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AUTHOR	Lawrence, Audrey; Crehan, Kevin D.
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ABSTRACT

This study examined aspects of concurrent, predictive, and consequential validity evidence of the Pre-Professional Skills Test (PPST) scores as college of education admission criteria. American College Test (ACT) and PPST subtest scores of 372 graduates, and PPST scores, undergraduate grade-point averages, and student teaching ratings of 1,062 graduates of a southwestern urban teacher education program were investigated. Findings of a correlation and hierarchical regression analyses suggest that there is evidence of a concurrent relationship between corresponding PPST and ACT subtest scores, no predictive relationship between PPST scores and student teaching ratings, and a weak predictive relationship between PPST scores and student undergraduate grade-point averages. In addition, a differential impact of the use of the PPST on ethnic minorities is apparent. The plausibility of waiving the PPST requirements for applicants with above average ACT subtest scores is discussed. (Contains 5 tables and 36 references.) (Author/SLD)

A Study on the Validity Evidence of the Pre-Professional Skills Test (PPST) as a Screening Device for Entrance into Teacher Education Programs

Audrey Lawrence and Kevin D. Crehan

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A Study on the Validity Evidence of the Pre-Professional Skills Test (PPST) as a Screening Device for Entrance into Teacher Education Programs

Audrey Lawrence, DataBasis and Kevin D. Crehan, University of Nevada, Las Vegas

This study examined aspects of concurrent, predictive and consequential validity evidence of the Pre-Professional Skills Test (PPST) scores as college of education admission criteria. American College Test (ACT) and PPST subtest scores of 372 graduates, and PPST scores, undergraduate grade-point averages, and student teaching ratings of 1,062 graduates of a southwestern urban teacher education program were investigated. Findings of correlation and hierarchical regression analyses suggest that there is evidence of a concurrent relationship between corresponding PPST and ACT subtest scores, no predictive relationship between PPST scores and student teaching ratings, and a weak predictive relationship between PPST scores and student undergraduate grade-point averages. In addition, a differential impact of the use of the PPST on ethnic minorities is apparent. The plausibility of waiving the PPST requirements for applicants with above average ACT subtest scores is discussed.

The quality of public education and the competency of elementary and secondary schoolteachers came under scrutiny in the early 1980s when A Nation at Risk: The Imperative for Educational Reform (1983), a report of the National Commission on Excellence in Education, unveiled the apparent decline in students' academic achievement on standardized tests (Garcia, 1987; Hicken, 1992; Snow, 1995). In response, state teacher proficiency and licensure testing programs have been designed and gradually implemented as part of educational reform movements throughout the United States. One rationale for the development of such programs was to raise standards for entry into the teaching profession, allowing only "qualified" professionals to teach American children, and thereby improving elementary and secondary school students' academic achievement. To this end, to raise their admission standards thus increasing the qualifications of students entering the field of education, most National Council for Accreditation of Teacher Education (NCATE) accredited colleges of education began to utilize cut-scores on basic skills tests that assess reading, writing, and mathematics knowledge of applicants (Dybdahl, Shaw, & Edwards, 1997; Garcia, 1987; Heller & Clay, 1993; Hicken, 1992;

Poggio, Glassnapp, Green, & Tollefson, 1997; Soules, Beatty, & Hopper, 1993; Sudweeks, 1991).

According to Educational Testing Service (ETS, 2000), 28 states and the District of Columbia, or over 80 percent of states that require assessment of teacher candidates' basic skills, require passing scores on the Pre-Professional Skills Test (PPST). The PPST, or Praxis I, is a battery of basic skills tests developed by ETS for the purposes of teacher licensure and college of education admission screening. Required passing scores on the PPST vary from state to state. For example, the PPST Mathematics subtest passing score is 169 in Minnesota and 178 in Virginia. Similar discrepancies exist among other states, and for PPST Reading and Writing subtests as well.

Smith and Hambleton (1990) believe that "it is not possible for the same examination to perform with uniform reliability or consistency at each possible passing score," but these discrepancies prevail because "legal considerations frequently take precedence over psychometric soundness and the concept of a unified profession ... with a single examination passing score" (p. 9). Mitchell and Barth (1999) assert, that to avoid litigation, each state's teacher competency testing system is designed to prevent "false negative judgments about either candidates or institutions that produce them" (p. 3). Nweke and Hall (1999) agree: choosing a lower cut-score than recommended and allowing unlimited retake opportunities for examinees "virtually eliminates the chance of misclassification for examinees" (p. 8). The resulting high passing rates on the PPST and fear that "legislators have moved [too] quickly to mandate testing reforms without a clear understanding of testing" (Garcia, 1987, p. 83) prompted numerous researchers to conduct studies investigating the validity evidence of these and other basic skills tests.

Concurrent Validity

Concurrent validity, a type of criterion-related validity, refers to "the meaning of the scores ... substantiated externally by appraising the degree to which empirical relationships with other measures, or lack thereof, is consistent with that meaning" (Messick, 1995, p. 7). Although content validity may be accepted as sufficient validity evidence in court cases (Sireci & Green, 1998), evidence of PPST subtest scores' concurrent relationship with scores of corresponding subtests of widely used college entrance exams that measure similar constructs is expected. One such test battery is the American College Test (ACT), which includes an English subtest that measures similar skills as the PPST Reading and PPST Writing subtests, and a Mathematics subtest that measures similar skills as the PPST Mathematics subtest. Concurrent relationships among these subtests is evidenced by Gitomer, Latham, and Ziomek (1999), for example, who reported that there is a "consistent relationship" between PPST passing rate and ACT scores, which are established predictors of college grade-point averages (GPA) (p. 18). Several other researchers have found statistically significant moderately high, to high positive correlations (ranging from .30 to .86) between PPST subtest scores and ACT subtest scores (Aksamit, Mitchell, & Posebl, 1987; Duke & Duke, 1990; Heard & Ayers, 1988; Nance & Kinnison, 1988; Poggio et al., 1997; Salzman, 1991; Sibert, 1989; Stoker & Tarrab, 1985; Soules et al., 1993). Most of these researchers suggest that evidence for the PPST subtest scores' level of concurrent validity with the ACT subtest scores is satisfactory. Given this evidence, however, they advise that the PPST may be an unnecessary duplication of the less expensive college entrance exam, and therefore, those students who receive acceptable ACT scores should be exempt from taking the PPST. Soules et al.'s (1993) recommendation resulted in the approval of the New Mexico State Department of Education to waive the PPST requirement for students with ACT scores of

21 or higher, or approximately 45 percent of all applicants. This decision protects students whose performance on the ACT already demonstrated sound academic skills, and yet who would be compelled to pay $165 or more for exams, which, with their high passing rate, do not seem to make a substantial difference in screening teacher preparation program applicants. In Cobb, Shaw, Millard, and Bomotti's view (1999), the "relevance-utility of [these basic skills teacher competency tests] ... has less to do with the rational screening-out function it purports to have and much more to do with the love affair and comfort the public seems to have with ... tests, no matter how functional they are" (p. 172).

Predictive Validity

In an attempt to further investigate the appropriateness of tests, such as the PPST, as college of education admission criteria, researchers often study the evidence of these tests' predictive validity. Predictive validity, a type of criterion-related validity, refers to the degree to which test scores predict future performance on related tasks; for example, the degree to which PPST scores predict student success in a teacher education program. Researchers' views regarding the relevance of college of education admission test scores' predictive power of program success are often conflicting. According to a report prepared by Gitomer et al. (1999), for example, tests, such as PPST, are *not* designed to predict success in teacher education programs, instead, "as program entrance and licensure tests, they measure knowledge considered essential to effective pedagogy." They add, "passing a Praxis test does not guarantee that an individual will become a satisfactory teacher" (p. 13). Paradoxically, Gitomer et al. also believe that "raising [college of education] admission ... standards, [such as cut scores on the PPST,] will significantly increase the academic caliber of the pool of teacher candidates" (p. 36). Others believe, therefore, that these exams *should* predict, to some extent, performance as a student in a teacher education

program. After all, the PPST subtests as college of education admission tests, similarly to the ACT subtests, are used to *distinguish* students who might successfully complete their studies in teacher education programs, from those who might not. Shepard (1997), for example, agrees that "there is a theory underlying ... test uses [such as placement or minimum competency], which connects test scores and outcomes, that must be investigated" (p. 7). She further explains, that if a test is used for placement decisions, "more evidence is needed to establish the appropriateness of cut scores, predictive validity for subsequent performance, and verification of the assumed skill hierarchy" (p. 7). Smith and Hambleton (1990) also affirm, that "at least moderate relationships between ... examination scores and relevant criterion measures can sensibly be hypothesized" (p. 7). This is so, because as Hambleton and Rogers (1990) put it, the validity of the scores depends "most especially [upon] the intended use of the scores" (p. 27); which, in the PPST's case, is decision making regarding admission into a teacher education program.

Although the testing of teacher candidates has been implemented since the mid 1980s in many states, very few studies of the predictive validity of these tests have been conducted (Darling-Hammond, Wise, and Klein, 1995, p. 58). This might be attributed to the fact that "from the legal perspective, all information is potentially dangerous, and therefore should not be collected ...; [even though] ... from a validity point of view, all information is potentially useful, and ... should be collected ..." (Smith & Hambleton, 1990, p. 8). It is also true that predictive validity studies are difficult to conduct because, in general, candidates below the cut scores are not available for inclusion in such validity investigations (Smith & Hambleton, p. 7). The majority of the few predictive validity studies that have been conducted were impeded by this limitation, resulting in lower correlations between test scores and all other measures. In addition, studies often utilize student teaching performance ratings by supervisors as the criterion variable,

the only readily available measure of teaching success, whose reliability and validity are questionable.

Sentz (1991) conducted a chi-square and stepwise multiple regression analysis on data on St. Cloud State University, Minnesota education students who student taught in 1989-90, but data was only available for volunteers who received passing scores on the PPST. She found that PPST Writing scores and supervisors' ratings of students' teaching performance showed a significant relationship; combined PPST sub-scores, however, did not significantly predict student teaching success. In a more recent study of PPST data of 100 randomly chosen students in Arizona, Hicken (1992) found no statistically significant relationship between PPST scores and overall GPAs or student teacher ratings. It is important to note, that in Arizona, passing scores on the PPST are no longer required for teacher licensure or admission into colleges of education. In a similar analysis of 375 baccalaureate graduates in teacher education programs at a medium sized urban university, Dybdahl et al. (1997) observed no significant correlation between PPST subtest scores and student teaching ratings. Dybdahl et al. believe that "after more than a decade of teacher testing, research has failed to demonstrate any significant relationship between basic competency tests and ... measures of program success, including success in teaching" (p. 252). They conclude, "the arguments for testing, that assumed increased teacher quality need to be revisited" (p. 252).

Consequential Validity

Messick (1995) and Shepard (1997) assert that, because high-stakes decisions are made based on licensure or admission test results, evidence of social consequences of test use, such as bias and fairness, should become a facet of validity. In this light, studies have been documenting the effect of teacher competency testing on ethnic minorities, more specifically, a decline in the

supply of Hispanic and African American teacher candidates (Cobb et al., 1999; Garcia, 1985; Gitomer et al., 1999; Hicken, 1992). According to Gitomer et al., "the effect of testing on the diversity of the teaching force is not promising. .... [it] takes a predominantly white population of potential teachers and creates an even more homogenous group" (p. 38). Resulting teacher competency testing related lawsuits filed under Title VII (Kuehn, Stallings, & Holland, 1990) and the Equal Protection Clause (Sireci & Green, 1998) are widespread throughout the United States. These cases are based on evidence that certain segments of the examinee population are likely to score disproportionately lower than others, and therefore, are unjustly prevented from entering the field of education (Kuehn et al., 1990; Sireci & Green, 1998).

This study examines the following questions regarding aspects of concurrent, predictive and consequential validity evidence of PPST scores as college of education admission criteria: What are the relationships among ACT and PPST subtest scores? Are PPST scores a necessary requirement for teacher education program admission purposes, when students' ACT scores are available for review? Are PPST scores valid predictors of success in teacher education programs? Are certain ethnic groups unfairly impacted by the use of PPST scores?

INSTRUMENT

The PPST is composed of three subtests assessing basic proficiencies in reading, writing, and mathematics. The computer based (CBT) Praxis I score scale ranges from 300 to 335, the paper-pencil PPST scores are reported on a scale of 150 to 190, a negatively skewed "essentially raw score scale - 41 possible raw scores (0-40) yielding 41 possible scale scores (150-190)" (Bauernfeind, 1987, p. 406). The paper-pencil PPST subtests are designed to be interpreted as criterion referenced tests, which means that test-takers' scores are not meant to be compared with one another, but rather, test scores are to be construed as examinees' level of competence as it

compares to the ideal or standard of demonstrated knowledge. Reported KR-20 reliabilities range from .81 for Writing to .91 for Mathematics (Oppenheim, 1985, p. 1188). Interrater reliability for the essay portion of the Writing subtest has been recorded at .7 (Quellmalz, p. 1189). The content validity of the PPST has also been well established (Poggio et al., 1997; Tannenbaum & Rosenfeld,1994).

METHOD

Data on a southwestern urban university's college of education students who graduated between 1990 and 1999 was collected. ACT English and Mathematics, as well as PPST Reading, Writing and Mathematics scores were available for 372 students (ACT sample), student teaching grades and PPST scores were available for 1,062 pre-service teachers (PPST sample). The PPST sample consists of 563 elementary education-, 213 secondary education-, 151 special education-, 91 physical education-, and 44 other education-majors. Of the 1,062 subjects, 21.1 percent were coded male and 22.6 percent were coded minority. Analyses were based on first-time test results of subjects, which provided records with PPST scores below the cut-off scores for those with repeated PPST attempts. For the purpose of this study, all paper-pencil PPST scores were converted to CBT scores using the Praxis I Concordance table provided by ETS. It is worth noting that, although ETS advised against such a conversion, asserting that it is "not appropriate" to convert the scores, as the paper-pencil based and the CBT Praxis I tests are "two entirely different tests" (J. Wassum, Educational Testing Service, personal communication, August 1, 2000), most states that use the PPST *do* accept Praxis I CBT scores as an alternative to scores on the paper-pencil test. The computer based PPST (CBT) cut-scores were Reading 321, Writing 318, and Mathematics 317.

PROCEDURE

Pearson product moment correlations were obtained between available PPST and ACT sub- and composite scores of teacher preparation students graduating between 1990 and 1999 (n = 372). These correlations can be interpreted as indicators of the PPST sores' concurrent validity with ACT scores. Kane (1994) recommends the analysis of the "differences between passing and failing scores," rather than of score differences on a continuum (p. 433). Accordingly, individual student PPST passing status and corresponding ACT scores were examined. Another set of Pearson product moment correlations was calculated between 1,062 PPST scores, student teaching course grades, and overall GPAs of teacher preparation students graduating between 1990 and 1999 to investigate the PPST's predictive validity. Hierarchical multiple regression analysis was also performed on the 372 records containing ACT scores, PPST scores, and college GPAs to evaluate the predictive validity of the PPST scores over and above ACT scores. Finally, PPST passing and failing rates were compared by ethnicity to investigate an aspect of PPST scores' consequential validity.

RESULTS

Concurrent Validity Evidence

Table 1 presents descriptive statistics for ACT Reading, ACT Mathematics, PPST Reading, PPST Writing and PPST Mathematics scores for the 372 subjects. All correlations are statistically significant at the .01 level and are moderately strong, despite assumed attenuation due to some loss of subjects with PPST scores below the cutoff point; they are also within the range of correlations obtained by other researchers in similar studies. The correlation between PPST and ACT composite scores (the average of the subscores) is the strongest at .637; followed by .543 between PPST Reading and ACT English scores and .511 between PPST Writing and

ACT English scores. The weakest correlation is .368 between PPST Mathematics and ACT Mathematics scores. Although solid concurrent validity evidence is supported by correlations in the .75-.80 range (Cobb et al., 1999), there is some expected "measurement overlap" between corresponding PPST and ACT subtests. Approximately 40.6 percent of the variance in PPST composite scores is explained by ACT composite scores.

Table 1
Descriptive Statistics for PPST and ACT Scores

	Mean	Std. Deviation
(n = 372)		
PPST Reading	327.99	4.01
PPST Writing	325.11	4.85
PPST Mathematics	324.30	5.39
ACT English	21.56	4.38
ACT Mathematics	20.22	4.33

Correlations	ACT Composite	ACT English	ACT Mathematics
PPST Composite	0.645	-	-
PPST Reading	-	0.543	0.398
PPST Writing	-	0.511	0.447
PPST Mathematics	-	0.371	0.368

Note: All correlations are significant at the 0.01 level (2-tailed).

Table 2 contains information on the frequencies of PPST student passing and failing by ACT scores of 21 or below, and 22 or above. Instead of Soules et al.'s (1993) recommended cutoff point of 21, the arbitrary ACT subtest cutoff point of 22 was chosen to ensure a lower proportion of students with concurrent ACT "passing" *and* PPST failing status. Table 2 reveals that the initial passing rates on the PPST subtests range from 93.8 to 99.2 percent, and over 98 percent of

students with ACT English or Mathematics subtest scores of 22 or higher had passing scores on the corresponding PPST subtest. These findings are similar to those of Soules et al. and Duke and Duke (1990), demonstrating that the PPST does not make a substantial difference in screening teacher preparation program applicants when their ACT scores of 22 or above are available for review. Consequently, students who achieve 22 or higher on ACT English (approximately fifty percent of PPST Reading or PPST Writing test takers) or ACT Mathematics (approximately thirty-six percent of PPST Mathematics test takers) could be exempt from taking the corresponding PPST subtest. It is not to say that the ACT should altogether replace the PPST as a college of education admission requirement: due to the PPST's high overall passing rate, 50 to 64 percent of students with PPST passing scores do not achieve the identified ACT cutoff point of 22. However, for those students, whose performance on the ACT demonstrated knowledge at or above that assessed by the PPST passing score, PPST requirement could be waived.

Table 2
Frequencies of PPST Passing or Failing by Corresponding ACT English or Mathematics Scores

(n=372) PPST *Passing* Status			ACT * < 22		ACT * ≥ 22	
	# *Subjects*	% of n	#	% of PPST *Pass*	#	% of PPST *Pass*
PPST Reading	354	95.2	178	50 %	176**	50 %
PPST Writing	369	99.2	191	52 %	178**	48 %
PPST Mathematics	349	93.8	223	64 %	126**	36 %
PPST *Failing* Status						
	# *Subjects*	% of n	#	% of PPST *Fail*	#	% of PPST *Fail*
PPST Reading	18	4.8	16	89 %	2**	11 %
PPST Writing	3	0.8	3	100 %	0**	0 %
PPST Mathematics	23	6.2	20	87 %	3**	13 %

* ACT English *or* Mathematics, corresponding to appropriate PPST subtests

Predictive Validity Evidence

Table 3
Descriptive Statistics for PPST Scores, ACT Scores, Student Teaching Grades, and GPAs

(n = 1,062)	Mean	Std. Deviation
PPST Reading	327.82	4.37
PPST Writing	323.97	4.82
PPST Mathematics	323.63	5.53
Student Teaching Course Grade	3.88	0.35
Overall UNLV undergraduate GPA	3.43	0.32

Correlations	Overall College GPA	Student Teaching Course Grade
PPST Reading (n = 1,062)	0.296**	0.012
PPST Writing (n = 1,062)	0.280**	-0.023
PPST Mathematics (n = 1,062)	0.194**	-0.014
ACT English (n = 372)	0.399**	-0.001
ACT Mathematics (n = 372)	0.357**	-0.026
Student Teaching Course Grade	0.101**	

** Statistically significant at the .01 level

Table 3 indicates the correlations among PPST scores, student teaching grades, and undergraduate GPAs for the PPST sample (n = 1,062). In accord with Dybdahl et al. (1997), the correlations between PPST scores and student teaching grades were negligible and not statistically significant. In this analysis, substantiating the findings of Riggs and Riggs (1990), academic variables, such as PPST scores, do not predict performance in student teaching. It is important to note, however, that the reliability and validity of student teaching assessment is often questionable.

Although explaining a mere one percent of its variance ($p < .01$), overall undergraduate GPA does seem to be a predictor of student teaching ratings, which in part supports the widespread use of undergraduate Sophomore GPA as teacher education program admission

criterion. It is interesting to note, however, that according to Marso and Pigge (1991), in addition to undergraduate GPAs, it is self-ratings of future success, and personality characteristics that are the most useful predictors of student teaching ratings, *not* academic characteristics or achievement on standardized tests.

Table 3 also shows that PPST scores do predict, to some extent, undergraduate GPAs: correlations range from .194 to .296 ($p < .01$). However, regression coefficients produced by a hierarchical regression analysis of predictor variables PPST and ACT scores, and criterion variable undergraduate GPA reveal, as illustrated in Table 4, that PPST scores do not statistically significantly predict student GPAs *over and above* ACT scores. ACT English scores do explain 15.9 percent, and ACT Mathematics scores 12.7 percent of the variance in GPAs. When hierarchical regression analysis is performed entering ACT English and Mathematics scores before entering PPST scores, in order to simulate the availability of ACT scores, none of the PPST subtest scores accounts for additional variance in GPA over and above the ACT scores. This reconfirms the previous conclusions that the PPST subtests might be an unnecessary duplication of the widely used, less expensive ACT subtests.

Table 4
Hierarchical Regression Analysis (n = 372)
Predictor Variables: ACT and PPST Subtest Scores; Criterion Variable: Undergraduate GPA

		R Square Change	Beta	p
Step 1	ACT English	0.155	0.393	0.000
Step 2	ACT Mathematics	0.028	0.194	0.002
Step 3	PPST Reading	0.005	0.084	0.184
Step 4	PPST Writing	0.001	0.035	0.600
Step 5	PPST Mathematics	0.000	0.021	0.735

Consequential Validity Evidence

Findings of this study support the observations of Cobb et al. (1999), Garcia (1985), Gitomer et al. (1999), Hicken (1992), that the percentage of Minority students who do *not* achieve passing scores on basic skills teacher competency tests is disproportionately higher than the proportion of White students. Data in Table 5 show that over 44.4 percent of African American and 29.8 percent of Hispanic pre-service teachers initially failed one or more of the PPST subtests, compared to 11.1 percent of White students. This inconsistency resulted in African American and Hispanic candidates constituting 31.7 percent of all failing, but only 10 percent of all passing candidates, while White candidates constituted 57.6 percent of all failing and 80.8 percent of all passing candidates. Relying on the PPST as a screening device might, therefore, increase the ethnic homogeneity of the population of teachers. At a time when teacher shortage, demographic mismatch of teachers and students, and lawsuits under Title VII and the Equal Protection Clause are prevalent, such effect of the use of the PPST is counterproductive.

Table 5
Descriptive Statistics of PPST Scores by Ethnicity (n = 1,062)

			Reading		Writing		Mathematics	
	#	%	Mean	SD	Mean	SD	Mean	SD
Asian	35	3.30	327.11	4.55	323.14	5.01	322.97	5.51
African American (44.4% fail)	54	5.08	323.94	5.43	320.00	5.79	319.11	6.29
Hispanic (29.8% fail)	87	8.19	326.84	4.08	322.25	4.64	322.47	5.94
White (11.1% fail)	822	77.40	328.23	4.14	324.42	4.54	323.97	5.53
Total			327.82	4.37	323.97	4.82	323.63	5.53

SUMMARY

An increasing number of colleges of education require passing scores on the PPST for admission into their teacher preparation programs. Some researchers suggest that these testing requirements might satisfy the public's desire for higher teacher selection and education standards, but do not actually help raise these standards (Cobb et al., 1999; Garcia, 1986; Mitchell & Barth, 1999). Thus, a large proportion of pre-service teachers might unnecessarily invest time, money, and energy to take tests with minimal discriminatory power with respect to the identification of potential levels of success in teacher education programs (Cobb et al.; Duke & Duke, 1990; Dybdahl et al., 1997; Garcia, 1986; Soules et al., 1993). It is apparent, that PPST scores are weak predictors of success in such programs (Dybdahl et al.; Hicken, 1992; Sentz, 1991), and that the PPST may be an unnecessary duplication of less expensive college entrance exams (Duke & Duke; Poggio et al., 1997; Salzman, 1991; Soules et al.). The findings of the current study support such views.

Similarly to previous studies, this study has found statistically significant moderately high, to high positive correlations between PPST Reading, Writing or Mathematics scores and ACT English or Mathematics scores (Aksamit et al., 1987; Duke & Duke, 1990; Heard & Ayers, 1988; Nance & Kinnison, 1988; Poggio et al., 1997; Salzman, 1991; Sibert, 1989; Stoker & Tarrab, 1985; Soules et al., 1993). This suggests that the two tests measure similar constructs. Almost all students who failed a PPST subtest had scores of 21 or below on the corresponding ACT subtest, and almost all students with ACT subtest scores of 22 or above passed the corresponding PPST subtest. That is, when the ACT English or Mathematics scores of students with scores of 22 or above are available for review, their PPST Reading, Writing or Mathematics scores do not make a substantial contribution to the teacher preparation program screening

process. It is disquieting that even the vast majority of the remaining students who had scores of 21 or lower on an ACT subtest passed the corresponding PPST subtest, verifying Cobb et al.'s assertion that these college of education admission tests yield no usable information to the examinee and to the pre-service institution (1999, p. 175).

None of the correlations between PPST subtest scores and student teaching grades is statistically significant. Hierarchical regression analysis reveals that PPST scores do not predict student GPAs over and above ACT scores. This supports findings of Dybdahl et al. (1997), Hicken (1992), and Sentz (1991) that the PPST subtests have not been proven to separate students who are likely to succeed in a teacher education program from those who are not. There seems to be a separation based on PPST performance, however, by ethnicity: the supply of minority teacher candidates appears to be negatively impacted by the PPST as a screening device.

Based on this study's findings, it is recommended that policy makers consider waving the PPST requirement for students who achieve 22 or higher on appropriate ACT subtests (approximately fifty percent of PPST Reading and Writing, and thirty-five percent of PPST Mathematics test takers). ACT subtests are widely used college admissions exams that measure similar constructs as the more expensive PPST subtests. Their use, along with undergraduate Sophomore GPAs and grades in introductory education courses, as teacher education program entrance requirements would be a cost-effective and time-efficient alternative for teacher education program applicants and administration.

Clearly, studies have shown that PPST scores are weak predictors of success in teacher preparation programs. Although most of these studies encountered limitations created by missing and incomplete data, some of the findings suggest that the use of these tests for college of

education admission purposes is inappropriate. For the PPST subtest scores are also utilized for teacher certification and licensure purposes, future studies should investigate how they predict performance as a beginning teacher.

Considering the high stakes nature of admission and licensure tests, investigation of other potentially valid assessment tools as screening devices for pre-service teacher admission and certification is critical. The weak validity evidence of academic characteristics, including PPST scores, as predictors of student teaching performance might be in part due to the weak validity evidence of student teaching grade as a criterion variable that measures teaching performance. Thus, studies should also examine the use of other performance-based assessments, such as the Praxis III (ETS) scores, as potential criterion variables.

The validity evidence of PPST scores as teacher education program admission criteria remains in question. Continual research on the validity of these and other teacher licensure tests, including performance-based tests such as the Praxis III, is essential to the development of educational reform policies and programs that protect the interest of not only elementary and secondary school students, but that of their teachers as well.

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