This paper examines two general models of teacher burnout, the psychological and the sociological. In the sociological model burnout is a form of job-specific alienation and can be redressed through organizational and structural changes. School reform in the United States as it impacts teachers has followed three waves since 1983: legislated standardization and competency testing, decentralization and site-based decision making, and high-stakes testing with accountability. Teacher burnout data collected during each of the waves is compared with data collected prior to the reforms. Each wave exacerbated teacher burnout, but affected different sub-groups of teachers.

teacher burnout, school reform, United States educational policies

INTRODUCTION

Imagine that there appeared an announcement in the want-ads section of the local newspaper: What would it say? How about this?

Wanted, college-educated individuals who are willing to put in excessively long hours without commensurate compensation; who can work under adverse conditions, with unappreciative supervisors and even more unappreciative clients, many of whom prefer to be uninvolved, as well; who do not mind having inadequate resources and support services; who agree to assume unspecified responsibilities without prior notification; but who will be held accountable for the satisfaction and performance of the unappreciative and uninvolved clients. Candidates for the positions also must be willing to receive inadequate wages and expect not to be able to double their income in constant dollars in a lifetime. Applicants are encouraged to send resumes to the Teacher Employment Office of the __________School. (Adapted from a want ad idea of Linda Darling-Hammond 1983).

The hypothetical advertisement above depicts the working conditions of public school teachers, especially in urban school districts in the United States. Menlo and Poppleton (1990) suggest that similar conditions exist in most developed nations. It is only in the developing nations that public school teachers garner the respect they desire, in part because they represent part of the educated elite in those nations.

BURNOUT AS A PSYCHOLOGICAL AND SOCIOLOGICAL CONSTRUCT

Burnout as a construct emerged from the writings of the clinical psychologist, H. J. Freudenberger, beginning with his publication in the Journal of Social Issues in 1974. For Freudenberger, burnout represented a malaise of human service professionals, such as social workers, mental health workers, nurses, and teachers, that is characterized by feelings of “wearing out”. Faced with a plethora of stressors on the job many human service professionals become emotionally exhausted and lose their sense of purpose or of accomplishment. By the late 1970s other psychologists
operationalized burnout in terms of three central dimensions: emotional exhaustion, loss of a sense of personal accomplishment, and depersonalization (Maslach 1978a, 1978b, 1993; Maslach and Jackson 1982, Cherniss 1980a, 1980b). In the Maslach et al. viewpoint burnout occurs when overstressed individuals feel emotionally drained by their work environment, feel that their activities result in no benefit to those they had intended to help or to themselves, and come to blame their clients, patients, or students for failing to improve, get better, or learn, and in turn, for the professional’s loss of feelings of accomplishment.

Other investigators, including Pines, Aronson, and Kafry (1981) described burnout as similar to tedium, but then retracted that view as implying that burnout was trivial (Pines and Aronson 1988). Later, Pines (1993) saw it as an existential crisis, linked to a sense of meaninglessness. That is, to the extent that professionals come to incorporate their work into their self-image, conditions that diminish the personal assessment of the value of that work likewise diminish the assessment of self-worth. When this happens, Pines argues, human service professionals come to ask, “Why am I doing what I am doing?” – a question reflecting self-doubt and a crisis of existence.

There is one constant element in the psychological perspectives. Because burnout is viewed as the inability of the individual to cope with stressors, the treatment of burnout lies in helping the individual learn to cope. Psychologists have urged the burned out to engage in a variety of clinical solutions from stress management (Cedoline 1982; Swick and Hanley 1983, Gold and Roth 1993, and Pines 1993) to holistic health practices (Tubesing and Tubesing 1982). Such practices as yoga, deep breathing exercises, naps, and mental health breaks are recommended by the psychologists who blame the victims of burnout for their maladaptive behaviours.

Sociologists see burnout differently. Burnout is conceptualized as a form of alienation involving the dimensions described by Seeman (1959, 1975), including powerlessness, meaninglessness, normlessness, isolation, and estrangement. Alienation is seen as having organizational and social structural roots and therefore should not be addressed by the teaching of coping skills, but rather through structural change. Stress can still be a precipitating factor in burnout, as it is in the psychological models, but the causal elements of burnout are to be seen within the structure of the school or the structure of the educational system (Dworkin 1987; LeCompte and Dworkin 1991; Dworkin and Townsend 1994). When professionals are unable to negotiate agreements on role performances or to determine what are the role expectations within a human service organization, they acquire a sense of powerlessness (Shinn 1982), which soon leads to a sense of meaninglessness. Soon too, the individual begins to withdraw from social relationships within the organization (isolation) and to question whether continued participation in the organizational role is consistent with their self-conception (estrangement). In addition, the burned out individuals begin to blame their clients, students, or patients for failing to improve. Some may even feel that their clients or students refuse to improve or learn specifically to “spite” the burned out professional. In addition, the burned out professionals often feel that the organization is characterized by a degree of normlessness. That is, they feel that either there are no rules or that following the rules tends to be dysfunctional. Sparks and Hammond (1981) reported that burned out professionals often report that the rules of the organization are either unenforceable or cannot be interpreted. Dworkin (1987:28), after reviewing the literature from both the psychological and sociological traditions incorporated all five elements of alienation into his definition of burnout.

A story about the differences between the psychological and sociological perspectives can be instructive. The author was invited to meet with a group of teachers whose school district had enrolled them in a health maintenance organization (HMO) in the Houston area. The topic was on coping with job stress and the HMO also invited a clinical psychologist to address the teachers. One young teacher in her first year in the classroom stood up to ask a question. She reported that
she had been having trouble with classroom management and had asked her principal for help. One day, the principal came to her room and led her class in jeering at her and calling her a “poor teacher”. She reported that she broke into tears and fled the room. When asked to reply to the scenario the clinical psychologist suggested that she should improve her coping skills with yoga. As a sociologist who looks for systemic problems I recommended that there needed to be a change in principals, or at least a retraining of that principal. There is an economy of scale in the sociological suggestion. In a large school district with 12,000 teachers and 350 principals it is easier and more efficient to change the administrative behaviour of the principals than to have to provide coping skills each year to all of the teachers.

**SOCIETAL AND SOCIAL STRUCTURAL FACTORS IN TEACHER BURNOUT**

There are numerous structural and organizational factors involved in teacher burnout. To mention only a few one might cite the declining public confidence in public education that has tended to devalue the teaching professional, especially in advanced industrialized nations. Opinion polls over the past 30 to 40 years have shown that the public believes that schools are not performing anywhere as well as they did in the past. Often the competence of public school teachers is mentioned as a contributing factor.

As public confidence declined the willingness of the best and the brightest to elect careers in teaching also declined. National studies in the United States reveal that individuals choosing a major in education represent the lowest of the entrance test scorers among university students, and those remaining in careers in education are among the lower scorers within that group. Furthermore, as public school teaching is a career dominated by women the pool of potential teachers becomes restricted in terms of abilities as higher paying, more prestigious occupations become more available to women.

There was a time when teachers represented an intellectual elite in the United States and other economically advanced nations. Having finished high school and usually having completed at least two years of tertiary education in the so-called normal schools (teacher’s schools), public school teachers in the early years of the twentieth century were far better educated than the parents of their students. In fact, fewer than ten per cent of the American adult population finished high school as of the first decades of the century and it was not until the early 1940s that half of the adult population had a high school diploma. Today the figure approaches 90 per cent and about one-third of all adults aged 25-29 in the United States have at least a college degree. In many schools, then, the parents are at least as well educated as the teachers, and often have better education. However, the parents often have degrees in majors known to require higher entrance scores than did the teachers. Many middle class parents today meet teachers in the parent-teacher conferences assuming that they are interacting with a less able individual than themselves and even offer to “teach” the teachers how to introduce subject matter. By contrast, in the 1940s the teacher was the skilled expert.

Yet another factor affecting teacher morale is the gap between the expectations created in pre-service training and the experiences of teachers in classrooms, especially the highly stressful classrooms of high-poverty schools. Pre-service public school teachers come to expect through their training that they will be accorded professional autonomy and professional respect. They often feel that teaching is a calling and that their students will eagerly accept the knowledge that they have to offer. Their experiences are at considerable odds with their expectations. They are often faced with few resources in the classroom and treated with little respect and much abuse. Studies by the National Center for Education Statistics recount abuse and attacks on teachers in many schools. Teachers are victims of thefts and physical attack. LeCompte and Dworkin (1991)
chronicle many of these abuses, as does the annual report from the United States Department of Education (The Condition of Education).

Finally, I turn to one underemphasized structural factor that affects teacher morale. This is the role of legislated school reform, especially those reforms that have followed the issuance of the report of a presidential commission in 1983. What follows in this paper is an examination of the effects of school reform on teacher burnout.

THREE WAVES OF PUBLIC SCHOOL REFORM IN THE UNITED STATES

School reform in the United States, as it affects public school teacher attitudes, has undergone three discernable waves since the publication of A Nation at Risk by the National Commission on Excellence in Education (1983). The report of the commission decried the poor academic performance of American school children and predicted that unless a major revamp of American public education did not occur quickly, America would soon no longer hold on to its economic position in the global economy. By the next year the United States Secretary of Education declared that a nation had responded to the challenge with sweeping reforms. The first wave of such reforms sought “...to introduce uniformity and conformity through standardized curricula, rigorous requirements for student performance, promotion and graduation, and teacher evaluation (Smylie and Denny 1990: 235). The goal of the first wave of reforms was to guarantee that only competent teachers were in the classroom and that only educated students graduated from school. The first wave of reforms could be the “legislated wave.” Soon, however, it was discovered that the first wave of reforms had failed and that it was time for a new tack to be taken. A second wave of reforms followed in the late 1980s. If centralized, legislated reform did not work, then it was time for decentralization. Localized or site-based decision making characterized the second wave, but with decentralization came localized accountability. That is, if teachers and principals were to be given more authority and more autonomy from the central district, they should also be held accountable for student learning outcomes.

It was really not unexpected that these reforms would also fail to boost student achievement to the levels expected by government, the public, and corporate America. Thus, by the early to mid-1990s came the third wave of reforms. Sometimes referred to as “high-stakes testing,” the third wave depended upon the use of state-mandated standardized achievement tests, systems of rating schools and school districts, and holding students, teachers, and school administrators accountable for the results of those tests. While achievement tests have been used in the United States for decades, dating back at least to the 1920s, the purpose of the tests throughout most of the century was to permit teachers to assess the deficiencies of individual children and to develop curricula to redress those deficiencies. In the case of high-stakes tests the results are used to offer or withhold diplomas and graduation from students, to assess the continued accreditation of schools and school districts, and determine which teachers should be permitted to retain their jobs and which should be terminated from employment.

First-wave reforms in Texas were legislated under House Bill 72, passed in 1984. The legislation mandated competency testing of teachers, regardless of their prior success in the classroom, and the termination of those teachers who could not pass the test, set a seventh-grade reading level, after repeated attempts. The legislation also established a career ladder with salary increments associated with each rung (however, the legislature never provided the funding to support the legislated pay levels), but did implement a system of in-class assessments for placement on the career ladder. The legislation further standardized grading in all schools (passing grades were set at 70 per cent), set maximum primary grade class sizes, and established the principle of “no pass, no
play,” whereby students who failed courses were barred from participation in extracurricular activities. This was “Top-Down Reform”.

Texas’ second-wave reforms occurred in 1989. Weeding out of incompetent teachers had not produced substantial gains in student achievement or reductions in the dropout rate, especially among minority students and students from low-income families. If centralization was failing, then decentralization must be the answer. The legislature mandated that schools become autonomous, or else. Legislation ordered the creation of site-based decision-making committees at every school in the state. The committees usually consisted of the principal, key teachers, representatives of parents’ groups, and community stakeholders. Frequently, however, there were “turf battles” among the participants over control of the school.

The third wave of reforms began with the advent of the Texas Assessment of Academic Skills (TAAS) test, a criterion-referenced test. The test has mathematics, reading, and writing sections. Implementation of the test began in October 1990 with administration of only a limited number of grade levels; further, successive grade levels were not regularly tested, thereby making the determination of academic progress over successive grades impossible. However, beginning in 1994, students in Grades 3 through 8 and Grade 10 were tested each year, thus permitting the determination of annual gain scores. The three sections of the test are administered only in Grades 4, 8, and 10, while the other grades take only the reading and mathematics tests. Tenth-grade students must pass reading, mathematics, and writing sections of the TAAS, as well as their course-exit exams, before graduating from high school. The TAAS is administered in Spanish for students enrolled in bilingual education programs in Grades 3 through 6, but students in the English as a second language program must take the TAAS in English.

TAAS performance is an integral component of the state’s public school accountability system, with test passage affecting high school graduation of students and passage rates determining the rating of schools and districts. However, the test is not the only element in the accountability system, as dropout and attendance rates are incorporated into the overall ratings. Campus and district results are readily available to the public at both the Texas Education Agency’s website and physical copies of ratings are required to be prominently displayed at school district offices. School districts and individual campuses with high TAAS passage rates are offered financial rewards, whereas low-performing campuses and districts may face take-over by the state, removal of administrators, and even loss of accreditation. The accountability results are disaggregated to the passage rates by minority and economically disadvantaged populations; this has the beneficial effect of causing districts not to disregard historically ignored categories of students.

If the first wave saw teachers as the problem, the second saw teachers as the solution, and the third saw all participants in schooling as problematic. Clearly each of the waves had effects on the morale of teachers; each wave altered the character of teacher burnout. In fact, the waves of reform had two key impacts on teacher burnout. First, they have exacerbated burnout for all groups of teachers. Second, they have had especially negative effects on certain categories of teachers, identifiable either by years of experience, race, or gender. In the next section I present data based on surveys of teachers collected during the midpoints of the different waves of school reform, as well as from a time period prior to reforms. This pre-reform data serve as an estimation of baseline levels of teacher burnout that might be found in urban school districts. It must, of course, be recognized that cohort effects would prohibit concluding the teachers surveyed in each time period are exactly comparable in their level of enthusiasm about teaching or in the challenges they faced with their students. Further, since the data are cross-sectional in nature, it would be incorrect to see the results as displaying trajectories of burnout.
BURNOUT PATTERNS IN DURING THE DIFFERENT WAVES OF SCHOOL REFORM

The data for this paper come from teachers in a single Texas school district, the largest in the state and the seventh largest in the United States, which employs in excess of 12,000 teachers and serves more than 210,000 students per year. The same ten-item burnout scale was administered to the teachers in each panel, but scores on the Teacher Burnout Scale (Dworkin 1987, 1997, forthcoming) were derived from factor scores based on a common metric across panels. This permits some limited direct comparisons of differences in burnout level between panels and across years of experience within panels. The four panels reflect different stages in the school reform efforts in the particular State and across the United States. Comparisons across panels provide indications of the changing impact of school reform activities on teacher burnout. Figure 1 displays the effects of the different school reforms on the burnout levels of different cohorts of teachers, each indicated by years of teaching experience. The independent variable is years of teaching, collapsed into categories from zero to over 30 years. The purpose for indicating year three is that it is normally during that year that teachers are reviewed for the issuance of a continuing contract (that is, the equivalent of tenure). The dependent variable is the mean burnout score for the teachers based upon a factor score across all respondents in all waves. As a factor score the measure has a mean of zero and a standard deviation of one. Positive values indicate higher levels of burnout and negative values indicate lower levels of burnout.

![Figure 1. Burnout levels among urban teachers by years teaching](image-url)

Sample sizes differed by waves: the pre-reform sample consisted of 3,165 teachers; the first wave data set had 769 teachers; the second wave data set has 246 teachers; while the third wave data was based on 727 teachers. The first wave of data, collected in 1977, reflects patterns of teacher burnout associated with different years of teaching experience in an era prior to school reform. The second-wave data, collected in 1986, depicts burnout patterns during an era following the publication of *A Nation at Risk* (1983), which the government, business, and the public questioned the extent to which schools were producing future workers who could help to maintain American economic dominance and in which centralized reforms and teacher competency testing was becoming fashionable. The 1991 data set follows the abandonment of centralization and the institution of site-based (local) decision-making at each school during the second wave. Finally, the
1998 data set reflect the most recent phase in reform, the third wave, that is, the implementation of high-stakes testing, in which the performance of students on the state-mandated standardized test has consequences for student promotion and graduation, the ratings and accreditation of schools and school districts, and the continued employment of teachers at any school.

**Pre-Reform Burnout Pattern**

Teachers in the different cohorts generally displayed low levels of burnout. Highest levels existed for new teachers, with a slightly higher level at year three than at the inception of teaching, probably due to the pending “tenure” decision. However, each successive cohort displayed less burnout. In the pre-reform era burnout was often the malady of the neophyte. More experienced teachers had learned to cope with the stressors associated with the teaching job. In addition, burnout tended to be higher among white teachers, as well as individuals who felt that luck, chance, and fate controlled their destinies. Likewise, teachers who were racially isolated at their schools and teachers who did not care to be assigned to schools with the racial composition found at their schools were candidates for burnout. Finally, burnout levels were particularly high among teachers whose principals defined them as expendable employees, rather than as valued colleagues (see Dworkin 1987, 1997) for more details about the characteristics of burned-out teachers in this sample).

**Burnout Patterns During Wave One Reforms**

The Top-Down Reform under House Bill 72, with its competency testing of teachers, changed everything. First, as can be seen in Figure 1, burnout levels are significantly higher for each cohort, but they are especially high for cohorts with between five and 15 years experience. In fact, burnout levels are three times higher for teachers with ten to 15 years experience than they had been for teachers with the same level of experience in 1977. Even new teachers displayed more burnout than did new teachers the decade earlier. However, the cause of the high burnout levels among the experienced teachers may well have been due to the legislation. By mandating competency testing of experienced teachers and imposing a career ladder in which all who passed were placed on the same rung, the legislation denied seniority and the status honor that came with experience in the classroom. Teachers with five, ten, or 15 years experience usually assumed that they were master teachers; the legislated testing and the career ladder rejected that assumption. The effect was demoralizing. Minority teachers, particularly African Americans and Hispanics, were more likely than whites to fail the written tests and were thus most likely to experience burnout (Dworkin 1997). In essence, the racial makeup of the burned-out population had changed.

**Burnout Patterns During Wave Two Reforms**

The 1991 data, during the implementation of site-based decision making, revealed that burnout levels had relaxed somewhat from those found in Wave One. Burnout among neophytes was higher than in the 1977 data set, but slightly lower than in 1986. However, for teachers with between five and 15 years of experience it reached a plateau, then was lower for each group with more than 15 years experience. At no point did the level reflect the patterns found prior to reform. Several things are operative here. Site-based reforms mean that decision-making may be shared, which means that teachers now have the responsibility for outcomes. When decision-making was centralized and in the hands of district administrators, teachers could always fall back on the contention that they were only following orders. Now, they had to share responsibilities, too. However, there were now interest groups competing for power: the principal, the teachers, the parents, and the local community stakeholders. In short, job stress could be exacerbated by “turf
battles,” conflicts over “whose school is this, anyway?” (Dworkin and Townsend 1994). In many instances it is the white teachers in minority school that display the highest levels of burnout.

**Burnout Patterns During Wave Three Reforms**

The characteristic of this wave of reform is that teachers can lose their jobs if student achievement at their school is not improved. In inner-city schools the ability to raise achievement is partly due to the leadership style of the principal and partly due to skills of the teachers. In general, most teachers resemble those described by Orfield (1975) when he compared urban and suburban schools. In schools in the suburbs children come to school with so many educational resources provided by relative family affluence that teachers do not have to have much skill in order to enable their students to pass tests. In the inner-city, however, where children bring few resources from home, real teaching skill is needed and teachers soon discover that they really do not know how the teach. Older, more experienced teachers, tend to have expertise in classroom management, a skill that is necessary, but not sufficient to raise test scores. Experienced, minority teachers often have the most trouble raising scores. In addition, Texas has a system for retirement benefits called “the eighty system”. That is, the combined total of one’s age plus years of teaching must equal 80 in order for a teacher to retire at full benefits. Teachers with 20 to 30 years of experience are at risk. They are hoping to be able to hold on for a few more years and not be terminated because their school was too low performing or because their students’ scores were too low. It may well be that the exigencies of the accountability system has led to the high burnout levels among the most experienced teachers. The highest burnout rates are found among the most experienced minority teachers.

**INTRA-WAVE COMPARISONS**

While the patterns of each wave of reform are different as seen in Figure 1, is it also the case that there are statistically significant differences for each experience grouping within a wave? Table 1 provides tests of significance for cohort groupings of the teachers during each wave of reform. In order to maintain adequate sample sizes categories are collapsed into four groups based on years teaching: 0-5 years, 6-10 years, 11-15 years, and 16 or more years. In the Pre-Reform sample groups with ten or fewer years teaching displayed significantly more burnout than those with more than ten years teaching. Burnout was most often the malady of the less experienced. However, during Wave One, burnout levels were significantly higher among teachers with six to 15 years experience than among other groupings. In both Wave Two and Wave Three Reforms there were not statistically significant differences among the groupings of teachers, suggesting the overall prevalence of burnout.

**SUMMARY AND CONCLUSIONS**

This paper has attempted to explore the relationship between school reform and teacher burnout. As a response to job stress and related to a sense of meaninglessness and powerlessness, burnout is a malady of human service professionals who are denied professional autonomy, status, and respect. In response to the appearance that American public schools are failing and that the country could be in jeopardy of losing its economic dominance, government and business have joined together to implement a series of far-reaching reforms. However, there is an apparent capriciousness to the rapidity of the reforms. Between the First Wave reforms following *A Nation at Risk* (1983) and the move toward high-stakes testing of the Third Wave reform merely a decade elapsed. Interviews with teachers conducted under the aegis of a study of factors that affected the student achievement of children in high-poverty schools (Dworkin et al. 1998) revealed that many teachers would have been more stressed and likely more burned out if it were not the case that
many had learned to cope with reforms by ignoring them. Elsewhere I have reported that the relationship between stress and burnout has become recursive. The greater the level of stress the greater the level of burnout. However, once burnout has reached a high level the case holds that the greater the burnout the less the stress (Dworkin 1997). In essence, burnout becomes a coping mechanism through which teachers cease to care and thereby experience diminished stress.

Some might ask whether it is the same groups of teachers who are burned out across the waves. That is, is it possible that the teachers who experienced higher burnout levels in 1977 as new teachers were the same people who reported high levels of burnout in 1986 as teachers with a decade of experience? It is reasonable to assume within the context of studies of a single, large, urban district that some of the teachers in one study were part of the sample in a subsequent study. However, this is not the case, as the demographics of the teachers with the high levels of burnout changed across waves. Burnout was highest among white neophytes in 1977, but highest among experienced minorities in 1986, and highest among whites in 1991, and highest of minorities in 1998. That burnout levels could change for groups suggests one other possibility, albeit not testable on data sets where identities of teachers are unknown. There is at least the possibility, if not likelihood, that burnout is situational and contextual, as is the case for commitment and other work attitude variables. In other words, burnout is likely not a permanent condition. As working conditions change or as individuals develop either coping skills or find supportive work environments, burnout may dissipate. Elsewhere I have reported that burnout does not lead to actual quitting behaviour. Perhaps it is not simply that the burned out do remain in teaching, disliking their jobs, but that they overcome burnout and learn to adapt even to frequent school reforms.

Table 1. Burnout Levels among Cohorts by Reform Waves

<table>
<thead>
<tr>
<th>Pre-Reform Sample</th>
<th>Cohort</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Sig. Diff. Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 yrs.</td>
<td>1,216</td>
<td>0.17</td>
<td>0.88</td>
<td></td>
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</tr>
<tr>
<td>6-10 yrs.</td>
<td>635</td>
<td>0.07</td>
<td>0.90</td>
<td>Groups 1,2 &gt; 3,4</td>
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<tr>
<td>11-15 yrs.</td>
<td>479</td>
<td>-0.12</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16+ yrs.</td>
<td>835</td>
<td>-0.23</td>
<td>0.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wave I Sample (Top-Down Reform)</th>
<th>Cohort</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Sig. Diff. Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 yrs.</td>
<td>224</td>
<td>-0.06</td>
<td>0.99</td>
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</tr>
<tr>
<td>6-10 yrs.</td>
<td>162</td>
<td>0.47</td>
<td>0.95</td>
<td>Groups 2,3 &gt; 1,4</td>
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<tr>
<td>11-15 yrs.</td>
<td>144</td>
<td>0.39</td>
<td>0.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16+ yrs.</td>
<td>239</td>
<td>-0.13</td>
<td>0.98</td>
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</table>

<table>
<thead>
<tr>
<th>Wave II Sample (Site-Based Reform)</th>
<th>Cohort</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Sig. Diff. Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5 yrs.</td>
<td>69</td>
<td>-0.02</td>
<td>0.97</td>
<td></td>
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</tr>
<tr>
<td>6-10 yrs.</td>
<td>49</td>
<td>0.24</td>
<td>1.00</td>
<td>No sig. Difference among groups</td>
<td></td>
</tr>
<tr>
<td>11-15 yrs.</td>
<td>43</td>
<td>-0.11</td>
<td>1.04</td>
<td></td>
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<tr>
<td>16+ yrs.</td>
<td>85</td>
<td>-0.07</td>
<td>1.02</td>
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<table>
<thead>
<tr>
<th>Wave III Sample (High-Stakes Testing)</th>
<th>Cohort</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Sig. Diff. Group</th>
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</thead>
<tbody>
<tr>
<td>0-5 yrs.</td>
<td>196</td>
<td>-0.11</td>
<td>0.94</td>
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<tr>
<td>6-10 yrs.</td>
<td>168</td>
<td>0.13</td>
<td>0.93</td>
<td>No sig. Difference among groups</td>
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<td>11-15 yrs.</td>
<td>122</td>
<td>0.04</td>
<td>0.94</td>
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<tr>
<td>16+ yrs.</td>
<td>241</td>
<td>-0.05</td>
<td>0.97</td>
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REFERENCES


