

EFFECT OF THE TRANSCENDENTAL MEDITATION PROGRAM ON GRADUATION, COLLEGE ACCEPTANCE AND DROPOUT RATES FOR STUDENTS ATTENDING AN URBAN PUBLIC HIGH SCHOOL

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High school graduation rates nationally have declined in recent years, despite public and private efforts. The purpose of the current study was to determine whether practice of the Quiet Time/Transcendental Meditation® program at a medium-size urban school results in higher school graduation rates compared to students who do not receive training in this stress reduction program. An analysis, based on school records, was conducted with all 235 students enrolled during their senior year. Overall the percentage of graduating meditating students was 87.1% and the percentage of graduating non-meditating students was 66.7% ($p < .001$). A matched controlled subgroup indicated that for the low GPA students, 72.9% of the meditating students graduated compared to 47.9% of the non-meditating students ($p = .012$). Significant between-group differences were also found for dropout rates and college acceptance. These results indicate that practice of Transcendental Meditation may be a viable program for increasing graduation rates in urban schools. Implications for improving school graduation rates are provided.

High school graduation rates nationally have declined in recent years, despite public and private efforts. The most recent data from Diplomas Count 2010 shows that only 69 percent of the students in 2007 graduated from our nation's schools. At its peak in 1969, the national graduation rate was 77 percent. Further a racial and ethnic gap exists, with only 46 percent of African American, 44 percent of Latino, and 49 percent of Native American students earning a diploma (Heckman & LaFontaine, 2007).

While a host of factors contribute to student graduation; perhaps the most important is student academic achievement and achievement related factors. Students who meet the social demands of school and earn good grades are more likely to graduate than are students who do not meet such demands (Wentzel, 1993, 1994). Differences in student academic achievement have been attributed to

factors such as parental socioeconomic status, psychological and emotional distress, motivation, and academic self-efficacy.

Students of color are particularly vulnerable to higher levels of psychological distress, (Thompson & Massat, 2005; Grannis, 1992). Although school stakeholders perceive psychological and emotional factors as important part of the school counseling focus, a challenge for counselors is to demonstrate how student stress can be adequately addressed. School counselors need to choose from a variety of evidenced-based strategies for assisting students to cope with the pressures of school and adolescent development so that college will be a viable post secondary option (ASCA, 2010; NOSCA, 2010). Specifically, school counselors must find ways to join with others in helping students with ensuring graduation and college readiness preparation. Research on the Transcendental Meditation program, a

widely-used stress reduction program, shows that it has been effective in decreasing psychological distress and improving academic achievement (Nidich, Rainforth et al., 2009; Nidich, et al., 2011). In a recent four-month study, researchers found significant differences in measures of psychological distress between urban high school students who participated in the twice daily practice of Transcendental Meditation compared to controls (Elder, C., Nidich, S., Colbert, R., Hagelin, J. et al., 2011).

The purpose of the current study was to determine whether practice of the Transcendental Meditation program might result in higher school graduation rates compared to students who do not receive training in this stress reduction program. An analysis, using school records, was conducted with students enrolled during their senior year at a medium sized urban high school to determine the percentage of meditating and non-meditating students who graduated during the same academic school year (June/July, 2009).

Method

Participants

A total of 235 12th grade students were enrolled at the high school at the start of the fall semester (September, 2008). Of these 142 volunteered to practice the Transcendental Meditation program and 93 students chose not practice the meditation program as part of the schools' Quiet Time program. The school serves predominantly low-income students of Color. The school district was undertaking major school restructuring. The high school in this study was in a "phasing" out plan. This meant that for four consecutive years (beginning in 2008) one grade would be dropped until the high school no longer existed.

Graduation Rate

Data was collected from school records on all 12th grade students who were enrolled

in the fall semester, September, 2008. Each student was categorized by the school as: 1) graduating (June or July, 2009 graduation date); 2) not graduating but still were enrolled in the high school; 3) transferring to another school; 4) enlisting in the army; 5) being a dropout; or 6) entering prison. For the purpose of determining the percentage of students by group who graduated in the Spring/Summer of 2009, the number of graduates was divided by the total number of students, excluding transfer students and those who enlisted in the army. These students were not included in the final analysis since it was not possible to determine whether they received a high school diploma or not by June/July, 2009.

School Dropout Rate

Data was collected for all students on school dropout. Dropout included all students who were classified by the school as being either a dropout or entering prison. Graduation or still at the high school or entering the army were considered non-dropouts. Transfer students were excluded from analysis.

College/Postsecondary School Acceptance Rate

Post graduation plans were of interest. Therefore, institutions included four-year and two-year colleges and vocational schools.

Grade Point Average

Twelfth grade point average (GPA), with a range of 0-14, was collected based on school records. Students were stratified into high and low GPA groups based on overall median GPA score. Missing GPA data was provided, using mean GPA averages of students who graduated and students who did not graduate, accordingly.

Intervention

Students at the high school who volunteered to learn Transcendental Meditation were taught in a standard seven-step course and then

practiced twice a day at school for 15 minutes as part of their daily Quiet Time program. They were also encouraged to practice their meditation program at home on weekends.

Transcendental Meditation is a simple, natural, effortless technique that allows the mind to experience finer levels of the thinking process until the mind transcends and experiences the source of thought, the simplest form of human awareness, described as the Unified Field of Natural Law (Roth, 1987). Overall, Transcendental Meditation produces a profound state of "restful alertness" with a more integrated style of brain functioning (Travis, Tecce, Arenander, & Wallace, 2002).

The Transcendental Meditation program was taught to students by certified (TM) teachers, following the same standardized procedures for teaching. After initial introductory and preparatory lectures and a brief personal interview with the teacher, students then participated in an individual personal instruction session (about an hour), followed by group meetings to verify the correctness of practice and to provide additional knowledge about the practice over the next three consecutive days (about an hour each day). Students then practiced their meditation program in school at the beginning and end of each day, supervised by a classroom teacher or Transcendental Meditation instructor. Students participated on a voluntary basis at no cost. University Internal Review Board approval was obtained prior to student participation. Written parental permission was required prior to students' learning the program. Those students who chose not to learn this program as part of the school's Quiet Time program served as controls. All students continued with the school's standard curriculum and instruction.

Data Analysis

Statistical Analysis

Step-wise logistic regression was the primary statistical method used to determine

Table 1. Status of 12th Grade Students at the High School Comparing Meditating Students to Non-Meditating Students

Status	Meditating Students	Non-Meditating Students
	n = 142	n = 93
June/July graduate	122	52
Still at the high school	14	10
Transferred to another school	2	14
Enlisted in the army	0	1
Dropout	4	12
Prison	0	4

whether there was an overall effect due to practice of the Transcendental Meditation (TM) program. Dependent variable was graduation (yes/no) and independent variables were meditation (yes/no) and individual grade point average. Alpha level was set at .05, two-tailed.

Results

Graduation Rates for Meditating and Non-meditating Students

Based on school records, 122 of the meditating students graduated in the 2009 academic year and 52 non-meditating students graduated during the same time period. Fifty percent of the meditating students and 62 percent of the non-meditating students were male. Table 1 displays the status of all 12th grade students by group.

Overall the percentage of graduating meditating students was 87.1% and the percentage of graduating non-meditating students was 66.7% ($p < .001$). For the meditating group 84.1% of the males and 90.1% of the females graduated compared to 64.7% of the males and 70.4% of the females in the non-med-

itating group. When individual grade point average was added to the regression model, a significant intervention effect continued to be observed ($p = .009$). No significant gender effect was observed.

Alternative Method to Compute Graduation Rate

An alternative method to assess graduation rates is to take the number of graduates divided by the number of graduates and dropouts (excluding all transfer students and students still at the high school). When graduation rates were computed using this formula, the graduation rate was 96.8% for the meditating group compared to 76.5% for the non-meditating group ($p < .001$). When GPA was added to the regression model the difference between groups was still significant ($p < .001$).

Academic Performance Level and Graduation Rates

Students were stratified into high and low academic groups based upon the median GPA of all students. The high GPA group included those students who were above 4.20 (based on a 0-14 GPA scale) and the low GPA group included those who were below the median. Students in the low GPA group can be considered poor to fair academic-performing students. For the meditating group 79 out of 140 students (56.4%) were in the high GPA group and 61 (43.6%) in the low GPA group; the non-meditating group had 30 out of 78 students (38.5%) in the high GPA group and 48 (61.5%) were in the low GPA group (chi square = 6.47, $p = .011$).

For the high GPA group 97.5% of the meditating students graduated compared to 96.7% of the non-meditating students (ns). For the low GPA group 73.8% of the meditating students graduated compared to 47.9% of the non-meditating students in the low GPA group ($p = .0003$).

Table 2 shows the percentage of students who graduated from the high school at the end of the school year by GPA group.

Table 2. Percentage of Graduating Students by Intervention and GPA Grouping for the Entire Sample

Status	Meditating Students	Non-Meditating Students
	n = 140	n = 78
High GPA Group	77 (97.5%)	29 (96.7%)
Low GPA Group	45 (73.8%)	23 (47.9%)
Total	122 (87.1%)	52 (66.7%)

Matched-Control Subgroup

In order to arrive at a better estimate of between-group differences in graduation rates, 78 meditating students were matched with the 78 non-meditating students (who did not transfer to another school), based upon GPA level. Thirty students in each group were in the high GPA group (38.5%) and 48 students in each group were in the low GPA group (61.5%). The total graduation rate for the meditating students was 82.1% compared to 66.7% for the non-meditating students. For the low GPA students, 72.9% of the meditating students graduated compared to 47.9% of the non-meditating students ($p = .012$). For the high GPA group, both meditating and non-meditating students graduated at the same rate (96.7%, ns). The mean grade point average was 4.09 ($SD=2.24$) for the meditating students and 4.09 ($SD=2.02$) for the non-meditating students.

School Dropout Rates

For the entire sample, there were 4 school dropouts in the meditation group (2.9%) compared to 16 in the non-meditating control group (20.5%; $p < .001$). For the matched-control subgroup, there were the same 4 school dropouts in the meditating group (5.1%) compared to the same 16 in the non-meditating group (20.5%; $p = .004$).

College/Postsecondary School Acceptance Rates

For the entire sample, 59.3% of the meditating students were accepted to postsecondary schools compared to 33.3% of the non-meditating students ($p = .0002$). For the matched-control subgroup, 51.2% of the meditating students were accepted to postsecondary school compared to 33.3% of the non-meditating students ($p = .023$).

Discussion

Results showed significant differences in 12th grade graduation rates in meditating students compared to non-meditating students. The largest difference was observed in the low academically performing students, with a 25 percent difference between groups. For the high GPA group, almost all of the students in both groups graduated.

In terms of school dropout rates, there was a significant difference between groups with 21 percent of the non-meditating students and 5 percent of the meditating students dropping out. Four of the non-meditating students entered prison during the school year compared to none of the meditating students.

For college/postsecondary school acceptance rates, 51 percent of the meditating students were accepted to postsecondary institutions compared to 33% of the non-meditating students.

These findings suggest that practice of the Transcendental Meditation program may be a key factor in increasing high school graduation and college acceptance rates and reducing school dropout rates in low SES urban students' of color. Possible mechanisms may include decreasing psychological distress and improving student self-efficacy and self-concept, all of which have been shown to improve due to practice of Transcendental Meditation.

Implications for School Counselors

A key factor in the current study was that the Transcendental Meditation program was

a collaborative project among essentially the entire school. With collaboration as the primary mode of operation, school counselors in other urban schools may want to take a lead role in incorporating the Transcendental Meditation program into their schools.

A basic principle of the ASCA Model (2007) is the notion that school counselors must be able to more fully participate in their school's reform efforts. Moreover, most high school counselors in urban settings are grappling to find a "good-fit" role in their district's reform agenda. School counselors along with other school personnel are forced to collaborate to bring their school in line with the district's plan or in many cases run the risk of losing their positions. Increasing graduation rates is among the top priorities for most urban school districts. According to Dimmitt, et al (2007), data-driven school counseling programs begin with data that identifies a common goal among the school counseling program and other school stakeholders. As the results of the current study show, the TM program is one evidenced-based method to increasing most districts' common goals of student graduation rates, decrease drop-out and increase college acceptance rates for urban high school students of color. Lastly, by following the guidelines of the Dimmitt, et al (2007) model, school counselors who might coordinate the TM program in their schools, would be able to display the results of their data-analyses in a way to clearly illustrate the school counseling program's role in effectively addressing important district/school student target goals.

Future Research Implications

Future research is encouraged to determine whether these findings generalize to other student populations. Studies should also start with earlier grade-level students and follow them longer-term.

It would also be important to study more closely what occurs in terms of students'

availing themselves to school counseling program services aimed at increasing students' chances of graduating on time and gaining acceptance into college and universities. Future research would need to look at how school counseling programs services are provided to students; do all students receive the same access? Or are there factors within the counseling program or the school practices which might make these services more accessible to some students and not others? Students in future meditation studies could be assessed as well as school record keeping data could be looked at in order to answer these types of questions. Lastly, given the research evidence for meditation improving student academic achievement, reducing absenteeism and suspensions, and decreasing student stress (Nidich et al., in 2011; Elder et al., 2011); future research might determine whether meditating compared to non-meditating students showed gains in the ASCA (ASCA, 2007) student competencies.

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