



ATTENTION! SCHOOL BUS

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Abstract:

This study aimed to investigate the conditions of pre-school children's school buses. Six pre-service senior pre-school teachers interviewed twelve school bus drivers, and then took four bus rides with children from school to home and made observations while on the bus. The researchers identified three themes based on the literature: safety, social and physical environment, and communication with drivers. A content analysis approach was used to analyze the data. The findings of this study revealed that three safety rules—unfastened seat belts, use of the front seat, and use of cell phones while driving the school bus—were broken by the school bus drivers. The general social environment of the buses was positive; no conflict was observed among children during their social interactions with each other. Nevertheless, the physical condition was not as pleasing as the social environment. The buses were dirty, dusty, and had a bad smell due to the lack of fresh air. The communication between children and the drivers was fairly good. Children were eager to talk about their school day to the drivers, and the drivers were willing to listen to them. However, the drivers were not so kind during their private phone calls during the ride.

Keywords: pre-school education, school bus, children transportation, safety

1. Introduction

Student transportation to school was enhanced by the introduction of horse drawn carriages in the 19th century. Then, trucks were redesigned as school buses to serve this purpose. The first vehicles designed specifically for the purpose of children's transportation to school were manufactured between the dates of 1920 and 1930. In 1936, national standards related to school buses were established in the United States. In order to draw all drivers' attention in traffic, school buses are required to be yellow according to national law (Akyüz, Bailey-Torres & Bomba-Edgerton, 2011). Currently,

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several standards are required for young children's transportation. For instance, bus driver applicants undergo various checks, including current physical examinations, background check as an employer, and driving and drug test results (Dargan & Silverstone, 2014).

Children living in big cities use school buses for transportation to and from school because of parents' work and the distance between school and home. This might make school bus drivers one of the key individuals on the team whose members include school employees and parents. In fact, these team members should work collaboratively to prevent possible damages for children based on the drivers' behaviors. The importance of school bus drivers has been recognized, in particular, at the early stages of education, including the kindergarten and elementary school levels (Erkan, 1999). School bus drivers' competency has crucial importance; they have responsibilities above and beyond people's expectations since they are both the first person encountering children in the morning and the last person with whom children interact during school time (Dawson & Sanders, 1997).

School bus drivers have regular duties such as operating the school bus safely and supervising the safety of all young passengers in the USA. In addition to these regular duties, the drivers should also be trained in the development of young children, age-appropriate physical handling and communication, and behavior management of children (NSTA, 2010). Nevertheless, despite these responsibilities, when we think about the members of the educational system, school bus drivers are the least likely stakeholders to be recognized. School bus drivers are not given enough recognition as an important part of children's education, perhaps because the other staff have received training in an educational field (Dawson & Sanders, 1997). As such, it is imperative that more attention be given to training and supervising the staff who are assigned as drivers for school buses (Akyüz, Bailey-Torres & Bomba-Edgerton, 2011).

The authorities should consider some important points while selecting school bus drivers. According to Erkan (1999), children spend particular time at school buses in a day; therefore, bus drivers are expected to be joyful and not very strict, making children comfortable during the rides. Since school bus drivers have serious responsibilities related to children's safety during bus rides to or from school, their training on safe driving and the main issues in child development is as important as their personal attributes. Based on the results of the study conducted by Putnam et al. (2003), school bus drivers should have some characteristic attributes and sufficient knowledge about how to deal with children's disruptive behaviors (either to themselves or to friends), the spillover effects of unresolved confrontations, and best behavior management practices.

School bus drivers receive varying levels of training in different countries. For example, in the US, drivers require a minimum of forty to eight hours of training. There is also eight to twelve hours of on the road training for school bus drivers under the supervision of a driver's coach. In some cases, the training policies might vary from state to state. In some states, regular and yearly in-service training is required for school bus drivers. There is an annual or semi-annual physical examination requirement for

school bus drivers and supervision of their driving background in all states. More than half of the states (39 out of 50) require both fingerprints and submission of state and federal criminal history background during the selection process for school bus drivers. Moreover, all school bus driver candidates are interviewed by the authorities before starting their professional work (Tull, 2017). Additionally, sufficient knowledge requirements for bus drivers have been determined by authorities in different countries. For example, the Research Department Minnesota House of Representatives (2013) indicates that there are some competencies that school bus drivers need to have in order to be high-quality drivers to transport children safely. These competencies include operating a school bus safely, understanding children's behaviors, dealing with children's misbehaviors, supporting children's orderly behaviors, knowing legally valid and related laws about transportation, tackling emergency situations, and loading and unloading children in a safe way (Burress & Strom, 2013).

Statistics show that school buses are the safest way for children to access their schools. The number of people who die annually due to accidents of school vehicles is relatively small compared to those who die due to traffic accidents in the US (NHTSA, 2007; Trotter, 1989). Unfortunately, the state of school bus transportation in Turkey is not very good. The statistics for 2016 indicated that school buses were involved in 1,588 traffic accidents even though the required supervision was made and precautions were taken. As a consequence, eight people lost their lives and 3,182 people were injured in these accidents (Aslan, 2017). On the basis of these statistics, in 2016, the General Directorate of Security sent a warning letter showing the striking statistics related to supervision of school buses to the Ministry of National Education and the provincial governors of all cities in Turkey. This letter emphasized approaches for reducing possible deaths and injuries in traffic accidents. These precautions included supervision of compulsory insurance and technical inspection by school administrations, and the need for students' seatbelts to be checked by teachers. This letter also included the penalties imposed on school buses. The data obtained from the Turkish Ministry of Education revealed that 81,779 school buses had operated throughout the country in 2016. 4,672 out of the total number of school buses had criminal penalties and 629 of them had been detained in traffic (Aslan, 2017).

Conducting research on school bus transportation in Turkey is much more crucial than in most other countries. In Turkey, several child deaths happened because of the neglect or misbehaviors of school bus drivers (Atkaya, 2017). Children's behaviors can be observed in various contexts, including their home, school, and the neighborhoods where they spend their everyday lives. In this sense, children's behaviors and social interactions are dependent on the context in which they occur, involving their array of relationships and activities within a particular setting. Studies investigating children's behaviors have shifted their focuses from structured and monitored environments to less structured and less monitored environments (Galliger, Tisak, & Tisak, 2009); one of these less structured/monitored environments is the school bus. School buses provide a different context than the home and school environments because of their unstructured, non-monitored, and very confined spaces (Galliger,

Tisak, & Tisak, 2009; Henderson, 2009). School buses provide an environment in which children can have various kinds of interactions with each other. To date, research on preschool children's transportation to/from school has hardly been conducted in Turkey. Therefore, this study aimed to investigate the conditions of school buses for children at the preschool level. To meet this aim, this study seeks to answer the following research questions:

1. How is safety maintained in the school buses of preschool children?
2. What are the physical conditions and social atmosphere of the school buses of preschool children?
3. How do school bus drivers communicate with preschool children?

2. Method

Before carrying out this research, official permission was obtained from the Ministry of National Education (MONE) of the Turkish Republic. The initial intention of the researchers was to make a video recording on school buses; however, MONE did not allow the researchers to take video recordings on school buses because of children's potential vulnerability. Researchers only received permission to take notes on school buses. After obtaining official permission from MONE, the researchers asked for collaboration with the Union of Transportation in Van, where twelve preschool buses were officially registered. Researchers got those twelve buses drivers' contact information from this institution.

The participants of the study were twelve school bus drivers. The demographic information of the drivers is presented in Table I. The drivers were distinguished with the letter 'D' and a participant number.

Table 1: Demographic Information of Drivers

Driver	Age	Educational degree	Years of experience as a school bus driver	Years of experience as a school bus driver with young children	Training on development of young children
D ₁	38	Elementary School	17	15	None
D ₂	30	High School	6	4	None
D ₃	27	High School	3	3	None
D ₄	42	Elementary School	22	14	None
D ₅	35	Elementary School	17	10	None
D ₆	26	High School	8	3	None
D ₇	32	High School	13	7	None
D ₈	40	Elementary School	22	9	None

D ₉	46	Elementary School	26	13	None
D ₁₀	33	High School	9	7	None
D ₁₁	29	High School	11	3	None
D ₁₂	30	Elementary School	12	8	None

Qualitative research design guided the current research. Data was collected using pre-determined observation protocols and analyzed by the content analysis method. The researchers used interviews for data collection. The interviews were given to the school bus drivers by six pre-service senior preschool teachers. After completing the interviews, the pre-service teachers took four bus rides with children from school to home to observe both the children and the drivers. Each ride lasted from 50 minutes to 85 minutes, including loading and unloading. During each ride, the senior pre-service teachers did not leave the buses until the last child was delivered to his/her home.

A content analysis approach was used to analyze the data, as this type of analysis typically focuses on written documents or transcriptions of recorded verbal communications (Berg, 2007). Fair copies of observation notes were prepared by pre-service teachers before the data analysis procedure. In order to establish inter-coder reliability, an expert from the field of early childhood education and one of the senior pre-service teachers coded the written documents independently based on the pre-determined themes and categories. The observation protocols applied by the pre-service teachers were prepared based on the three themes from the literature: safety, social and physical environment, and communication with drivers (Akdur & Sungur, 2013; Akyüz, Bailey-Torres, R., & Bomba-Edgerton, 2011; Dargan & Silverstone, 2014; Dawson, & Sanders, 1997; Dixon, 1995; Erkan, 1999; Galliger, Tisak & Tisak, 2009; Putnam, Handler, Ramirez-Platt, & Luiselli, 2003; Ramage, & Howley, 2005; Spence, 2000). The pre-service teachers recognized these three themes during their observations. The safety theme included traffic rules, seat belts, speed, front seat, talking on the phone, helping children get on and off, delivering children to parents, and hostess. The social and physical environment theme included hygiene, music, number of children, and communication among children. The last theme, communication with drivers, included greeting, instruction, and conversation topics. Two coders reached perfect inter-rater reliability. The meaning of the study is illustrated in a narrative way. Categories and sub-categories are illustrated in Table II below.

Table 2: Categories and Sub-categories

Safety	Traffic rules
	Seat belts
	Speed
	Front seat
	Talking on the phone
	Helping children get in-get off

	Delivering children to parents Host-hostess
Atmosphere	Hygiene Music Number of children Relationship among children
Communication with Drivers	Greeting Instruction Conversation topic Inappropriate language

The percentage agreement among the two coders was measured using Holsti's (1969) formula in which PA is the percentage agreement, A is the number of agreements between two coders, and n_A and n_B are the number of units coded by coders A and B, respectively:

$$PA = \frac{2A}{(n_A + n_B)}$$

This measure ranges from 0.00 (no agreement) to 1.00 (perfect agreement) (Neuendorf, 2002, p.149). Two coders reached perfect inter-rater reliability.

3. Results

3.1 Safety

Three safety rules—unfastened seat belts, use of the front seat, and use of mobile phones while driving the school bus—were broken by the school bus drivers. Although MONE legislation clearly states that there should be seat belts for all children in school buses, and they should be fastened during rides, children did not have a habit of fastening their seatbelts. Furthermore, seven out of twelve drivers did not fasten their own seat belts. Although unfastened seat belts and letting children sit in the front seat are against traffic rules, two out of twelve drivers broke the rule and let children sit in the front side of the bus.

In addition, although it is illegal to use a cell phone during a bus ride in Turkey, MONE legislation lets drivers have a cell phone in case they need to reach children's parents, school administrators, or the Union of Transportation in emergency situations. Nevertheless, all of the participating school bus drivers used their cell phones for both business and private calls during the ride.

Table 3: Frequency of broken rules by drivers

Unfastened seat belts	7
Use of the front seat	2
Use of mobile phones	12

3.2 Social and Physical Environment

The general social environment of the buses was positive. There was no conflict among children. The buses were not crowded and the number of children ranged from 10 to 15. No misbehavior was observed during the rides. However, the physical condition of the buses was not as pleasing as the social environment. All of the buses were dirty, dusty, and had a bad smell due to lack of fresh air. MONE requires all drivers to keep musical systems off while driving; however, all of the bus drivers turned on music, in particular inappropriate ones for young children.

3.3 Communication with Drivers

The communication between children and the drivers was fairly good; both drivers and children greet each other while getting onto the bus. Children were also eager to talk about their school day to the drivers and they paid attention to what children told them. Yet, they kept talking during the rides although it is against traffic rules.

The following quotations exemplify communication between children and drivers. As Van's drivers are characterized by the patriarchy, drivers' communications were influenced from society's perspective. One of the boy was crying and one of the drivers said to him:

'Why are you crying? Man does not cry!'

As mentioned, children like to share their day with their drivers, and the drivers are responsive to them:

Child: 'You know we played "above the ground" and I was swing from bar for a long time.'

D11: 'Your arms must be tired. Why you do not just stand on stairs.'

Child: 'Lots of children were waiting there. I want to play in different places'

D11: 'So you like challenge'

However, the drivers were not so kind during their private phone calls during the ride and used slang several times.

4. Discussion and Implications

This part discusses the results of the current research by comparing them with the results of the related literature. It also includes the educational implications based on the results. Lastly, suggestions for further studies were included in this part.

The results show that three safety-related rules—unfastened seat belts, use of the front seat, and use of mobile phone—were broken by school bus drivers. Although there is a service regulation for school buses in Turkey (Ministry of National Education, 2007), this result shows that the implementation of the regulation and supervision of school buses is lacking. Within the scope of compulsory education, the regulation for school buses aims to make students' transportation services regular and secure, to determine the qualifications and working conditions of real and legal persons, and to carry out the supervision services that the regulation requires (Ministry of National Education, 2007). It is required to have a seat belt for each child and a cell phone for

drivers to communicate with school administrators or children's parents ([MoNe, 2007](#)). However, neglect of the use of the seat belts by children and inappropriate use of cell phones by drivers alert us to take action as precautions for children's safety. The identification of sitting in the front seat and not fastening seat belts are unique findings of this study; these issues may be specific to the Turkish context.

As a precaution, school buses should determine a substitute staff for the host or hostess of the bus. According to the results of the current study, one of the bus's hostesses went on vacation and there was no one taking her place while she was away. All of the children were monitored by the hostess or host during loading and unloading in the remaining buses. The hostesses and hosts were also available in the buses while children were traveling.

Recent legislation requires employee guidance staff to assist preschool and elementary school children during bus rides, including stroke and boarding times, to ensure children's safety (MoNE, 2007). In this way, it might also be aimed for children to be supervised by adults if they would fasten their seat belts. Increasing the number of adults on school buses might also prevent another possible safety hazard for children. In August 2017, a 3 year old boy fell asleep and was forgotten on the school bus for 8 hours at 40 degrees Celsius; he lost his life. Unfortunately, this child was neither the first nor the last child to have died tragically on a school bus (Atkaya, 2017). The school bus on which that tragic loss occurred was an unlicensed bus. The ministry should take certain precautions to solve the problem of unlicensed school buses. As a result, legislation on children's transportation should be reviewed and its implementation should be monitored on a regular basis; there should also be suspension penalties as a deterrent for drivers who put children's lives at risk.

If children leave alone with only with a bus driver, it will not be possible for the driver to monitor all children and provide a secure drive (Galliger, Tisak, & Tisak, 2009). Therefore, there is a need for at least one extra adult in school buses to help children get on and off safely, as well as to ensure a safe trip.

With regard to the social and physical environments of school buses, the results revealed that the social environments in school buses were positive, whereas the physical environments were unsuitable. The reason for the good social environment in school buses might be related to the fact that school buses were not crowded. According to the results, there were similar numbers of children and seats on the buses. Therefore, it seems that problems related to the social environment of the school buses can be prevented by considering the appropriate passenger capacities of vehicles. This result may also be explained by the fact that the children observed in this study were all in the same age group, i.e. preschool level. Considering the related literature on the safety problems based on the presence of multiple age groups, it can be said that children in the same age levels seem to create a socially positive environment in which there are not safety issues. On the other hand, in contrast to the results of the related studies (i.e., Küçük, 2010), ventilation, safety precautions (particularly related to listening to high volume music), and problems related to cleaning of the environment were the main issues with the physical environments of the school buses.

With regard to communication with drivers, the results showed that there were no communication problems between children and drivers. According to the results, children and drivers are keen to talk to and listen to each other. This result may be supported by other results of the current study. In fact, the good social environments on school buses might enhance good communication among individuals in the bus environment. Also, we can conclude that good social environments and good communication among children in school buses might facilitate good communication between children and school bus drivers.

In the literature, children's misbehaviors are accepted as a problem that can lead to chaos in the school bus environment. According to Putnam et al. (2003), misbehaviors are defined as getting out of a seat without permission, throwing objects at the environment/other children on the bus or throwing out of a window, consuming food during the ride, "talking back" to the bus driver, preventing other students from sitting in a seat, destroying property, using obscene language or gestures, and hitting another student. According to the results of this study, the participants did not observe any misbehavior of children or any conflict among children. However, noise, sagging, and tripping were the issues observed as negative behaviors by school administrators and teachers during the transportation of children (Küçük, 2010). Interestingly, talking with drivers during rides was not specified as problem behavior in Turkey and took place in a regular basis on the buses. As a solution, children's incompatible behaviors in school buses can be avoided with collaborative work among teachers, administrators, and bus drivers (Putnam et al., 2003). Additionally, it is important that young children learn by taking adults as role models. According to the results of Boğa (2010), school bus drivers are not good examples with their behaviors that can be observed by children. Similarly, Ağırkaya (2010) found that children are negatively affected by the behaviors of school bus drives. As a result, it is highly important for drivers to avoid misbehaviors to be appropriate role models for young children (Erkan, 1999).

As is clear from the aforementioned discussion, safety is the most important problem during children's transportation to or from school in Turkey. The findings revealed that there is no control mechanism for drivers' attitudes and behaviors that put children's safety at risk.

This idea might be supported by some statistical data as well as several related studies in the literature. Istanbul Police Headquarters child division department conducted a legal investigation with 9,408 bus drivers. The results showed that 323 drivers were previously convicted for murder, rape, and/or robbery. Unfortunately, since both schools and parents cannot allocate sufficient budget to pay for licensed school buses, unlicensed school buses are more prevalent in Turkey. This situation brings with it many problems (Atkaya, 2017).

Similar problems associated with safety and the physical and social atmosphere of the school buses were found in previous studies as well (Ramage, & Howley, 2005; Spence, 2000). In particular, lack of supervision of school bus drivers and inappropriate phone calls made by drivers during the ride were previously observed behaviors confirmed in this study (Ref.).

The results of this research, combined with previous findings, should make the authorities alert in terms of creating strict criteria for selecting school bus drivers to ensure children's safety (Atkaya, 2017). According to Erkan (1999), the selection of school bus drivers should be a common idea of a group of authorities including school managers, national education directorates, and parent representatives. Furthermore, as implemented in the US, we would suggest investigating whether a bus driver candidate already has traffic fines, if s/he has been in an accident, and if s/he has been convicted before being hired (Dixon, 1995).

There are also many precautions that all parents, society, and each country should take to ensure safe transportation for children. The United Nations launched a broad framework called "Decade of Action for Road Safety" to outline the necessary precautions for protecting children in traffic. Some of these precautions should be taken into consideration in this context, such as school buses, usage of safety belt, transportation education/culture, pedestrian education/culture, and safe cycling/motorcycle riding (World Health Organization, 2015).

What should be done to make children more comfortable and secure in transportation in Turkey? As discussed above, school bus drivers have not been given enough recognition as professionals in the educational system. According to the laws, there is a compulsory training for school bus drivers; however, this requirement has not been implemented due to a technical problem based on the new traffic law (Erkan, 1999). The currently suspended program includes a fifty hours course related to traffic, environment, first aid, and public relations (Erkan, 1999). Even if the bus drivers would take such a training course, they would learn nothing related to the education and development of young children. Akdur and Sungur (??) indicated that school buses should have a driver and hostesses who must be carefully selected and trained about children's safety before they start to work. These researchers also emphasized that school bus drivers must be supervised in a careful and regular manner (Akdur & Sungur, 2013).

Contrary to practice in Turkey, school bus drivers in the US participate in a training program which includes the topics mentioned above and simple behavior management techniques, basic information about child psychology, and some fundamental information about children with special needs. This program varies by region and lasts up to 135 hours (Hiltz, 1993). As a result, it is important to offer in-service training to school bus drivers, as they have the ultimate responsibility of children's safety on their shoulders during transportation. Schools should continually monitor their school bus drivers and look for ways to promote safety and communication on school buses to ensure as comfortable and safe transportation as possible for our nation's students.

Based on this small-sample study, it is clear that young children's transportation to school is not given enough importance and warrants the concern of educational researchers and policy makers. Further studies with larger samples should be conducted to confirm and expand the results. It is also suggested for researchers to investigate the impacts of the school bus atmosphere (including both physical and

social) on children's health, behaviors, and academic achievement, particularly in metropolitan areas like İstanbul, where millions of children use school bus transportation every day. Moreover, parents should be selected as participants for further research. Investigating the quality of school buses or school bus drivers would contribute to children's safe and comfortable transportation. This might also contribute to supervision of school buses and drivers by authorized control mechanisms.

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