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Evaluating Attempts by School Administrators to Control Noise Pollution in School*

Ceren ÇETİN** **Mehmet Ali HAMEDOĞLU*****

Abstract. In the study, it was aimed to evaluate the attempts of school administrators to control noise pollution at school. A simple survey model was used in this study due to the determination of the current situation and its suitability for the objectives. The population of this study consists of 1118 school administrators working in public primary, secondary and high schools in Sakarya province in the 2020-2021 academic year. 394 participants were reached using snowball sampling method. As the data collection tool, a 20-item questionnaire created by the researcher was used. The data were analyzed using statistical package software. Frequency and percentage values, arithmetic mean, standard deviation, and relative change coefficient were used in the analysis of the data. As a result of the findings, it was observed that noise control in school is an issue ignored by school administrators in terms of both acoustic measures and managerial regulations, quietness is not considered as a value in schools, and administrators do not have a specific noise management policy.

Keywords: Noise control in school, school administrators, educational administration supervision.

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** Orcid ID: https://orcid.org/0000-0002-8289-0718, Sakarya University, Turkey, crnctn94@gmail.com
*** Orcid ID: https://orcid.org/0000-0003-2833-2931, Assoc. Prof. Dr., Sakarya University, Turkey, mhamed@sakarya.edu.tr

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1. INTRODUCTION

Noise pollution, a type of environmental pollution that people are exposed to in many areas today, has also become an inevitable part of schools (Abakay & Bulunuz, 2018; Babisch, Schulz, Seiwert & Conrad 2012; Bulunuz, Bulunuz & Tuncal, 2017a; Bulunuz, Ovalı, İri Çıkrıkçı & Mutlu, 2017b; Bulunuz & Güner, 2017; Çetinkaya, Bulduk, İşçi & Demir, 2017; Grebennikov, 2006; Güremen, 2012a, 2012b; ; Özbıçakçı, Çapık, Gördes, Ersin & Kıssal, 2012; Polat & Buluş-Kırıkkaya, 2004, 2007; Şahin et al., 2014). Calculations have shown that children in Turkey spend more than 2,000 hours a year in schools with no acoustic design (Bulunuz, Orbak & Bulunuz, 2020). However, because children have not yet completed their development, they do not know the negative effects of noise, dangerous noise sources and how to protect themselves from these, and they are more vulnerable than adults. (World Health Organization (WHO), 2016). Therefore, children have been considered at risk in the face of noise pollution (Özcan, 2012). In a project that addresses noise pollution at school, phrases such as "...it bothers me enough to think about removing my ears", "...I'm distracted by noise, I can't paint, I can't play games, I have a headache and my ears are ringing", which students use when talking about noise in their school, are quite remarkable (Bulunuz, Orbak & Bulunuz, 2020). There are many more studies that reveal the effects of noise in school on children. (Bayazıt et al., 2011; Özbıçakçı et al., 2012; Polat & Buluş-Kırıkkaya, 2004; Tüzel, 2013). In these studies, which usually deal with children of kindergarten and primary age, it was found that children who were exposed to noise for a long time had decreased learning and memory performance, noise negatively affected their mental development-related functions, and children had difficulty focusing, understanding, and communicating. (Köse, 2010; Polat & Buluş-Kırıkkaya, 2007; Prasher, 2000; Shield & Dockrell, 2008; Şan, 2010; Tuncer, Bal, Özüt & Köse, 2012).

A quiet educational environment is a basic need not only for students, but also for teachers. Noise pollution in the school negatively affects students as well as teachers. Noise causes health problems such as high blood pressure, excessive fatigue and exhaustion in teachers, as well as problems with speech and lecture (Güremen, 2012). Accordingly, occupational diseases such as difficulty concentrating, headache, irritability, ringing in the ears, sound fatigue occur. This situation dulls a sense of professional belonging and leads to early retirement (Arıcı, 2020; Bulunuz, Bulunuz, Tavşanlı, Orbak and Mutlu, 2018). In a project that addressed noise pollution at school, the teachers described the effects of the noise on them after leaving school with the words "...I feel tired as if I have come out of a great war" and "my only desire, my only desire is to leave this noisy school as soon as possible" (Bulunuz, Orbak & Bulunuz, 2020). In addition, a study conducted by the Institute of interdisciplinary School Research at the University of Bremen, Germany, in which more than a thousand teachers participated, concluded that noise is one of the most important negative experiences in the teaching profession. (Buch and Frieling, 2001; Schönwälder, 2001).

It is not possible to completely eliminate noise in schools. However, the noise level can usually be controlled. Noise control is a process in which necessary limitations and

measures are taken in order to develop an environment without noise pollution. In this context, studies have been carried out in many countries, various parameters have been put forward and standards have been determined. Unfortunately, research conducted in our country shows that noise levels in schools are significantly higher than the limit values in the regulation prepared by the Ministry of Environment and Urbanism (Bayazıt et al., 2011; Bilal, 2009; Bulunuz, 2014; Çelik, 2002; Özbıçakçı et al., 2012; Polat & Buluş-Kırıkkaya, 2007; Şentürk & Sağnak 2012; Tüzel, 2013; Varış, 1998). It is a requirement for schools to develop and implement ergonomic methods to limit noise levels and minimize the negative effects of noise.

Studies indicate that in-school noise is often caused by students (Bulunuz et al. 2017b; Güner & Bulunuz, 2017; Gürel, 2007; Güremen, 2012a, 2012b). As part of noise control at the source, it is necessary to create noise awareness in all stakeholders of the school in order to reduce student noise. Awareness-raising activities aimed at preventing noise pollution in schools are known to be effective. Bulunuz et al. (2017b) observed that as a result of their awareness-raising activities aimed at reducing noise in kindergarten, students and teachers had an awareness and a 10 dB(a) decrease in noise level. Similarly, Yılmaz (2019) observed a decrease in noise level as a result of noise pollution education practices given to third and fourth grade students in primary school and found that it creates awareness and sensitivity in students and teachers. It is necessary to place particular focus on families in noise control in schools. As families directly or indirectly educate children at home, they are their teachers at home (Hollingsworth & Hoover, 1999). Home and school must complement and integrate each other for effective education (Şimşek and Tanaydın, 2002). In this sense, if we want to create a quieter school and society, the starting point is undoubtedly family and school. For this reason, when addressing the problem of noise in school, it is necessary to include the family in the work to be done (Bulunuz & Özgür, n.d).

In order to control noise in schools, the environment must be evaluated systematically in terms of noise sources. As a result of this evaluation, acoustic measures can be taken for noise control. For example, insulation is needed to prevent noise from outside the school; it may be necessary to equip the interior of the building with acoustic ceiling, wall and floor materials to dampen the noise that occurs inside the building. In order to keep background noise to a minimum, classes can be positioned away from noisy environments such as canteen, dining hall, teachers ' room, music room, etc. The distance between the student and the teacher can be decimated to prevent noisy environments (Bulunuz, Orbak and Bulunuz, 2020). It is known that noise levels and ringing values have decreased in schools that have undergone acoustic improvement. For example, as a result of the work carried out by Bulunuz et al. (2017a) at a school with acoustic improvement in Antalya province, it was revealed that the noise level and ringing time of the improved floors were improved.

Noise control at the receiver is the final stage of noise control. Noise control at the receiver is performed if the first two methods cannot be successful. This method is provided by the use of personal protective equipment in various branches of industry. As schools are

special environments based on communication, it is not possible for students and teachers to use earplugs in school.

Noise control is a necessary parameter in regulating and maintaining the physical environment in schools. Being aware of the importance and necessity of noise control and taking steps accordingly is very important in keeping high noise levels within the limits set by regulations and standards. An effective noise control will prevent noise pollution that negatively affects learning and teaching processes in schools, and this will improve the quality of education. It should be ensured that the noise level in schools is kept within the limits in accordance with our country and world standards. In this sense, Bulunuz's book "Noise Pollution in School" (2021) will be a guide for all stakeholders in noise control in school. Bulunuz (2021) addresses ideas and activities that may be a recipe for getting rid of noise in this book, which aims to create awareness and sensitivity to noise pollution in school. In the first part of this four-part book, there are topics related to the dimensions, effects and control of noise pollution in school with plain language and visuals. The second part, which is teacher-oriented, includes various activities aimed at creating awareness, sensitivity and behavior change in students by providing them with experience related to noise pollution. In the third part, information about what can be done acoustically in schools is presented. In the last part, project and activity suggestions that can be made for sustainable noise control are included.

The biggest responsibility for noise control in schools falls to school administrators. Gürsel (2003) refers to the school administrator as the person who organizes, coordinates, directs and supervises staff in order to achieve goals in a school. School administrators are also considered as instructional leaders. (Çelik, 2012). Instructional leadership, an area of leadership that requires direct attention to students, teachers, teaching-learning processes and the curriculum (Findley & Findley, 1992), is based on the understanding that the school administrator's task area is not only the office room, but also classrooms, corridors, and even all areas that the student uses outside the school (Özden, 2005). Several studies of school noise show that noisy educational environments negatively affect students and teachers, that the acoustic quality of educational environments should be improved, and that education and awareness-raising efforts should be carried out on noise pollution in schools. In order to provide a good learning environment for teachers and students, school administrators must be leaders in all types of issues.

While school administrators are expected to lead as an instructional leader in solving the noise problem in school, it is obvious that administrators are stubborn or helpless in this regard. Because noise is an insidious pollution that cannot be seen by the eye, does not pollute the air, water, soil, but its effects are gradually felt, this leads to easily learned helplessness in people (Cohen, Evans, Krantz & Stokols, 1980; Hiroto, 1974). Learned helplessness is the learning that reactions after exposure to uncontrollable events will have no effect on the outcome, and this learning also generalizes to situations that can be controlled (Hiroto & Seligman, 1975). In this context, it can be said that learned helplessness is of vital importance for administrators in educational organizations. If the

school administrator believes that innovation in education does not matter, he/she stops striving for it. It can be explained by the concept of learned helplessness, why school administrators do not make the necessary efforts to reduce and prevent noise pollution in their schools through actions they will take. School administrators, who believe that noise pollution cannot be controlled as a result of their experiences, do not make the necessary efforts to solve this problem.

Noise pollution in schools will lead to unhealthy and ignorant society. The problem of noise, which can have such a terrible result, must be solved flawlessly in schools. The first and most important step of the solution is that school administrators first become aware of noise pollution in the school, perceiving the noise as a problem. In this way, administrators will also raise awareness among stakeholders by leading the formation of a quiet school climate. Hashim and Ramadhan (2019) define awareness as the state of being conscious. If consciousness changes, first perception will change, then thought will change, and this process will result in a change in behavior (Cüceloğlu, 2002, 2019a). As a result, school administrators who develop awareness of noise pollution in school can reduce and prevent noise pollution in their schools through actions they will take; they can provide a quiet learning environment for students and teachers.

In the study, it was aimed to evaluate the attempts of school administrators to control noise pollution at school. For this purpose, answers to the following questions were sought:

1. What are the attempts of school administrators to take acoustic measures to control noise pollution in school?

2. How often do school administrators make administrative arrangements to control noise pollution at school?

2. METHOD

Research Model

A simple survey model was used in this study due to the determination of the current situation and its suitability for the objectives (Karasar, 2012).

Participants

The population of this study consists of 1118 school administrators working in public primary, secondary and high schools in Sakarya province in the 2020-2021 academic year. 394 participants were reached using snowball sampling method. The distribution of the demographic characteristics of the participants is presented in Table 1. The ethics committee approval for this study was obtained from the Ethics Committee of Rectorate of Sakarya University, dated 09/10/2020 and numbered 29/36.

Table 1

Frequency and percentage table of demographic variables of administrators

Variables	Options	f	%
Gender	Female	76	19,3
	Male	318	80,7
Education level	Bachelor	271	68,8
	Graduate	123	31,2
Job status	School principal	193	49,0
	Assistant principal	201	51,0
Executive seniority	1-5 years	143	36,3
	6-10 years	88	22,3
	11 years and more	163	41,4
School type	Primary school	133	33,8
	Secondary school	107	27,2
	High school	154	39,1
Working time in school	1-5 years	275	69,8
	6-10 years	82	20,8
	11 years and more	37	9,4
School location	Provincial/District center	346	87,8
	Town/Village	48	12,2
Hearing problem	Yes	18	4,6
	No	376	95,4
Belief that noise can be prevented in school	Yes	290	73,6
	No	104	26,4

Data Collection Tool

In this study, a 20-item questionnaire created by the researcher was used as a data collection tool. During the preparation phase of the survey, studies on noise in the national and international literature and the "teacher survey", which is one of the data collection tools of the TUBITAK (1001) project developed by Bulunuz (2020) and entitled noise pollution in school: Causes, Effects and Control, were used.

The survey consisted of 3 parts. In the first part, a personal information form was used to determine the demographic characteristics of school administrators participating in the

study, and it was aimed to collect information about the variables of gender, education level, job status, executive seniority, school type, working in school, school location, hearing problem and belief that noise can be prevented in school. In the second part, there were 5 items aimed at determining the acoustic measures taken in schools. School administrators responded by choosing a "yes, no" option on whether the measures in the items were implemented in their schools. In the third part, there were 15 items to determine the work done to prevent or reduce noise in schools. The weights and limits of the options used in the survey are given in Table 2 (Balcı, as cited in 2002, Özdemir, 2010).

Table 2

The weights and limits of the options used in the survey

The weight	The limit	22-36 item options
1	1.00 – 1.79	Never
2	1.80 – 2.59	Rarely
3	2.60 – 3.39	Sometimes
4	3.40 – 4.19	Often
5	4.20 – 5.00	Always

Data Analysis

The data were analyzed using statistical package software. Demographic variables in the first part of the survey were analyzed with frequency and percentage values. When calculating frequency and percentage values for items (item1,2,3,4,5) containing a yes/no options for acoustic measures, the frequency and percentage values of each survey item prepared in relation to managerial regulations (item 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20) were given and the arithmetic mean, standard deviation and relative change coefficient were calculated.

3. FINDINGS

Evaluations of Acoustic Measures

Table 3

Evaluations of acoustic measures

Items	Options	f	%
1. Attempt to cover classes with sound-absorbing materials	Yes	27	6,9
	No	367	93,1
2. Attempt to cover corridors with sound-absorbing materials	Yes	20	5,1
	No	374	94,9

3. Attempt to cover the floors of areas inside the school building with materials that reduce the impact sound such as plastic	Yes	29	7,4
	No	365	92,6
4. Attempt to install the necessary apparatus, such as gasket seal on doors and windows	Yes	148	37,6
	No	246	62,4
5. Attempt to afforest the school environment	Yes	219	55,6
	No	175	44,4

As can be seen in Table 3, 27 (6.9%) of school administrators surveyed regarding noise control in school said they had attempted to cover classrooms with sound-absorbing materials, while 367 (93.1%) reported As can be seen in Table 3, 27 (6.9%) of school administrators surveyed regarding noise control in school said they had attempted to cover classrooms with sound-absorbing materials, while 367 (93.1%) reported that they had not attempted such an attempt. 20 (5.1%) of administrators said they had attempted to cover the corridors with sound-absorbing materials, while 374 (94.9%) reported no such attempt. 29 (7.4%) of administrators said they had attempted to cover the floors of areas inside the school building with impact-reducing materials such as plastic, while 365 (92.6%) reported no such attempt. 148 (37.6%) of administrators said they had attempted to install the necessary apparatus such as gasket seals on doors and windows, while 276 (62.4%) reported that they had not made such an attempt. 219 (55.6%) of administrators said they had attempted to afforest the school environment, while 175 (44.4%) reported no such attempt.

Evaluations of Managerial Regulations

Table 4

Evaluations of Managerial Regulations

Items	Options	f	%	n	x̄	ss	v
6. Creating a shared quiet school vision	Never	24	6,1	394	3,19	0,976	30,60695
	Rarely	60	15,2				
	Sometimes	152	38,6				
	Often	133	33,8				
	Always	25	6,3				
7. Inculcating teachers	Never	11	2,8	394	3,31	0,894	27,02152
	Rarely	53	13,5				
	Sometimes	163	41,4				
	Often	138	35,0				
	Always	29	7,4				

8. Providing noise awareness education to students	Never	21	5,3	394	2,94	0,858	29,22309
	Rarely	86	21,8				
	Sometimes	193	49,0				
	Often	85	21,6				
	Always	9	2,3				
9. Providing noise awareness education to teachers	Never	45	11,4	394	2,61	0,924	35,38235
	Rarely	132	33,5				
	Sometimes	155	39,3				
	Often	55	14,0				
	Always	7	1,8				
10. Providing noise awareness education to parents	Never	98	24,9	394	2,26	0,976	43,14205
	Rarely	143	36,3				
	Sometimes	108	27,4				
	Often	42	10,7				
	Always	3	0,8				
11. Collaborating with stakeholders	Never	32	8,1	394	2,77	0,964	34,79255
	Rarely	127	32,2				
	Sometimes	149	37,8				
	Often	71	18,0				
	Always	15	3,8				
12. Setting school rules on noise	Never	16	4,1	394	3,25	1,010	31,02972
	Rarely	78	19,8				
	Sometimes	127	32,2				
	Often	136	34,5				
	Always	37	9,4				
13. Checking set rules	Never	11	2,8	394	3,31	0,909	27,43877
	Rarely	63	16,0				
	Sometimes	136	34,5				
	Often	160	40,6				
	Always	24	6,1				
14. Appreciating quiet behaviors in school	Never	10	2,5	394	3,60	0,981	27,2468
	Rarely	46	11,7				
	Sometimes	101	25,6				
	Often	171	43,4				
	Always	66	16,8				
15. Conducting activities at the school on World International Noise Awareness Day	Never	142	36,0	394	2,14	1,052	49,2076
	Rarely	104	26,4				
	Sometimes	104	26,4				
	Often	40	10,2				
	Always	4	1,0				

16. Be a good example to other school stakeholders	Never	45	11,4	394	3,06	1,165	38,02986
	Rarely	77	19,5				
	Sometimes	123	31,2				
	Often	106	26,9				
	Always	43	10,9				
17. Getting the views of other school stakeholders	Never	46	11,7	394	2,92	1,062	36,39154
	Rarely	78	19,8				
	Sometimes	155	39,3				
	Often	92	23,4				
	Always	23	5,8				
18. Allotment of budget	Never	109	27,7	394	2,25	1,053	46,79307
	Rarely	138	35,0				
	Sometimes	97	24,6				
	Often	39	9,9				
	Always	11	2,8				
19. Using visuals such as banners and posters	Never	70	17,8	394	2,49	1,012	40,56242
	Rarely	131	33,2				
	Sometimes	131	33,2				
	Often	52	13,2				
	Always	10	2,5				
20. Attempts to reduce the intensity and duration of ringing and announcement sounds	Never	16	4,1	394	3,42	1,068	31,2265
	Rarely	64	16,2				
	Sometimes	117	29,7				
	Often	133	33,8				
	Always	64	16,2				
Overall				394	2,90	0,68	23,66

As can be seen from Table 4, Frequency of creating quiet school vision, known and shared by all stakeholders such as administrators, teachers and other employees, is at the "sometimes" ($\bar{x}$=3,19) level. It seems that administrators' views on the frequency of creating shared quiet school vision are not uniformly distributed (v>25). Frequency of inculcating teachers to warn students about noisy behavior is at the "sometimes" ($\bar{x}$=3,31) level. It seems that administrators' views on the frequency of inculcating teachers to warn students about noisy behavior are not uniformly distributed (v>25). Frequency of providing noise awareness education to students is at the "sometimes" ($\bar{x}$=2,94) level. It seems that administrators' views on the frequency of providing noise awareness education to students are not uniformly distributed (v>25). Frequency of providing noise awareness education to teachers is at the "sometimes" ($\bar{x}$=2,61) level. It seems that administrators' views on the frequency of providing noise awareness education to teachers are not uniformly distributed (v>25). Frequency of providing noise awareness

education to parents is at the “rarely” ($\bar{x}$=2,26) level. It seems that administrators' views on the frequency of providing noise awareness education to parents are not uniformly distributed (v>25). Frequency of collaborating with stakeholders is at the “sometimes” ($\bar{x}$=2,77) level. It seems that administrators' views on the frequency of collaborating with stakeholders are not uniformly distributed (v>25). Frequency of setting school rules on noise is at the “sometimes” ($\bar{x}$=3,25) level. It seems that administrators' views on the frequency of creating school rules on noise are not uniformly distributed (v>25). Frequency of checking set rules is at the “sometimes” ($\bar{x}$=3,31) level. It seems that administrators' views on the frequency of checking set rules are not uniformly distributed (v>25). Frequency of appreciating quiet behaviors in school is at the “sometimes” ($\bar{x}$=3,60) level. It seems that administrators' views on the frequency of appreciating quiet behaviors in school are not uniformly distributed (v>25). Frequency of conducting activities at the school on World International Noise Awareness Day is at the “rarely” ($\bar{x}$=2,14) level. It seems that administrators' views on the frequency of conducting activities at the school on World International Noise Awareness Day are not uniformly distributed (v>25). Frequency of being a good example to other school stakeholders is at the “sometimes” ($\bar{x}$=3,06) level. It seems that administrators' views on the frequency of being a good example to other school stakeholders are not uniformly distributed (v>25). Frequency of getting the views of other school stakeholders is at the “sometimes” ($\bar{x}$=2,92) level. It seems that administrators' views on the frequency of getting the views of other school stakeholders are not uniformly distributed (v>25). Frequency of allotment of budget is at the “rarely” ($\bar{x}$=2,25) level. It seems that administrators' views on the frequency of allotment of budget are not uniformly distributed (v>25). Frequency of using visuals such as banners and posters is at the “rarely” ($\bar{x}$=2,49) level. It seems that administrators' views on the frequency of using visuals such as banners and posters are not uniformly distributed (v>25). Frequency of attempts to reduce the intensity and duration of ringing and announcement sounds is at the “often” ($\bar{x}$=3,42) level. . It seems that administrators' views on the frequency of attempts to reduce the intensity and duration of ringing and announcement sounds are uniformly distributed (v<25). The average of all items related to managerial regulations in schools included in the survey is calculated as $\bar{x}$=2,90. Accordingly, it is determined that administrators expressed opinions at the “sometimes” level in the statements given under this part. It seems that administrators' views on the frequency of making managerial regulations are uniformly distributed (v<25).

4. RESULTS AND DISCUSSION

In the study, applications for noise control in schools were discussed in two aspects: acoustic measures and managerial regulations. When the results of acoustic measures are examined, it is seen that the vast majority of school administrators do not attempt to take acoustic measures. However, it is known that noise levels and ringing values decrease in schools where acoustic improvement is applied. For example, a study conducted by

Bulunuz et al. (2017a) at a school where acoustic improvement was applied in Antalya province showed an improvement in the level of noise and duration of ringing in floors where acoustic improvement was applied. In a study in which Çiftçi and Kıral (2020) discussed the views of teachers on noise pollution in school, teachers stated that acoustic improvements should be applied in schools in order to reduce and prevent noise.

As for administrative regulations, it is seen that school administrators "often" appreciate calm behavior in school to prevent or reduce noise in school, and attempt to reduce the intensity and duration of ringing and announcement sounds; "sometimes" create a quiet school vision that all stakeholders, such as administrators, teachers and other staff, know and share, inculcate teachers to warn students about noisy behavior, provide noise awareness education to students and teachers, collaborate with teachers, students and parents, set school rules on noise and check these rules, are a good example to other school stakeholders and take the views of other school stakeholders; "rarely" provide noise awareness education to parents, conduct activities at the school on World International Noise Awareness Day, attempt to create a budget and use visuals such as relevant banners and posters to draw attention to noise in schools. Administrators' appreciation of quiet behavior and attempts by administrators to reduce the intensity and duration of ringing and announcement sounds are among the measures that can help reduce noise. It has been emphasized in various studies that the bell is a factor that increases noise in schools. (Ay, Yapıcı, Kahraman & Erusta, 2019; Akyün, 2019; Taş, 2010). Managerial regulations that administrators "sometimes" make are not enough to solve the noise problem in schools. Given the high level of noise in schools (Bulunuz, 2014; Bulunuz et al., 2017b; Güremen, 2012; Polat & Buluş-Kırıkkaya, 2007; Bayazıt et al., 2011; Kılıç & Adalı, 2020) it can be said that it is very necessary for quietness to be included in the school vision. Creating a quiet educational environment requires a collaborative effort from all stakeholders. In this context, awareness of noise pollution in the school is needed in all stakeholders of the school. For this purpose, noise awareness trainings should be provided to teachers, students and parents. In this way, the implementation of other measures will be easier. It has also been stated in various studies that awareness education is effective in preventing noise pollution. In their study, which examined parents' views on noise at home and school, Bulunuz and Özgür (n.d.) noted that even just a survey study contributes to increasing families' awareness of sound and noise in learning environments. Bulunuz et al. (2017b) observed that as a result of their noise awareness education in kindergarten, there was an awareness in students and teachers, and there was a 10 dB (a) decrease in the noise level. Similarly, Yılmaz (2019) observed a decrease in noise level as a result of noise pollution education given to third and fourth grade students in primary school; he found that this education creates awareness and sensitivity in students and teachers. Noise awareness education needs to be supported by school rules. It is not an easy task to set rules and ensure the continuity of these rules. Therefore, it is important to cooperate with teachers and to encourage teachers to warn students of noisy behavior within the framework of the rules. In addition, setting rules against noisy behavior and following these rules will help to have a similar attitude

towards noisy behavior. In addition, rules are important for students to learn their boundaries and awareness of responsibility (Cüceloğlu, 2019b). If students are aware of noise and noisy behavior that they will be held responsible for, they can take responsibility for the quietness of the school. Otherwise, it is thought that noise levels will continue to hover above acceptable limits (Merkit & Bulunuz, 2019). Managerial regulations that administrators "rarely" make are great lack for solving the noise problem in school. In order to prevent noise in schools, it is necessary to cooperate with parents. Because they directly or indirectly teach children at home, parents can qualify as children's teachers at home (Hollingsworth & Hoover, 1999). For this reason, home and school need to complement and integrate each other for an effective school education (Şimşek and Tanaydın 2002). It is important to provide noise awareness education to parents in this respect. Every year the last Wednesday of April is celebrated as "International Noise Awareness Day". Very few of the administrators were aware of this and carried out various activities in order to increase noise awareness. However, school administrators should lead such activities. Allotment of budget is one of the primary duties of each administrator and is necessary for the improvement of the school's acoustics. Effective and efficient use of the school's resources is among the responsibilities of the administrators. In addition, banners and posters also help create a visual perception of noise and keep the perception alive. Visual stimuli are very important in learning, as the human eye records 36,000 images per hour. Since almost 90% of the inputs reaching the brain are visually sourced, this tendency of the brain can be used to support education (Hardiman, 2003; Jensen, 2000).

These results show that noise control in school is a subject ignored by school administrators in terms of acoustic measures and managerial regulations, that quietness is not treated as a value in schools, and that administrators have no policy of managing a specific noise. However, the greatest responsibility in this regard falls to school administrators as an educational leader (Bulunuz, 2014; Bulunuz et al., 2017a). "A school administrator has the power to influence teachers, students and their families" (Cüceloğlu, 1998). This result is similar to the results of Çiftçi and Kıral's (2020) study with teachers. In this study, teachers stated that the school administration did not conduct a noise-related study. As for what needs to be done with respect to noise control, teachers have stated that administrators should take the problem of noise pollution seriously in school.

Learned helplessness may be one of the reasons why school administrators who have had noise pollution problems in their schools and have not taken any action on this issue do not take action. 26% of administrators surveyed believe that noise in school cannot be prevented. School administrators who believe that noise pollution cannot be prevented do not make the necessary efforts to solve this problem. For example, in a project by Bulunuz, Orbak and Bulunuz (2020) on noise in school, a school administrator left the project at the end of the first year, saying that he believed that it would not be possible to bring quiet behavior to children in primary school.

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