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Abstract

The central aim of this study was to explore K-12 teachers' (N = 183) attitudes about standardized tests as a function of experience, instructional level, student population, and type of school. The Teachers' Views on Standardized Tests Questionnaire was developed to assess teachers' perceptions of the impact of standardized tests on practice. All survey items were intended to measure a facet of teachers' attitudes regarding the necessity of standardized tests and their influence on best practices. Findings from this study indicated that special education and inclusion teachers viewed standardized tests as more negatively influencing instruction than general education teachers. There were also significant differences by instructional level and type of school (i.e., public vs. independent). Compared to elementary teachers, middle and high school teachers' views were more negative, and public school educators perceived standardized assessments as having a more negative influence on instruction than teachers in independent schools. Finally, elementary school teachers reported that the standards of learning were more appropriate in contrast to middle and high school teachers.

KEY WORDS: Standardized tests, High-stakes testing, Assessment

Factors That Influence Teachers' Views on High-Stakes Tests

The No Child Left Behind Act (NCLB, 2001) reignited the age-old debate initially fueled by a *Nation at Risk* (National Commission on Excellence in Education, 1983) over the use of standardized tests. With the accountability provisions of the NCLB legislation and the ensuing more stringent Adequate Yearly Progress requirements, there has been a wealth of research on the impact of these tests on teaching practices and student learning (e.g., Abrams & Madaus, 2003; Amrein & Berliner, 2002; Au, 2007) and how these tests are shaping today's standards of educational accountability (Horn, 2003; Kim & Sunderman, 2005; Schroeder, 2003). In many states such as Virginia, high stakes decisions concerning student retention and graduation, teacher promotion, and school funding have become associated with standardized tests (Abrams, Pedulla, & Madaus, 2003; Au, 2007; Berube, 2004) thereby adding another facet to the debate and a new and important factor to research on the effectiveness of standardized tests.

Urdan and Paris (1994) made a strong case for the need for continual research on teachers' views regarding standardized tests since this is paramount to understanding how the high stakes standards and the use of the tests influence the implementation of best practices and how this changes over time. According to their findings, teachers had negative feelings about standardized tests and their impact on classroom practices though their beliefs varied according to teaching experience and the achievement level of the student population. While the generalizability of their findings is limited since the subjects were all in Michigan and the study was conducted before the NCLB became law in 2001, this topic warrants further investigation particularly since there has been an increase in students' standardized tests scores in Virginia in the last several years (Berube, 2004) and some research has noted a positive shift in attitude over the last decade (Vogler, 2002; Wolf, 2007).

Pedulla et al. (2003) conducted a study similar to Urdan and Paris (1994) though their findings are more current and are based on a national survey of teachers. Overwhelmingly, they (Pedulla et al.) confirmed that the tests are having a profound impact on teachers' attitudes and made an appeal for "their voice[s] on this issue [to] be heard" (p. 9). Additionally, they expressed the hope that their research would "spur more teacher input in the future" (p. 9).

Research Purpose

The central aim of this research was to reexamine and further explore teachers' views about standardized tests as a function of experience, instructional level, student population, and type of school to determine what factors influence the perception of positive or negative consequences. We used a sample of teachers from Virginia since research has confirmed the Commonwealth to be in the category of a high-stakes state (Abrams, Pedulla, et al., 2003); the participants were teachers from public and independent schools.

We hypothesized that more experienced teachers would have more positive attitudes toward the use of standardized tests and their influence on best practices. This hypothesis was based on research findings indicating that new teachers tended to have more negative views toward standardized tests (Costigan, 2002) and teachers with over 5 years experience viewed standardized tests more positively (Urdan & Paris,1994).

We predicted that teachers' attitudes would differ significantly by instructional level and that elementary school teachers would have more negative views compared to middle and high school teachers. We derived this expectation from the research of Pedulla et al. (2003) and Urdan and Paris (1994) who found that elementary school teachers more frequently focused on the negative consequences of standardized tests compared to middle and high school teachers.

Our third hypothesis was that teachers' feelings would vary as a function of student population (e.g., general education, special education, gifted, inclusion) with teachers in general education promoting more positive views compared to gifted resource or special education or inclusion teachers. This hypothesis was also grounded in the literature on the impact of standardized tests on gifted education (Mendoza, 2006) and on those children with special learning challenges (Horn, 2003; Orfield & Wald, 2000; Thomas & Bainbridge, 2001).

Finally, our fourth hypothesis concerned the comparison between public and independent schools. We predicted that there would be a difference between teachers' attitudes with independent schools favoring standardized tests as the use of mandated high-stakes testing with the results being reported to the public sector is only required for public schools (Horn, 2003). Whereas teachers in independent schools do employ standardized tests, such tests are not associated with a similar high–stakes assessment (Au, 2007).

Moreover, though we included an examination of the demographic variables of teacher educational level and gender, we did not have specific expectations about the influence of either since research on this topic to date has not established a consistent pattern.

Method

Participants

The participants were 183 teachers employed in public (62.6%) and independent schools (37.4%) in an urban area in southeast Virginia. Descriptive statistics are presented in Table 1. After receiving permission from the school district, we made a request to individual administrators to sample a pool of teachers during a faculty meeting and assured them that faculty participation was voluntary.

Table 1

Descriptive Statistics on Demographic Variables

Variable	*n*	%	Variable	*n*	%
Gender			School Type		
Male	39	21.3	Public	114	62.6
Female	144	78.7	Independent	68	37.4
Student Population			Teacher experience		
General Ed	104	58.1	≤ 4 years	50	27.8
Special Ed	15	8.4	5-10 years	44	24.4
Gifted	4	2.2	11-15 years	33	18.3
Inclusion	45	25.1	16-20 years	13	7.2
Other	11	6.1	≥ 20 years	40	22.2
Instructional Level			Teacher education		
Elementary[a]	24	15.8	Bachelor's	83	45.9
Middle[b]	65	42.8	Master's	87	48.1
High School[c]	63	41.4	C.A.G.S.	6	3.3
			Doctorate	5	2.8

Note: Frequency totals for all IVs do not equal 183 due to missing data.
[a] Grades K-5, [b] Grades 6-8, [c] Grades 9-12

Procedure

We administered the surveys at five schools: a lower and upper level independent school and a public elementary, middle, and high school. At the public elementary and high schools, a school administrator distributed the surveys whereas at all of the other locations, one of the researchers was available to distribute the surveys. Unfortunately, due to the timing of the data collection (end of the school year), surveys were not returned from the elementary public school sample.

Subjects were told that the purpose of the study was to explore teachers' attitudes toward standardized tests and explained that participation was voluntary. Teachers completed the survey in about 15 minutes, and one of the researchers was available (for the independent school sample

and for the public middle school sample) in the event that there were any questions about the wording of survey items.

Measure

The Teacher's Views on Standardized Tests Questionnaire was developed by the first and second author of this study to assess teachers' views concerning the impact of standardized testing on practice. All survey items were intended to measure a facet of teachers' attitudes pertaining to the necessity of standardized tests and the influence of the test on instructional practices. This instrument was developed based on similar measures that have been used in previous research (Pedulla et al., 2003; Urdan & Paris, 1994) and was piloted with a sample of 30 teachers. Modifications were made based on information gained from the pilot sample (e.g., confusing or redundant questions were eliminated and the survey was shortened for administrative approval) with the final instrument consisting of 20 questions evaluating teachers' views on standardized testing. All items were coded on a 5-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*). Sample items included statements such as "Standardized tests benefit teachers" and "More teachers 'teach to the test' as a result of the use of standardized tests in today's schools [reverse coded]."

For the purpose of statistical analysis, five of the items from the measure needed to be reverse coded prior to analysis. Values for items 5, 6, 8, 16, and 17 were negatively phrased, meaning higher scores reflected more negative attitudes toward standardized assessments than lower scores, which is inconsistent with the other 15 items on the measure. Consequently, values assigned to these items were recoded so that increasing means reflected more positive views toward standardized assessments and decreasing means reflected more negative views toward standardized assessments.

In order to identify a parsimonious number of factors for the purpose of later multivariate analysis, principal components analysis was used as an exploratory analysis of the 20-item instrument. Six factors were extracted based on eigenvalues greater than 1. However, because eigenvalues may not always yield accurate results (Green & Salkind, 2005) a scree plot was examined thereby revealing only four factors before values leveled off. Furthermore, a six-factor pattern matrix revealed multiple items that were cross-loaded or split across more than one factor as well as item groupings that were not consistent with items measuring similar constructs.

After multiple analyses, a four-factor model (see Table 2) using maximum likelihood extraction and oblique rotation (direct oblimin) was deemed the best fit for the model, χ^2 (42.85) = 41, p = 0.39. Items were considered for deletion from the measure if they were loading on more than one factor, their factor loadings were less than 0.30, or they were not associated with the other items loading on the factor. The final model retained 14 of the 20 original questions with the four factors accounting for 46.28% of the explained variance. Factor 1, overall positive consequences of standardized testing, accounted for 27.4% of the variance; Factor 2, negative influence on instruction, accounted for 8.9% of the variance; Factor 3, positive impact on student skills, accounted for 6.9% of the variance; and Factor 4, appropriateness of standards of learning, accounted for 3.1% of the variance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy statistic of 0.82 suggested that the sample size was sufficient relative to the number of items on the revised scale. Bartlett's test of sphericity was significant ($p < .001$) thereby suggesting that the correlation matrix was not an identity matrix and the assumption for multivariate normality was tenable. The internal consistency estimates were .83, .63, .70, and .66 for Factors 1 through 4, respectively. Whereas Factors 2 and 4 were below the proposed criterion level of .70, the overall internal consistency of the composite measure was adequate, $\alpha = .81$.

Table 2

Component Loadings Associated with the Maximum Likelihood Factor Analysis

Item	*Factor	Item Content	Four Component Model			
			Factor 1	Factor 2	Factor 3	Factor 4
4	1	Standardized tests benefit students	**0.82**	0.05	-0.08	0.03
3	1	Standardized tests benefit teachers	**0.78**	-0.01	0.08	-0.04
1	1	Standardized tests are necessary for school accountability	**0.73**	0.01	-0.07	0.11
2	1	The results of standardized tests are used for educational reform	**0.58**	-0.02	0.14	-0.03
6	2	More teachers "teach to the test" as a result of the use of standardized tests in today's schools	0.17	**0.76**	-0.01	0.02
8	2	On average, teachers spend at least half of their instructional time (or more) preparing their students for standardized tests	0.04	**0.60**	-0.18	0.20
5	2	There are high stakes associated with standardized tests	-0.13	**0.47**	0.11	-0.09
16	2	Teachers use fewer hands-on activities as a result of standardized tests	0.11	**0.31**	0.16	0.12
11	3	The use of standardized tests has resulted in a decrease in students' test anxiety	0.01	0.09	**0.67**	0.01
10	3	Standardized tests have improved children's ability to be able to think critically	0.16	0.07	**0.59**	0.04
9	3	Children are becoming better test-takers as a result of standardized tests	-0.02	-0.12	**0.54**	0.23
15	4	Questions on the standardized tests are fair and unbiased	-0.05	0.13	0.01	**0.62**
12	4	Standardized tests are developmentally appropriate	0.11	-0.09	0.15	**0.62**
14	4	Teachers view standardized tests as an opportunity to learn what material the students have not mastered	0.14	-0.02	0.11	**0.43**

* Factor 1: Overall positive consequences of standardized testing
Factor 2: Negative influence on instruction
Factor 3: Positive impact on student skills
Factor 4: Appropriateness of standards of learning

Results

Multivariate analysis of variance (MANOVA) was conducted to determine if there were significant differences in teacher responses on each of the four factors by student population (general, special, gifted, inclusion, other), instructional level (elementary, middle, high school), type of school (public, independent), teacher experience ($\leq$ 4 years, 5-10 years, 11-15 years, 16-20 years, $\geq$ 20 years), teacher education level (Bachelors, Masters, CAGS, and Doctorate), and teacher gender. Descriptive statistics are presented in Table 3. Prior to analysis, test assumptions were evaluated. Boxplots were generated to screen the data for outliers; no extreme outliers were present. Assumptions for multivariate normality evaluated using the Kolmogorov-Smirnov (K-S) test ($n > 50$) and the Shapiro-Wilk test ($n < 50$) revealed some deviations from normality; however, MANOVA are robust to moderate violations as long as they are due to skewness rather than extreme outliers (Grimm & Yarnold, 1995; Tabachnick & Fidell, 2001).

The MANOVA for student population (general, special, gifted, inclusion, other) indicated a significant main effect, Pillai's Trace = .21, $F(16, 648) = 2.29$, $p < .01$, multivariate $\eta^2 = .05$. Assumptions for homogeneity of variances were evaluated using Levene's Test and were found untenable only for Factor 2 ($p = .04$). A significant main effect for student population differences was found for Factor 2, $F(4,162) = 4.25$, $p < .01$, partial $\eta^2 = .09$. Follow-up pairwise comparisons of Factor 2 indicated significant differences between general and special education teachers (mean difference = .58, $p = .01$) as well as between general and inclusion teachers (mean difference = .34, $p = .01$) with general education teachers having more positive views toward standardized tests than special education and inclusion teachers. That is, special education teachers and inclusion teachers more strongly agreed with statements about the negative influence of standardized tests on instruction ($M = 1.75$ and 1.99, respectively) than

Table 3

Descriptive Statistics by Factors

Demographic Variables	*Factor 1		*Factor 2		*Factor 3		*Factor 4		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*n*
Student Population									
General Ed	3.3	0.9	2.33	0.8	2.5	0.85	3.01	0.8	96
Special Ed	3.6	1.02	1.75	0.53	2.5	1.05	3.18	1	13
Gifted	3.7	0.63	1.58	0.63	2.6	0.51	3.78	0.7	3
Inclusion	3	0.78	1.99	0.54	2.6	0.81	3.01	0.7	44
Other	3.7	0.54	1.82	0.55	2.8	0.82	3.06	0.7	11
Instructional Level									
Elementary	3.6	0.97	2.76	0.87	2.7	0.9	3.55	0.6	22
Middle	3.3	0.85	2.04	0.79	2.6	0.85	2.95	0.8	58
High School	3.2	0.84	2.11	0.57	2.5	0.86	2.93	0.7	61
School Type									
Public	3.3	0.81	1.94	0.57	2.6	0.86	2.97	0.8	105
Independent	3.3	0.96	2.47	0.84	2.5	0.82	3.14	0.8	64
Teacher experience									
$\leq$ 4 years	3.3	0.8	1.97	0.47	2.5	0.75	2.99	0.7	47
5-10 years	3.2	1.03	2.4	0.85	2.5	0.96	3.07	0.8	42
11-15 years	3.2	0.87	2.23	0.71	2.5	0.94	2.89	0.7	33
16-20 years	3.3	0.94	1.8	0.58	2.5	0.89	3.42	0.8	11
$\geq$ 20 years	3.5	0.75	2.1	0.85	2.7	0.75	3.06	0.8	35
Teacher education									
Bachelors	3.2	0.92	2.15	0.78	2.5	0.84	3.12	0.9	78
Masters	3.3	0.84	2.15	0.7	2.5	0.83	2.93	0.7	80
C.A.G.S.	3.8	0.69	2.15	0.63	3.1	0.72	3.4	0.5	5
Doctorate	3.7	0.68	2	0.64	2.9	0.99	3.13	0.8	5
Gender									
Male	3.4	0.84	2.23	0.59	2.7	0.92	3.21	0.7	38
Female	3.3	0.88	2.12	0.76	2.5	0.82	2.98	0.8	132

* Factor 1: Overall positive consequences of standardized testing

Factor 2: Negative influence on instruction

Factor 3: Positive impact on student skills

Factor 4: Appropriateness of standards of learning

Note 1: Due to pairwise deletion of cases with missing data, frequency totals for IVs may not correspond to Table 1 totals.

Note 2: Responses were based on a 5-point Likert scale, with 5 reflecting positive attitudes toward standardized tests and 1 reflecting negative attitudes.

regular education teachers (M = 2.33; see Table 3); note that Factor 2 consists of reverse coded items and Table 3 presents descriptive statistics of recoded data.

The MANOVA for instructional level (elementary, middle, and high school) indicated a significant main effect, Pillai's Trace = .17, $F(8,272) = 3.06$, $p < .01$, multivariate $\eta^2 = .08$. Assumptions for homogeneity of variances were tenable across all four factors. A significant main effect for instructional level differences was found for Factor 2, $F(2,138) = 8.58$, $p < .001$, partial $\eta^2 = .11$, and Factor 4, $F(2,138) = 5.94$, $p < .001$, partial $\eta^2 = .08$. Follow-up pairwise comparisons indicated teachers' views on Factor 2 were significantly higher for elementary school teachers than for middle school teachers (mean difference = .72, $p < .001$) and high school teachers (mean difference = .65, $p < .001$). There were no significant differences between middle and high school teachers. As can be seen in Table 3, the mean scores for middle and high school teachers were lower indicating that these teachers were more likely than elementary teachers to agree that standardized tests have a negative influence on instruction.

Follow-up pairwise comparisons for Factor 4 were also significantly higher for elementary school teachers than for middle school teachers (mean difference = .60, $p < .01$) and high school teachers (mean difference = .62, $p < .01$). Whereas middle and high school teachers responded with a neutral reaction (M = 2.95 and 2.93, respectively) to the question about the need, fairness, and appropriateness of the standardized tests (Factor 4), elementary school teachers' responses represented a more favorable attitude statistically (M = 3.55).

The MANOVA for type of school (public or independent) indicated a significant main effect, Pillai's Trace = .15, $F(4, 164) = 7.33$, $p < .001$, multivariate $\eta^2 = .15$. Assumptions for homogeneity of variances were found untenable for Factor 2 ($p < .01$). A significant main effect for differences between type of school was found for Factor 2, $F(1,167) = 24.01$, $p < .001$, partial

$\eta^2 =$ .13. Follow-up pairwise comparisons indicated teachers' views on Factor 2 were significantly higher for teachers at independent schools than for teachers at public schools (mean difference = .53, $p < .001$). This finding indicates that teachers in public schools more strongly agreed with statements about the negative influence of standardized tests on instruction (M = 1.94) as compared to teachers in independent schools (M = 2.47).

The MANOVA tests for teacher experience, level of teacher education, and gender were not significant.

Discussion

Data analysis from this study examining teachers' reflections on the impact of standardized tests produced four significant findings: (a) special education and inclusion teachers viewed standardized tests as more negatively influencing instruction than general education teachers; (b) middle and high school teachers viewed standardized tests as more negatively influencing instruction than elementary teachers; (c) teachers at public schools perceived standardized tests as having a more negative influence on instruction than teachers in independent schools; and (d) elementary school teachers felt the standards of learning were more appropriate than middle and high school teachers.

It is interesting to note that three of the four significant findings related to Factor 2, which dealt with negative influences of standardized assessments on instruction. With the exception of the fourth finding dealing with Factor 4 (appropriateness of standards of learning), teachers' views on Factors 1, 3, and 4 did not produce findings that were statistically significant when group comparisons of teachers were made according to student population, instructional level, type of school, teacher experience, teacher education level, and gender.

Four survey items grouped under Factor 2 provide an important context for the discussion of the results relating to teachers' negative views on the influence of standardized tests on instruction. Specifically, there were statements regarding teachers "teaching to the test," spending at least half of their instructional time on test preparation, the high stakes that have been associated with the tests, and teachers using fewer hands-on activities as a result of the tests. Whereas there were significant group differences by student population, instructional level, and school type, overwhelmingly, teachers at all levels agreed with the above-mentioned statements about the negative influence of standardized tests. The group differences reflect that there were variations in the *extent* to which they agreed.

The finding that special education and inclusion teachers had more negative views (i.e., agreed more strongly about the negative effect of standardized tests on instruction) than general education teachers was expected based upon the literature on performance differences between general education students and those with special learning needs on assessment tests (e.g., Horn, 2003; Orfield & Wald, 2000; Thomas & Bainbridge, 2001). Many other studies have documented that teachers feel pressured to raise test scores (e.g., Amrein & Berliner, 2002; Pedulla et al., 2003) and often revert to more traditional practices, such as direct instruction, to help prepare the students for the tests (Abrams & Madaus, 2003; Vogler, 2002). It is not surprising therefore that when students perform poorly on assessments, teachers feel the need to alter their instruction, perhaps contributing to more negative attitudes concerning the impact of the tests (Kim & Sunderman, 2005; Urdan & Paris, 1994).

The finding that middle and high school teachers viewed standardized tests as more negatively influencing instruction than elementary teachers was unexpected and inconsistent with previous research (Pedulla et al., 2003; Schroeder, 2003; Urdan & Paris, 1994). One of the

limitations of this study is that due to the negative return rate from the public elementary school sample, all of the elementary teachers surveyed were independent school teachers. The fact that all of the elementary teachers were teachers in a private school setting (where standardized tests do not carry the same "high-stakes" weight as in the public arena) may be a confounding factor in this case.

There was a difference, as hypothesized, between the attitudes of the public school sample and the independent school sample with public school educators having a more negative view about the tests' impact on instruction. Interestingly, the independent school educators more often responded in a neutral way to these survey items. Clearly, educators in an independent setting do not face the same pressures as those in the public sector (Abrams & Madaus, 2003; Abrams, Pedulla, et al., 2003; Au, 2007), which raises the question of whether the actual tests or the high stakes associated with the tests are influencing public educators' negative opinions. Future research that includes a qualitative component should explore this question to examine teachers' reasoning to this regard.

The fourth significant finding was related to Factor 4, which incorporated three survey items to assess the appropriateness of the standards of learning. These items included a statement about the fairness of the test questions, a statement that standardized tests are developmentally appropriate, and a statement about standardized tests as an opportunity for teachers to learn what material the students have not mastered. The significant difference was between elementary and the middle and high school teachers. The elementary teachers agreed more often with these statements compared to the middle and high school teachers whose responses were more often neutral. While it is important to consider the limitation previously mentioned about the singular composition of the sample of elementary teachers (all of whom taught in an independent school),

the finding is still interesting because it reinforces the finding that teachers' views toward standardized tests vary by instruction level (Pedulla et al., 2003; Urdan & Paris, 1994). Additionally, the finding from Factor 2 that elementary teachers view standardized tests less negatively than others in terms of their effect on instruction is consistent with this finding that they are also more likely to agree that the standards of learning are appropriate.

We had expected to find differences in teachers' attitudes as a function of years of experience teaching (e.g., Urdan & Paris, 1994) but we did not. It may be that there is more uniformity in teachers' attitudes since nearly a decade has passed since NCLB was legislated, which would be another interesting direction for future research.

Concluding Remarks

This study provides another context through which we can understand teachers' views on high-stakes tests. Though the results are not generalizable to all schools due to the lack of random sampling, the findings point to the need for future research to determine the direction of educational reform. Furthermore, although this study was limited to examining teachers' attitudes toward standardized assessments, further research is necessary to explore the impact of these attitudes on student learning outcomes. Although it was outside the scope of this study to investigate whether teachers' views on standardized tests impact student learning, this is an important question for future research. If research continues to document that teachers perceive standardized tests have a negative influence on instruction, might we need to reconsider whether or not high-stakes tests should be the reality of the future?

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