



School-Based Substance Abuse Prevention: An Initial Review of The Red Ribbon Certified Schools Program

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Abstract

Approximately 22.5 million Americans aged 12 or older used an illicit drug or abused a psychotherapeutic medication in the past month (National Institute on Drug Abuse (NIDA), 2012). More specifically, in 2012, 6.5 percent of 8th graders, 17.0 percent of 10th graders, and 22.9 percent of 12th graders used marijuana, the most popular used drug, in the past month (NIDA, 2012). Related literature suggests that an adolescent's social surroundings, made up of primarily their school environment during the middle and high school years, affects patterns of substance use (Patton, Bond, Carlin, Thomas, Butler, Glover, et al., 2006). In response to this, school-based prevention and youth development programs have emerged as possible prevention strategies for reducing risk factors and enhancing protective mechanisms in reaching youth (Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik, et al., 2003). Among these includes one of the most recognized universal school-based prevention campaign across the country. The Red Ribbon program raises substance abuse prevention awareness using schools, law enforcement, and

community organizations to reach middle and high school students. As a prevention strategy, it changes communities' substance use and abuse attitudes, impacts alcohol and drug issues and trends, and provides alternative fun opportunities to celebrate and promote positive health behaviors. The purpose of this study is to describe the Red Ribbon program and explain the process of certification for schools interested in participating in the campaign. Using a cross-sectional survey design, preliminary evidence regarding the impact of Red Ribbon certified schools are reported. Results reveal that students in these schools have stronger negative beliefs toward the use of substances as well as actually use drugs and alcohol at less rates than students in comparable schools. These findings are consistent with the literature on primary prevention. Coordinating efforts among families, schools, community organizations and the health care system can create an environment from which students will flourish.

Literature Review

Illicit drug use among teenagers increased greatly between 2007 and 2012. In 2012, 6.5 percent of 8th graders used marijuana in the past month compared to 22.9 percent of 12th graders (NIDA 2012). In the area of teen alcohol use, rates have declined but remain a concern with 3.5 percent of 8th graders and 28.1 percent of 12th graders reported getting drunk in the past month. (NIDA, 2012) Although the majority of these adolescents will not develop a substance abuse disorder or engage in further criminal activity, many researchers have identified early substance use as a precursor to other social and psychological harm (Macleod, Oakes, Copello, Crome, & Egger, 2004). As the *Child Delinquency Bulletin* published by the US Department of Justice highlights, the “focus on risk factors that appear at a young age is the key to preventing child delinquency and its escalation into chronic criminality” (Wasserman, Keenan, Tremblay, Coie, Herrenkohl, Loeber, et al., 2003, p.10). Because of this, it proves vital that we address the *prevention* of such behaviors, targeting school-aged youth.

It is clear that there is a dynamic relationship with the individual and his or her social environment. The literature in this area has long demonstrated that one's surroundings play a large role in

the shaping of various health behaviors, including the use of alcohol, tobacco, and other drugs. (Brook, Brook, & De La Rosa, 2001; Crum, Lillie-Blanton, & Anthony, 1996; Wagner & Anthony, 2001). Additionally, research has found that there are various environmental risk-factors that have detrimental effects on health behavior. These factors include violence and abuse, drug-availability, poor social relationships, peer pressure, unsafe neighborhoods, and lack of parental involvement (Fergus & Zimmerman, 2005). In fact, many researchers claim there is a direct association with substance use initiation and one's relationships to parents and peers (Wasserman, Keenan, Tremblay, Coie, Herrenkohl, Loeber, et al., 2003; Hawkins, Catalano, & Miller, 1992).

Since youth spend the majority of their time in schools, research indicates that prevention approaches become even more effective when they focus on students' personal and social assets as well as their school environment (Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik, et al., 2003). In response to this notion, school-based, individually-focused strategies have emerged to target the specific behaviors of youth (Botvin & Botvin 1992; Hansen, 1992). These strategies aim to provide information, skills, training and opportunities for students to resist substance use.

The primary purpose of the school system is to educate and prepare youth for success through academic achievement and development; and research indicates that success in school can translate to success in other areas of youths' lives. Poor academic performance and lack of school commitment, conversely, have been identified as risk factors for a number of issues that youth face, including substance abuse (Pollard, Hawkins & Arthur, 1999). As school-based prevention programs have increased and studies that evaluate the components of these programs have emerged, the focus of school-based prevention has shifted to student social skills and correction of normative beliefs (Flay, 2000). Researchers agree that school-based prevention approaches are most effective at reaching youth when they target attitudes and healthy peer relationships. A recent meta-analysis of such programs supports this idea. Programs that utilize interactive, student-centered prevention efforts provide the largest amount of impact in reducing

youth substance use (Tobler, Roona, Ochsorn, Marshall, Streke, & Stackpole, 2000). Moreover, by coordinating efforts among families, schools, community organizations, and the health care system, we can create an environment from which students are able to flourish (Crosnoe, Erickson, & Dornbusch, 2002). The purpose of this study, therefore, is to provide an initial evaluation as to the potential influence of one such school-based program, aimed at reducing drug and alcohol use among youth.

Red Ribbon

Informed Families, a non-profit corporation, was created in 1982 as part of the parent-movement started by First Lady Nancy Reagan. The Parent Movement is credited for reversing the 1970s escalation in drug use by children, adolescents, and young adults, and for initiating the reduction in regular drug use (Lindblad, 1983). Informed Families/The Florida Family Partnership has been and is one of the leading parent groups in America. In 1986, after the death of Drug Enforcement Administration Agent Enrique “KiKi” Camerana, Informed Families created the Red Ribbon Certification Program campaign to commemorate his death and to remind the public that drug use hurts others and society...it is not a victimless crime. An important component of this campaign is the acknowledgement that prevention is *participation*. Knowledge is not enough; buy-in and participation turn knowledge into healthy habits and positive social norms.

From the beginning, Red Ribbon had wide appeal and participation. Each year, during the week of October 23-31, Red Ribbon Week is celebrated nationally. The program aims to raise substance abuse prevention awareness using schools, law enforcement, and community organizations to reach middle and high school students. As a prevention strategy, its premise is to change communities’ substance use and abuse attitudes, impact alcohol and drug issues and trends, and provide alternative fun opportunities to celebrate and promote positive health behaviors. In concert with the public health approach, it is a population-based [school] approach that target health risk issues by identifying the cause of the problems and to resolve them before they occur (Manderschied, 2007). Its main goal is to promote positive health behaviors in communities throughout the nation.

The Red Ribbon Certified Schools Program (RRCSP) aims to recognize schools that fully embrace prevention criteria toward a certain level of evidence-based, school-based prevention efforts. The RRCSP is a marriage between a successful prevention process and programs. It serves to review existing policies, identify corrective measures, and highlight effective efforts in the prevention of substance use among students. The initiative outlines specific objectives aimed at decreasing substance use and other destructive behaviors by youth throughout schools while increasing pro-social behaviors. This is done through enhancing school-based protective factors while simultaneously decreasing risk factors, increasing community support, and boosting parental involvement- a key factor in academic achievement and healthy development. One important key to building protective factors and reducing health-risk behaviors is the connectedness to family and school (Bond, Butler, Thomas, & Carlin 2000).

The RRCSP highlights what is working in schools to reduce risks and build resiliency; coaching the school team to see how current programs, policies, and practices might be improved. In addition, it serves to reinforce efforts by individuals and groups inside and outside of the school, especially parents, and provide constructive feedback where need is indicated. The RRCSP engages not just youth and teachers, but parents and the greater community in the process of evaluating and creating its prevention model. Simply, when parents and schools are encouraged to be part of the prevention process (from assessment through program development and implementation), they feel more excited, engaged, and have a sense of ownership; thus they are committed to achieving better outcomes for their students. This initiative provides resources to educate and inform parents, youth, schools, and the community on the impact and dangers of substance use. It serves as an assessment and recognition tool designed to review existing policies, identify corrective measures, and highlight effective efforts in the prevention of substance use among students.

This type of school-based substance abuse prevention initiative, focusing on promoting health behaviors through information dissemination and skills training, is being echoed globally. The RRCSP is similar to other school-based prevention strategies utilized in the United Kingdom. The National Healthy School Standards (NHSS), a program implemented in the United Kingdom in 1999, was designed to improve youth health behaviors and raise educational standards through a school-based prevention campaign. The overall goal of the NHSS, like the RRCSP, is to promote healthy school environments so that youth have the skills needed to make positive health-related decisions (Schagen, Blenkinsop, Schagen, Scott, Eggers, Warwick, et al., 2005)

Similar to the RRCSP, the NHSS seeks to identify a school's level of engagement in prevention activities while reinforcing what is currently in place. A significant difference between these two comparable programs, however, lies in the process of how schools are rated in terms of their prevention engagement.

The Red Ribbon Certification Schools Process

In order to become Red Ribbon School Certified, schools must undergo a rigorous application process. The RRCSP application is a 60-item, multi-dimensional tool used to assess the level to which a school is participating in evidence-based prevention efforts, originally developed in 2005 by the Florida Center for Prevention Research, Florida State University. Initially, researchers conducted focus groups in three regions of the state of Florida: Northwest, Central and South; participants included school staff, teachers, parents and members of the community. Results from these collaborations yielded valuable information over seven domains regarding evidence-based, school-based prevention practices that heavily informed the development of the RRCSP application. After review by researchers, the content from these interviews yielded an application instrument streamlined into four main component areas: *school environment, evidence-based programs, parent involvement, and Red Ribbon commitment/ community involvement.*

In the *school environment* section, criteria include commitment from leadership, continuous in-service training and open and frequent communication among all school personnel. The *evidenced-based programs* section requires identification of work guided by best practices. Because parents play a key role in prevention, the *parent involvement* section focuses on parents as partners in improving academic achievement and their inclusion in reducing high-risk behaviors of youth. The *Red Ribbon commitment/community involvement* section reviews year round Red Ribbon events to communicate norms and expectations. Additionally, this section addresses school and community consciousness regarding risk and resilience. Throughout the Red Ribbon application, schools respond to respective questions found in the aforementioned sections and provide narrative clarification and supporting information. Once completed and submitted, qualified reviewers assess the information and provide certification to qualified schools.

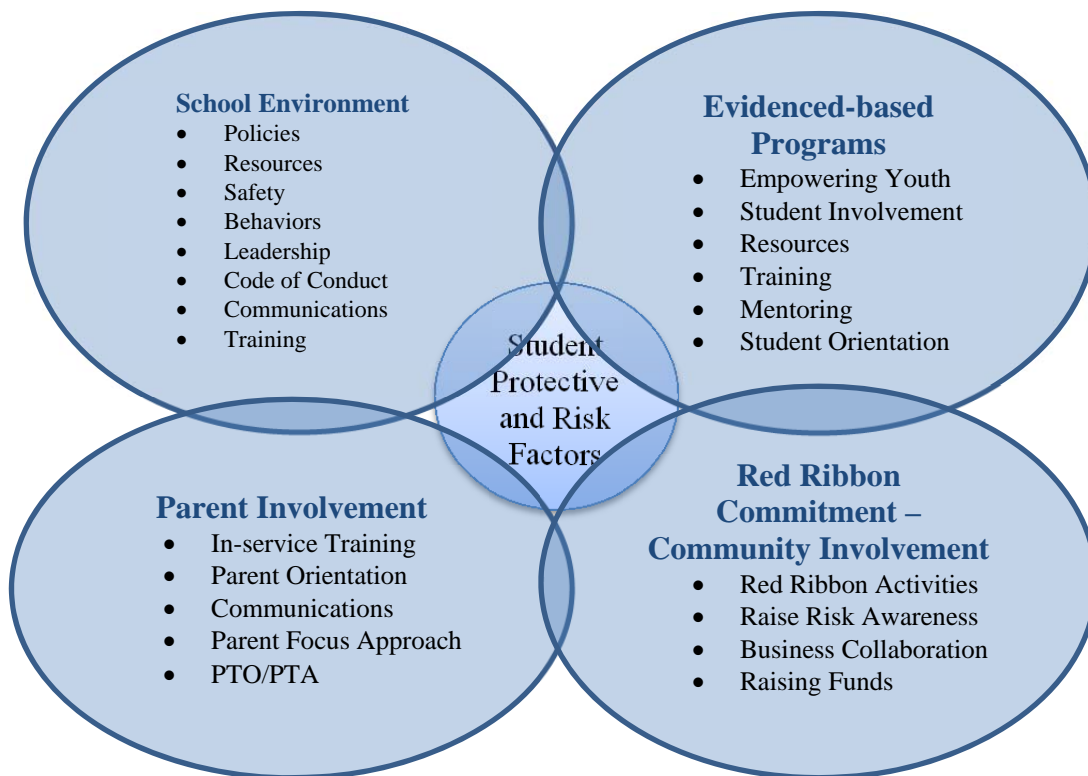
In order to become certified, the school must assemble an application team consisting of the principal, a teacher, a student, a parent, and a community liaison. Once the application is completed and submitted, it is reviewed by three program representatives who are experts in prevention, education, and research. The maximum application score is 100 points. A total of 80 points is needed to become certified. Each component of the application is worth a maximum of points: *school environment* – 20 points, *parent involvement* – 30 points, *Red Ribbon commitment/community involvement* – 20 points, and *evidenced-based programs* – 20 points. Ten points are awarded based on the completeness of the submission, including supporting materials and signatures of the application team members. Applications must be received by April 15th each year. Schools that meet set standards related to prevention practices along with achieving a grade of 80 points or higher are awarded Red Ribbon certification.

Schools that apply for certification receive their scores and are provided with detailed feedback about their prevention practices. Program representatives discuss with the application team each of the

four component areas covered on the application. Where schools need improvement, individualized guidance is offered, and new evidence-based, Red Ribbon prevention strategies are explored based on the specific needs of the schools. Schools that do not meet certification standards after initial application are encouraged to implement this feedback into their prevention efforts and re-apply the following year. Schools that indicate an interest in doing so are provided continued support throughout the year to help with this effort. Schools interested in learning more about the RRCSP or how to become certified can visit www.redribbonschools.org. The application form is available from this website.

Figure 1

Red Ribbon Certification Schools Program Application



Methodology

Design

Using a cross-sectional survey design, preliminary evidence regarding the potential impact of Red Ribbon certified schools is explored in this study. As part of the Service to Science (STS) initiative - a national program designed to enhance the evaluation capacity of innovative programs that address substance abuse prevention or mental health needs – six treatment schools were selected to participate in the study, consisting of one high school and two middle schools in Orlando (Orange County) and one high school and two middle schools in Miami (Miami-Dade County). Schools were selected if they had previously engaged in Red Ribbon week activities and expressed interest in becoming Red Ribbon certified. All six schools selected agreed to participate and were given a financial incentive of \$200 per school. Researchers then selected classes randomly from each school using a list of all classes provided by the schools through Informed Families. Only classes from grades six through 12 were included in the sample. In May and August of 2012, all students present in these classes were administered an abbreviated paper and pencil version of the Florida Youth Substance Abuse Survey (FYSAS) in order to obtain information about their substance use practices. In order to enhance consistency in administration, an Informed Families designee provided instruction/assistance to each of the teachers involved in administering the survey. Training included how to give consistent instructions, emphasize the anonymity of the survey, and deal with students that opt out. A brief, two page instruction sheet was also provided to the designee to distribute to the survey administrators. Three control schools from Miami-Dade and Orange Counties, consisting of one high school and two middle schools were subsequently purposively selected to receive the same survey for comparison. Comparison schools were selected by school district from a ranked list of three possible schools for each participating Red Ribbon school and matched by county, enrollment size and distribution, percentage of students receiving free or reduced lunch, as well as a number of other demographic features. Although not methodologically ideal, this process of selecting comparison schools allows researchers to gain some initial insight into the differences between RRCSP and non-RRCSP schools.

In addition to the FYSAS, focus groups were conducted with selected participants from Red Ribbon schools in order to supplement the quantitative information gleaned from the survey results. The use of focus groups allowed researchers to gather a richer understanding of the types of prevention activities in practice at these schools. Six in-person, semi-structured interviews were conducted on-site in Miami-Dade and Orange Counties. Participants consisted of school staff, teachers, parents, and members of the surrounding community. Participants were asked to freely respond to a set of open-ended questions related to school-based prevention activities. Questions pertained to the following four areas, each corresponding to a component on the Red Ribbon Certification instrument: *school environment*, *parent involvement*, *Red Ribbon commitment/community involvement*, and *evidenced-based programs*.

Table 1
Sample Characteristics

	Red Ribbon Certified Schools (N=1343)	Comparison Schools (N=980)
Sex		
Female	673	497
Male	645	465
Race		
American Indian	16	8
Asian	50	28
Black/ African America	413	331
Spanish/ Hispanic	334	208
Native Hawaiian	27	15
White/ Caucasian	357	284
Other	121	89
Mixed-race	2	1
Grade-level		
Middle School		
6 th	297	165
7 th	305	151
8 th	306	164
High School		144
9 th	99	110
10 th	79	117
11 th	107	118
12 th	135	
County		
Orange	775	583
Miami-Dade	568	397

Measurement

Florida Youth Substance Abuse Survey- Abbreviated Form. The abbreviated FYSAS is a valid and reliable tool developed from the Communities That Care Youth Survey as a way to explore adolescents' beliefs regarding substance use and abuse. From this tool, 31 items were carefully selected to limit burden (requiring roughly 15 minutes to complete) representing seven distinct domains. Items were carefully chosen based on face and content validity. In addition, a reliability analyses demonstrated moderate to strong levels of internal consistency with this sample for each of the domains as well as for the full version of the FYSAS abbreviated form. Domains include: a) prevalence and frequency of substance use (items 18-21, $a = .814$), b) attitudes toward substance use (items 11-17, $a = .712$), c) academic performance (item 5), d) school environment (items 6-10, $a = .619$), e) community environment (items 22-26, $a = .679$), f) home environment (items 29-31, $a = .472$), g) parental attitudes toward substance use (items 27-28, $a = .782$), and h) the total FSYAS score (items 5-31, $a = .832$), representing the construct *youth substance use practices*.

Analysis

Descriptive information from both Red Ribbon and comparison schools about school-level beliefs and practices toward substance use are first discussed. Frequencies of responses are reported for the seven areas captured by the FYSAS: a) prevalence and frequency of use, b) attitudes toward use, c) academic performance, d) school environment, e) community environment, f) home environment, and g) parental attitudes; and t-tests were run in order to determine if there were any significant differences between Red Ribbon and comparison schools. Additionally, a multiple regression analysis was conducted using SPSS version 19, a statistical analysis program, in order to determine the amount of variance in substance use practices was predicted by Red Ribbon. This analysis allows us to see what percent of contribution the Red Ribbon prevention efforts play in students' beliefs and practices regarding substance use. Since schools were purposively selected for this study, and many school-related characteristics were not captured at baseline, there is a very real risk of confounding influences. Because of this, all efforts were

made to control for the impact of geographic community as well as other student characteristics, including grade-level, sex, race, and ethnicity.

Information from focus group interviews was first transcribed and then analyzed using the constant comparison method of qualitative analysis in order to provide the richest picture of the prevention activities currently in place in participating schools. Codes were grouped into themes based on relative similarity then compared to one another for re-evaluation. Check-coding was used, where two separate evaluators independently identified these themes; codes were compared to one another and retained if both evaluators agree on them. This process allowed researchers to iteratively generate and reduce codes based on consensus, thus enhancing inter-rater reliability.

Results

When each of the seven areas was examined independently, results demonstrated significant differences between Red Ribbon and comparison schools in five areas: frequency of use ($F= 14.781, , p=.000$), attitudes toward use ($F= 22.898, , p=.000$), academic performance ($F=23.377, , p=.000$), community environment ($F= 9.984, , p=.002$), and parental attitudes toward use ($F=13.090, , p=.000$). There was no difference in school or home environment. These differences, or lack thereof, are discussed in detail.

Prevalence and Frequency of Use

Students in schools participating in the RRCSP reported that they used drugs and alcohol less frequently than students in the comparison schools. The average scores for students in the RRC and comparison school groups were 26.79 and 26.26 respectively. The theoretical range for this domain is four to 27, where higher scores indicate less use. The mean difference is .519, a value that reaches statistical significance. Although the difference in scores between groups is extremely small, it does appear to indicate some real-world distinctions. In looking at raw numbers, these distinctions become clearer. One percent of students in the RRCSP reported using alcohol 40 or more times in the last 30

days; 0.4% reported using alcohol on 20-39 occasions; 1.4% 10-19 occasions; 3.4% 6-9 occasions; 5.2% 3-5 occasions; 12.3% 1-2 occasions; and 74.3% reported no alcohol use in the last 30 days. This is compared to 2% of students in control schools reporting using alcohol 40 or more times in the last 30 days (twice that of RRCPS students); 0.6% on 20-39 occasions; 1.5% on 10-19 occasions; 3.1% on 6-9 occasions; 5.4% on 3-5 occasions; 16.7% on 1-2 occasions; and 70.1% reported no alcohol use.

Additionally, 2% of RRCSP students reported using marijuana and other drugs 40 or more times in the last 30 days; 0.6% reported using on 20-39 occasions; 1.7% on 10-19 occasions; 1.8% on 6-9 occasions; 2.5% on 3-5 occasions; 3.9% on 1-2 occasions; and 85.4% reported no drug use in the last 30 days.

Whereas 3.5% of students in control schools reported using marijuana and other drugs 40 or more times in the last 30 days; 1.6% reported using on 20-39 occasions; 1.5% on 10-19 occasions; 1.9% on 6-9 occasions; 2.2% on 3-5 occasions; 5.4% on 1-2 occasions; and 82.8% reported no drug use in the last 30 days.

Attitudes Toward Use

Students in schools participating in the RRCSP also had slightly more favorable attitudes toward substance use than students in control schools. The mean score on this domain for the RRC schools is 25.07 and 24.13 for control schools, indicating a difference in scores of .93, again mild but reaching statistical significance. The theoretical range for this domain is seven to thirty where higher scores mean that substance use is perceived more negatively. 56.8% of RRCSP students report that it is “very wrong” to drink alcohol; 62.6% reported it is “very wrong” to smoke marijuana, and 83.7% reported it is “very wrong” use other illegal drugs. This is compared to control group students where 50.7%, 59.9%, and 81.4%, reported attitudes toward alcohol, marijuana, and other drugs respectively. In addition to this, RRCSP students also reported that they would be perceived as less “cool” for using these drugs. 55.9% reported that there was “no or very little chance” they would be seen as cool for using alcohol and 55.2% reported the same for marijuana use. This is compared to 53.4% of control group students reporting the same for both alcohol and drug use. Finally, students in RRCSP participating schools report that they

perceive a higher risk associated with using substances, as compared to students in the control schools. 50.2% of RRCSP students reported that they believe using alcohol poses serious physical risks and 52.1% report the same for marijuana use. This is compared to only 45.8% and 46.6%, respectively, in control schools.

Academic Performance

Students at RRCSP schools reported statically significantly higher academic performance than students in control schools. RRCSP students reported that on average they receive grades of “Mostly B-’s to B’s” (M=4.04). Whereas students in control schools reported receive grades “Mostly C+’s to B-’s” (M=3.85) with the average score difference of .188. Although again mild, students enrolled at RRCSP participating schools do have slightly higher grades than student enrolled at schools who do not meet the standards for Red Ribbon certification.

Community Environment

Students reported that the community environment surrounding RRC schools are more supportive and engaged in prevention efforts when compared to non-RRC schools. The average score on this domain for students in the RRC group is 15.82 versus 15.38 for the control group. The theoretical range for this domain is five to 25, although the highest observed score here was 20. Although the mean difference is very small, .44, it reaches statistical significance. When the percentage of students who endorsed each response is explored, this small statistical difference can be seen more clearly. 36.7% and 52.5% of RRCSP students find it “very difficult” to procure alcohol and marijuana respectively, compared to 37% and 47.4% of students in control schools. Additionally, 58.1% and 64.3% of RRCSP students reported that their neighbors think it is “very wrong” to use alcohol and drugs, respectively. Again, this is compared to 54.4% and 61.9% of control school students. Lastly, 36.5% of RRCSP students reported perceive their neighborhoods as very safe, whereas only 31.8% of students in the control group reported feeling the same way.

Parental Attitudes

In general, RRCSP students reported perceiving that their parents are somewhat more disapproving of them using drugs and alcohol and have clearer rules regarding substance use as compared to control group students. The theoretical range for this domain is two to eight. The average score on this domain for the RRCSP group was 7.43 as compared to 7.24 for the control group; with a mean difference of .18- a small but significant difference in parental attitudes. In looking at response option endorsements, 74.5% and 83.7% of RRCSP students report that their parents would view alcohol and drugs as “very wrong”; 13.8% and 8.3% reported that their parents would view alcohol and drug use as “wrong”; and 9.2% and 5.3% reported that their parents would view their use as “a little bit” or “not at all wrong.” This is compared to only 70.7% and 80% of students in the control group reporting “very wrong”; 9.8% and 14.5% reported “wrong”; and 12.9% and 8.8% reported that their parents would view their use as a “little bit” or “not at all wrong.”

Table 2

Differences between Schools who meet Red Ribbon Certification Standards as Compared to Schools who did not meet Red Ribbon Certification Standards

	RRCS Group Mean Score	Control Group Mean Score	Mean Difference in Scores	Significantly Different (<i>p</i>)
Frequency of Use	26.79	26.26	.53	.000*
Attitudes	25.07	24.13	.93	.000*
Academic Performance	4.04	3.85	.19	.000*
School Environment	15.58	15.42	.16	.134
Community Environment	15.82	15.38	.44	.000*
Home Environment	9.79	9.65	.14	.065
Parental Attitudes	7.43	7.24	.18	.000*
Total	108.04	105.86	2.17	.000*

Note: *Significantly Different if $p < .05$

In order to determine if the differences found here were, in fact, accounted for by the school’s prevention efforts, and not a result of other student features (for example grade, race, and gender), a regression analysis was performed, allowing us to see what portion of contribution the prevention efforts

play in students' beliefs and practices regarding substance use. Since schools were selected for this study in two different counties, the impact of geographic community as well as other student characteristics, including grade-level, sex, race, and ethnicity are accounted for in the model. After controlling for these effects, it was found that Red Ribbon significantly explains 21.4% of the variance in the way students responded to the survey.

Focus Groups

A qualitative approach allowed evaluators to build a holistic picture of the complex dynamics involved in school-based prevention practices. Key to understanding the effectiveness of Red Ribbon was looking at the *process* component of the program and identifying any needs and/or gaps as well as limitations and challenges. The intent of the focus groups was to reveal specific activities the Red Ribbon schools accomplished. Based on these interviews, several themes emerged for each component area.

School Environment. The Red Ribbon schools provided a sound environment for students. Members of the focus groups described the school orientation process, which helps students transition from middle to high school. There is a “meet and greet” on the Friday before school starts for the year, open house for new students, and “peer/buddy for new students.” They also reported that the school policies were made aware to students and parents through “booklet reminders,” “code of conduct,” use of “telephonic messaging,” and “quarterly newsletters.” Training also occurs in RRCSP schools at the teacher, parent and student-level. Teachers participate in professional development; parents participate on committees focusing on prevention; where students participate in “mentoring,” presentations, and prevention. Additionally, students reported that the RRCSP school’s environment allowed “them to bring ideas to the administration,” stating that student councils are active and involved in alcohol, tobacco and other drugs (ATOD) prevention activities. Lastly, RRCSP school students reported that they were taught to “report potential problems,” “take ownership” of their schools, and provide ideas on how to improve the environment.

Parent Involvement. Parent involvement was identified as a key element in student performance. Parents reported that they felt as though they played an “important role in school,” through “volunteering”, “joining as members of parent/teacher associations (PTA)”, walking hallways, and tutoring. They participate in Red Ribbon activities such as “food drives” and obtaining “speakers on prevention topics” and volunteers with the PTA. They also reported that they are “actively involved in providing ideas to the principal and administrative staff.” Communicating with parents was identified as essential in this domain as well. Through the “Connect Ed” process, a telephonic information system, “parents are kept up-to-date” of activities and concerns within the school.

Red Ribbon Commitment/Community Involvement. When specifically asked about the school’s current participation with Red Ribbon activities, members of the focus group reported that the Red Ribbon program was “visible” on campuses and that the community provides a “key ingredient” in fund raising, awareness, and support. One teacher reported there is a constant message to the students, “year around focus” on driving under the influence, ATOD, prescription drugs and bullying. Students agreed, reporting that teachers were engaged in promoting activities by grade-level, involved students in raising awareness, and brought in “guest speakers” during class.

Evidenced-based Programs. Because the goal is to reduce substance use and abuse, students are the key to prevention. Red Ribbon events target specific age groups and are therefore typically split up by grade, each focusing on different topics. Students reported that incoming sixth graders, for example, engaged in more getting-to-know-you activities, whereas eighth graders focused on behavioral issues such as “bullying,” and “anger management.” Additionally, when asked about evidence-based programs, faculty indicated that the program is very “student-centered”; they are “encouraged to report incidents in school” and are heavily involved in “student activities.”

Table 3
Qualitative Themes

School Environment	Parent Involvement	Red Ribbon/ Community Participation	Evidenced-based Programs
<ul style="list-style-type: none"> • Relationships with teachers • Open-door policy • Orientation • Policies regarding conduct • Trainings 	<ul style="list-style-type: none"> • Involved and active • PTA commitment • Parent / School communication • Red Ribbon activity involvement 	<ul style="list-style-type: none"> • Partnership • Supportive • Year round diverse events • Correcting behaviors 	<ul style="list-style-type: none"> • Decisions • Student-centered • Students work collaboratively • Red Ribbon activity involvement

Discussion

Before a detailed discussion of these findings can be done, it is imperative to note that the results found in this study indicate only very small differences between RRCSP and non-RRCSP schools on all outcomes. Because of this, interpretation should be done cautiously. Despite only minimal differences, however, these findings do begin to suggest several interesting things. Students enrolled in schools who meet the standards for Red Ribbon certification used drugs and alcohol at significantly less rates than students in comparison schools. Controlling for confounding influences, students at RRCSP schools reported that they used drugs and alcohol less frequently than students in control schools. Additionally, a higher percentage of RRCSP students reported they believed that it is “more wrong” to drink alcohol, smoke marijuana, and use other illegal drugs than students in comparison schools. They also reported that they would be perceived as less “cool” for using these drugs as well as associated a higher risk with using substances, as compared to students in the control schools.

Since Red Ribbon certification serves to highlight schools that employ a community-based school prevention model, it was anticipated that students in RRCSP group would report differences in

community environments and in parental attitudes. As hypothesized, students reported that the community environments surrounding RRCSP schools were more supportive and engaged in prevention efforts when compared to non-RRCSP schools. RRCSP students find it more difficult to procure drugs and alcohol, perceive their neighborhoods as safer, and believe that their neighbors are more concerned about students using substances than neighbors of students' communities whose schools do not meet Red Ribbon certification standards. Parents of students in the RRCSP group also appear to have better attitudes toward reducing substance use. In general RRCS students perceive their parents as more disapproving of drugs and alcohol and having clearer rules regarding substance use.

It was also anticipated that RRCSP students would report significant differences in both school and home environment. Interesting, there were no statistically significant differences between the groups in terms of the students' perception of their school environment. This could be due to the specific questions asked that make up the school environment construct on the FYSAS abbreviated version. Questions focused on students' levels of enjoyment of school, including "How often did you enjoy being in school?" and "How often did you hate being in school?" While these questions may seek to provide meaningful information, this construct might not be capturing the elements of prevention efforts it intends to collect.

Similarly, it may be reasonable to assume that a student's level of enjoyment of attending class may not be impacted by their school's attempt to improve substance use practices. The same could also be true of the questions used to capture the home environment construct. Questions asked included, "When I am not home, one of my parents knows where I am and who I am with," "My family has clear rules about alcohol and drug use," and "How often do your parents tell you they're proud of you for something you've done?" When these questions are examined as one construct, there was no significant difference between groups. However, when looked at individually, there was a significant difference in student's perceptions of their parents knowing where they are when they are not home ($F=4.156, p=.008$). This

finding is consistent with other research on the positive effects of parental monitoring on adolescent substance use (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003).

The qualitative data compiled from focus group interviews demonstrate that the Red Ribbon certified schools are focused on students. Overall environment for each school allows students to bring ideas to the administration; student councils are active and involved in ATOD prevention activities. Further, students in the Red Ribbon certified schools were taught to report potential problems, take ownership of their schools, and provide ideas. It is clear that when students feel a connectedness to their schools, they perform better. Through positive relationships, teachers and counselors are available and approachable. Research has shown that this positive relationship leads toward student's improvement in social outcomes and academic performance (Greenberg, Weissberg, O'Brien, Zins, Fredericks, Resnik, et al., 2003). Additionally, parent involvement in the school environment has been identified as a key element in student performance. Parents play an important role for each school, volunteering, joining as members of PTA/PTO, walking hallways, and tutoring.

Communication is another key area that was identified as a key component in school-based prevention. This was accomplished through newsletters, internet messaging, flyers, Twitter and Facebook. Orientation, as the first communication with students, set the tone for the school year. Middle schools focused on 6th grade orientation, "meet and greet" before schools starts, and tours. Other schools implemented teacher orientation, peer/buddy team concept, and open house.

Finally, it is evident that the community also played a major role in substance abuse prevention for RRCSP schools. A number of organizations and agencies from the surrounding communities engage with students and the schools in order to build connections and lasting relationships. Officers from the local police force come to speak to students about the legal consequences of using ATOD, vendors participate in fundraising opportunities to raise awareness for substance abuse, and community counselors

come in to run groups and have real discussions with students about risk factors for using drugs, including anger and bullying.

Using a qualitative approach to gather information related to RRCSP schools enabled us to confirm the importance of RRCSP components and their effect toward successful prevention. Focus group interviews demonstrated that Red Ribbon schools focused heavily on students in their education. RRCSP school's environment allowed students to bring ideas to the administration and student councils are active and involved in ATOD prevention activities. It is clear that when students feel a connectedness to their schools, a sense of belonging and support, they perform better. These findings echo very clearly what other research has demonstrated. Positive relationships with parents and one's school leads toward student's improvement in health behaviors and academic performance (Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004).

It should be noted that focus groups were not conducted with comparison schools. Therefore the extent to which comparisons between Red Ribbon and non-Red Ribbon schools is limited. It is possible that comparison schools engaged in some of the same prevention activities that Red Ribbon schools did.

Other Limitations

As with much of community-based research, this study does have certain limitations specifically in respect to design. Most importantly, it is impossible to rule out certain threats to internal validity. Classes from which students were randomly sampled were purposively selected based on meeting inclusionary criteria. Although this was done so initial comparisons could be drawn between RRCSP and non-RRCSP, the naturalistic assignment to group introduces the possibility that results may have been impacted by extraneous and unmeasured factors. Future studies would benefit from utilizing a more rigorous sampling procedure, where school characteristics are gathered and assessed, in order to match schools in a way that allows for unbiased comparison. On the same note, only schools in Orange and

Miami-Dade Counties were chosen for participation in the study. This was done as previous relationships had been built in these communities. If research seeks to generalize results to the Florida education system, studies should aim to look at randomization at the school-level, utilizing institutions within the entire state of Florida.

Threats to instrumentation can also not be ruled out. Using an abbreviated version of the FYSAS instrument may have limited the depth of information collected. Although questions were carefully selected through an iterative process and most constructs demonstrated moderate to strong levels of internal consistency, there were domains, home and school environment, in which internal consistency lacked. Additionally, the abbreviated version of the measure has not been validated with this sample. Future research should address evidence of validity in this shortened version of the FYSAS. A briefer version of the survey would require significantly less time to complete and may decrease user fatigue, enhancing the scales' practical application in classrooms.

While the purpose of this study was to provide preliminary evidence about the potential impact of the RRCSP, in order to truly test the effectiveness of Red Ribbon more schools should be included in the study. An analysis that accommodates for the effects of nesting, for example hierarchical linear modeling, would be able to provide more convincing and concrete evidence as to the actual impact of program participation. Finally, schools should be monitored and assessed over an extended period of time in order to provide evidence of longitudinal efficacy.

Conclusion

Weighted against these limitations, are the very tangible strengths of the study. Perhaps the clearest strength is its applicability to the real-world. The purpose of this study was not to make definitive conclusions about how effective Red Ribbon is at reducing substance use, but to provide initial evidence

as to its potential influence on substance use behaviors. Additionally, this article provides valuable information regarding the RRCSP and how schools can become certified.

There are several design features that were used to consciously enhance the rigor of the study design. The use of a comparison group facilitates some initial inferences by allowing researchers to examine the program's impact as compared to what occurs in its absence. Similarly, schools were purposively matched based on a number of important characteristics including student demographics, various socio-economic features such as the percentages of free and reduced lunches, as well as enrollment. Matching schools allows for the comparison of groups by ensuring group differences are non-significant. Additionally, students within schools were randomly selected to participate, again enhancing the likelihood that groups were comparable.

Adding to its utilitarian value, each step of the process - from the development of Red Ribbon certification standards to the conception and implementation of prevention strategies- was informed by focus groups of key stakeholders, including parents, teachers, and community members. This serves to enhance the practical application of the RRCSP and its ability to affect change in schools.

Findings of this study suggest that students in schools meeting Red Ribbon certification standards could use drugs and alcohol less, have better attitudes toward non-substance use, perform better in school, perceive their community environment as safer, and perceive their parents as having more stringent rules regarding substance use when compared to students in schools that do not meet RRCSP certification criteria. Although the effect was mild in many cases, even slight differences can indicate a meaningful improvement. Of great interest is the large impact that the strategies had on both student attitudes toward substance use and their perception of their community. Future work should focus on how the RRCSP directly impact these outcomes. These findings are consistent with the literature on primary prevention. Numerous studies have demonstrated that an adolescent's social surroundings, made up of primarily their

school environment during the middle and high school years, plays a large role in their attitudes toward health behaviors (Flay, 2000).

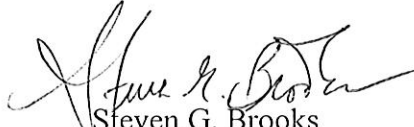
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Steven G. Brooks
12/19/2013

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