Community College Journal of Research and Practice, 29: 463–469, 2005

ISSN: 1066-8926 print/1521-0413 online
DOI: 10.1080/10668920590934170

Routledge
Taylor & Francis Group

EMPLOYING NONCOGNITIVE VARIABLES IN ADMITTING AND ADVISING COMMUNITY COLLEGE STUDENTS

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As community colleges have more applicants, more programs have turned to selective admissions. Additionally, good postmatriculation advising requires more useful assessments than have been possible employing such measures as prior grade-point average (GPA). A variety of problems have been identified in relying on GPA. A series of noncognitive variables, as measured by the Noncognitive Questionnaire (NCQ), were included in a study of 263 community college students in health sciences programs at a western community college. NCQ scores were related to college grades using Pearson correlation and multiple regression. Results showed modest but statistically significant relationships with community college grades. The NCQ scales of Community, Leadership and Strong Support Person contributed most to multiple-regression equations predicting college grades. NCQ scales tended to correlate highest with early and late community college grades. While students in the study had mean NCQ scores similar to normative samples, they tended to be lowest on Community,

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which was most predictive of their performance. It is recommended that a predicted GPA generated from NCQ scores be added to the admissions criteria for health programs at the college, and that pre and postmatriculation advising programs include use of noncognitive variables.

Admissions to colleges and universities remain one of the most important functions in higher education. This function is commonly separated in policy and practice from advising, particularly postmatriculation academic advising. If admissions and advising can be coordinated, the effect on students and the campus climate can be profound. While many community colleges have open admissions—as more students from diverse backgrounds seek admissions—more institutions are having to reexamine their admissions policies in the context of how they provide advising. The purpose of this study was to investigate the utility of employing noncognitive variables in selecting students for health sciences programs at a western community college. Previously, the college had employed high school grades as a predictor of student success at the school. Following, is a discussion of the validity of high school grades and the noncognitive variable scores as indicators of student success and their value as a basis for student advising.

Research has generally supported the value of prior grades as predictors of college grades or retention (Carnevale, Haghighat, and Kimmel, 1998; Sedlacek, 1998). However, there are some disadvantages to employing high school grade-point average (GPA) as a predictor. First, variations in the quality of the high school tend to dilute the value of the GPA. Comparing schools with varying standards is difficult. The quality of the students and the quality of the curriculum may vary (Sedlacek, 1998). Additionally, grading practices may vary at different high schools (Carnavale et al., 1998). Another issue is the gap that exists between high school exit standards and college entrance requirements (Smittle, 1995).

A potentially greater problem in using GPA as a predictor is "grade inflation." Data from the College Board show that the percentage of students who had an A average (A+, A, A–) has increased from 28% to 37%, with no corresponding increase in postsecondary achievement (Rigol & Kimmel, 1997). Ziomek and Svec (1995) also reported that high academic achievers were particularly likely to receive inflated grades in high school. Rojstaczer (2003) reported that the mean GPA in higher education nationally had risen from 2.94 in 1991–92 to 3.09 in 2001–02, based on a 4-point system. *Thus, the grade inflation problem seems to exist at all levels of education.* Another report by Career World (1999) indicated that the use of test preparation programs for the Scholastic Achievement

Test (SAT) and American College Test (ACT), as well as grade inflation, make it difficult for colleges to identify the high academic achiever.

Grade inflation can be a large problem for community colleges. As some programs have gotten more selective, the GPAs of applicants have increased to a point where their potential to discriminate among applicants is very limited. In addition, with the increase of diverse students attending community colleges, there is also an increased number of individuals who are coming to college underprepared (Smittle, 1995). Furthermore, 10% of all high schools no longer calculate GPAs. Of those that do calculate GPAs, 57% include nonacademic courses in the figure (The College Board, 1998). Consequently, prior GPA may not tell us enough of what we need to know about the potential of students before or after they enroll.

Research conducted by Sternberg (1985, 1986) offers compelling reasons to look beyond cognitive predictors of academic performance when making admissions decisions. The author suggested that intelligence can be shown in three ways. The first, componential or analytic intelligence, is the ability to interpret information in a hierarchical and taxonomic fashion in a well-defined and unchanging context. It is associated with traditional educational and social experiences. People who do well on standardized tests and have high precollege GPAs tend to have this type of intelligence. The second, experiential intelligence, involves the ability to interpret information in changing contexts. Lastly, contextual intelligence is the ability to adapt to a changing environment, i.e., the ability to handle one's environment and negotiate the system. The Noncognitive Questionnaire (NCQ) is designed to measure Sternberg's (1985, 1986) experiential and contextual intelligences (Sedlacek, 1996; 2003; 2004; in press). Table 1 contains a description of the NCQ scales. The NCQ has been shown to have validity in predicting the success (grades and retention) of students in higher education. It has been shown to be particularly valid for students with less-traditional experiences than middle-class 18–22 year olds, e.g., students of color, 2nd older students (Sedlacek, 1998; 2003; 2004; in press).

The NCQ scales were designed to provide information that can be used by advisors to work with students developmentally (Sedlacek, 1991). The dimensions are correlated with academic success, and make intuitive and developmental sense for students.

METHOD AND RESULTS

Students in the health sciences programs at a western community college ($N = 263$) were administered the NCQ. The NCQ was scored

Table 1. Description of noncognitive scales

Noncognitive scale	Description
Positive self-concept or confidence	Strong self-feeling, strength of character. Determination, independence.
Realistic self-appraisal	Especially academic. Recognizes and Accepts any deficiencies and works hard at self-development. Recognizes needs to broaden his/her individuality.
Understands and deals with racism	Realist based upon personal experience of racism. Is committed to fighting to improve existing system. Not submissive to existing wrongs, not hostile to society, nor a "cop-out." Able to handle racist system. Asserts school role to fight racism.
Prefers long-range goals to short-term or immediate needs	Able to respond to deferred gratification.
Availability of strong support person	To whom to turn in crises.
Successful leadership experience	In any area pertinent to his/her background (gang leader, sports, noneducational groups, etc.).
Community involvement	Has involvement in his/her cultural community.
Knowledge acquired in a field	Unusual and/or culturally related ways of obtaining information and demonstrating knowledge. Field itself may be nontraditional.

with interrater reliability of 85% or .86 using coefficient alpha. The NCQ scale scores were correlated with cumulative grades and grades for several semesters. Table 2 shows the means and standard deviations for the NCQ scales and grades.

Multiple regression analyses were done for each GPA separately using NCQ scores as predictors and GPA as a criterion. Table 3 shows the multiple correlations for the analyses.

Multiple correlations with GPAs (significant at .05 level) show that the NCQ scale Community Service contributed most to the multiple correlations, followed by Leadership and Strong Support Person. Community was significant in all equations, while Strong Support Person contributed most to the earlier GPA predictions and Leadership to later GPA predictions. Each of the noncognitive variables made a significant contribution to at least one of the equations.

Table 2. Grade point averages (GPAs) means and standard deviations as measured by the noncognitive questionnaire (NCQ)

Year	Mean*	Standard deviation
1	1.88	1.74
2	2.42	1.70
3	2.88	1.33
4	3.06	1.01

*4 point system.

Table 3. Significant noncognitive predictors of grade-point average as determined by multiple correlation analyses of noncognitive questionnaire scores

Year	Multiple correlations (*R*)	Noncognitive variable*
1	.53	Support person, leadership, community, self concept, self-appraisal
2	.44	Community, support person, leadership, goals
3	.39	Community, nontraditional knowledge, leadership, handling racism
4	.31	Community, support person, nontraditional knowledge
Cumulative	.66	Community, support person, leadership

*significant (.05) contributor to *R*.

DISCUSSION

The multiple correlations indicated some potentially useful relationships to consider in determining policy. The NCQ scales tended to correlate best with early GPA and with cumulative GPA. Early GPAs had less restriction of range than later GPAs. Cumulative GPAs are the most stable estimates and, hence, may be more likely to show a relationship if one is present. Studies have shown that early and cumulative grades in a curriculum are probably the most meaningful (Sedlacek, 1989; 2004). Getting off to a good start and finishing well are critical to student adjustment, and are points of transition. Often students are exploring or focused on other issues in the middle of their curricula. For example, persistence is a concept that is difficult to measure because the student may leave in good standing to explore other more immediate goals, i.e., raise a family, obtain employment, or reach for other personal objectives (Grimes & Antworth, 1996; Losak, 1986, as cited in Grimes & David, 1999).

While students in the study generally had NCQ scores similar to normative samples, they tended to be lowest on Community Service—which was the scale most predictive of their performance. Thus, using Community Service as both a predictor of success and a postmatriculation concept in advising and student services would be worth serious consideration. Community college students had the highest NCQ scores on Self-Concept, Long-Term Goals, and Leadership. This suggests that those noncognitive variables are areas of strength for community college students.

Noncognitive variables have been shown to be better predictors of retention than grades (Sedlacek, 2004). Future analyses will include retention, where feasible, as well as comparisons of matriculated and nonmatriculated students and predicted GPAs of applicants. These analyses will provide further information about the admissions and advising process at community colleges.

It is recommended that community colleges consider employing noncognitive variables in admissions and advising policies. Using multiple-regression equations developed in this study that predict GPA, applicants can receive a predicted GPA from NCQ scores. This predicted GPA can be considered along with prior GPA to decide on admissions to selective programs. Studies should be conducted at any institution considering using noncognitive variables; weights unique to a given school could be developed.

Implications for practice include using individual NCQ scores in advising students who matriculate, or in preadmission advising. This could be particularly useful for those who choose other options or who are not selected. Sedlacek (2004) presented a number of case studies and suggestions for using noncognitive variables in advising, including examples in community college.

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