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## Assessment of School Bus Assistant's Safety Perspective in the State of Qatar

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### Abstract

School Bus Assistants (SBA) are appointed to bridge the communication gap between students and drivers, and to ensure the safety of students on the school buses. The purpose of this study is to assess the safety procedures followed and students' behaviour on school buses, and further, determine the general perception of school buses from SBA perspective in the State of Qatar. A well-designed questionnaire was distributed to the SBA serving on the school buses of public schools. Statistical analysis was undertaken using IBM SPSS software for a sample of 108 responses. It can be concluded that the SBA were performing their duties appropriately and were mostly satisfied with the school bus services. Further, the students behaved well on school buses as schools assisted in managing students' behavior on school buses. The SBA suggested use of advanced technologies such as bus tracking systems, surveillance cameras etc. to improve school bus services and also indicated need for more trainings/workshops on school bus safety. These results can be used for improving the school bus service and the training/awareness provided to SBA to improve the school bus safety.

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## 1. Introduction

School bus drivers may not be necessarily able to perform two roles simultaneously of driving the school buses as well as ensuring the students' safety on the school buses including providing assistance while boarding and alighting. To aid school bus drivers and ensure students' safety throughout the journey, a School Bus Assistant (SBA) is appointed [1, 2]. These SBA are also known as school bus aide or school bus monitor or school bus attendant. The presence of a SBA can make the bus ride easier for a driver. As per National Highway Traffic Safety Administration (NHTSA), the SBA need to ensure that the children remain seated at all times during the bus journey [3]. In the olden days, SBA were hired to monitor the behavior of the students with special needs or younger elementary school children [4, 5]. But now a days, it has been acknowledged that the bus drivers have identified a need for additional staff to monitor the students to maintain discipline on the bus and reduce the distractions of the driver during their ride which can help them to focus on the roads [6].

In addition, it was found that appointing SBA can reduce the number of fatalities inside and outside the school buses by 25% to 75% [3]. Responsibilities of SBA include loading and unloading of children, communicating with the children and disciplining them, stopping the children from bullying or any other similar acts, and collaborating with the school in case of requirements regarding the students or policies, etc. [7]. It is important for the SBA to know how to deal with emergency situations like an accident, use of first aid, use of fire blankets, to help the primary students in crossing the roads if required as all these factors are important for the safety of students. Additionally, they must be available to help the drivers to clean the bus [8].

A study showed that most of the children develop inappropriate behavior from school buses during their ride to or from the school as children are under lesser supervision during this time on the school buses [9]. Therefore, assistants on the school buses must be given authority to supervise children, which allows the driver to focus more on the roads [10].

Some of the challenges of working as a bus assistant are low wages, lack of health insurance, and other benefits, which are commonly acquired by the other employees [7]. There had been instances where the bus assistants were bullied too. In New York, Karen Huff Klein who once performed the duties of an adult monitor on the school bus, at the age of 68 years, was bullied by some middle-school children during her supervision on the ride. This story proves that even bus drivers or assistants too can be victims of bullying [11, 12]. She later launched an anti-bullying foundation to raise awareness about the same [13]. Bus assistants face a major challenge where children may show unstable behavior, which is why it has been reported by a monitor that it is not easy to remain professional and be optimistic in such a circumstance [7]. This paper reviews the literature on studies conducted for SBA and later studies the students' behavior and safety aspects of school buses from SBA perspective in the State of Qatar.

## 2. Literature Review

Some studies investigated the use of advanced methods of bus assistance; however, for the purpose of school buses considering the school students' characteristics, human assistance is necessary to ensure safety. 'Bus monitor' otherwise 'bus aide' was defined by the New York State Department of education as someone who is appointed to assist the children to safely board and alight from a school bus and to assist the school bus driver in maintaining appropriate student behavior on the school buses [7].

Bus drivers need assistance on the buses to avoid bullying, along with behavior management of the children, if there is no assistance provided, this would lead to putting the children at higher risk. Assistants were appointed in the olden days in buses that transport children with special needs but incidents like bullying and behavior management can be avoided only if there is an adult monitor present [14]. Often drivers complain about being the only adult on the bus, which makes it difficult for them to concentrate on the roads and supervise students at the same time. Health officials have suggested that appointing a school bus assistant, along with safety training drivers and safety education can improve the health of drivers [4].

In Bangkok, a school bus system must necessarily include school bus assistants/ aides/ monitors. Further, a seat for the bus assistant or monitor is reserved. The bus assistant has to confirm the presence of students on the buses every evening to the parents and then submit the daily report to the school bus manager [15].

In addition, the bus assistant must check the seat belt usage by students during the journey. Furthermore, it was stated that the efficiency of loading and unloading could be attained only in the presence of an assistant who can monitor the same [4].

As a part of a school bus project aimed to improve the school bus discipline, Renfro, McCoy-Simandle [16] conducted a survey on 78 school bus drivers/monitors in two districts of Eastern Kentucky, it was indicated that good discipline on a school bus can be attained only with the appointment of a SBA which was also a recommendation by the bus drivers. The same study concluded that improvement in communication, development of better policies and procedures of school bus transport, and providing behavior management training for the bus drivers and assistants can make the bus ride better.

Although school buses are accepted as one of the safest modes to transport children [17], there can be unexpected emergencies. Some research did prove that the inside of a bus could be burned off in a few minutes as low as three minutes [18, 19]. The inclusion of bus assistants into the school bus routes, especially, for the buses used for the transportation of kindergarten children will be desirable in order to facilitate safe and quick evacuation during emergencies [19]. If there is a need for evacuation, it can be done effectively only in the presence of an adult. Similar situation exists for other emergencies as well.

Very few studies were found addressing the role of bus assistants in the past. This study fills the gap in the knowledge by conducting a questionnaire survey for bus assistants to determine their perception of school bus services in the State of Qatar. The specific objectives of this include a) to investigate the safety procedures followed and tasks are undertaken by bus assistants on the school buses b) to assess the students' behavior on the school buses c) to determine the general perception of school buses in the State of Qatar from SBA perspective.

### 3. Methodology

#### 3.1. Questionnaire designs

The purpose of the survey is to assess the safety perception of the bus assistants on school buses, awareness of the use of safety tools, duties, student behavior management, and level of satisfaction with the services offered by the school buses. A cross-sectional study was conducted to collect quantitative data from SBA. The survey consisted of multiple-choice questions and rating scale questions to get proper responses from respondents. The following is a brief description of the questionnaire survey.

- Demographics (Age, Language spoken, Nationality and Level of education)
- Safety training and awareness of the use of safety tools (Safety rules on buses, Use of firefighting tools and Emergency situations, and location of Fire blanket, Fire extinguisher, Medical kit, and Emergency exit door)
- Satisfaction level (Time spent in bus, AC temperature in bus)
- Responsibilities/Duties/Tasks of bus assistant (check on count of students, communication with students, stop children from standing during the ride, guide in crossing roads, provide safety instruction)
- Student behavior management and evaluation of safety on school buses (management of student misbehavior, collaboration with the school to manage the misbehavior, distraction to the driver or not, Evaluation of behavior, check-in/around buses, general safety, pick-up/drop-off, safety features around the bus and use of technology and availability of safety procedures and emergency plan).

#### 3.2. Response collection

The target group for this survey was SBA on the government school buses in the State of Qatar. It should be noted that Mowasalat provides special Karwa bus services for school students. These buses are smaller in size and have additional safety features to ensure students' safety. SBA are employed by the schools to assist students on the buses. The questionnaire was made available in Arabic and English considering most of the population of State of Qatar. The survey was distributed to the SBA of public school buses using pen and paper survey method.

The hard copies of the survey were distributed to schools with the help of the Ministry of Education and Higher Education (MOEHE) in the State of Qatar. The questionnaire was sent to 155 schools in the State of Qatar. MOEHE provided the necessary support that was required to distribute the survey to the schools. The survey distribution was only limited to the government independent schools for boys and girls. A total of 108 responses were collected, which were checked for completeness and accuracy. One response was removed and 107 responses were used for conducting further data analysis.

### 3.3. Data analysis

Statistical analyses were conducted using IBM SPSS software. Quantitative comparative analyses were done on the data collected including descriptive statistics. Advanced tests were not conducted due to limited sample size. The results obtained from the normality test showed that data was not normal; hence, nonparametric tests were conducted on the survey results.

### 3.4. Demographics

The demographic characteristics of SBA such as age, level of education, and nationality are shown in Table 1. It was noted that the majority of SBA (58%) were between 31 and 45 years of age and more than one third (35%) of them were Qatari or Gulf Cooperation Council (GCC) nationals. A significant proportion of SBA were Arabs and Asian nationals. It was observed that more than one fourth of the SBA had good education level, either a diploma, or a bachelor's degree. The respondents were asked about the spoken language, as Arabs were in majority, the proportion of respondents speaking Arabic was significant (98%). It should be noted that the language of instruction in government schools is Arabic, so more proportion of Arabic speaking population will be seen dealing with the schools in the State of Qatar.

Table 1 Overview of respondent's demographic characteristics.

Items	Category	Frequency	Percentage
Age	18-22 years	3	2.8%
	23-30 years	20	18.7%
	31-45 years	62	57.9%
	46-65 years	21	19.6%
	Above 65 years	1	0.9%
Level of Education	Below High School	37	34.6%
	High School	28	26.2%
	Diploma	3	2.8%
	Bachelor's degree	24	22.4%
	None	15	14%
Language	Arabic	105	98.1%
	English	21	19.6%
	Urdu	4	3.7%
	Hindi	6	5.6%
	Sri Lankan	1	0.9%
Nationality	Other	4	3.7%
	Qatari	34	31.8%
	GCC	3	2.8%
	Arab	63	58.9%

	India	2	1.9%
	Pakistan	2	1.9%
	Bangladesh	1	0.9%
	Sri Lanka	2	1.9%
Total		107	

### 3.5. Safety training and awareness of the use of safety equipment

Safety training and awareness of the use of safety equipment on a school bus are essential to ensure the safety of students. Four related statements were used to assess the safety training received from the employer and awareness of safety tools on the school buses. The responses to training and other activities offered by the school showed that 83% of the bus assistants stated that they received training from their employer to promote student safety on school buses. Further, 85% respondents obtained training to deal with student behavior on school buses to avoid incidences of bullying. However, only 69% knew about the use of fire tools as shown in Table 2. It can be noted that 80% of the respondents knew the location of the medical kit, whereas; around 68-69% knew the location of an emergency exit and fire blanket and only 42% knew location of fire extinguisher. This shows that future trainings should focus on use of fire extinguisher in case required, as the awareness level was much lower than the training unlike emergency procedures.

Table 2. Training/awareness of bus assistants.

Description	Items	Frequency	Percentage
Received training from employer on	Dealing with student's behavior	91	85%
	Safety rules followed in the bus	89	83.2%
	Use of fire tools	74	69.2%
	Safety procedures and policy in case of emergency	83	77.6%
Awareness of safety or emergency tools	Location of fire blanket	74	69.2%
	Location of fire extinguisher	45	42.1%
	Location of medical kit	86	80.4%
	Location of the emergency exit door	73	68.2%

### 3.6. Satisfaction and responsibilities of a bus assistant

The level of satisfaction was assessed using two statements; satisfaction related to time spent in the school bus and A. C. temperature. The results showed that the respondents were mostly satisfied with the time spent on the bus (83%) and the A.C temperature on the school bus (87%) as illustrated in Table 3. The mean score was more than four. Further, the tasks performed by the SBA were assessed using five statements; tracking the number of students who got in and out at each bus stop, the level of communication between the students and SBA, warning the students not to stand until the school bus comes to a complete stop, providing instructions to ensure safety, and helping the students to cross the roads whenever required. The frequency distribution of the responses is shown in Table 4. The responses showed that SBA always ensured that the students are seated in the school bus. Further, they always tracked the student count on the buses and provided safety instructions to the students. Nevertheless, it was noted that only 61% casually interacted with the students in the school bus; this can be improved to build communication between SBA and the students. In addition, it was indicated that only more than half of the respondents helped the students to cross the road. This need to be improved whenever required, especially for young students.

Table 3. Overview of respondent's level of satisfaction and responsibilities.

Parameter	Statement	N	Mean	S. D
Satisfaction	(S1) Are you satisfied with the time spent in the bus	107	4.10	0.97
	(S2) Are you satisfied with the A.C temperature in the school bus	105	4.45	1 0.79 6
Duties of SBA	(T1) Do you check how many students got into and left the school bus at each stop	106	4.72	0.75
	(T2) Do you communicate (like normal chatting) with the students	107	4.34	3
	(T3) Do you tell the students not to stand up before the bus comes to a complete stop	107	4.96	1.01 8
	(T4) Do you help the student to cross the road to reach their destination	105	3.90	0.30
	(T5) Do you give safety instructions to students related to safety rules	107	4.71	5 1.41 4 0.77 7

Table 4. Frequency distribution of satisfaction and responsibilities of a bus assistant

Satisfaction	Variable ranking (%)				
	Strongly Dissatisfied (1)	Dissatisfied (2)	Neutral (3)	Satisfied (4)	Strongly Satisfied (5)
S1	2.8	5.6	8.4	44.9	38.3
S2	0	3.7	7.5	28	58.9
Duties	Never (1)	Rarely (2)	Often (3)	Usually (4)	Always (5)
T1	1.9	0.9	3.7	10.3	82.2
T2	3.7	0.9	15	18.7	61.7
T3	0	0.9	0	0.9	98.1
T4	11.2	5.6	18.7	9.3	53.3
T5	1.9	0.9	5.6	7.5	84.1

<sup>i</sup>Note: Please refer to Table 3 for a description of the statements <sup>†</sup> The frequency distribution is in percentage.

### 3.7. Student behavior and evaluation of the school bus service

The results for SBA evaluation of student behavior and overall evaluation of school bus service is provided in Table 5 and Table 6. Two statements were used to assess whether the students' behaviour on school buses is a distraction to the driver and role of school in managing the students' behaviour on school buses. It was observed that 85% of the SBA agreed that they were offered training on how to deal with the students' behaviour as per Table 2 presented earlier. More than one third respondents believed that the student behaviour is often a distraction to the driver as shown in Table 6. Further, one fifth of the respondents thought that the student behaviour never caused a distraction to the driver. Furthermore, it was seen that 81% of the respondents agreed that the school management does collaborate with them to manage the student's behavior on the school buses. This emphasizes the role of school management in enforcing students' discipline on school buses. The respondents were asked to rate their perception of school bus services in general using seven general statements as shown in Table 6. The respondents mostly rated the students' behaviour, safety procedures and emergency plan, safety features around the bus, safety of pickup/drop-off

locations, and school bus service in general as good or excellent. The average rating was above four. Generally, good student behaviour was observed by bus assistants as opposed to a previous study by [14]. However, the SBA felt more advanced technologies such as bus tracking systems, surveillance cameras etc. should be provided on the school buses and they needed more trainings/workshops for ensuring school bus safety. NHSTA also highlighted need to raise the awareness among the drivers and bus assistants by conducting training regularly about traffic safety, and how to load and unload the students [3].

Table 5. Overview of the Student behaviour and evaluation of the school bus service

Parameter	Statement	Mean	S. D.
Student Behavior	(SB1) Do you think the student behavior is a distraction to the driver	2.56	1.204
	(SB2) Does the school collaborate with you in managing the student's behavior	4.75	0.622
Rating of school bus service	(R1) Student's behavior in/around the bus	4.05	0.817
	(R2) Availability of safety procedures and emergency plan	4.53	0.604
	(R3) Use of technology (Bus tracking system/surveillance cameras)	3.61	1.227
	(R4) Training/Workshops of school bus safety	3.85	1.053
	(R5) Safety features around the bus (availability of mirrors, reverse cameras, illuminated stop sign)	4.41	0.911
	(R6) Safety of pickup/drop-off locations (clarity, footway, near moving vehicles)	4.58	0.715
	(R7) School bus service in general	4.54	0.733

Table 6. Frequency of the student behaviour and evaluation of the school bus service

Statement number	Never (1)	Rarely (2)	Often (3)	Usually (4)	Always (5)
SB1	21.5	27.1	35.5	3.7	11.2
SB2	0	0	9.3	5.6	81.3
Statement number	Very poor (1)	Poor (2)	Neutral (3)	Good (4)	Excellent (5)
R1	0.9	2.8	16.8	49.5	29.9
R2	0	0.9	2.8	38.3	57.9
R3	8.4	7.5	29	25.2	29.9
R4	1.9	7.5	29.9	25.2	35.5
R5	1.9	3.7	6.5	27.1	60.7
R6	0	3.7	1.9	26.2	67.3
R7	0	3.7	2.8	29	63.6

Note: Please refer to Table 3 for a description of the statements. The frequency distribution is in percentage.

#### 4. Conclusions

SBA are appointed to relieve drivers from students responsibilities while driving and ensure students safety on school buses. This study presents findings from a questionnaire survey designed to examine the role of SBA on ensuring safety on school buses, training received, and the students' behavior on school buses along with the general perception of school buses. Total 107 complete responses were obtained from SBA of public school buses in State of Qatar. The results showed that the SBA were performing their duties and responsibilities appropriately and were satisfied with their time spent on the school buses. Further, the SBA received required training to manage student behavior and safety on the school buses but lacked awareness on use of fire extinguishers and emergency evacuation procedures. They suggested use of advanced technologies such as bus tracking systems, surveillance cameras, etc. to improve school bus services and also indicated need for more trainings/workshops on school bus safety. In future trainings, these two aspects should be emphasized; emergency response procedures and school bus safety. Although this study presents a limited dataset, it provides a SBA perspective of school buses in the State of Qatar. It highlights

that the students' behavior is not a cause of concern on school buses in the State of Qatar. In addition, multi-national SBA were not an issue as 98% of them were able to communicate in Arabic, which is language of instruction in the public schools. Further, the outcome emphasizes role of school in managing students' behavior on school buses.

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