other purposes.[14] *Reimbursement* refers to the revenue stream coming into a healthcare facility from a third-party payer, such as Medicare, Blue Cross Blue Shield, or a private health insurance payer.[15] *Healthcare facility* is used to identify any facility providing healthcare services, including hospitals, physician's offices, clinics, and so forth.[16] *Healthcare professional* refers to an individual currently working in the healthcare industry, including but not limited to physicians, nurses, HIM professionals, and medical office managers.

Health information technology, also known as healthcare informatics, is a term used for the purposes of this study to include software programs designed to process and store health information such as electronic health records, personal health records, and practice management software (typically used to create and submit electronic claims to third-party payers).[17] In this study, the term *medical billing and coding program* refers to an undergraduate academic program that is intended to educate future HIM professionals, with program titles including *health information management*, *health information technology*, and/or *medical billing and insurance coding*.

The term *sources of influence* is used for the purposes of this study to describe a person, experience, or situation that the participant identifies as having had an impact on that participant's decision to pursue a postsecondary education with the intent of working toward a career in HIM. The following sources of influence are described in this study:

- *Commercial source*—This term is used to identify college and university representatives, high school counselors, teachers, job fairs, college websites, and/or current or former students of the program as factors that might influence the decision to enroll.
- *Environmental source*—This term is used to identify current economic conditions and the mass media. In addition, an individual's self-efficacy level is also considered an environmental source. All of these are factors that may influence the decision to enroll.
- *Personal source*—This term is used to identify those individuals and/or personal experiences that may influence (inspire) the decision to enroll.

Finally, the term *admissions counselor* is used for the purposes of this study to identify an individual working for a specific educational organization whose job responsibilities include enrolling new students into the offered courses of study. In the industry, these staff members are also known as enrollment counselors and admissions representatives.

Methodology

This quantitative study used a validated survey instrument provided with permission by Koch[18] to measure fifteen specific sources of influence suspected of being involved in this decision-making process. The researcher personally administered the

paper-and-pencil survey to approximately 87 percent of the study's eligible population.

Description of the Sample

The study's population consists of matriculated students in accredited postsecondary schools with a brick-and-mortar campus located within a two-county area in a South Atlantic state during the January to April 2011 term. Three schools with eligible students refused permission to survey their students. Several types of postsecondary educational institutions were represented: a state public college, proprietary career colleges, a state public university, and a county public technical school, thus enabling additional investigation into possible differences between students in public schools (76.9 percent) and those in private schools (23.1 percent).

For the term of the study, a total of 120 students were enrolled. Of these, 104 students participated in the survey for an 86.67 percent participation rate.

Study Results and Analysis

Demographic Characteristics

Table 1 displays the frequency distribution for selected demographic variables. Ages ranged from 20 years and under (1.9 percent) to 40 years and older (40.4 percent) with a median age of 35 years. Most respondents (89.4 percent) were females, and 55.8 percent had entered college immediately following high school. Only 27.9 percent reported that this program was their first experience with higher education. About one-third (34.6 percent) indicated that they were not working, and another 34.6 percent worked 40 or more hours per week. Only four respondents (3.8 percent) had previously worked in healthcare.

Table 1
Frequency Counts for Selected Variables (*N* = 104)

Variable	Category	*n*	%
Age range	20 years or under	2	1.9
	21 to 24 years	16	15.4
	25 to 30 years	19	18.3
	31 to 39 years	25	24.0
	40 years and older	42	40.4
Gender	Male	11	10.6
	Female	93	89.4
Entered college immediately following high school	Yes	58	55.8
	No	46	44.2
Program first experience in higher education, college or junior college	Yes	29	27.9
	No	75	72.1
Began in the program that you are currently enrolled	Yes	63	60.6
	No	41	39.4
Number of courses taken in a typical semester (term)	1	4	3.8
	2	24	23.1
	3	34	32.7
	4 or 5	42	40.4
Number of hours worked at a job during the school year	Zero, I am a full time student	36	34.6

Variable	Category	*n*	%
	1 to 15 hours a week	5	4.8
	16 to 25 hours a week	13	12.5
	26 to 39 hours a week	14	13.5
	40 hours a week or more	36	34.6
Previously worked in health care			
	Yes	4	3.8
	No	100	96.2
Length of time working in healthcare (volunteer or paid) prior to enrolling in program	Zero	60	57.7
	1 to 12 months	10	9.6
	1 to 2 years	6	5.8
	More than 2 years	28	26.9
Type of work experience in healthcare	Did not answer the question	46	44.2
	HIM or coding	14	13.5
	Clinical job	11	10.6
	Other administrative job	33	31.7
Type of college	Private	24	23.1
	Public	80	76.9

Three-quarters (76.9 percent) of the students attended a public college, while 23.1 percent attended a private institution (see Table 1). Geographically, there was no advantage to a public institution as compared to the private schools, thereby eliminating this as a measurable condition of decision making with regard to enrollment.

Central Research Question and Subquestions

The central research question asked, "Which sources have the greatest influence on an individual's decision to enroll in a postsecondary educational program with the intent of working toward a career in health information management (HIM)?" Table 2 displays the mean rating for the 15 potential sources of influence, sorted from highest to lowest. The ratings were made using a five-point scale in which 1 indicated no influence and 5 indicated greatest influence. The highest-rated source of influence was career job opportunities (mean rating of 3.41). Less influence was ascribed to personal work experience (mean rating of 2.35), a nonschool Internet site (mean rating of 2.23), and family members (mean rating of 2.22; see Table 2). The differential between these mean ratings can be seen in Figure 1.

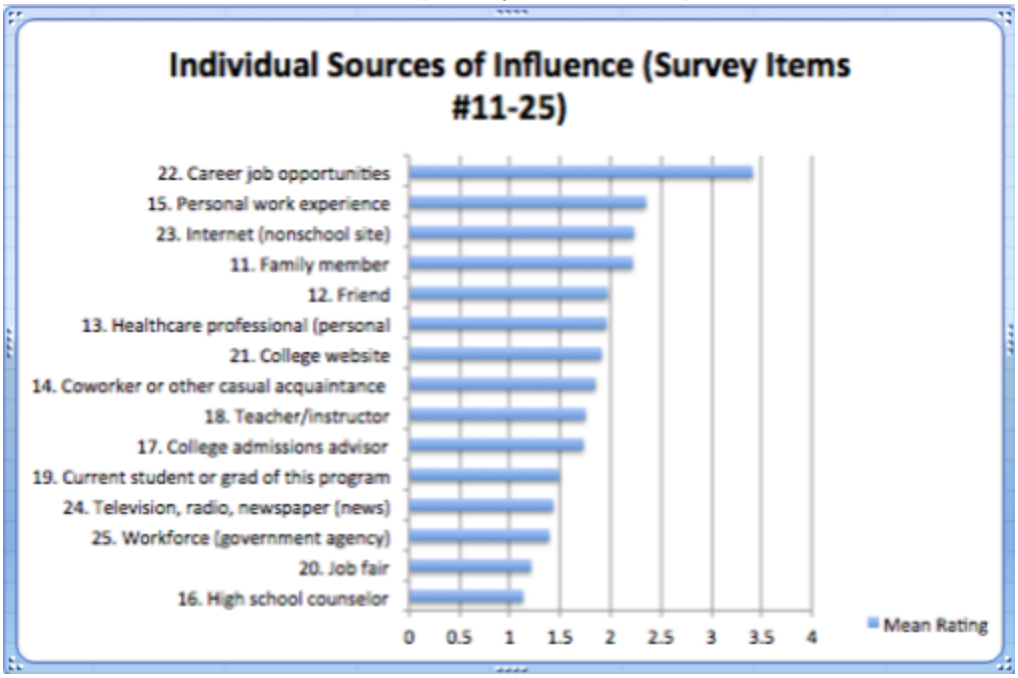
Table 2
Descriptive Statistics for Potential Sources of Influence Sorted by Highest Mean Rating (*N* = 104)

Source	M	SD
Q22. Career job opportunities	3.41	1.43
Q15. Personal work experience	2.35	1.57
Q23. Internet (nonschool site)	2.23	1.44
Q11. Family member	2.22	1.55
Q12. Friend	1.97	1.42
Q13. Healthcare professional (personal physician, etc.)	1.96	1.41
Q21. College website	1.91	1.27

Source	M	SD
Q14. Coworker or other casual acquaintance	1.85	1.24
Q18. Teacher/instructor	1.75	1.34
Q17. College admissions advisor	1.73	1.29
Q19. Current student or grad of this program	1.49	1.13
Q24. Television, radio, newspaper (news)	1.43	0.98
Q25. Workforce (government agency)	1.39	0.98
Q20. Job fair	1.21	0.76
Q16. High school counselor	1.13	0.57

Note: Ratings are based on a five-point scale ranging from 1 (no influence) to 5 (greatest influence).

Figure 1
Individual Sources of Influence (Survey Items 11–25)



Statistical significance is evidenced in that the highest-rated source (career job opportunities) scored 145 percent higher than the second-ranked source (personal work experience) and 302 percent higher than the source of influence ranked in 15th (last) place (high school counselor; see Table 3).

Table 3
Descriptive Statistics for Summated Scale Scores (N = 104)

Scale[a]	M	SD	Low	High
Personal (Scale 1)	2.07	0.88	1.00	5.00
Commercial (Scale 2)	1.54	0.66	1.00	4.33
Environmental (Scale 3)	2.12	0.84	1.00	5.00

Notes: Ratings are based on a five-point scale ranging from 1 (no influence) to 5 (greatest influence).
Wilks' lambda test: $F(2, 102) = 54.74$, $p = .001$.
[a]Bonferroni post hoc tests: 2 < 1 ($p = .001$); 2 < 3 ($p = .001$); 1 ˜ 3 ($p = 1.00$).

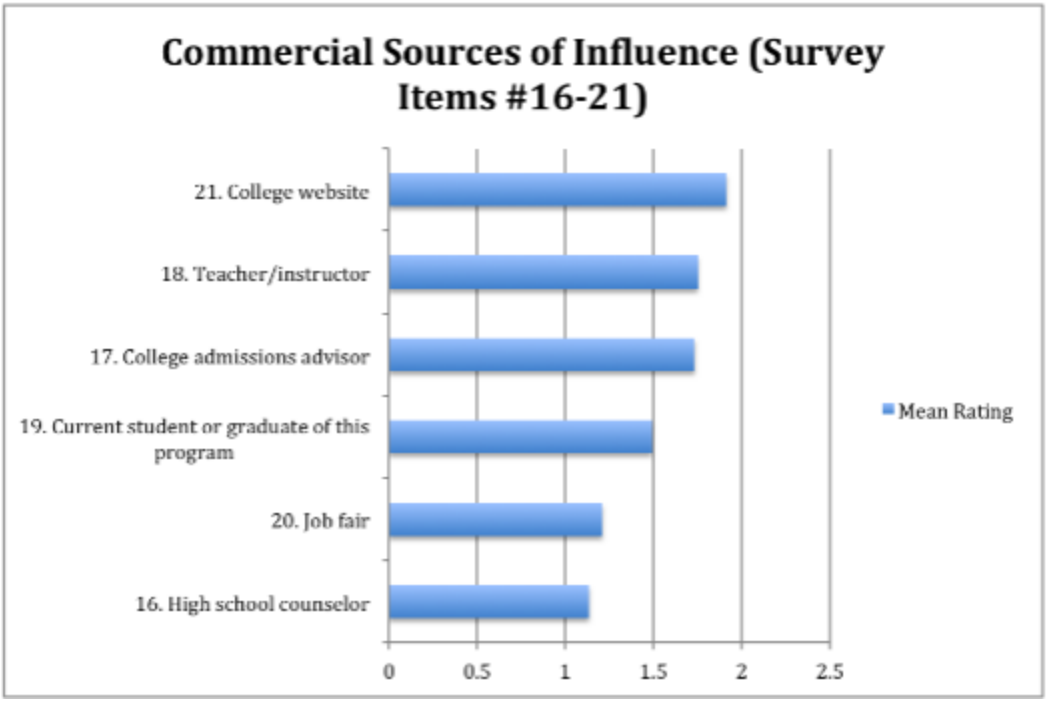
The first central research subquestion asked, "Which personal source of influence, if any, had the greatest impact on the participant's decision to enroll in a medical billing and coding program?" As illustrated in Table 2, of the personal sources of

influence, personal work experience ranked highest (second of all 15 sources, with a mean rating of 2.35). This was followed relatively closely by a family member (fourth among all sources, with a mean rating of 2.22), a friend (fifth, with a mean rating of 1.97), a healthcare professional (sixth, with a mean rating of 1.96), and lastly a coworker or other casual acquaintance (eighth, with a mean rating of 1.85). Figure 2 expresses these mean ratings visually.

Figure 2
Personal Sources of Influence (Survey Items 11–15)

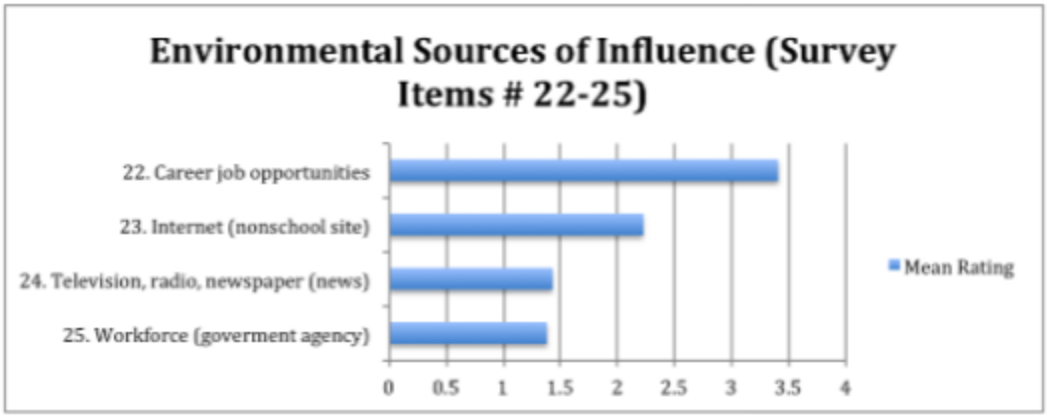
The second central research subquestion asked, "Which commercial source of influence, if any, had the greatest impact on the participant's decision to enroll in a medical billing and coding program?" Commercial sources of influence, overall, proved to be less than effective in motivating these students to enroll. As shown in Table 2, the highest-ranking commercial source of influence was a college website (seventh of the 15 sources, with a mean rating of 1.91), followed by a teacher/instructor (ninth, with a mean rating of 1.75), a college admissions advisor (10th, with 1.73), and a current student or graduate of the program (11th, with 1.49), with a job fair (14th) and high school counselor (15th) trailing with mean ratings of 1.21 and 1.13, respectively. It should be noted that a rating of 1.00 expresses no influence from the source at all. Figure 3 expresses these findings visually.

Figure 3
Commercial Sources of Income



The third central research subquestion asked, "Which environmental source of influence, if any, had the greatest impact on the participant's decision to enroll in a medical billing and coding program?" Interestingly, the mean ratings demonstrated that environmental sources of influence skewed to the extremes, with two environmental sources at the highest end of the rankings and two near the bottom. At the top end of the scale were career job opportunities (first of the 15 sources, with a mean rating of 3.41), followed by a nonschool Internet site (third, with a mean rating of 2.23). Toward the bottom of the rating scale, television, radio, and newspaper news (12th) and Workforce, the government agency that helps unemployed residents find employment (13th), showed mean ratings of 1.43 and 1.39, respectively (see Figure 4).

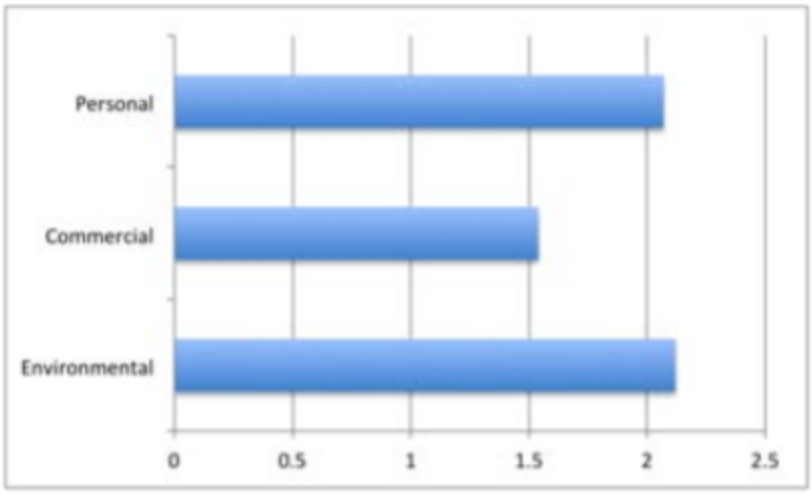
Figure 4
Environmental Sources of Influence (Survey Items 22–25)



Research Subquestion 1

Research subquestion 1 asked, "Which type of source of influence (personal, commercial, or environmental) has the greatest influence?" The related null hypothesis predicted that the three sources (personal, commercial, and environmental) would have similar levels of influence in the individual's decision. Table 3 displays the results of the MANOVA test that compared the three mean scores. The resulting Wilks' lambda test was significant ($p = .001$). The Bonferroni post hoc tests found that commercial sources (mean rating of 1.54) were significantly less influential than either personal sources (mean rating of 2.07) or environmental sources (mean rating of 2.12). These findings provided support to reject the null hypothesis (see Table 3 and Figure 5).

Figure 5
Sources of Influence by Type



Research Subquestion 2

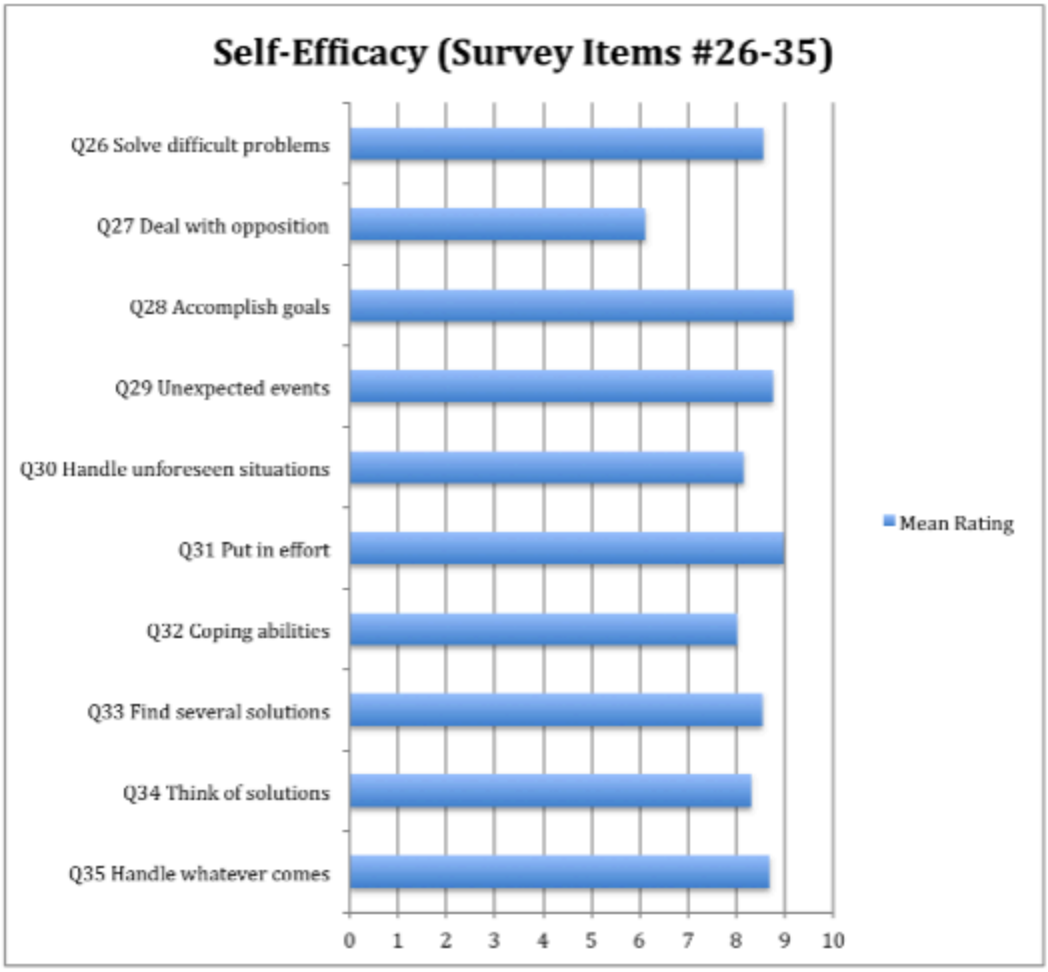
Research subquestion 2 asked, "Do any statistical relationships exist between the sources of influence and personal confidence (self-efficacy)?" The related null hypothesis predicted that no significant relationships would be found between the three sources of influence and self-efficacy. The respondent's self-efficacy score was correlated with the three influence scores. Specifically, the respondent's self-efficacy score was not significantly related to personal influence (r = .17, p = .08), commercial influence (r = .06, p = .53), or environmental influence (r = .01, p = .96). These correlations provided no support to accept the alternative hypothesis. Table 4 displays the results, and Figure 6 provides a visual comparison.

Table 4
Descriptive Statistics Correlation between Sources of Influence and Self-Efficacy (N = 104)

Scale[a]	Self-Efficacy	Personal	Commercial	Environmental
Pearson correlation	1.00	.172	.063	.005
Sig. (2-tailed)	.000	.081	.527	.956

[a]Correlation is significant at the 0.05 level (2-tailed).

Figure 6
Self-Efficacy (Survey Items 26–35)



Type of School vs. Type of Influence Source

Table 5 displays the results of the t tests comparing public- and private-school students by their four scale scores. Private-school students had higher scores for both the personal source of influence scale (p = .005) and the commercial source of influence scale (p = .04). These findings provided support to reject the null hypothesis that none of the sources are related. The eta coefficient shows the strength, or lack thereof, of the relationships between the types of influence and the type of school that the individual participant was attending. The percent of variance showed significant differences between public-school students and private-school students when influenced by personal and commercial sources, while no significant differences were realized when comparing these groups with regard to environmental sources or their personal levels of self-efficacy (see Table 5).

Table 5
Comparison of Scale Scores Based on Type of School (N = 104)

Scale	School Type	*n*	M	SD	η	*t*	*p*
Personal					.42	2.89	.005
	Private	23	2.47	1.10			
	Public	80	1.92	0.70			
Commercial					.43	2.06	.04
	Private	23	1.74	0.94			
	Public	80	1.45	0.47			
Environmental					.27	0.94	.35
	Private	23	2.24	0.91			

Scale	School Type	*n*	M	SD	η	*t*	*p*
	Public	80	2.06	0.79			
Self-efficacy					.13	0.73	.47
	Private	23	8.54	1.31			
	Public	80	8.29	1.51			

Notes: Ratings for sources of influence are based on a five-point scale ranging from 1 (no influence) to 5 (greatest influence). Ratings for Self-efficacy are based on a 10-point scale ranging from 1 (not at all confident) to 10 (totally confident).

Conclusions

The study's results provide information that can be used to promote and encourage more qualified individuals to become educated and join the workforce as professional coding specialists by honing the message focused toward the more influential sources. For example, because career job opportunities were determined to have the most influence on the decision to enroll in a HIM program, promotional messages could deliver facts about the large numbers of job opportunities in HIM. This should result in attracting more individuals more efficiently because the primary theme of the message would directly align with the most influential factor. As this research determined statistically significant influence from nonschool websites on the Internet, this finding may provide the data to justify the creation of a website, separate from national organizations and separate from colleges and universities, with the sole purpose of providing recruitment information to encourage individuals to enter the HIM profession.

The most common reason to return to a postsecondary educational institution is to gain knowledge for a new career. Especially when one is investigating the factors that motivate students to return to school later in life (that is, later than the norm of going to college directly out of high school at approximately 18 years of age), it would be expected that a major influential source motivating enrollment is to broaden employment opportunities. In addition, a recessionary economy often prompts individuals who have been downsized to return to school with the desire of repurposing themselves for a second career or refreshing their professional knowledge and skills to make themselves more marketable in the current job market.

The low ranking of commercial sources of influence provides valuable insight as well. The Bonferroni post hoc tests found that commercial sources were significantly less influential than personal (p =.001) and environmental (p =.001) sources. For this specific population, it is important to understand that college admissions advisors, the school's website, and job fairs—all means of recruiting new students frequently utilized by school admissions departments—will not generate the magnitude of student enrollment equal to that of other areas of study within the typical college, such as business, information technology (computer programming), medical assisting, or criminal justice. The results of this study may help to support a decrease in expenditures in these areas and a reallocation into other methods to which prospective HIM students can better relate and respond.

Recommendations

The results of this study provide several insights that can support industry organizations, such as AHIMA and AAPC, in their efforts to create more effective and efficient recruiting campaigns to increase awareness of the job opportunities within this sector of the healthcare industry. While family influencers will be difficult to reach, the statistics showing the impact of personal work experience and the Internet point to these sources as strong avenues to deliver the message about careers in HIM. These efforts can be combined with similar promotions from educational institutions. With 33.7 percent of the participants in this study reporting that their personal work experience was a strong influence or even the greatest influence on their choice to enroll in a HIM educational program, healthcare providers, including human resource directors of hospitals and multiphysician groups, could also benefit from investing in their staff of the future by utilizing these recruiting techniques with current employees, especially in facilities that offer tuition reimbursement benefits, a benefit that underscores a corporate awareness of investing in the education and promotion of the current workforce.

The power of understanding that future job opportunity is the greatest influencing factor prompting the pursuit of education for a successful career in HIM is strong. This information can be used to focus a recruiting campaign that will promote this career path to older individuals in a short educational course (two or fewer years of college). Perhaps these individuals want and need

to be assured that they will be capable of both maintaining a successful career long enough to repay the financial toll of returning to school and having the benefit of a multitude of employment options. Incorporating these facts into recruiting materials will provide positive reinforcement with this segment of the population.

The statistically significant high rating given to Internet (nonschool) websites as an influential source may reveal a strong opportunity for the national trade organizations to create more web pages promoting the benefits and opportunities within a career in HIM. While both major trade organizations in this subsector of healthcare, AHIMA and AAPC, do have strong, informative websites, these sites serve their current members in multiple ways, only one of which is targeted to prospective HIM professionals. This study's results might serve as a motivation and justification to create separate, or adjunct, websites focused on recruiting into the industry.

The career opportunities offered in HIM are considerable and are expected to remain substantial at least over the next decade. Knowing the power of this fact to influence enrollment in HIM programs and interest in this profession can be an important asset in the creation of an effective and efficient recruiting campaign designed to encourage more individuals to become well-trained HIM professionals.

Integrating the results of this study into college and corporate recruiting campaigns has the potential of increasing enrollment in accredited postsecondary HIM programs of study that will lead to more qualified HIM professionals becoming available to work in the various components of the healthcare industry throughout the United States. Ultimately, this success will benefit every healthcare professional and, most importantly, every patient.

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Notes

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