

What Are They Looking For? Risk Factors Students Privately Address On the Computer in Discipline Settings

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ABSTRACT

A Georgia school district's comprehensive Safe Schools/Healthy Students initiative included use of a self-regulated, computerized, social-emotional learning intervention, as a tertiary intervention for discipline-related problems. Between 2004 and 2007, 3,685 mostly low income, African American students in 40 elementary, middle and high schools were assigned self-regulated, reading-independent lessons matched to their offenses and were encouraged also to explore underlying reasons for their behavior. A third party evaluator used tracking data from the software to determine the degree to which students explored personal risk factors and what kinds of lessons students most commonly chose to explore. The computer-generated data indicated that 31% of the lessons students completed were for their disciplinary infractions, 35% were for remedial skill-building to enhance protective factors related to those offenses, and 34% were related to personal risk factors. Trauma related issues, such as physical abuse, parental addiction, and relationship abuse were the most frequent subjects of personal exploration. This finding supports the hypotheses that unresolved trauma may be a key factor in conduct problems, and that children and adolescents will take advantage of the opportunity to privately address this trauma on the computer, to potentially positive effect.

KEYWORDS: risk factors; positive behavioral interventions; school discipline; trauma; computer-based interventions

BACKGROUND

A growing body of research reveals a strong link between traumatic experience and both conduct problems and lower academic performance (Cook, Spinazzola, Ford, et al., 2005; Delaney-Black, Covington, Ondersma, et al. 2002; Greenwald, 2002; Hurt, Malmud, Brodsky & Giannetta, 2001; Kelley, Ko & Siegfried, 2004; Schwab-Stone, Ayers, Kaspro, et al. 1995). Students' trauma can have its source in any of multiple domains: psychological, family, peer, school, community, or social structures and processes. School failure can be both traumatic in itself and the result of other trauma. A common source of trauma for students across ethnic and class lines is family problems, including abusive

discipline, neglect, parental substance abuse, and parental mental health problems. For many children, school itself is the locus of trauma (Osher, Sprague, Axelrod, et al., 2007). Emotional and physical bullying, sexual harassment, bias offenses and peer rejection can all be factors that lead to reactive acting out.

An interruption of this cycle requires direct, supportive intervention for students engaged in school-based behavior problems. That intervention must be positive, individualized, evidence-based, and therapeutic, to address both presenting behavior problems and the underlying risk factors, including trauma, that give rise to them (Horner & Sugai, 2000; Wethington, H. et al., 2008; Wilson & Lipsey, 2007).

Positive behavioral interventions and supports (PBIS) is an approach that includes these elements and is gaining wide acceptance to address school-based behavior problems. PBIS interventions are therapeutic approaches, based on intensive analysis of the context for each student. Ideally, therapeutic interventions for behavior problems address individual risk factors; provide training in socially responsible behavior; are matched to student learning styles, abilities and disabilities; and, result in improved behavior and no further trouble (Blomberg, 2004, Horner & Sugai, 2000; Irwin & Algozzine, 2005). Unfortunately, rarely are there sufficient financial and professional services available in public school settings to make such tailored interventions universally available to public school students when and where they need them.

The PBIS approach has been most successful as a means for intensive analysis of student context and development of a plan of treatment to address identified needs. Actual delivery of recommended interventions is less well documented (Blood, & Neel 2007). In addition to being dependent on having the right person in the right place at the right time, it requires substantial training, making it difficult to sustain and to control quality.

Individual counseling has been shown to be an effective way to address individual risk factors, especially trauma¹ (Wilson & Lipsey, 2007). However, counseling is costly. Students may be referred to a counselor for discipline; but few disclose underlying reasons for their behavior to these adult authority figures. There is insufficient time to build a counselor-client long-term relationship of trust; students in some of the populations most at risk for behavior problems and delinquency are unlikely to seek out or take advantage of mental health services; many times traumatic abuse and exploitation are accompanied by feelings of shame, which make disclosure more difficult, and the service

delivery may not be culturally competent for the students involved.

Even when students disclose underlying risk factors to school personnel, the chance that the specific set of problems that underlies students' school misbehavior, is exactly the area that school personnel have been trained in, is low. Many are more likely to engage in *telling* students what they should do, than in *training* them in scientifically validated, theory-based strategies of how to do it (Devaney, O'Brien, Resnik, Keister, & Weissberg, 2006).

Additionally, students who present behavior problems are often not succeeding in the classroom. The students may be academically gifted and bored, have attention deficit disorders, have cognitive impairments, or some combination of the three. The chance that any one adult's preferred mode of teaching or training is well matched to each and all of many students' diverse learning styles, abilities and limitations is also very low.

One scalable intervention that has shown promise in this regard is Ripple Effects self-regulated, training software for social-emotional learning (SEL). Six randomized controlled trials (RCTs) analyzed impacts of a configuration of Ripple Effects to promote self-efficacy, as a secondary intervention among middle and high school students with multiple risk factors. Statistical analysis indicated the treatment group students overall had higher GPA ($p < .01$), and fewer out of school suspensions ($p < .05$), than control group students (Author names withheld, 2008). Data from the studies showed that 96% of all students who had even minimal exposure to a core set of skill-building tutorials, also took advantage of the option to voluntarily explore topics of personal concern to them, with almost all exploring recognized risk factors in the various domains of self, family, peers, school, neighborhood, and society.

Purpose

The purpose of this article is to examine if, when offered in the context of an individualized, therapeutic sanction in a discipline setting, students would also engage in self-directed use of the software to address

¹ While group-level risks are sometimes addressed in ISS settings, group sessions have generally not been proven effective in reducing anti-social behavior (Wilson & Lipsey, 2007).

individual risk factors. A separate article examines the impact of the intervention on discipline-related outcomes.

METHOD

Research Design

This quantitative, real-world study analyzed the distribution patterns of automatically generated data on user choices in a computerized intervention, to determine if: (a) Students would voluntarily use the program to address personal risk factors; and (b) The topics they chose would suggest efforts to deal with underlying trauma.

Hypotheses. If given the opportunity to do so privately via a computerized intervention, students would address personal risk factors. Those factors might include personal trauma that students had not previously disclosed.

Participants

Setting. The intervention took place over a three-year period during the 2003-2004, 2004-2005 and 2006-2007 school years, at 40 schools in Bibb County Public Schools (BCPS) in Macon, Georgia. Located in the deep South, Bibb County is a geographically large school district in the center of the state. It includes 41 schools with a combined total of nearly 25,000 students. Sixty percent of the population is urban, 40% is spread out across unincorporated, mostly rural areas (2007 *Georgia County Guide*). The area is poor and predominantly African American. Twenty-nine percent of children under 18 and 38% of female-headed households with children under age 18 are living below the poverty level (2007 *Georgia County Guide*, as cited in Norris, 2007).

Sample. A total of 3,685 students, 15% of all students in the district, participated in the Ripple Effects intervention over the three year period: 1,560 elementary, 1,274 middle school, and 852 high school students. Approximately 73% of BCPS students are African American, 23% Caucasian, 1% multi-racial, 2% Hispanic and 1% Asian ethnicity. Seventy percent are

eligible for free or reduced priced lunch (FRPL). Ripple Effects program participants were representative of this population (Norris, 2007).

Method of assignment to study. For the final eight weeks of the 2004-05 school year, and the entire 2005-06 and 2006-07 school years, trained staff at all participating schools were mandated to assign the Ripple Effects intervention to all students who received a disciplinary referral or referral to ISS. Students who were not referred did not get exposed to the intervention.

Intervention

BCPS implemented the Ripple Effects computerized intervention as the required therapeutic sanction for all students receiving either Office Discipline Referrals (ODR), or in-school suspensions (ISS). The Ripple Effects intervention is a computerized, social-emotional training and problem-solving application comprised of a content library, a learning system, an expert system, and a data management system. Content covers hundreds of reading-independent training tutorials. Tutorials are organized into strengths (assets), problems (behavioral, academic, social), and reasons (risk factors at individual, family peer, school, community and social structure levels). The *strengths* category provides training in seven key social-emotional abilities designed to promote awareness and regulation of self and awareness of and respectful relations with others. The *problems* section specifically includes the 80% of the BCPS categories of discipline referrals that account for more than 99% of all referrals. The *reasons* category focuses on risk factors in the multiple domains of individual, family, peers, school, community, and social structures and processes (i.e. racism, sexism). All content had been vetted for conformity with evidence-based, best practice by an expert panel.

Each tutorial includes up to twelve learning modes, and is made up of photos, illustrations, videos, sound, peer-narrated text, and interactive exercises, designed to present evidence-based strategies (cognitive, behavioral, interpersonal, social skill training,

and attentional) that have been shown to be effective in live instruction settings. Students complete the tutorials working directly on the computer. Each tutorial takes roughly 20 minutes, on average, to complete.

The built-in expert system dispenses screens of evidence-based content in a sequence instantaneously developed in real time, based on unique choices each student makes. The data management system enables staff to monitor completion of required tutorials.

Specific conditions of use varied somewhat from school to school and student to student, mostly depending on the offense. The SS/HS team selected counselors and ISS teachers currently handling discipline problems, to facilitate the referred students' use of the computerized intervention, and purchased two laptops per school to run it. All staff were directed to tailor the intervention to a student's disciplinary offense, and encourage students to privately address underlying reasons for problem behavior (personal risk factors). Tailoring of training to offense thus came through three things: choice of tutorials by facilitators, choice of tutorials by students, and the expert system within the software, which matched a set of proven effective, skill-building strategies to specific offenses (For instance, anger management and impulse control, with fighting.) The number of students in ISS at any one time ranged widely, from one to 20. Each student would rotate through and use the laptop to complete the required tutorials, and as time allowed, to explore on their own to address underlying issues, as directed by the facilitator. Contact hours ranged from 15 minutes to several hours, depending on the setting, the offense, and the number of students in the room.

For each tutorial, the adult supervisors required students to complete the three available interactive elements (interactive journal, assessment of concept mastery, and, in some cases, a subjective self-assessment). Eight or more passive forms of learning for each tutorial were optional. After students completed required tutorials, they could follow built-in links to go deeper into topics of personal

interests. Electronic scorecards tracked completion of the interactive assessment elements.

In the Spring of the 2004-2005 school year, a Ripple Effects trainer provided a three-hour training to sets of teams of two to four staff members from every BCPS school. During the training, teams learned how to introduce the software to students, show students how to use it, assign required tutorials based on the presenting offense, encourage students to privately explore risk factors, and then check the electronic scorecard to monitor completion of assigned topics. They also identified sets of tutorials (scope and sequences) to assign for the most common disciplinary offenses.

Measures and Data Collection

Ripple Effects automated computer usage reports were the quantitative measures used to evaluate the degree to which students privately explored personal risk factors. Completion of the interactive parts of each tutorial was automatically logged by the computer and became the basis of reports on topics completed. The BCPS Ripple Effects Coordinator collected the data files from each school's laptops, and aggregated them to generate reports on tutorial usage and individualization. These data were collected for the 2004-05, 2005-06, and 2006-07 school years. School data on ODRs, ISS, and OSS, were conducted for the 2005-06, and 2006-07 School Years only.

Method of Analysis

To evaluate the individualization of behavioral support, BCPS disciplinary offenses were matched against Ripple Effects content. Norris Consulting Group summarized data on student usage of the intervention for each year, at each level (elementary, middle, high). To evaluate success in providing individualized guidance on personal risk factors, data was aggregated and analyzed for all students exposed to the computerized intervention. Data was sorted into three categories, based on the tutorials: behavior problems that were the source of discipline referrals, risk factors in the

multiple domains of self, family, peers, school, community (Hawkins et al., 1998); and protective social-emotional skill-building delivered by the expert system in response to the first two. Sorting of data by category enabled investigators to determine the relative portion of the intervention that responded to individual risk factors.

RESULTS

Analysis of quantitative process data from three successive large cohorts totaling 3,865 students over three years indicate that students at every level chose to address personal risk factors, when given the opportunity to do so privately using the computerized intervention (Tables 1-3).

Usage tracking data indicated that across all grades, 31% of selected tutorials addressed behavior problems or referrals; 34% of selected tutorials addressed personal risk factors, and 35% promoted protective social-emotional skills. Across all schools and students only 22 personal risk factors accounted for the overwhelming majority of the choices. Of the personal risk factors that students explored, across all students, more than 30% were directly related to trauma. Students explored personal risk factors at increasing rates as they got older. Some students may have addressed more than one risk factor and some students may not have addressed any. The resources available for this study did not allow calculation of the percentage of students who took advantage of options to address any personal risk factors. Neither did it allow enumeration of the complete list of individual risk factors that at least one student examined, from the more than 50 available.

For participating elementary school students during the 2004-2005 school year (SY), *alcoholic parent*, *beaten*, *bullied*, and *death* were common topics explored; all are trauma-related. The topics *angry*, *afraid*, *ashamed*, were links from these topics, but also could be accessed independently. *Bed wetting*, which is frequently linked to trauma, was also a popular choice. A similar set of personal risk topics

were most commonly visited in SY 2005-06. The third year, fewer individual risk factors were addressed, with more of the top tutorials directly linked to disciplinary offenses. All are reported in Table 1.

Topics most often selected by participating middle school students during SY 2004-2005 included *addicted*, *addicted parent*, *beaten*, *anti-depressants*, *sexually abused* and *sexual orientation*.² The middle school students' 2005-2006 lesson topics were similar to the prior year. In the third year, BCPS updated to a newer version of the Ripple Effects intervention, which included twice the number of topics, several of which were among the most used (Table 2).

High school students using Ripple Effects during SY 2004-2005 selected similar tutorials as middle school students (Table 3). In the third year, dating abuse (*abuse-boyfriend/girlfriend*) was used by more students than any other topic, with 34% of high school students completing that lesson.

There was an evolution in middle and high school students' selection of topics from internal and family issues to peer relationship issues. Although many secondary students explored issues related to abuse, exploitation and parent's substance abuse, overall students' choices were widely diverse.

²School district and program administrators had the option of censoring out any topics they considered inappropriate for their students. As can be seen by the fact that 5% of middle school students chose to explore the topic AIDS and more than 30% of middle and high school students in one year (but not the other two) selected "dating abuse," administrators were wise to err on the side of inclusion rather than exclusion.

Table 1.
Top 25 Tutorials Chosen By Elementary School Students, Over Three Years

Category	Tutorial	Percentage of Students Using Tutorial		
		2004-05 (N=399)	2005-06 (N = 1,265)	2006-07 (N = 469)
Personal risk factors (27%)	Afraid	10%	9%	–
	Alcoholic Parent	11%	7%	4%
	Angry	15%	20%	13%
	Ashamed	9%	–	–
	Background	8%	–	–
	Beaten	8%	6%	–
	Bed Wetting	7%	6%	–
	Bullied	5%	–	–
	Death	5%	5%	5%
Behavior problems/ Referrals (36%)	Absent	11%	9%	4%
	Alcohol	10%	9%	4%
	Cursing	–	–	4%
	Drugs	5%	–	–
	Fighting	12%	15%	7%
	Grades	5%	5%	–
	Hitting	–	7%	7%
	Marijuana	–	5%	–
	Rules	8%	11%	9%
	Stealing	–	–	5%
	Talking Back	11%	11%	5%
Teacher Problems	–	5%	–	
Social-emotional skills/ Strengths (36%)	Apologies	7%	5%	–
	Assertiveness	6%	5%	5%
	Attention Problems	6%	–	4%
	Brainstorming Options	6%	6%	–
	Character	5%	5%	5%
	Honesty	–	5%	5%
	Impulse Control	9%	12%	12%
	Learning Style	5%	–	–
	Managing Feelings	–	5%	–
	Problem-Solving	–	7%	7%
	Relaxing	5%	6%	5%
Respect	–	5%	5%	

Table 2.

Ripple Effects Tutorials Most Frequently Chosen By Middle School Students, Over Three Years

Category	Tutorial	Percentage of students using tutorial		
		2004-05 (N = 256)	2005-06 (N = 855)	2006-07 (N = 456)
Personal risk factors (38%)	Abstinence♦	–	–	12%
	Abuse-Boyfriend/Girlfriend	–	–	14%
	Acne♦	–	–	6%
	Addicted	16%	41%	–
	Addicted Parent	14%	35%	4%
	Afraid	14%	37%	–
	AIDS*	–	–	5%
	Angry	14%	38%	6%
	Anti-depressants	7%	–	–
	Ashamed	9%	24%	–
	Beaten	10%	26%	4%
	Body Image♦	–	–	3%
	Future Not There	–	25%	–
	Parenting-Teen♦	–	–	3%
	Sex-Safe♦	–	–	6%
Behavior problem/ referral (29%)	Sexual Orientation	7%	–	–
	Sexually Abused	7%	–	–
	Aggression	14%	37%	–
	Alcohol	12%	33%	–
	Attendance	–	–	6%
	Blurting Out	7%	24%	–
	Breaking Rules	9%	62%	–
	Bullying	7%	–	–
	Cursing	7%	–	4%
	Disrespectful	8%	47%	–
	Fighting	17%	35%	8%
	Marijuana	7%	26%	–
	Sexual Harassment	10%	24%	–
	Talking Back	–	–	11%
	Teacher Problems	–	34%	–
Social- emotional skills/ strengths (33%)	Asking Questions	7%	–	–
	Being Funny	8%	25%	–
	Cause and Effect	–	–	9%
	Getting Help	–	–	9%
	Getting Respect	9%	–	–
	Ignoring Things	–	–	–
	Learning style	9%	–	–
	Making Decisions	–	34%	–
	Managing Feelings	–	–	4%
	People Smarts	–	30%	–
	Resisting Pressure	–	–	5%
	Respect-Showing	–	–	5%
	Self-Esteem*	–	–	4%
Setting Goals	–	32%	–	
Stopping Reactions	–	–	7%	

♦New topic in updated version of intervention, available starting in 2006-07.

Table 3.
Ripple Effects Tutorials Most Frequently Chosen By High School Students, Over Three Years

Category	Tutorial	Percentage of students using tutorial		
		2004-05 (N = 174)	2005-06 (N = 691)	2006-07 (N = 225)
Personal risk factors (36%)	Abstinence♦	–	–	28%
	Abuse-Boyfriend/Girlfriend	–	–	34%
	Acne♦	–	–	15%
	Addicted	16%	51%	–
	Addicted Parent	14%	43%	16%
	Afraid	14%	46%	–
	AIDS♦	–	–	13%
	Angry	11%	47%	13%
	Ashamed	–	29%	–
	Beaten	–	32%	12%
	Body Image♦	–	–	11%
	Future Not There	12%	30%	–
Behavior problems/ Referrals (28%)	Sex-Safe♦	–	–	11%
	Aggression	14%	45%	–
	Alcohol	11%	41%	–
	Attendance	–	–	15%
	Blurting Out	16%	29%	–
	Breaking Rules	25%	76%	17%
	Disrespectful	24%	58%	–
	Fighting	–	43%	–
	Marijuana	12%	32%	17%
Social-emotional skills/ Strengths (36%)	Sexual Harassment	–	29%	–
	Teacher Problems	10%	42%	–
	Being Courteous	11%	–	–
	Being Funny	–	31%	–
	Controlling Impulses	13%	–	14%
	Dealing With Authority	–	–	13%
	Getting Help	–	–	23%
	Ignoring Things	10%	38%	–
	Making Apologies	10%	–	–
	Making Decisions	14%	41%	12%
	People Smarts	14%	38%	–
♦New topic in updated version of intervention, available starting in 2006-07.	Predicting Consequences	18%	–	23%
	Self-Esteem♦	–	–	13%
	Setting Goals	14%	40%	–
	Stopping Reactions	–	–	15%

♦New topic in updated version of intervention, available starting in 2006-07.

DISCUSSION

In this study, students who were reluctant to consult a counselor embraced the chance to explore personal topics in private on the computer. The data clearly indicates that students took advantage of the opportunity to privately get help with personal risk factors that may have been impacting their behavior and academic performance. The list of non offense-related lessons most often voluntarily completed by participating elementary students has troublesome implications. Topic choices suggest high levels of undisclosed trauma. "Alcoholic parents," "ashamed," "beaten," "bed wetting," and "death" lead the list of voluntary student selections for elementary students. That 34% of high school students selected topics related to dating abuse, suggests the possibility that epidemic levels of interpersonal exploitation are impacting school behavior and performance. That no fewer than 30% of students in every age group selected topics related to parental addiction and/or interpersonal violence and exploitation suggests that for these students, the theoretical link between trauma and misconduct is a very real one. That students who were reluctant to broach these topics with an adult at school, addressed them privately on the computer, is consistent with research that shows many people are both more comfortable seeking help from a computer than a live interviewer, and are more honest in answering questions on the computer, especially about matters that may carry perceived social stigma (Karabenick & Knapp, 1988; Turner et al., 1998; Waistband et al., 1996).

Alcoholic parent was one of the most frequently selected topics by all age groups of students. This is consistent with research that indicates discipline problems are very often related to underlying trauma and family-level risk factors. Still, many children of substance abusing parents fail to ask for help and resist efforts to be placed in Alanon or similar support groups that they feel stigmatize them. The fact that almost 5% of elementary students also

selected *bedwetting* is even more evidence of the value of privacy. Children would be unlikely to bring up this experience in a group discussion, or introduce it in a "one-shot" counseling session. Because of the computerized expert system, students exploring *bedwetting* would also have been led to the tutorials on *afraid* and *angry*, which were represented in the top 10 most used tutorials.

A common perception is that computer-assisted guidance and training is inherently less personal and effective than guidance from a trained professional. Findings from this study suggest that it may be more personalized. Which begs the question, is it also effective? Recent research shows that for interventions that utilize a standardized protocol, such as cognitive-behavioral therapy, or refusal skill training, the computer can be an effective delivery vehicle and can reach populations that might not take advantage of live resources (Andersson, et al., 2005; Bosworth, et al., 1994. Carlbring et al.; 2005; Christensen et al., 2004; Clark et al. 2005; Marsch et al., 2006; Ybarra et al., 2005; Zabinski et al., 2003). Outcomes from this evaluation, reported separately, included reduced discipline referral and in-school suspension rates (Ray, Patterson & Berg, 2008).

CONCLUSION

The range of topics that students voluntarily selected indicates that students did take advantage of the opportunity to personalize a computer-based, therapeutic intervention for discipline problems. They used it to privately address personal risk factors, including trauma that was the source of anxiety, anger or shame. This was true even for students in the lower elementary grades. This evidence suggests that the opportunity for private, self-regulated, exploration of personal risk factors, including traumatic experience, may be an important adjunct to other elements of a graduated program of therapeutic sanctions for school-based behavior problems. The fact that the district experienced dramatic reductions in referrals to ISS from the beginning to the end of

the school year, and decreases in mean referrals per student from their baseline year, suggests that this capacity to address underlying trauma could directly, positively impact school performance.

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