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The Association Between School-to-Work Programs and School Performance

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A B S T R A C T

Purpose: The School-to-Work (STW) Opportunities Act was passed to aid students in transitioning from education to employment by offering work-based learning opportunities. In the United States, 72% of high schools offer work-based learning opportunities for credit. This is the first study to describe school performance and school-based behaviors among students enrolled in STW programs and compare them with nonworking and other-working students.
Methods: In 2003, a questionnaire was administered to five school districts and one large urban school in Wisconsin. Between 2008 and 2010, analyses were completed to characterize STW students and compare them with other students.
Results: Of the 6,519 students aged 14–18 years included in the analyses, 461 were involved in an STW program (7%), 3,108 were non-working (48%), and 2,950 were other-working students (45%). Compared with other students, STW students were less likely to have a grade point average >2.0, more likely to have three or more unexcused absences from school, and more likely to spend <1 hour in school-sponsored activities. Holding multiple jobs also negatively affected a student's academic performance.
Conclusions: School-to-Work students reported poorer academic performance and more unhealthy school-related behaviors compared with nonworking students and other-working students. Whereas many factors have a role in why students perform poorly in school, more research on students enrolled in STW programs is needed to understand whether participating has a negative impact on students' academic achievement.

IMPLICATIONS AND CONTRIBUTION

This study revealed a picture of the academic performance and school-based behaviors present in students enrolled in School-to-Work (STW) programs in one large Midwestern American state. Compared with nonworking students and other-working students, STW students exhibited many behaviors commonly associated with failing to complete high school. Schools and businesses can take an active role in monitoring students and intervene as needed to prevent dropout. Future research, including longitudinal studies, is needed to determine the impact of the STW program on students' school performance and behaviors compared with other students.

The School-to-Work (STW) Opportunities Act (STWOA) was passed in 1994 to provide financial support for educational and business or governmental partnerships that develop and institute school- or work-based learning systems to help students smoothly transition from high school to work. Results from a 2007–2008 survey by the United States Department of Education showed that 72% of public high schools reported offering work-based learning programs for credit. Furthermore, approximately 20% of employment preparation programs in high schools combine classroom and work-based learning experiences [1].

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Although there are no national statistics on students enrolled in worked-based learning programs, two cross-sectional studies from different states have reported participating percentages at 6.77% and 8.79% [2,3].

The STWOA created three basic categories for STW programs: (1) school-based activities; (2) work-based activities; and (3) connecting activities [4]. School-based activities involve classroom instruction focused on skills essential for a career in a student's field of interest. Work-based activities include structured training and work experiences outside school-time instruction, which provide students an opportunity for hands-on experience in an industry of interest. Connecting activities involves efforts to help schools and employers maintain bonds between school-based and work-based activities. By participating in STW programs such as job shadowing, technical training, internships, apprenticeships, and career majors, students are able to gain knowledge and experience in fields of work to prepare for work after school or further education in a field of interest. Federal funding ended for the STWOA in 2001 as the No Child Left Behind initiative grew; however, policy makers are reevaluating the benefits of work-based learning in the current economy [1].

Comprehensive research regarding schools that offer STW programs is limited; however, schools located in urban areas and schools with more minority students and teachers offer more STW activities compared with other schools. In addition, schools with lower graduation rates and lower college enrollment rates are more likely to offer STW programs [5]. One of the main premises of the STWOA is that school-based education should continue during the student's involvement in the program and a proper balance between school- and work-based activities should be maintained [5]. The Act specifically alludes to motivating low-achieving students, students with disabilities, and students who have dropped out, to stay in school or return and strive to succeed.

An estimated 70%–80% of American high school students graduate, with lower graduation rates reported among minority groups [6,7]. High school dropouts face a more difficult job market and have a much lower earning potential than those who have completed high school. Performance and behavioral patterns may be indicative of dropping out. For example, absenteeism, a measure of engaging in school-related activities, is higher in students who work. Students who work more than 20 hours a week are significantly more likely to drop out, receive worse grades, have more unexcused absences, be tardy, not participate in extracurricular activities, and sleep in class [7–11]. Although a number of individual and school-related factors contribute to a student's decision to drop out of high school, identifying whether STW students have poorer academic performance and more negative school-based behaviors compared with other students may provide insight into possible targets for prevention, particularly among at-risk students.

To date, no studies have described the academic performance and school-based behaviors of students enrolled in STW programs and compared the findings with nonworking students and other-working students. Therefore, the overall objective of this study was to evaluate the differences in school performance and school-based behaviors between students enrolled in STW programs and students who are not enrolled in STW programs. A second objective was to compare school performance and school-based behaviors in STW students and non-STW students who hold multiple jobs, and to contrast the findings with nonworking students.

Methods

The data collected for this study were collected in 2003 in the state of Wisconsin, which was the first state in the United States to establish a comprehensive youth apprenticeship program and was one of four programs used as a model by the federal government to develop the STWOA in 1994 [12]. In 2008–2010, a secondary data analysis was conducted on the STW data. This research study was approved by two institutional review boards (IRBs). The original project, which involved the collection of data from high school students, was considered exempt by the IRB affiliated with the Wisconsin Division of Public Health (WDPH) because the questionnaire was anonymous and no personal identifiers were collected from the students. In 2008, the secondary analysis of the existing data was also considered exempt by the IRB of the University of Louisville because the data contained no identifiers.

Procedures

In 2000, the WDPH began a project to implement a new model for childhood occupational injury surveillance. The purpose of the project was to link injury surveillance with a school-based work permit system. As a component of this project, a cross-sectional questionnaire was developed to be administered to high school students in the state.

School districts included

This study used a convenience sample and no specialized sampling method was employed. Initially when the project was proposed, the cross-sectional survey was to be administered in four public high schools: two rural and two urban. However, after discussion among the study team and the Wisconsin Department of Public Instruction (WDPI), it was decided to attempt to incorporate school districts from the five public health regions of Wisconsin that currently offered work permit programs on-site. Of the five regions, school districts from three regions participated. The school districts included were: (1) the Eau Claire Area School District in the Western Region; (2) the Elkhorn School District in the Southeastern Region; (3) the Racine School District in the Southeastern Region; (4) the Boyceville Community School District in the Western Region; and (5) the Lakeland Union High School District in the Northern Region. The large urban high school was located in the Milwaukee School District. To be included in the survey, the schools had to have a work permit program on-site or be in the process of establishing a program, be willing to pilot a computerized work permit program at the schools, maintain updated occupational safety and health educational materials, and be diverse in gender, age, and local employment opportunities. The large urban high school was included to obtain minority representation in the sample. Representatives for the WDPH met with superintendents, principals, guidance counselors, school nurses, and the staff that issued the work permits.

Survey process

All students in the school districts and urban school were eligible to participate in the survey. The WDPI informed the study team that each school district was independent with

regard to obtaining consent, but that most schools had methods in place. Because the questionnaire was anonymous with no personal identifiers, and because the questionnaire did not contain sensitive questions, all schools allowed consent from parents to be obtained using a passive consent method. Before the survey, the teachers distributed a letter to students that explained the study, and the objectives, risks, and procedures that would be used. The students were instructed to bring the letter home to their parents or guardians. If parents or guardians did not want their child to participate in the survey, they were instructed to contact the principal of the school.

In April 2003, materials were delivered to the teachers in the participating schools. In May 2003, each teacher was asked to administer the questionnaire to the students during a pre-selected time of the day. An instructional sheet was provided and read before the questionnaire. Working students required 10–15 minutes to complete the questionnaire, whereas nonworking students required 1–3 minutes to finish. When the students were done, the teachers collected the questionnaires and returned them to the district office, where an employee of the WDPH picked them up.

Survey instrument

The questionnaire was created by the WDPH to investigate employment, injury, lifestyle, and school performance and school-based behaviors among students throughout the state. Some questions were taken from youth employment surveys developed by the Injury Prevention Research Center at UNC–Chapel Hill and from the Industrial Accident Prevention Association in Toronto, Ontario, Canada; however, most were created with input from high school teachers and nurses. Additional input was obtained from students regarding the appropriateness and comprehensibility of the questions. The questionnaire was pilot-tested to ensure that the students understood the questions and to determine the amount of time needed to respond. The questionnaire contains 65 questions: 62 closed-ended and three open-ended. To make the questionnaire familiar to students, the WDPH hired a company to put the questionnaire on scannable forms, similar to Scantron formats often use in standardized testing.

Sample of students

A total of 8,805 questionnaires were returned to the WDPH and 6,810 students answered the questionnaire (77%). Students were stratified into three groups: (1) those who were enrolled in the STW program (STW); (2) students who were not in STW programs and not employed (nonworking); and (3) working students who were not in STW programs (other-working). Students who did not report their work status and students who were <13 years of age or >18 years of age were excluded. Once the exclusion criteria were applied, 6,519 students were included for analysis. Of the 6,519 high school students, 461 were STW students (7%), 3,108 were nonworking students (48%), and 2,950 were other-working students (45%). Of the 461 students in the STW group, 250 (54%) held only one job, 204 (44%) held multiple jobs, and seven had missing information on the number of jobs held. Of the 2,950 students in the other-working group, 1,938 (66%) held only one job, 970 (33%) held multiple jobs, and 42 had missing information on the number of jobs held.

Data analysis

The primary school performance and behavior outcomes investigated in this study included: "cut/skipped classes three or more times," "absent from school three or more times," "expect to graduate," "grade point average (GPA) >2.0," "late for school three or more times," "time spent on homework in school ≤90 minutes," "time spent on homework at home ≤120 minutes," and "time spent on school sponsored activities <1 hour." All outcomes were measured over the school year. Analysis of the outcomes was completed for STW students, nonworking students, and other-working students. Results are reported in Tables 1–4 for students who worked one job and those who worked multiple jobs.

To obtain a description of the population by group (STW students, nonworking students, and other-working students), we calculated summary demographic and group characteristics by the number of jobs held by students. Frequency counts and percents were calculated along with p values from chi-square tests comparing the three groups. To assess the association between the groups and the outcomes, crude odds ratios were estimated using the univariate logistic regression models. Finally, separate multivariable logistic regression models for each outcome were fit adjusting for covariates influencing the odds ratio estimate of the STW grouping. Covariates included in the models were age, gender, race/ethnicity, and type of school district. All statistical analyses were performed using SAS 9.2 (SAS Institute, Inc., Cary, NC). All statistical tests were determined at $\alpha = .05$.

Results

Of the 6,519 high school students aged 14–18 years included in the sample, 46% were male, 70% were white, and 80% were between the ages of 15 and 17 years. A total of 75% attended school in a medium-sized city.

Students who worked one job

Table 1 presents descriptive data for students who worked one job (n = 2,188) compared with nonworking students (n = 3,108). Overall, STW students were significantly more likely to be older and non-white compared with nonworking students or other-working students. Compared with nonworking students, STW students were more likely to have three or more unexcused absences (37% vs. 31%; $p = .003$), have a GPA ≤ 2.0 (16% vs. 12%; $p = .011$), and be less likely to spend ≥1 hours per week on school-sponsored activities (38% vs. 52%; $p = .004$). Compared with other-working students, STW students were significantly more likely to be late for school three or more times (38% vs. 32%; $p = .012$), cut or skip class three or more times (28% vs. 24%; $p = .035$), have three or more unexcused absences (37% vs. 28%; $p < .001$), not expect to graduate (4% vs. 2%; $p = .050$), and have a GPA ≤ 2.0 (16% vs. 11%; $p = .004$).

Table 2 presents the odds ratios and adjusted odds ratios (AORs) for the outcomes of interest. Compared with nonworking students, STW students were less likely to have a GPA > 2.0 (AOR = .58; 95% confidence interval [CI] = .39–.84) and more likely to spend <1 hour on school-sponsored activities (AOR = 1.49; 95% CI = 1.12–1.99). Although not significant, STW students were less likely to expect to graduate. The pattern was similar when STW students were compared with other-working students. Compared with other-working students, STW students were significantly less

Table 1
Characteristics of nonworking teens and teens working one job[a]

Characteristic	Category	Nonworking, (%) (N = 3,108)	School-to-Work, n (%) (N = 250)	Other-working, n (%) (N = 1,938)
Age	14	300 (10)	8 (3)	127 (7)
	15	1,106 (36)	31 (12)	533 (28)
	16	855 (28)	49 (20)	543 (28)
	17	599 (19)	86 (34)	476 (25)
	18	248 (8)	76 (30)	259 (13)
Type of school district	Rural	297 (10)	19 (8)	222 (11)
	Small town	238 (8)	12 (5)	106 (5)
	Medium city	2,295 (74)	197 (79)	1,473 (76)
	Large city	278 (9)	22 (9)	137 (7)
Gender	Male	1,551 (50)	109 (44)	811 (42)
	Female	1,529 (49)	139 (56)	1,113 (57)
Race/ethnicity	White	2,038 (66)	161 (64)	1,433 (74)
	Black	359 (12)	43 (17)	161 (8)
	Hispanic	219 (7)	17 (7)	100 (5)
	Other	453 (15)	26 (10)	233 (12)
Late for school	Fewer than three times	1,847 (59)	128 (51)	1,220 (63)
	Three or more times	1,221 (39)	94 (38)	625 (32)
Cut/skipped class	Fewer than three times	2,269 (73)	152 (61)	1,382 (71)
	Three or more times	795 (26)	70 (28)	460 (24)
Unexcused absences	Fewer than three times	2,082 (67)	129 (52)	1,298 (67)
	Three or more times	978 (31)	92 (37)	538 (28)
Expect to graduate	No to probably not	98 (3)	10 (4)	43 (2)
	Yes to probably	2,965 (95)	209 (84)	1,789 (92)
Time spent on homework at school	>90 minutes	190 (6)	14 (6)	113 (6)
	≤90 minutes	2,870 (92)	207 (83)	1,721 (89)
Time spent on homework on school night	>120 minutes	180 (6)	10 (4)	101 (5)
	≤120 minutes	2,866 (92)	213 (85)	1,723 (89)
Current grade point average	≤2.0	373 (12)	40 (16)	210 (11)
	>2.0	2,634 (85)	178 (71)	1,600 (83)
Time spent on school-sponsored activities	<1 hour/week	1,386 (45)	123 (49)	901 (46)
	≥1 hours/week	1,625 (52)	96 (38)	897 (46)

[a] Percentages may not add to 100% because of missing responses.

Table 2
Estimates of unadjusted and adjusted odds ratios (95% confidence intervals) for teens working only one job

Outcomes	Unadjusted odds ratios (95% confidence interval)			Adjusted odds ratios (95% confidence interval)[a]		
	STW versus nonworking	Other-working versus nonworking	STW versus other-working	STW versus nonworking	Other-working versus nonworking	STW versus other-working
Late for school (three or more times)	1.11 (.84–1.46)	.77 (.69–87)*	1.43 (1.08–1.90)*	.91 (.68–1.21)	.77 (.68–.87)*	1.18 (.88–1.58)
Cut/skipped classes (three or more times)	1.31 (.98–1.76)	.95 (.83–1.08)	1.38 (1.02–1.87)*	1.00 (.74–1.37)	.91 (.79–1.05)	1.10 (.80–1.50)
Absent from school (three or more times)	1.52 (1.15–2.01)*	.88 (.78–1.00)	1.72 (1.29–2.29)*	1.34 (1.00–1.79)*	.91 (.80–1.04)	1.48 (1.10–1.98)*
Expect to graduate	.69 (.36–1.34)	1.38 (.96–1.98)	.50 (.25–1.01)	.69 (.35–1.37)	1.22 (.84–1.77)	.57 (.28–1.16)
Time spent on homework (≤90 minutes)	.98 (.56–1.71)	1.01 (.79–1.28)	.97 (.55–1.72)	1.03 (.58–1.83)	1.03 (.80–1.32)	1.01 (.56–1.80)
Time spent on homework out of school (≤120 minutes)	1.34 (.70–2.57)	1.07 (.83–1.38)	1.25 (.64–2.43)	1.30 (.67–2.52)	1.07 (.82–1.38)	1.21 (.62–2.38)
Grade point average >2.0	.63 (.44–.90)*	1.08 (.90–1.29)	.58 (.40–.85)*	.58 (.39–.84)*	.94 (.78–1.14)	.61 (.41–.90)*
Time spent on school activities (<1 hour)	1.50 (1.14–1.98)*	1.18 (1.05–1.32)*	1.28 (.96–1.69)	1.49 (1.12–1.99)*	1.27 (1.13–1.44)*	1.17 (.87–1.57)

STW = School-to-Work.
[a] Adjusted for age, gender, race/ethnicity, and type of school district.
* $p < .05$.

Table 3
Characteristics of nonworking teens and teens working multiple jobs[a]

Characteristic	Category	Nonworking, n (%) (N = 3,108)	School-to-Work, n (%) (N = 204)	Other-working, n (%) (N = 970)
Age	14	300 (10)	7 (3)	50 (5)
	15	1,106 (36)	17 (8)	273 (28)
	16	855 (28)	42 (21)	284 (29)
	17	599 (19)	67 (33)	227 (23)
	18	248 (8)	71 (35)	136 (14)
Type of school district	Rural	297 (10)	26 (13)	103 (11)
	Small town	238 (8)	10 (5)	63 (6)
	Medium city	2,295 (74)	154 (75)	737 (76)
	Large city	278 (9)	14 (7)	67 (7)
Gender	Male	1,551 (50)	91 (45)	422 (44)
	Female	1,529 (49)	111 (54)	543 (56)
Race/ethnicity	White	2,038 (66)	140 (69)	726 (75)
	Black	359 (12)	17 (8)	63 (6)
	Hispanic	219 (7)	12 (6)	65 (7)
	Other	453 (15)	28 (14)	112 (12)
Late for school	Fewer than three times	1,847 (59)	106 (52)	553 (57)
	Three or more times	1,221 (39)	80 (39)	373 (38)
Cut/skipped class	Fewer than three times	2,269 (73)	100 (49)	619 (64)
	Three or more times	795 (26)	88 (43)	299 (31)
Unexcused absences	Fewer than three times	2,082 (67)	97 (48)	579 (60)
	Three or more times	978 (31)	91 (45)	339 (35)
Expect to graduate	No to probably not	98 (3)	19 (9)	46 (5)
	Yes to probably	2,965 (95)	167 (82)	867 (89)
Time spent on homework at school	>90 minutes	190 (6)	15 (7)	52 (5)
	≤90 minutes	2,870 (92)	172 (84)	862 (89)
Time spent on homework on school night	>120 minutes	180 (6)	16 (8)	49 (5)
	≤120 minutes	2,866 (92)	171 (84)	854 (88)
Current grade point average	≤2.0	373 (12)	38 (19)	127 (13)
	>2.0	2,634 (85)	148 (73)	756 (78)
Time spent on school-sponsored activities	<1 hour/week	1,386 (45)	94 (46)	398 (41)
	≥1 hour/week	1,625 (52)	90 (44)	491 (51)

[a] Percentages may not add to 100% because of missing responses.

likely to have a GPA > 2.0 (AOR = .61; 95% CI = .41–.90) and more likely to have three or more unexcused absences from school (AOR = 1.48; 95% CI = 1.10–1.98). Although not significant, STW students were 1.75 times less likely to expect to graduate.

Students who worked multiple jobs

Table 3 presents descriptive data for students who worked multiple jobs (n = 1,174) compared with nonworking students (n = 3,108). Overall, STW students were significantly more likely to be older compared with nonworking students or other-working students. Compared with nonworking students, STW students were more likely to cut or skip class three or more times (43% vs. 26%; $p < .001$), have three or more unexcused absences (45% vs. 31%; $p = .003$), not expect to graduate (9% vs. 3%; $p < .001$), and have a GPA ≤ 2.0 (19% vs. 12%; $p = .002$). Compared with other-working students, STW students were more likely to cut or skip classes three or more times (43% vs. 31%; $p < .001$), have three or more unexcused absences (45% vs. 35%; $p < .001$), not expect to graduate (9% vs. 5%; $p < .001$), and have a GPA ≤ 2.0 (19% vs. 13%; $p = .002$).

Table 4 presents the odds ratios and AORs for the outcomes of interest. Compared with nonworking students, STW students were less likely to have a GPA > 2.0 (AOR = .48; 95% CI = .32–.72), less likely to expect to graduate (AOR = .33; 95% CI = .19–.60), more likely to have three or more unexcused absences from school (AOR = 1.86; 95% CI = 1.36–2.54), and be more likely to cut or skip classes three or more times (AOR = 1.97; 95% CI = 1.43–2.71). Compared with other-working students, STW students were more likely to have three or more unexcused absences from school (AOR = 1.47; 95% CI = 1.06–2.05) and to cut or skip classes three or more times (AOR = 1.47; 95% CI = 1.05–2.05).

Discussion

The results of this study are the first to illustrate differences in school performance and school-based behaviors among students enrolled in STW programs, compared with two other student populations: nonworking students and other-working students. It might be expected that STW students would have more negative school-based behaviors, less time involved in school activities, and poorer academic performance compared with nonworking students, because STW students may spend their time at work, whereas nonworking students may spend time in school-sponsored activities or studying. However, one of the novel additions to the literature is that STW students also had worse outcomes compared with other-working students. Although the makeup of the population of students enrolled in STW programs may explain some differences, work characteristics of students in the STW program may explain some as well. Zierold et al. [2] found that 20% of STW student worked ≥23 hours per week compared with 12% of other-working students. Research on working students showed that students who work >20 hours a week generally have poorer academic performance compared with those who work <20 hours per

Table 4
Estimates of unadjusted and adjusted odds ratios (95% confidence intervals) for teens working multiple jobs

Outcome	Unadjusted odds ratio (95% confidence interval)			Adjusted odds ratio (95% confidence interval)[a]		
	STW versus nonworking	Other-working versus nonworking	STW versus other-working	STW versus nonworking	Other-working versus nonworking	STW versus other-working
Late for school (three or more times)	1.14 (.85–1.54)	1.02 (.88–1.19)	1.12 (.81–1.54)	.97 (.71–1.33)	1.03 (.88–1.20)	.94 (.67–1.31)
Cut/skipped classes (three or more times)	2.51 (1.87–3.38)*	1.38 (1.17–1.62)*	1.82 (1.33–2.50)*	1.97 (1.43–2.71)*	1.34 (1.13–1.59)*	1.47 (1.05–2.05)*
Absent from school (three or more times)	2.00 (1.49–2.69)*	1.25 (1.07–1.45)*	1.60 (1.17–2.20)*	1.86 (1.36–2.54)*	1.26 (1.07–1.48)*	1.47 (1.06–2.05)*
Expect to graduate	.29 (.17–.49)*	.62 (.44–.89)*	.47 (.27–.82)*	.33 (.19–.60)*	.54 (.37–.80)*	.61 (.33–1.14)
Time spent on homework (≤90 minutes)	.76 (.44–1.31)	1.10 (.80–1.51)	.69 (.38–1.26)	.80 (.45–1.41)	1.12 (.81–1.54)	.71 (.39–1.31)
Time spent on homework before a school day (≤120 minutes)	.67 (.39–1.15)	1.09 (.79–1.51)	.61 (.34–1.10)	.64 (.37–1.12)	1.13 (.81–1.57)	.57 (.31–1.04)
Grade point average >2.0	.55 (.38–.80)*	.84 (.68–1.05)	.65 (.44–.98)*	.48 (.32–.72)*	.71 (.56–.89)*	.68 (.44–1.04)
Time spent on school activities (<1 hour)	1.22 (.91–1.65)	.95 (.82–1.10)	1.29 (.94–1.77)	1.28 (.93–1.76)	1.01 (.86–1.18)	1.27 (.91–1.78)

STW = School-to-Work.
[a] Adjusted for age, gender, race/ethnicity, and type of school district.
* $p < .05$.

week, and that those who work multiple jobs had higher levels of chronic fatigue, which may affect school performance and behaviors [7–11,13].

Although this cross-sectional study does not provide reasons for the differences found among groups of students, it highlights some important questions that need to be addressed with future research. For example: (1) Are additional factors such as parental involvement, poverty, learning disabilities or disorders, or learning conditions associated with STW students who perform and behave poorer than other students? (2) If both STW students and other-working students hold multiple jobs, why are STW students' school behaviors and performance poorer compared with other-working students? Ideally, a longitudinal study design would be useful in determining the role of the STW program on students' school performance and behaviors compared with other students.

Limitations

Several limitations of this study need to be considered. First, this study took place in one state, Wisconsin, which was used as a model for the STWOA. Whereas multiple school districts were chosen throughout the state, the findings may not be generalizable to the other states. However, because this study did not focus specifically on the type of STW program and focused only on overall participation, we believe that any bias is limited. Another limitation of the study is that the minority population in Wisconsin is small compared with many states. In 2011, minorities made up 11.6% of the Wisconsin population [14]. A large urban school was selected as a means of achieving some diversity in the sample. A third limitation is that the design of this study was cross-sectional, and therefore no assessment can be made regarding the association between enrollment in the STW program and a student's school behaviors and performance. This study allowed us to characterize and describe the differences among STW students, nonworking students, and other-working students. Because of the cross-sectional design, we do not know whether students in the STW program were already enrolled because of poor school performance and frustration with school or whether the STW program contributed to the poor performance and behaviors.

The STWOA in 1994 allowed for collaboration between schools and business/government institutions to develop and implement programs that integrate school-based education and work-based training or experience. Students who participate in STW programs are able to choose from a variety of opportunities that permit training for future careers. Although STW programs provide students with opportunities and supplemental education that can greatly benefit them during the transition from high school into the job market, findings from this study indicate that many STW students engage in negative school-based behaviors and have poorer academic performance compared with other students. Although the reasons for the differences in academic and school-related behaviors shown by STW students are not yet known, it is likely that a combination of factors relating to student personality and program characteristics is responsible. Further research is needed to identify whether participating in the STW program is a risk factor for a student's having poor academic performance and poor school behaviors. A longitudinal study design could investigate the impact of participating in the STW program on school performance and behaviors.

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