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K A R O L I N S K A I N S T I T U T E T

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Curriculum Vitae

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Theory, Practice and Outcomes in Injury Prevention and Safety Promotion with Schools as a Core Unit of Safe Communities

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Abstract

Each day millions of children attend school to gain an education. This education and the institutions are places of risk where thousands of children are injured. Amending the existing model from the World Health Organization Safe Community movement to apply to the school community, the International Safe Schools Designation Program aims to create safer school environments by applying scientifically proven practices to achieve systemic changes. From October 2003 through the first days of May 2004, three self selected sites were followed in the literature and through informal interview to evaluate their use of the new International Safe Schools Designation Program and Guide.

The three initial sites working with the model, have reduced injuries, created or improved injury surveillance, created processes to maintain and constantly improve their schools, and shown academic gains. In this monograph, the successes and challenges of these sites is investigated. Additionally, literature-based review of the theory, development and direction of the Guide and Program is discussed.

This monograph provides direction for further studies that will need to be longitudinal process and outcome based. Early results show concerted systemic and systematic change occurring in the schools as a result of the Program.

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List of Papers and Presentations

- Vosskuhler ML (2003) *International Safe Schools Designation Program*. Helsinki: Presentation at the 4th Nordic Safe Communities Conference 28 Aug 2003.
- Schmidt ER, Vosskuhler ML (2003) *Safe Schools an International Perspective*. Washington, DC: Invited Keynote US Office of Safe and Drug Free Schools Annual National Safe Schools Conference November 2003.
- Vosskuhler, ML (2003) *International Safe Schools Designation Program*. Mauritius: Presentation: 3rd African 1st Indian Ocean Regional Safe Communities Conference October 2003.
- Vosskuhler, ML (2003) *Safe Schools Context for Community Change*. Mauritius: Keynote 3rd African 1st Indian Ocean Regional Safe Communities Conference. October 2003.
- Vosskuhler ML. (2004) *Safe Schools: A Leadership Volunteer Opportunity*. Los Angeles: Invited Keynote: American Association of University Women – Long Beach & Cerritos Area. January 2004.
- Vosskuhler ML. (2004) *Safe Schools Indicators*. Prague: Presentation & Proceedings. 13th International WHO Safe Communities Conference. June 2004.
- Vosskuhler ML (2004) *Safe Schools Indicators*. Vienna: Poster. 7th World Conference on Injury Prevention and Control, June 2004.
- Vosskuhler ML (2004) *Early Success and Future Directions of ISS Guide and Program*. Kromeriz, CR: Keynote 1st International Safe Schools Seminar, May 2004.

Introduction

In the arena of World Health Organization Safe Communities, a successful international approach of community level safety promotion begun in the mid-1970's in the Nordic Countries, the aim is to build cross sectoral cooperation and planning for safety promotion, injury prevention and injury surveillance at the community level that addresses all groups within the community. In large communities there are many organizations that have structures that are similar to those of an overall community. One of these structures is that of schools. Schools are part of the community are also separate from the community. Schools are governed by unique and separate methods than the rest of the municipality's structures. Schools also serve as a location for education for safety promotion and injury prevention messages that the pupils take out to the greater community through social marketing. (Voskuhler & Burnett 2003) Even though education is still not universal, in many nations most children and their families are reached through educational institutions and will be, should the UN Millennium Development Goal of Universal Education be realized in 2015. (Clinton, 2004)

Surveying the need for intervention in terms of injuries and other health problems produced in youth, many cross-national, comprehensive reports call for change. The *World Report on Violence and Injuries* states that 565 children each day die from person to person youth violence. Additionally, 2,973 youth deaths daily occur due to accidental injury. (Krug, 2002) Applying the statistics found in the World Report on Violence and the World Health Report from 2002 and 2003 (WHO, 2002 2003), yields the following table.

Table 1: Relative Daily Number of Injuries

Cause	# Deaths/Day	# Serious Hospitalizations	# ER/Doctor Visits Not Requiring Hospitalization*	# of light injuries, not requiring Doctors' or ER attention*
Violence – Intentional Person on Person (Does Not Include Suicide)	565	22,600	3,390,000	3,390,000,000
Unintentional Injuries (Accidents)	2,973	118,920	17,838,000	178,380,000,000

Source: World Report on Violence and Health 2002 & World Health Report 2002

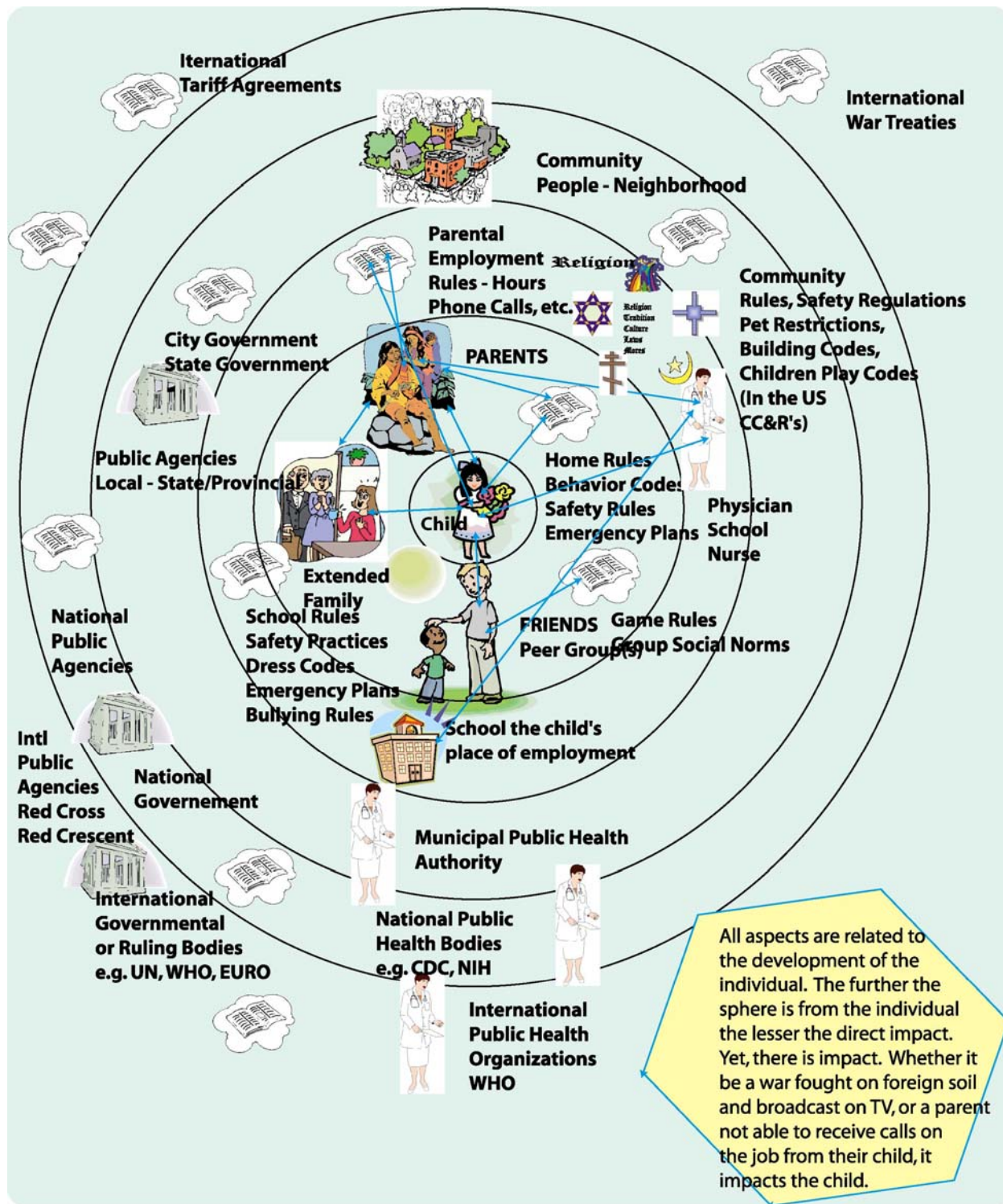
- *This number is purely an extrapolation based on estimates from the field of experts within the WHO.
- *One individual may sustain multiple injuries.

From table 1, the number of injuries is truly alarming. When combined with the population of children on the planet today, seen in table 2 below; the rate of injury, e.g. incidence, is shown in table 3.

Table 2: World Population of Children as of 2 May 2004 12:00 PST

Population Group	Percentage of Total Pop.	Number of Members of World Population
Entire World Population	100%	6,366,558,815
Children (0-14 Years)	29%	1,846,302,056
Adolescents (10-19 Years)	20%	1,273,311,763
Young People (0-24 Years)	49.9%	3,176,912,849

In his landmark book on human development, Uri Bronfenbrenner, The Ecology of Human Development (1979), the basis of the concept of how interactions from the various levels of family to legal systems and other social structures affect the development of the individual. This concept gives rise to levels of systematic intervention, as presented by Svanström (1987) as well as many others. This theory is illustrated on the next page in Figure 1.



from Bronfenbrenner U. (1979), Svanström L (1987), Christie G. (2000), and Vosskuhler M and Krupnick M (2001).

Figure 1

Given the wide range of inter-relationships and depth of effects upon the development of the individual it may be easy to see why the importance of changing the structures of the school community, which is defined as the work-place community of the child for up to seventeen years of life or more. General consensus has been reached that the main behavioral traits of most human beings are essentially "hard wired" into the neural pathways of the brain by the age of eight and that formative time is spent in school and in the home. (Pert, 1995) The neuro-social-chemical picture reveals that schools are a likely target community for long-term change. (Vosskuhler M & Schmidt E, 2003) With their largely autonomous governance structures, data collection modalities that are already in place, systems change are not only attitudes, but in many cases, low budget items for huge cost savings (Barak, submitted).

These unique facets give the school community the opportunity to be a model structure for systemic and systematic change for reducing the number of injuries to young people. Since each year 3.7 million children suffer an injury in school that limits activity or requires immediate medical attention in the US alone, (Miller & Spicer, 1998) and as a result of interpersonal violence globally, 565 children die daily, and additionally 2,973 deaths occur daily to youth due to unintentional injury, (Krug, 2002) the potential for reduction is enormous. Also, while creating systems that promote safety, in the school community, we also create linkages in the larger community which ultimately may create systems of total Safe Communities for all sectors, we can create large scale change with relatively small input. (Vosskuhler, 2002)

To lessen this burden, International Safe Schools (ISS), lead by Max Vosskuhler and Ms. Ellen R. Schmidt, looked to the literature. The literature held many examples of successful theory based community intervention school models to reduce injury and increase health. Yet these interventions, whether primary, secondary or tertiary prevention for intentional and/or unintentional injury were largely disjointed and lacked focus. (Vosskuhler & Schmidt, 2003) They were also not universal and fitting a larger cross-sectoral model, that went beyond their original scope of educational specialty, e.g. psychology, public health, sociology, public service announcements (e.g. media broadcast campaigns), institutional equipment requirements, etc. (Modzeleski 2001, Drug Strat. 1996) Even when national governmental departments did wide ranging studies of what would be "good", "necessary", and/or "sufficient" many divergent definitions and structures came into being in this relatively young science. But, on December 7, 2001, Lisa Cohen-Barrios, DPH and her colleagues at the US Centers for Disease Control and Prevention – Division of Adolescent and School Health published a special edition of the Weekly Morbidity and Mortality Weekly Report (MMWR, 2001). They pulled together these divergent reports and took their common threads and separated the areas of school safety promotion and injury prevention into seven discrete areas with simple guidelines to follow. This archetypal structure was not new, but clearly defined what had become common knowledge among practitioners and researchers in the field of safe schools, and was espoused by the US government for design of program matching ideals.

Since in from the early 1990's to 1999, the US Government had spent over US\$20,000,000 verifying the validity of programs designed to reduce drug use, alcohol, tobacco, teen pregnancy, and violence. Additionally 5 times that much had been spent in accident prevention and youth crime prevention research. Through this money they found some interesting interventions that with the investment of US \$8/per student they could:

Table 3: Reductions from school based programs

-
- Reduce visits to the school nurse for all reasons by 10%.
 - Reduce fights by 50% per year.
 - Reduce injuries due to fighting by 54% per year.

- Reduce vandalism by 80% per year. – a cost savings of US\$92,000.
- Reduce accidents by 18% per year.
- Reduce absenteeism by 22% per year for students.
- Reduce teacher absenteeism by 18% per year.
- Increase Math scores on standardized tests by an average of 17% per year.
- Increase Verbal scores on standardized tests by an average of 28% per year.
- Decrease police call-outs to schools by 95% per year.

Source: Embry, 1996; Krupnick 2001; Christie, 2000; Closs, 2002; Flannery, 2001; Modzeleski, 2002; Flannery, 2003

With major cost savings from individual programs with divergent aims possible, a coherent method to bring them together with an underlying theory and process laid out for schools was necessary.

These combined factors give the basis for the concept of International Safe Schools, utilizing the Safe Community model, began in May 2001 through a meeting within the 10th International WHO Safe Communities Conference in Anchorage Alaska. A four hour session lead to a group investigating the possibility and plausibility of Safe Schools as a subset of Safe Communities. Reporting back in the 11th International WHO Safe Communities Conference in Fort Frances, Ontario Canada, the International Safe Schools Committee, presented a positive case utilizing the case studies of multiple safe schools programs from the United States, Canada, Australia and Europe, along with proposing indicators for the designation of schools under the program. (Vosskuhler, 2002)

Through the first half of 2003, ratification of the seven indicators (Appendix A) and a matrix of benchmarks, which help guide schools in how to meet the indicators in a clear fashion, were accomplished. The development process culminated in the publication of the International Safe Schools Designation Guide and launch of the International Safe Schools Designation Program in August 2003 at the 4th Nordic Safe Communities Conference. The first school was designated on 24 November 2003 at Källby, Sweden (Källby Gård Skola). The school had fulfilled all areas of development of the safe school environment, reported their process, programs, data, and evaluations through the last stages of development of the final guide and after launch. These reports were evaluated by a team of International Safe Schools Committee Members and passed to be designated as the top tier of "International Safe School."

This process for Källby Gård Skola, as the case for Sweden, Thomas Russell Middle School, as the case study for the United States, and the schools of Toowoomba Safe Community, as the case study for Australia will be taken into account to illustrate the need, effectiveness, benefits and weaknesses of the International Safe Schools Designation Program as it currently stands.

Aims & Objectives

The objectives of this study are:

1. Through explanation of some of the theoretical basis of the International Safe Schools Program and Guide, ascertain if the Guide is applicable in reaching the audience of school children as a sub-set of the WHO Safe Communities Movement.
2. If the theoretical basis is sound, the case of whether the schools are part of previously designated community or not should not matter. This will be shown.

3. The case where the community is not a Safe Community, yet, shall become a safe community if the schools are successful.
4. Use of the International Safe Schools Program and Guide will lead to a reduction of injuries and increased health of school populations.
5. The increased health will lead to savings for the schools and their communities.
6. Within the first year, successful sites with either existing Safe School programming and/or Safe Community structures in place would allow for successful designations of schools under the ISS program.
7. These programs will significantly affect the incidence and prevalence of global injury due to violence and accidents for youth.
8. The school is a logical intervention point for special designation within community given theoretical basis of the development of children.

Methodology

In approaching this study dual tracks were initially considered. First a literature review for theoretical basis and development of the International Safe Schools Designation Program and Guide (Vosskuhler, et al. 2003), plus on-site verification of the methodology developed in the Guide. This was then to be followed by a qualified and tested Likert scale survey (Appendix C) of the school staff, teachers, select students and community members on the efficacy of the Guide itself and the practicality, along with a control match survey group for comparison. The survey was developed and submitted to the New York Board of Education Board of Ethics for Human Subjects Review. After passing review, the survey was distributed to a sub-set of the International Safe Schools Committee, who has not seen the survey before to test validity and completeness. The survey was internally consistent with no outliers at n=20.

A second method was to do the same initial literature steps. But, rather than do intensive on-site work, use published literature, along with interviews and informal survey to test three self identified areas for the developmental efficacy of the International Safe School (ISS) Designation Guide and Program in its first year of operation. The informal survey used, was a series of questions (Appendix D) that were asked via phone interview or e-mail. Since these questions were not formally vetted through human subjects review and previously tested for internal validity, due to their subjective descriptive manner, the survey is considered informal.

The second general method was chosen due to financial and time constraints, yielding a very limited picture, yet some data rich indicators from which to build.

The three sites, one in Sweden, one in the United States and one in Australia were selected through a self-selection process. These sites, approached Peaceful Resources Center, the base of operations for ISS, through low-penetration, word-of-mouth advertising of the development and launch of ISS, to have an opportunity to participate in becoming designated as an International Safe Community as part of the WHO Safe Community Program. These three locations were the first three English able sites in three distinct nations. Therefore, they were chosen.

The time constraint of this study was from October 2003 to May 2004.

The study sites represent a mixture of cultures from mixed ethnicities, heritages, financial backgrounds and countries. Källby Gård Skola is a mostly homogeneous Swedish rural population, with a summer tourist economy. Toowoomba, Australia has a large Aboriginal population with mixed economic, immigrant and local populations. Thomas Russell has multiple ethnicities and languages (over 42), with multiple socio-economic backgrounds of its students and nearby businesses.

Results

Combining the processes of the World Health Organization (WHO) Safe Communities movement with practical, proven processes and procedures from the fields of unintentional and intentional injury prevention for schools resulted in the International Safe Schools Designation Guide. Produced and released in August 2003, the Guide has been distributed via two websites, <http://www.peacefulresources.org> and <http://www.intlsafeschools.org>. To date, it has been downloaded 73 times, by 36 discrete IP addresses. Since the Guide is available for free download, there is no way to more precisely check where the concentration of downloads is originating from. The advertising of the Guide, has been word of mouth through professional contacts, conferences, associations, newsletters, and those of colleagues. Due to assumed low saturation of the advertising density, the diversification of the participation is low.

Yet, three diverse geographic sites took to the program immediately, even from the stages of the program being conceived. These sites are: Källby Gård Helhettskola in Götene, Sweden, Thomas Russell Middle School in Milpitas, California USA and the schools in Toowoomba Safe Community, Australia. Given their interest and prior involvement in safe schools programs, with solid data and studies, these sites were chosen as the first implementation sites for the Designation Program. Alternative sites in Brazil and the Czech Republic have also started, but with little or no experience in safe schools or community safety, the sites will take longer to mature, and the data is unreliable at best.

The first site, Källby Gård Helhettskola, is a small primary school, average student population 285, of years 1-6 in the Swedish public education system in the mostly rural and tourist area of Götene, which is also host the WHO Secretariat on Bicycle Helmet Safety.

Källby Gård uses mixtures of outcome and process evaluation to improve and maintain the safety of their site. Each year, twice per year, the students and adults join together and go throughout the school to investigate the school for anything that is unsafe, unhealthy or potentially so, and/or unpleasant. They write up their reports and send them to the Safe School Council, which consists of students, teachers, the rector, parents and leaders from the community. Together the council goes through the reports and schedules all of the deficiencies in rank order, based on budget and available personnel, they assign each of the tasks, according to how it will be done, who will do it, by when, and how it will be verified. Then all projects are double verified during the next semi-annual inspection. Additionally, they have completely redesigned the environment to be one for discovery and adventure for all students, based on student ideas and the guidance of safety and design professionals. Finally, the leadership has taken the fairly complex legal documentation and classification of injuries form for serious injuries, and simplified it. This form is now used for any injury including a slight bump on head, or on the hand to serious injuries. Is filled out by all of the students whenever anything happens, is reviewed by the school nurse or some other staff member, the injury is mapped on the school wall, and the map is used to locate injury "hot spots" for adults to be aware of the potential hazards. By the students filling out the forms, they have a moment to reflect on what happened, and review it with an adult and fill in "how could I have avoided this?" (Ader, 2003) This small but simple lesson in safety promotion is key for children, whether the injury was from a fight or from slipping on ice.

Their injury data is also mapped from year to year to find emerging trends to be addressed and measure the effectiveness of programs. These data are collected on the form illustrated in Figure 2.

Blanketten ifylls och lämnas snarast till skolsköterskan

1. Anmälan 01 Händelse utan skada Datum _____
 02 Skada Klockan _____
 03 Vem tog hand om skadan

2. Kön 01 Pojke
 02 Flicka 6-8 år 9-10 år 11-12 år

Var? _____


3. Inomhus 01 Lektionsstul 04 Idrottshallen
 02 Stöjd, rök, smäll 05 Önskåpningrum
 03 Stöjd, textil 06 Korridor
 07 Skolrestaurang
 08 Hemkunskap
 09 På annan plats inomhus: _____

4. Utomhus 01 Skolgården
 02 Skolvägen till/från
 03 Bollplan
 04 Utanför skoleområdet
 05 Infart, infartsbåg, ligerskola
 06 På gata/plats
 07 På annan plats


5. Var på kroppen?
 01 Huvud/ansikte 02 Ögon 03 Tänder
 04 Överkropp 05 Arm 06 Hand/finger
 07 Underkropp 08 Ben 09 Fot
 10 Hela kroppen

Vad sysslade Du med? _____

Vad hände? _____



Sätt ett kryss på kartan där Du skadade Dig!



6. När under 01 Lektion 01 Ja
 02 Rast 02 Nej
 03 Mellan skolan 03 Oklart, vet ej
 04 Utifrån, studieresa, ligerskola
 05 Annat

7. Fanns vuxen person där?
 01 Ja
 02 Nej
 03 Oklart, vet ej

Annat _____

Uppgiftslämnare: _____ Grupp/klass _____

Följ med barns namn avdäjt av skolsköterskan innan händelsen går vidare.

< Skadat barns namn _____ Grupp/klass _____

Source: (Ader, 2002)

Figure 2

The data collected from the Spring Semester 1996 through the Fall Semester 1996 and divided out, is represented in tables 5 through 7.

Table 4. Källby Gård Helhettskola Injuries Spring '96 to Fall '02 by physical plant location

Indoor Location	Code 3	'96 Sp	'96 Fall	'97 Sp	'97 Fall	'98 Sp	'98 Fall	'99 Sp	'99 Fall	'00 Sp	'00 Fall	'01 Sp	'01 Fall	'02 Sp	'02 Fall
01.	Lecture Classroom		1		3	3	4	4	2			6	2	1	2
02.	Wood or Metal handicrafts class	1		2	1	2	2								2
03.	Textile handicrafts Class	1						1			1			2	1
04.	Indoor Gymnasium	5	5	1	2	4	3	3	1	8	5	2	2	4	4
05.	Changing Room	1	1							1					
06.	Corridor		1	2		1				1					1
07.	School Restaurant				2										
08.	Home Economics														
09.	Other Indoor places, free time		1	3		2						2	2	2	
Outdoor Location															
11.	School Yard (Playground)	23	15	18	15	21	13	11	5	11	25	20	10	25	30
12.	Road to and From School	1						1			2		1	5	7
13.	Out of School Area				1						1			1	
14.	School Excursion / Field Trip				2										
15.	Practical Orientation / On-site Work study														
16.	Other place outdoors									2	3		4		5

Source (Ader, 2003) Translation is by Prof. Leif Svanström – Karolinska Institutet.

Table 5: Källby Gård Helhettskola Injured Party Age Distribution Spring '96 to Fall '02

Age Range	'96	'96	'97	'97	'98	'98	'99	'99	'00	'00	'01	'01	'02	'02
in Years	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall
6 to 8	7	8	18	12	15	13	10	8	14	20	10	7	9	17
9 to 10	3	7	3	3	12	7	5	2	6	10	8	11	19	22
11 to 12				4	3	2	5	1	1	9		5	4	12

Source (Ader, 2003)

Table 6: Källby Gård Helhettskola Injury type sustained by WHO Standard Injury Registration Code Chapter X.

		'96	'96	'97	'97	'98	'98	'99	'99	'00	'00	'01	'01	'02	'02
Code (Rev. X of Standard Inj. Registration)		Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall	Sp	Fall
T10	Fracture: Arm, Shoulder, finger	7	4	5	2	2	4	4	5	3	4	3	2	4	6
S02.5	Tooth Injury	1	1	1				1		2	2				4
T14.0	Bruises	1	6	8	13	16	7	8	4	10	12	7	10	20	16
T11.2	Sprains/Strains of upper limbs/ Twisting injuries	1						3	1	5	5			2	3
T30	Burn Injuries	1						1				1	1	1	
T14.1	Stab Injuries/ Lacerations														4
T14.0	Scratches (minor)									5	2	4	6		3
S69	Hand Injuries	2	3	1	3	3	3	3	3	1	10	3	4	13	10
T09	Back Injuries	2		1	1	3	2	2	2		1	2		2	
S09	Head Injuries	4	8	10	6	14	10	3	1	2	20	6	10	6	21
S29	Chest / Breast Injuries	1	1					1			1	1	1		2
T13.9	Foot, Knee and Leg Injuries				11	8	7	6	3		9	8	5	12	10

Source(Ader, 2003) Coding is new. Translation by Prof. Leif Svanström – Karolinska Institutet.

As seen from the literature, a significant process was introduced to the global program from the mapping and labeling of injuries, as well as descriptions of what happened with avoidance. This is known to cause sensitivity to reporting error. (Schott, 2000) The sensitivity to reporting occurs as the staff and pupils in the environment become familiar that it is first OK and then expected that ANY and ALL accidents and injuries are reported, even minor scrapes, bumps, etc. Then, there is an increase in reports vs. baseline, as is seen in Schott's systematic review of injuries and positive praise to reduce injuries in the deaf and blind school environment.

The immediate results of designation for Källby Gård Helhettskola, have also proven to be beneficial. Since designation, the school leaders, playground designer, mayor, and

others have received and accepted invitations to train over 50 other schools within Sweden and another set of schools and towns in an exchange program in the Baltic Nation of Estonia. (Informal Interview with Ader and Cardell, 2003)

The United States test site, Thomas Russell Middle School in Milpitas, CA a middle school with students in years 6-9 in the United States Educational System, average student population of 585, and student ages 11-14 in the developmental stage of early adolescence and puberty. The community of Milpitas is in part of Silicon Valley, with a very wide ethnic, immigrant, and economic base. The school serves students with 37 different primary languages, and has become one of the highest performing academic schools in its geographic area. This is strongly related to its participation in Safe Schools programs. (Vosskuhler & Burnett 2003)

The participation in a community-based, primary prevention social climate change program, PeaceBuilders® International, the school has managed significant change since 1995. In key areas such as reduction in fights and subsequent injuries, and a significant increase in performance in standardized test achievement measured in Academic Performance Index (API). These related charts are shown as figures 3 and 4 below.

Fights at Thomas Russell

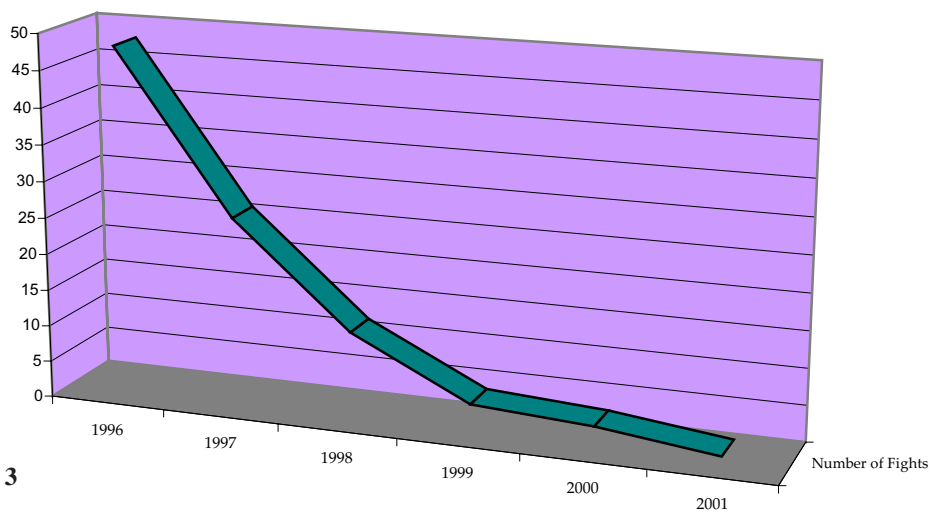


Figure 3

**Academic Performance Index
Thomas Russell Middle School**

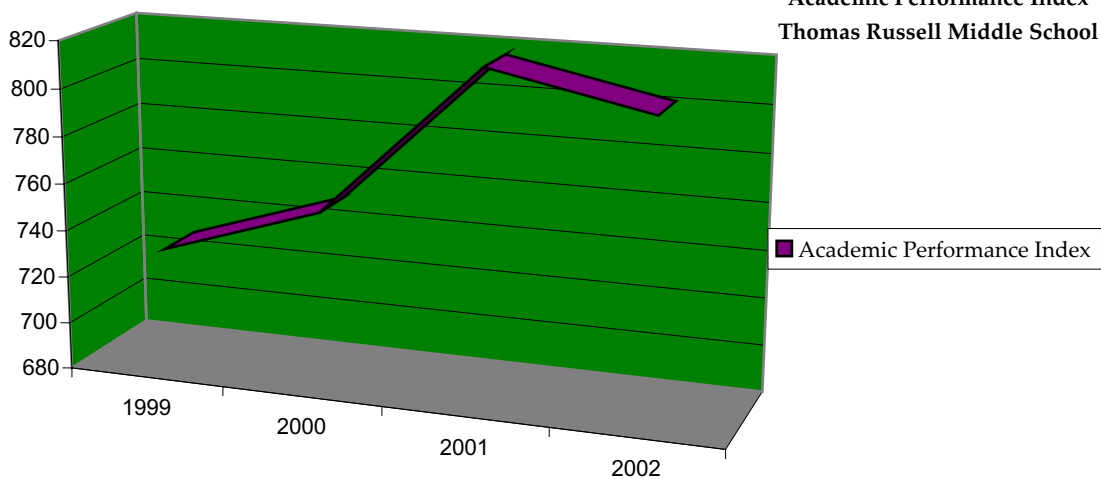


Figure 4

The local community reports savings in vandalism of \$10,000 per week per business (Interview 2002, see Appendix D). The school no longer has any vandalism, a savings in the school budget of US\$200,000 from the year 1998. (Santa Clara County Board of Education)

Regretfully, due to a late start and lack of funds generated by the Federal government and the state and local governments, the International Safe Schools Designation Program was not able to proceed past the point of forming the Safe School Committee and continuing the PeaceBuilders Program and sending in data on Thomas Russell's Emergency Action Plan. They are implementing the mapping program as this monograph goes to press, and the research will be continued. The school also hosts schools from other parts of the United States, Japan, the Middle East and other international locations on how to successfully implement primary prevention efforts and its effect on academic performance.

The third intervention area, Toowoomba, Queensland Australia has been working in the safety promotion concept in two ways. First, the area started in 1996 through collaboration with the town's Crime Prevention Partnership and State schools to address violence in their primary schools, using programs including PeaceBuilders® International. (Christie, 1997, 2000, 2002, 2003; Closs, 2003) And, through additional interventions reaching all aspects of school safety growing into their Safe Community Campaign officially launched in 2002, where their safe schools sector is a major aspect.

(www.safetoowoomba.com, 2004)

Results from Toowoomba Safe Schools include the following figures.

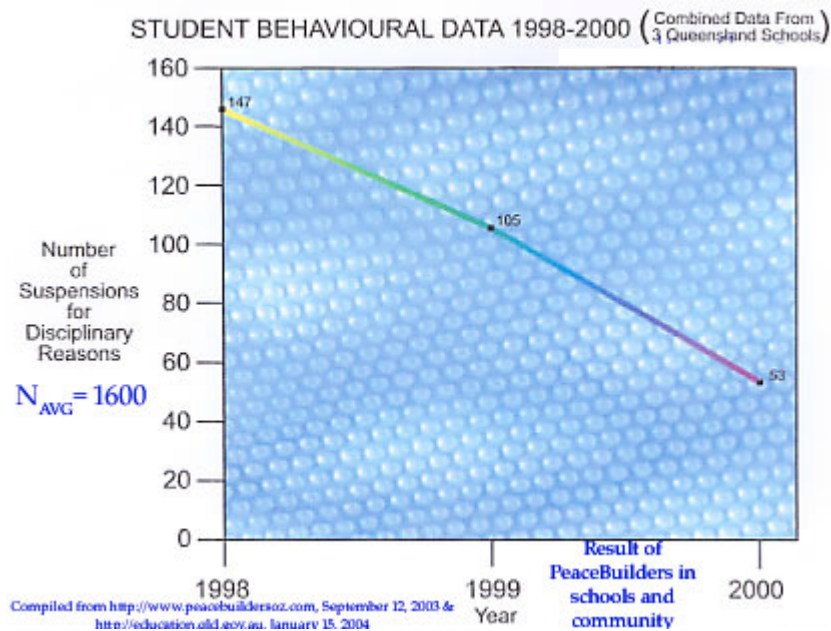


Figure 5

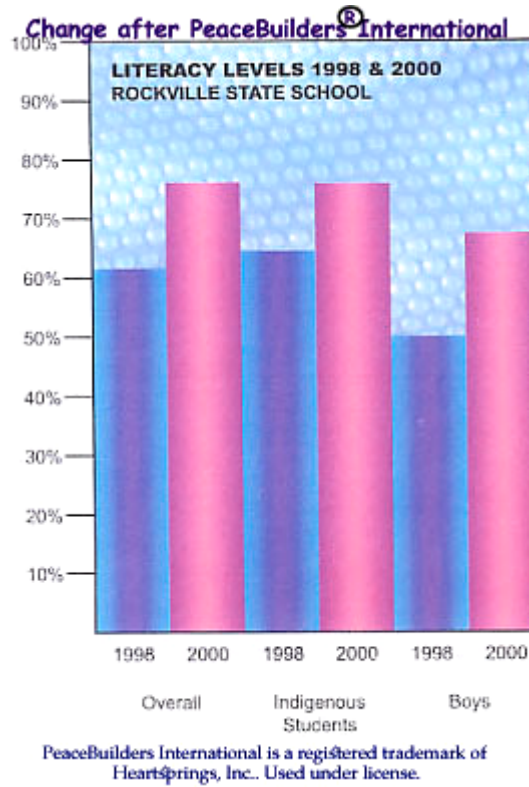


Figure 6



Source: <http://www.safetoowoomba.com/index.php?option=content&task=view&id=19&Itemid=76>

Figure 7: Toowoomba Safe Community Logo Use as basis for Safe Schools in Safe Community

Effectiveness of the programs in the Toowoomba Community schools have been studied through control match studies of de la Rue & Raith and more recently by Closs. These have shown that the programs in the younger grades focusing on primary prevention are highly positively effective, while in the mid-adolescent years affect the classroom climate, using the Moos Classroom Environment Scale, in such a way as to maintain rather than strongly disassociate and decline, as in the case of the control sites (Closs, 2003).

Again, the data return from the site on total Safe School Designation Program was below expectation. Dyan Currie and Geoff Holmes, working with the project at the community and school levels reported time as a limiting factor, as well as the questioning of the repetitiveness of having finished a Community Application in February 2004, that relied heavily on the school programs as part of building the community, then to using the strategies in the Safe Schools Guide and similar Indicators (See Appendix A) for individual school designation. (Currie and Holmes, 2004)

Discussion

Taking the theory ecological development of Bronfenbrenner, yielding a strong indicative location for primary, secondary and tertiary prevention for long-term change at an early developmental stage for communities, schools are a logical choice. Building upon the wisdom of the World Health Organization, especially that of the Safe Community Movement to create systemic and systematic change in schools makes logical sense as well.

From relatively high incidence rates to injuries and deaths to our youngest citizens, one may induce that the burden of the injuries would be quite high. Yet, without clear global standards on reporting youth and child injuries in the school environment available in the literature at the time of the search, no complete global cost calculation is possible. Still, one may deduce, given that since youth have the longest life expectancies of any group, and have all of their work lives ahead of them, that their injuries and premature deaths due to injuries would yield a substantially high cost to society. Not only in terms of medical treatment, but in terms of suffering of the families, school-mates and friends, loss of productivity in school community and to future society which in many ways is immeasurable. It is arguable if current methodologies from the cost calculation science of public health can accurately and fairly portray the loss to society if an A student or C student dies in an accident or fight. Since some of the methods rely upon knowledge of the injured party's profession, if a grade school child has no profession, then the method would be inadequate. (Jansson, et al. 2001) The student may grow up to be another Einstein, President of the United States, or laborer. Therefore, new methods may need to be found that are more equitable or immediate. Also, this demonstrates that immediate needs exist for intervention at the school level to reduce injury and promote school safety.

From the second methodology, the literature shows a clear perception of a reduction in visits to the nurse of 10% for all reasons in a school. (Krug, 1997) Extrapolating this savings, that is 57 children living rather than dying from violence every day globally, and 294 children living rather than dying from accidents. In the United States, from the literature we know that vandalism savings are approximately US\$100,000 to US\$250,000 depending upon the local market cost for labor and materials.

Following the successful results of the initial designation site, Källby Gård Helhettskola, the concept and design of the International Safe Schools Program look initially successful, and perhaps ultimately will achieve success. Yet, this study shows at this moment, the system needs more things to move forward, though it has realized some success. With organizing school sites and focusing the school community forward, the results in the Swedish site are very clear, as are the early indications of the US- California site. The

Australian site, given that it used the schools as a strong piece of its entire community safety designation, also can be included in this. Yet, it must be noted that they have not yet agreed to designate schools individually due to financial concerns.

Where the Swedish site illustrates the success of the ISS program clearly, is in a series of factors. First, through concisely developing systems of data acquisition, evaluation, practice based on results and repeated process to improve the system with the soul intention being improving school safety. (Ader 2002, 2003) Additionally, through the reduction of injuries by year cohort overall through these processes, as seen in the data presented in table 6, these data clearly point to success, especially when viewed from year to year and Fall to Spring. Common variants of increases in the Fall semester due to the loss of learning effect during the summer months and the influx of new cohorts each fall, explain the higher numbers each fall and spikes with younger children which lower as that cohort ages. Following these data the indicators for early success of the ISS program as shown by Källby Gård Helhettskola, e.g. the Swedish site, and reinforced by Anders Ader himself (Ader 2003), that ISS should do well as time moves forward. Also, since the Swedish site was able to translate the Indicators (Appendix A) into Swedish (Appendix E), it also bodes well for cross-national, cross-language and cross-cultural boundaries noting that Sweden is a high socio-economic country, where many citizens speak English and English is taught in schools.

Perhaps the greatest cross-national result is the spread of school safety and injury prevention from model schools promoted through publication, designation and other publicity to other sites in other nations and within their own countries. As seen in the US site, and the Swedish site, the spread has been multi-national with the tours by other professionals, and invitations to train in the methods implemented in the recognized sites. This sort of spread, though perhaps considered as a possibility, was not initially expected. Yet, as a grassroots public health and educational tool to promote safety and injury prevention, while maintaining low budgets is a bonus to the ISS program. Also, it may prove in the future to serve as a financial motivating factor. As the schools that are designated have their staff invited and paid to do trainings for others, their investment in designation, training, etc. may well be recouped, and this may be an additional motivating factor to be investigated in the future.

Other positive outcomes are the consistent repetitive positive academic outcomes that come with positive social climates. As part of a Safe School Environment, as detailed in the ISS Guide and in the US CDC MMWR (CDC, 2001), this agrees with the ecological development theory of Bronfenbrenner, further developed by Svanström for the field of Safety Promotion (Svanström, 1987, 1999). It also agrees seamlessly with psycho-neuro-immunological theory and testing that is on-going, and rapidly developing our knowledge of how emotions, the environment, neurochemistry, learning and the brain work. (Pert 1997, 2000). Further supported by the corresponding reductions in fights and other standard measures of disciplinary suspensions, etc., as seen in the US and Australian sites.

The original methodology of this study called for on-site intensive testing of the ISS-Guide and the materials within, including the return of *Appendix C: Quality Control Survey: International Safe Schools Designation Guide*. The survey was tested and verified, yet when distributed, the number returned prior to going to press on this monograph, made the number of degrees of freedom too small to have a valid statistical response. The testing of the survey had initial $n=20$, with respondents $n=18$, leaving 17 degrees of freedom. Meanwhile, when distributed to the sites, $n=45$ and the return $n=5$, a rate of 11% with four degrees of freedom, the statistical spread did not allow for outliers and acceptable confidence intervals. Therefore, another study will be forthcoming on that issue.

Utilizing the secondary method of informal survey by phone and e-mail, the school sites reported time and finances as a major factor in not returning the surveys. Claiming more time and/or having someone on-site to do one-on-one surveys or a being offered a

financial incentive to fill in the surveys would have assisted in creating a higher response rate. They did however, as this monograph went to press promise to return the surveys so as to increase the confidence interval and give more data to be analyzed.

Limitations

Regretfully, the ISS program and this study have many hurdles that must yet be dealt with. The two most fundamental issues are time and financial issues. Due to the lack of time, as presented in the results, two of the three sites did not have time to either: make a concerted response to the ISS methodology, or if they had started on it, report their results within the framework given in the ISS methodology. This is due to the design and essence of school change. Looking at the methodology of ISS, the team formation, data gathering, analysis, action as a result of analysis, re-evaluate through data gathering and analysis, share results and repeat with new corrected action plan based on new results; this is at best a semester long issue. But, in most cases, this requires a minimum of one year to multiple years to see substantial results. Therefore a timeframe of less than one school year from launch of the International Safe Schools Designation Program to the publication of this monograph including data collection and analysis of three sites is too limiting.

One contributing factor to this, which is also an independent variable, is financial resources. As reported in conversations and an e-mail from the Assistant Principal of Thomas Russell Middle School, Miyo Burnett, at press time there is a question if her school will be able to fund her position, and that of several other staff and teachers next year due to the State of California and US Federal budget shortages that are running several US billion dollars. (Burnett 2003, 2004) As is many times the case, even with the assurances of the political leaders that education will not be a victim of budget cuts, it is again a leading victim. With the leaders in the site worried about their financial futures, and not having enough money for core mission projects, such as math, reading and science curricula, additional projects fell behind.

Also, since the major funder for this study is Peaceful Resources Center, a non-profit based in Tucson, Arizona, and the Center has been dramatically affected due to the economic and political conditions in the United States, the project was under-funded. The major funders of Peaceful Resources Center, since its inception, have been the Board and Max L. Vosskuhler (the author of this study). Even though Mr. Vosskuhler has donated his services and not taken a salary since the inception of the Center, and donated over US\$25,000 personally, the costs of traveling to each site to perform on-site support and training proved insurmountable. Therefore, left to their own devices, without proper on-site support or financial incentive to move the project forward or finish surveys by a particular date, a practice common in the United States (Flannery & Vazsonyi 2001), the process moved more slowly.

The further effects of a practically self-funded study are that when funds are low, the process of implementation and evaluation is not only slow, but can also be heavily biased. Yet, in the essential design of ISS, with multiple scientists from multiple disciplines joining together to design a cross-national, cross-cultural designation program based on existing promising theory and practice, much of the design bias is lifted from the collaborative process. The bias in evaluation however, must be noted and acknowledged. However noble the attempt, scientists, doctors and philosophers are all human and given to bias. Ultimately judging the slant of the research and the effect of the funding source, whether it be self-funded, or from another source can only be made by the reader. In this case, the mitigating factor might be that the suggestion for continuance of this research would include: more sites, collaboration with the communities, including funding to support the research either

directly or indirectly through business support or training agreements etc. The best method of funding for continuance would be successful grant or fellowship award to support further work.

Combining more time and better funding, issues such as site selection and availability may be addressed. In this case, three sites were chosen based largely on their previous association with the WHO Safe Community Movement and Safe Schools Programs. They also all had access to English speaking personnel. Since the ISS Guide is only available in English, at the time of press of this monograph, and only parts are available in other languages, only sites with this ability could be selected. Additionally, given their previous association and knowledge of the limitations of time, gave these three sites their precedence.

In many successful public health, product, safety and other campaigns, the visibility and knowledge of the availability of the product or program is essential in the target group that you wish to serve. (Vosskuhler, 2003) As ISS has been self-funded and has been spread through list-serves, web sites, conferences, papers, monographs, affiliate groups, etc., since the launch 28 August 2003 in less than a year only 50 sites have officially or unofficially contacted ISS indicating interest or to find out more, with 1200 direct e-mail announcements sent out. But out of approximately 1,000,000 schools, a prevalence of 5×10^{-5} is very low. Time and funding can help by giving time for word of mouth to spread, more TV coverage of the movement, more conferences of interested and affiliate groups to occur, and more designations to occur. As seen in Sweden and in the US, as the schools are recognized for their successes, their news and programs spread quickly. Funding will help to provide the means and infrastructure to continue the program, travel to conferences and provide and sponsor regional trainings and courses in International Safe Schools to educate the target audience in what the process is and how easy it is to do.

Conclusion

On measure the study with its faults provides some footing and direction to the future. Looking forward, positive compounded results may be considered. Yet, at the current rates, ISS is slowly affecting the incidence rates by systemically and systematically changing the environments of schools, promoting safety in all areas and aspects of the school.

Additional study is needed. Close on-site, control-match longitudinal study must be done to verify the strength and cross-national, and cross-language applicability of the International Safe Schools Designation Guide and Program. This study by its nature would be broad, multi-faceted and include both outcome and process evaluation techniques.

The thought that the results positively affect the school community leading it to develop a WHO Safe Community has been left open with more study needed. Only longitudinal follow-up can answer that question.

Other questions have been presented and partially answered, as they are in the theories in the literature. For example the high correlation of better academic achievement due to reductions in fighting and better physical and social school environments. This theory born out in examples and in the neurochemistry literature, is very hard to prove in schools due to the myriad of conditions and variables that are present. Since no study to date has been found by this researcher that accounts for all of these variables and more, sufficiently or gives cause in data cleansing procedures, these correlations remain theoretical but telling given all of the other circumstantial biological, genetic, sociological and psychological knowledge.

The International Safe Schools Program and Guide show promise as a system for schools to use to become safer places to learn, work, live and play. Yet, the story is incomplete. More study and research must be done. Like any movement in its first year of existence,

growth is occurring and from growth learning and change will come. And, as it is in the philosophy of this bridge of public health, education and community development: learning, data collection, analysis, application, sharing and repeating the process over and over in order to improve, on-going research is only a goal it is a requirement.

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- This thesis is dedicated to all of the schools, staff and professionals in communities and collaborating throughout the world to make the world a safer, happier, healthier place to learn, work, live and play.
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Appendix A



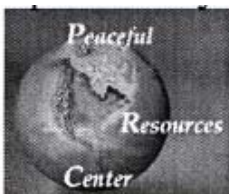
Indicators for Safe Schools as of 18 March 2003

Safe Schools in a Safe Community setting have:

1. An infrastructure based on partnership and collaborations, governed by a group of teachers, pupils, technical staff and parents that is responsible for safety promotion in their school; the group should be chaired by a School Board (representative of school policy governance) representative, with the Headmaster as a co-chair;
2. Safe School policies decided by the School Board (representative of school policy governance) and the Community Council in a Safe Community setting;
3. Long-term, sustainable, operational school programs covering both genders and all ages, environments, and situations;
4. Programs that target high-risk groups and environments, and programs that promote safety for vulnerable groups;
5. Programs that document the frequency and causes of injuries – both un-intentional (accidents) and intentional (violence and self-directed);
6. Evaluation measures to assess school policies, programs, processes and the effects of change;
7. Ongoing participation in Safe Schools networks – at community, national and international levels.

These indicators have been developed by the International Safe Communities movement with the objective to make the World a better and safer place to live, work and play in. Please read more about us on www.phs.ki.se/csp and give us **Your** opinions to improve our work to moa.sundstrom@phs.ki.se or leif.svanstrom@phs.ki.se

Specifically for Safe Schools issues contact:



<http://www.peacefulresources.org/InternationalSafeSchools.html> and maxvosskuhler@peacefulresources.org or eschmidt@edc.org, co-chairs of the International Safe Schools Committee.



Appendix B: Process for Designation

Process for Designation as World Health Organization (WHO) International Safe School within WHO Safe Community Context

The procedure of designation involves many steps that are outlined below. Yet, before the procedure is tackled the overall picture must be viewed. The International Safe Schools Designation has four tiers (see *Pyramid of Designation*). These tiers are: I - Affiliate, II - National, III - Regional, and IV - International. Using the tiered system, every school that is making strides in Safe Schools, as it is a process and not a goal, can and will be recognized. Also, through the tiered system, those schools that are the best and the brightest examples for the rest of the world to follow in terms of scientifically based injury prevention, can easily be identified.

The process of applying so much science to a geographically and ethnically broad audience, is difficult. Therefore, the indicators and benchmarks are wide ranging and will apply uniquely to each country and each situation, with the overall outcome being similar.

The administration of the designations uses as much technology as possible to keep the costs low. Through interactive non-profit and non-governmental organizations partnering our commitment is to enable access to all schools throughout the world, to enrich the global educational and safety community.

First, a school will form a cross-sectoral Safe School Group as outlined in the first *Indicator of Safe Schools*. As the Group prepares baseline data for the school and community, a letter of interest shall be submitted by mail or e-mail to the International Safe Schools Committee (ISS) in care of Peaceful Resources Center (submissions@peacefulresources.org), so that ISS can list the school as a school beginning the process and offer support throughout the process.

The Group will have baseline data taken for the school in terms of injury prevention. The *Matrix of Benchmarks* may give guidance to the Group in which areas to gather baseline data. Also, in the section of *Evaluation Tools*, tools may be found for data collection.

From the baseline data the Group will make decisions on which priorities need attention first in order to reduce injury. Scientifically based programs are implemented to address those issues and outcomes are measured. A plan is drawn up and followed including sustainability for funding and leadership.

The baseline data and plan ought to be submitted to ISS for review and support.

The school should continue on with its plan while working with ISS, as the change process can continue within the school. ISS is a source of expert support and training.

The plan, outcome data, programs, continuity information, supporting documentation, photos, etc. are submitted, with the appropriate application fee (see updated chart at <http://www.peacefulresources.org/iss/fees.html>) to the International Safe Schools Committee (ISS) c/o Peaceful Resources Center PO BOX 14254 Tucson, Arizona 85732 USA +1 520-990-5156 fax +1 520-844-1171 submissions@peacefulresources.org. It is suggested that the format found in the section titled *Example Application* be followed.

Once the application has been received, your school will be put on the pending designation list at <http://www.intlsafeschools.org/pending.html>. Your school will be matched by the (ISS) with another school that has already been duly designated at the level to which you are applying, except III and IV (see *Pyramid of Designation*) at which time a Committee member will be assigned to review your application, and they will be sent a copy of your materials for review. The reviewing school's group will send questions to your group and make a site visit to your school to verify your application's programs. After their site visit they will submit a brief report to ISS.

Upon receipt of the report, ISS will review all the data and determine the designation status of your school. Once designated your school will receive an official letter of designation, a plaque and a request for to schedule a designation ceremony. The designation ceremony is a public recognition of your school's hard work and continued designation to safety. An ISS Committee Member will come out for a signing ceremony during which a commitment will be signed by the ISS and your school for continuing support and program continuance for a minimum of three years. This celebration is meant to be a public and community celebration, a chance to bring the public and media to your school for a positive event and celebration.

Every three years there is a renewal process. Your site can maintain its current standing by submitting a short report of the projects that are on-going including annual data and the renewal fee (see chart at <http://www.peacefulresources.org/iss/fees.html>). Or at renewal time or any time your site's group feels that it has covered substantially more of the points in the matrix, your site can apply for a higher designation.

Technical assistance is available from Peaceful Resources Center through their website at <http://www.peacefulresources.org>. Through the Center you can also access other Affiliate Centres of the WHO Collaborating Centre on Community Safety Promotion <http://www.phs.ki.se/csp/>, best practice programs, and many other resources to assist you in your process of becoming and being an International Safe School.

Appendix C

Quality Control Survey: International Safe Schools Designation Guide

This survey is anonymous. Your answers will help to improve the quality of the International Safe Schools Designation Program and Guide. Please follow the instructions which are in italics. If you are filling out this survey using paper, please mail it to: International Safe Schools Program c/o Peaceful Resources Center PO BOX 14254 Tucson, AZ 85732 USA. If you are filling it out online, please complete it fully and hit submit at the end.

Please Check/Click the Box that best describes your role in relation to the school:

01.

- Principal/Headmaster-mistress/Rector Teacher Student Researcher
 Business Person Emergency Service Person Parent Retiree/Pensioner
 School Nurse School Counselor School Administrator Coach
 School Psychologist School Doctor Teacher's Aide Government Rep.
 Community Service Organization Representative

Please fill-in the blank/box with your citizenship.

02.

Please fill in your national/cultural origin.

03.

04.

On a scale of 1 to 10 with 1 being very poor to 10 being great, please circle/select the number which represents your overall rating of the International Safe Schools Designation Guide.

1 2 3 4 5 6 7 8 9 10

05.

On a scale of 1 to 10 with 1 being very difficult to read to 10 being very easy to read, please circle/select the number which represents your rating of the readability of the International Safe Schools Designation Guide.

1 2 3 4 5 6 7 8 9 10

06.

On a scale of 1 to 5 with 1 being very hard to 5 being very easy, please circle/select the number which represents your rating of how easy the International Safe Schools Designation Guide is to understand.

1 2 3 4 5

07.

On a scale of 1 to 5, please rate your understanding of how hard it is to become designated as an International Safe School as part of World Health Organization Safe Communities.

1 2 3 4 5

PLEASE CONTINUE ON THE NEXT PAGE.

QUALITY CONTROL SURVEY: International Safe Schools Guide and Program

08.

On a scale of 1 to 5, please rate your interest in your local school becoming a safer place to learn, work, live and play. 1 is not at all interested. 5 is very interested.

1 2 3 4 5

09.

On a scale of 1 to 5, please rate your interest in having your school be Designated by the International Safe Schools Program for applying scientific principles, data and evaluation to a systematic change to becoming a safe school, while also becoming part of an International Network of Safe Schools where it can get support and information from their peers. 1 is not at all interested. 5 is very interested.

1 2 3 4 5

10.

Is the Designation Price of US\$50. too low for each school? That covers three years, the plaque and members' only website service with discounts on trainings and conferences. Additional fees may be incurred for travel for site visits, and for the designation ceremony.

Yes

No

11.

Please use the space below to answer the following statement. I would change the following things in the Safe Schools Guide and Program to improve it for me and my peers.

Thank you for your time and effort. Please remember to turn in this survey by mail: International Safe Schools c/o Peaceful Resources Center PO BOX 14254 Tucson, AZ 85732 USA; or by hitting the submit button on your screen.

THANK YOU AGAIN!

Appendix D

Informal Survey Questions Asked by Phone or E-mail

NOTE: These questions were not vetted through human subjects ethics review, nor were they tested through a sample group before being asked of the target audience. With no control group to specifically test against, the researcher, Max L. Vosskuhler, relied upon his 12 years field experience in program development, testing and research in Safe Schools for these questions.

1. Miyo, regarding the Japan visit when we interviewed the parents and local business owners with Alice Kawaguchi in 2002, please refresh my memory, but according to my notes and transcripts:
 - Businesses for a 5 mile radius see a difference between TR kids and other non TR kids. (MB Response- Yes. They attribute it to the school climate program PeaceBuilders and the other safe schools programs we have. Remember the gas station where the other schools vandalized it and the owner reported that the kids from here went over the following weekend and repainted the whole station.)
 - That even has spread to the downtown district according to Santa Clara Health Department (MB- Yes, as kids from here have gone on through High School and into college and internships and work they have taken it with the Health Department into the Downtown Business District. I hear you have something to do with a push for a “Safe Community”. MLV- Yes, but Miyo, after Hong Kong in March, you and I both know you are part of it too.)
 - The Businesses have seen costs drop from vandalism of up to \$10,000/week in some cases per business. (MB, yes at the local mall, one of the restaurants has seen that due to their etched glass windows which cost over \$11 Grand. Each week they were losing one due to gang tagging. Now they just don’t see it. We don’t have any vandalism on campus either. Major savings in our budget.)
2. How has the California budget crisis affected you and Thomas Russell? (Severely, I don’t know if I’ll have a job next year. Our budget is down 3.5 million and Santa Clara is down \$3.5 billion. This is a major issue for all of California. I’m really sorry that we haven’t been able to do more for you and getting ISS off the ground here at TR. But as you know in a CRISIS year, we all focus on money first and new things are pushed to the back.)
3. Is there any hope of moving on this in the next year?(MB- Max, if you come and work on it, or if the budget gets a little better then it will take off. But no matter what it WILL happen here. Everyone here at Thomas Russell is committed to being Designated as an International Safe School. It just may take longer than expected. I am really sorry that we couldn’t get you the survey’s and more data this year in time.)
4. To Toowoomba: On the International Safe Schools Designation Program, it is more than just the Community Program, it is for each individual school, does that clear it up (Geoff Holmes- Yes, we were hoping that each community that has had so many results with its schools and published its school data would automatically get its schools designated.)

5. Geoff, the schools are almost there. The process is looking correct from the data and evaluation, How about the individual governance of school safety? How is that theory vs. Reality? (Geoff- Let me respond to that one through each school. Contact them.) {upon individual contact, no response yet.}

This informal Question and Answer Interview about individual process produced clarification on the data from publications and that which was previously gathered. Due to variations in methods, the reportability is low.

Appendix E: Safe Schools Indicators in Swedish

Karakteristika för ”En säker och trygg skola”

”En säker och trygg skola” i ”en säker och trygg kommun” kännetecknas av:

1. Ett nätverk som bygger på partnerskap och samarbete och som styrs av en grupp bestående av lärare, elever, teknisk personal och föräldrar som tar ansvar för att främja säkerhet och trygghet i sin skola. En representant från den lokala skolförvaltningen bör vara ordförande för gruppen med rektor som vice ordförande.
2. En policy för ”En säker och trygg skola” som antagits av skolförvaltningen och kommunfullmäktige utifrån perspektivet ”en säker och trygg kommun”.
3. Långvariga och uthålliga verksamhetsprogram som omfattar båda könen och alla skolåldrar, miljöer och situationer.
4. Program som inriktas på högriskgrupper och -miljöer och program som befrämjar säkerhet och trygghet för utsatta grupper.
5. Program som dokumenterar förekomsten av och orsaker till skador – såväl oavsiktliga (olyckor) som avsiktliga (både mot andra och sig själva)
6. Utvärderingsverktyg för att bedöma policy, program och processer samt effekten av förändringar
7. Fortlöpande deltagande i nätverk för säkra skolor på de kommunala, nationella och internationella planen

Dessa karakteristika har utarbetats av rörelsen International Safe Communities i syfte att göra världen säkrare och tryggare för människor att leva, arbeta och utöva sin fritid i.

Mer information finns på:

För En säker och trygg kommun finns mer information på

www.phs.ki.se/csp eller <http://www.safecommunity.net> och kontakta vid behov moa.sundstrom@smd.sll.se eller leif.svanstrom@phs.ki.se

Specifically for Safe Schools issues contact:

<http://www.peacefulresources.org/InternationalSafeSchools.html> **and**
maxvosskuhler@peacefulresources.org, **chair of the International Safe Schools Committee**
(på engelska).