

FACILITATING SECONDARY LEVEL STUDENTS' INVOLVEMENT ON SCHOOL-BASED RISK ASSESSMENT

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ABSTRACT

Risk is the potential of losing something of value or possibility of causing harm to individuals. In an educational setting, it may be related but is not limited to psychological, health, and physical risks. This study aimed to involve secondary level students in the identification, assessment and reduction of risks to students in the secondary level of a higher education institution. The descriptive method of research was used in this study. In gathering data, student-initiated separate studies were facilitated. Students on their third year were given a chance to choose risk assessment as one of the research themes and to write a proposal about their chosen topic. On their fourth year, they were tasked to carry out their proposal. Thirteen students out of 69 considered risk assessment as a theme. Majority of the students were female (10), and 3 males. A group of students determined psychological risks in school; another group studied physical and health risks. At the end of the two-year study, the group of students found the following significant school-based risks: psychological risks – bullying and parents working abroad; health risks – poor maintenance of comfort rooms; facilities risks – facilities such as non-functional emergency exits and unsecured electrical wirings. These findings were inputs to school-based improvements and developments in the reduction of risks.

Keywords: *Risk Assessment, Education, Secondary level, Risk Reduction, Research*

1. INTRODUCTION

Risk is a part of our daily dealings. In school, students are subjected to a variety of possible sources of risks. It is therefore an integral school task to identify and manage these risks in order to ensure the safety of the students and staff in school. There are several hazards and risks in the school. The Department of Education of Training of Queensland Government [2] identified several sources of hazards and risks. These includes the following: 1) Chemicals and hazardous substances; 2) Curriculum activities; Dust; Electrical; emergency planning; infection control; first aid, etc. The idea

of minimizing risks is part and parcel of the concept of risk assessment. The goal of minimizing risks is in line with the idea of preventing possible extreme harm through precautionary measures. These precautionary measures may be a product of the careful examination of these risks and the means to minimize them. Risk Assessment can be carefully done through a series of steps. In the publication of Health and Safety Executive [3,4], there were five steps enumerated to assess risk. The steps are as follows:

- 1) Identify the hazards
- 2) Decide who might be harmed and how
- 3) Evaluate the risks and decide on precautions
- 4) Record your findings and implement them
- 5) Review your assessment and update if necessary

A disambiguation between risk and hazard was also provided by HSE [3,4]. Hazard was defined to be “anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer, etc.” while risk is “the chance, high or low, that somebody could be harmed by these and other hazards...”

Student Involvement in Risk Assessment

Students are at the core of the teaching and learning. Their being in school places them in a variety of risks and hazards. Their involvement in the identification and assessment of these risks and hazards is therefore a necessity. The closer the students are to the information, the better their grasp of the necessity to assess risk.

Risk Reduction in the Philippines

The Philippines is prone to several potential sources of risks [1]. The DRR Knowledge Center, an online library of the Philippine Disaster Risk Reduction and management, presented the risk profile of the Philippines. The article states that the compelling reasons for the need for risk reduction in the Philippines include exposure to disasters and hazards associated to geography and geology as well as internal disputes in some areas. One of the laws enacted to help reduce risks in the Philippines is Republic Act 10121 [5]. This act aims to strengthen the Philippine disaster risk reduction and management system of the Philippines. The act was also able to establish a National disaster risk reduction management framework and institutionalize the national disaster risk reduction and management plan. Other than national concerns, the Philippines unites with the world in promoting safe school environments. In one of the reports of the UNISDR [6], the country launched a “safe school campaign” after Typhoon Haiyan (Yolanda) hit the Philippines in 2013. The campaign targets 48,000 public schools carrying the slogan, “How safe is Your School?” Many of the country’s campaigns are towards the preparation of schools for responding in times of calamity and disaster.

The current study does not only revolve on these risks and hazards. Our study revolves around risks and hazards that students in schools are prone. The risk includes three broad clusters: 1) Health Risks; 2) Environmental Risks; and 3) Psychological Risks.

2. MATERIALS AND METHODS

The researchers used the descriptive method to gather data through student-initiated researches. The students were guided in the two-year study of risk identification and assessment that students from Kinder to Grade 10 are exposed. There are a total of five identified research themes with three specific risk assessment sub-themes. Students were given the freedom to choose the specific risk assessment theme they want to study for the span of two years.

Research Locale, Limitations and Subjects of the Study

This study was conducted in a secondary level of a higher education institution in the Philippines. Students were made to choose from among five research themes. The research themes and the distribution of the students per theme and the identified sub-themes for risk assessment are given by the following table:

Table 1. Distribution of Students to Specific Research Themes

Research Themes	Male	Female	Total
Health Science	1	2	3
<i>Risk Assessment: Health Risk Assessment</i>	(0)	(2)	(2)
Applied Science	5	6	11
Environmental Science	9	14	23
<i>Risk Assessment: Facilities Risk Assessment</i>	(1)	(4)	(5)
Social Science	10	16	26
<i>Risk Assessment: Psychological Risk Assessment</i>	(2)	(4)	(6)
Information and Communication Technology	3	3	6
Total	28 (3)	41 (10)	69 (13)

A total of 69 students conducted studies in the different themes as reflected by table 1. A total of 13 students decided to choose risk assessment studies as their specific sub-theme. Out of the 13 students, 10 are female and 3 are male. Two students chose health risk assessment, five students chose facilities risk assessment and six students chose psychological risk assessment. The specific studies conducted by the students are as follows: 1) health risk assessment; 2) disaster and facilities risk assessment; 3) bullying and cyberbullying; students' with parents abroad.

Data Gathering Procedure

The steps recommended by HSE (2014) to assess risks was followed in this study. First, hazards were identified in each of the three sub-themes. These hazards became the subjects of the specified risk assessment of the identified students. They then followed specific steps to assess risks in their identified sub-themes.

Phases of the Study

Phase 1. Selection of Themes and Preparation of the Proposals. During the grade 9 of the identified students, they took a research course where they were required to prepare a research proposal. All 69 students were given a chance to choose from five research themes. The students were then tasked to identify a topic of interest to them. From the choice of the students, ten were identified to choose risk assessment as a common sub-theme. Proposals were then prepared, submitted, revised and improved.

Phase 2. Data Gathering Proper. During the grade 10 of the 10 identified students, their specific studies were conducted for a period of not more than 8 months. They conducted five specific studies related to risk assessment. They independently carried out their proposed studies and gathered data for assessment and evaluation. The following are short descriptions of the studies they have conducted per sub-theme:

1. Health Risk Assessment

One pair of students conducted a study about assessing the risk associated to eating in food stalls in the school. There are around 20 food stalls in the school including one operational school canteen where students avail of food services. They conducted a survey on the perception of the students on the food handling of the staff in the food stalls. The survey instrument was developed and validated by three experts.

2. Disaster and Facilities Risk Assessment

A group of five students conducted a study on disaster and facilities risk assessment in school. They conducted surveys and interviews to parents, teachers and students of the school. A total of 35 students participated in the study from first year to fourth year level. The ages of the students ranged from 11 to 16 years old. A total of five teachers were interviewed as regards facilities-related risks in schools. Finally, they have also selected a total of 10 parents to interview and to respond to a survey questionnaire.

3. Psychological Risk Assessment

There three studies classified under this sub-theme. The studies involve bullying in school, cyberbullying and psychological being of students with parents working abroad. The study about bullying involves the following method: two hundred secondary level students were given a quick survey and were asked if they were bullied before. A portion of the instrument also asks if they would like to be interviewed after.

The second study involves cyberbullying. The students selected a group of 35 secondary level students were randomly chosen students. Students were given questionnaires to complete. The method involves identification of students who were cyberbullied and from the pool, students who are willing to be interviewed were identified.

The third study is with that of students whose parents are working abroad. The study involves the identification of secondary level students whose parents are abroad. After identification of the students whose parents are working abroad, a developed instrument is administered to them to gather significant data that may affect their performance and psychological well-being in school.

Phase 3. Assessment Phase. With the data in hand, the students then proceeded to the processing of the information they have gathered. These information were summarized and prepared as independent studies. These studies were presented before a panel for evaluation.

3. RESULTS AND DISCUSSION

The results in this portion forms part of the guided research of the students in the process of conducting their studies under the risk research theme. The three sub-themes under risk assessment shall be presented independently below:

Results for Health Risk Assessment. Thirty (30) randomly sampled students were selected to participate in this sub-theme. They were all given a survey questionnaire with a binary response of yes or no. There are three major categories of health risks to assess in the stalls. These are: 1) Food handling; 2) Personal handling of food stall staffs; and 3) Environmental hygiene of the stalls. In interpreting the response of the students, the net satisfaction of the students was calculated. In getting the net satisfaction, the difference between the percentage of those respondents who are affirmative with the question and those in the negative is calculated. The maximum positive response is 100% and the maximum negative response is -100%. A net of zero is received by an item where there are equal affirmative and negative responses. The net satisfaction rating of the students as regards food handling on the stalls are interpreted further based on the following table:

Table 2. Interpretation of the Net Satisfaction Rating

Net Rating %	Interpretation
80 – 100	Very High
60 – 79	High
40 – 59	Average
20 - 39	Low
0 - 19	Very Low

The results of the survey on health risks conducted by the students on a randomly chosen group of 30 students may be gleaned from the following table:

Table 3. Health Risks

Questions	YES (%)	NO (%)	Net rating (%)
A. Food Handling			
1. Was there any instance that you have seen dirt or insects in the food that you have bought?	20 (67%)	10(33%)	-34
2. Are there any instance that the foods served are NOT fresh?	19 (63%)	11 (37%)	-26
3. Do you think that the food are properly handled and well prepared?	18 (60%)	12 (40%)	+20
Average:			-13.33
B. Personal Hygiene of Food Stall Staffs			
1. Are the stall staffs well-groomed?			+20
2. Do you think the staffs are in good health?	18 (60%)	12 (40%)	+40
3. Is proper cooking attire observed?	21 (70%)	9 (30%)	+14
Average:			+24.67
C. Environmental Hygiene			
1. Are the floors, walls and ceilings of their workplace clean?	10 (33%)	20 (67%)	-34
2. Are the foods properly kept and stored?	18 (60%)	12 (40%)	+20
3. Do you think their working area is properly ventilated?	14 (47%)	16 (53%)	-6
4. Have you noticed that the utensils/equipment used are in good condition?	19 (63%)	11 (37%)	+26
5. Are the stalls neat, organized and appealing?	13 (43%)	17 (57%)	-14
Average:			-1.6

The results of the survey revealed a net negative rating on the first and last sub-categories of health risks, food handling and environmental hygiene. The results further reveal low positive net satisfaction of the student-raters on the second sub-category. The last sub-category revealed a very low negative net satisfaction rating of the students on environmental hygiene.

These results may mean that the students are not satisfied with the services of the stall but are still availing of the service of the food stalls for certain reasons such as cost and absence of alternatives. This preference to buy food in the stalls despite of the very low negative to low positive satisfaction may mean that their patronization of the service is due to the absence of other options for them. The low net rating of the stalls mean that there should be a need to revisit practice especially on the area where the stalls are located. The risks associated to buying foods on food stalls with an assessed net rating of low negative to low positive may be considerable as well.

Results for Facilities Risk Assessment. The students conducted a survey to parents as regards the most pressing facilities-related problems in the school. The following table shows the results of the survey:

Table 4. Facilities Risks Assessment

A. Parents' perspective as regards facilities-related problems	
Risks	<i>f</i>
Infestation of rodents and insects in classrooms/labs	9
No proper maintenance of toilets	9
Lack of access to soap	9
B. Students' perspective as regards facilities-related problems	
Risks	<i>f</i>
No regular access to water	34
No proper maintenance of toilets	33
Poor sink drainage system	32
C. Teachers' perspective as regards facilities-related problems	
Risks	<i>f</i>
No proper maintenance of toilets	5
Lack of access to sink/drainage system	4
No regular access to water supply	4
Unmaintained fire exits	4
Poor garbage disposal	4
Damaged electrical outlets	4

There are several identified school-based facilities risks based on the responses provided by the teachers, parents and students. The top common choice for the respondents is the poor maintenance of toilets. This is assumed to be a common concern in many schools in the country. The risks associated to unmaintained toilets should therefore be addressed by a conscious and conscientious effort to clean these areas regularly.

Results for the Psychological Risk Assessment

Bullying Study. There are three studies that qualified for this sub-theme. The first study is about bullying in school. A quick survey was conducted to two hundred secondary level students of the school. The survey includes a question about experiencing bullying in school and if every they were bullied, their willingness to be interviewed. The result of the quick survey is given by the following table:

Table 5. Experienced bullying

Questions	NO (%)	YES (%)	Willingness to be interviewed (%)
Have you ever been bullied?	129 (64.5%)	71 (35.5%)	5 (7.04%)

Table 5 shows that majority of the students claimed that they were NOT bullied. A small fraction, 35.5% of the students claimed that they were bullied. An even smaller portion of the students who claimed to be bullied are willing to be interviewed, 7.04%. The result of the interview conducted with the five students who agreed to be interviewed confirms the effects of bullying to persons. The salient effects of bullying to them include lowered self-esteem because of physical and verbal forms of bullying.

Cyberbullying Study. The students were given a survey questionnaire that asks about their experience of being cyberbullied. The results of the survey conducted to 35 secondary level students of the school is given by the following table:

Table 6. Experienced cyberbullying

Questions	NO (%)	YES (%)	Willingness to be interviewed (%)
Have you ever been cyberbullied?	29 (82.86%)	6 (17.14%)	3 (50%)

Table 6 shows that only a small percentage of the students experienced cyberbullying, 17.14% of the randomly chosen students. Half of the students who claimed to be cyberbullied were willing to

be interviewed, 3 out of 6. The results of the interview revealed negative psychological effects to students who were victims of cyberbullying. The cases are described below:

The case of student 1, a female secondary level student claimed that she was cyberbullied in a social networking site, "Facebook". She said that her photo was spread through the website and many people commented on it. She claimed that her social life was affected since she felt that many of the comments were against her. She even stated, "I feel that everyone was laughing at me..."

The case of student 2, a female secondary level student, is through another social networking site, "Twitter". She claims that one person kept on posting rude opinions about her. She claimed that the person who posted rude opinions intimidated her to the point that the mere presence of the student makes her feel awkward. She even felt that everyone around her are bullies like the person who posted rude things about her.

The case of student 3, a male secondary level student who was bashed on a social networking site, "ask.fm". In this site, anyone can ask questions which may also be answered by anybody who has access to the site. The student experienced severe bashing and cursing to the point that even his personal life is asked and given negative remarks.

All cases above were claimed to be attended to by the school through counselling and case investigations. The students' strong social support made them complete the academic year with no severe impact to their class participation and performance.

Parents' Working Abroad Study. The secondary level students were made as subjects of the study. The entire secondary level population was surveyed as regards students whose parents are working abroad. The identified students were asked if they are willing to be subjected to their study. The students who are willing to participate were given questionnaires and were guided through the course of completing the instrument. The results of the survey is as follows, there are 15 identified students whose parents are working abroad and who are willing to participate in the study. Here is the summary of their responses to the questions asked of them:

Table 7. Students' Response on items about parents' working Abroad

Item	<i>Frequency (%)</i>
Reasons why parents are working abroad	
• for financial support	10 (67%)
• business purposes	2 (13%)
• they don't know	2 (13%)
• their parents want to	1 (7%)
Relatives with whom they are left to stay with	

• mother	9 (60%)
• father	3 (20%)
• housemaid/uncle/aunt	1 (7%)
Mode of Communication	
• Internet	11 (73%)
• Call and Text	3 (20%)
• Letters and postcards	0 (0%)
• None	1 (7%)
Activities when respondent miss their parents	
• Keep busy	6 (40%)
• Party/go out with friends	3 (20%)
• Call them	5 (33%)
• Cry	1 (7%)
Presence of perceived effects of parents working abroad	
• Agree	10 (67%)
• Disagree	4 (27%)
• Maybe	1 (7%)

Majority of the students asked in the survey believed that the big reason why their parents are working abroad is for financial support. Most of the students, 9 (60%) whose parent are abroad are left to stay with their mother. Some of them have their mother who are working abroad and are left with their father, 3 (20%). A great number of the students communicate through the latest communication technologies. Most of them uses the internet, 11 (73%), closely followed by call and text, 3(20%). A big majority of the students are able to cope with the absence of their parent through keeping themselves busy, going out with friends and calling them. Only a small fraction, 1(7%), resorts to cry as a coping mechanism. The majority disagrees of the effects of parents working abroad on their performance, 10(67%).

4. IMPLICATIONS AND CONCLUSION

Risks are inevitable. The attendance of students in schools places them to school-related risks that needs to be carefully examined for pre-emptive actions. There are major sources of possible risks that students are exposed in school. It is important that they are involved in the assessment of this risks. Through this study, students are made as researchers in determining sources and extent of the effects of risks to them. Risk sources were made sub-themes of their specific studies. The three identified sub-themes are: 1) Health Risk; 2) Facilities Risk; 3) Psychological Risks. The results revealed that students are exposed to perceived health risks as concretized by their response on the survey instrument administered to them.

The results revealed a net satisfaction of low negative to low positive as regards food stalls in schools. Their low satisfaction of food services in the school's food stalls mean that there can be improvements on identified areas more specially on possible area-related risks as revealed by the results of the survey. The results of the facilities risk assessment revealed that the facility that parents, teachers and students are most concerned about is the maintenance of comfort rooms. Their big concern lies in big part on the supply of water in these comfort rooms and other materials such as tissue papers and the like. Sanitation is a big concern of the major stakeholders of the school especially in comfort rooms. The poor management of these comfort rooms are seen as sources of potential risks as these places are known to be sources of diseases.

The results of psychological risk assessment revealed that there is a small percentage and yet significant number of students who claims to be affected both by bullying and cyberbullying. These students claim that these activities affected their self-esteem. In all events, the school was able to attend to students' needs such as counselling and case investigations to help students who are victims of bullying. This only implies that the technological age has really brought bullying online. This calls for interventions from school for possible action especially on cases that are neither filed nor reported by students.

Students with parents working abroad were also considered in the study. Majority of the students who participated in the study have their father working abroad and are left with their mother. Majority of them resorts to technological advancements such as the internet and the use of cellular phones to communicate with their parents. In the end, the students claim that their grades are not affected by the absence of their parent because of working abroad. The advancements in technology has brought improvements in the coping means of children these days. The presence of smartphones that can bring real time events have made cross country divides minimized.

All these sources of risks contribute to the dangers faced by students in going to school. This places our students in a state that requires close attention. The study was able to identify some factors contributory to risks where possible courses of action may be made. It is an essential task for all stakeholders of the school to contribute to the identification of these risks in order to prevent them from causing possible greater harm.

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