
The Relationship Between Teachers' Self-Efficacy Regarding First Aid And Injury Management At SDIT Al Mumtaz West Kalimantan

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Abstract

Injuries in school-aged children are a significant and frequent health problem in the school environment. Teachers, as first responders, play a crucial role in providing first aid to prevent further complications. However, teachers' self-efficacy in first aid and injury management remains a significant concern. The purpose of this study was to identify the relationship between teachers' self-efficacy regarding first aid and their injury management skills at SDIT Al Mumtaz, West Kalimantan. This study used a cross-sectional design with a sample of 62 teachers. Data collection was conducted using a valid and reliable questionnaire regarding self-efficacy and injury management skills. Statistical tests used descriptive statistics and the Spearman rank correlation test with a p-value of 0.05. Most teachers had moderate self-efficacy (61.3%) and fairly satisfactory injury management skills (65%). However, the correlation test showed no significant relationship between teachers' self-efficacy and injury management skills ($p=0.418$; $r=-0.105$). Self-efficacy is not the only factor that influences injury management skills. Improving teacher competency in administering first aid requires support through continuous training and practical experience so that self-efficacy evolves into consistent and effective capability.

Keywords: Teacher Self-Efficacy, First Aid, Injury Management

INTRODUCTION

Injuries among school-aged children are still one of the major health concerns in different nations, such as Indonesia. Study, recreation, participation in physical activities, interaction with peers put children at risk of getting injured. Although sometimes injuries may cause minor traumas only, they still have the potential of becoming severe enough to develop further health complications, which is why prevention and treatment of injuries should be of vital importance.

The issue of injury should not be regarded as easy since it affects many people. According to WHO, there are about 5.8 million people who die due to injuries annually. These deaths account for almost 10 percent of all deaths in the world. Children are the most vulnerable to injury due to their developmental characteristics, curiosity, and poor ability to distinguish dangerous situations. Every year there are 875,000 children under 18 years old who die from injuries.

The impact of injuries during childhood is not only limited to physical consequences. Apart from being painful and restricting movement temporarily, injuries can interfere with the ability of children to take part in educational activities and limit their learning experiences and interaction with others while also impacting their psychological state and quality of life. Serious injuries may cause lasting disabilities, which pose physical, psychological, and financial challenges for both children and their parents. Consequently, the management of injuries must be approached as a team effort by all involved parties (Peden et al., 2022; WHO, 2021).

The educational institution is identified as one of the main locations where childhood injuries happen due to the fact that a considerable amount of time spent by children every day in the educational process involves learning, playing, and physical activities at schools. Among the most common mechanisms of injury among elementary school children are falls, slips, cuts, bruises, sports injuries, and playground injuries. The majority of injuries take place during breaks, physical education lessons, or normal school procedures; therefore, preparation of school staff in order to render proper first aid becomes a necessity (CDC, 2023; UNICEF, 2021).

It is clear from the research conducted by Kolbow (2023) that the high vulnerability of injury among school-age children is that 90.3% of the injuries happened to children in the preschool and

elementary age groups. Most injuries sustained happen to be in the head and scalp, as well as in the face and mouth. It is a matter of worry since the body parts where injuries happen are important and need urgent treatment to prevent future problems.

Similar problems still exist in Indonesia. The data provided by Kameliawati (2019) indicates that the most prevalent type of injury suffered by the children is abrasion/bruise (70.9%), sprain (27.5%), laceration (23.2%), and fracture (5.8%). It can be seen that the injuries are quite common among Indonesian children. While some are regarded as minor injuries, they can become problematic if not treated properly.

In cases of injuries taking place in schools, teachers are the first respondents to come on the scene. In such instances, apart from being the tutors, teachers also become the first responders before the injured receives any form of medical attention. The actions taken by teachers immediately after the injury can affect the condition of the student thereafter. Simple things like stopping the bleeding, cleaning of the wounds or even temporary immobilization can help prevent the victim from deteriorating further.

Not all teachers who are aware of how to give appropriate first aid will jump into action immediately in case of an actual emergency situation. There have been cases where teachers prefer to wait for the health officer or even take the children to the health center in the school without offering any kind of first aid initially. This is not because they lack the information. Many people indeed know what to do but they doubt themselves in emergency situations.

The above-mentioned issue can be viewed through the prism of self-efficacy theory formulated by Albert Bandura. The term "self-efficacy" is used for defining the belief that people have in their ability to act in order to reach a particular goal. This notion determines how people make their decisions, cope with difficulties, and solve problems. High self-efficacy leads to high levels of confidence and active behavior, while low self-efficacy is accompanied by hesitation and avoidance of challenging situations.

First aid requires high levels of self-efficacy since it is important to be ready to help people in emergencies. Confident teachers are ready to provide help to their students in case of injuries. At the same time, unconfident teachers tend to leave the process of helping students to other people although they know what should be done.

Various studies show that discussions about first aid in schools are still dominated by aspects of knowledge, attitudes, skills, and training effectiveness. Studies specifically examining self-efficacy as a factor related to injury management are relatively limited. However, confidence in one's abilities is a crucial factor that can influence a person's behavior when facing situations requiring quick and appropriate action.

A preliminary study conducted at three elementary schools in Pontianak City indicated a relatively high potential for injury. All three schools share similar characteristics, including multi-story buildings, cement courtyards, and a high number of students actively engaging in various physical activities. Of the three schools, SDIT Al Mumtaz has the largest student population, with 831 students and 63 teachers.

The data from the school reveals that during the past five years, 345 cases of minor injuries and three cases of serious injuries have occurred to the students of SDIT Al Mumtaz. According to the research conducted by Usman et al. (2021), injuries continued to impact the well-being of both male and female students at the school. The most common type of injuries included scratches, whereas cases of serious injuries were still identified, although in smaller numbers. The above fact proves that injuries represent a problem at the school and not a threat.

It is worth noting that the health care facilities exist at SDIT Al Mumtaz and are provided by professional health care providers. Nevertheless, preliminary studies have shown that teachers at the school did not have any first aid training. In case an injury happens, teachers usually carry injured students straight to the health care facilities without doing anything before. Thus, the factors affecting the readiness of teachers to provide first aid are worth considering.

Until now, there have been no studies investigating the connection between self-efficacy as a teacher related to first aid and injury management in elementary students especially in Indonesia. Nevertheless, the connection of these two variables can be considered as an approach for the development of a more effective capacity building program for the teachers. Training that is oriented only towards raising awareness among teachers is unlikely to bring any change in behavior without taking self-efficacy into account.

Thus, based on this problem, research needs to be conducted in order to find out about the connection of self-efficacy and the management of first aid and injuries at SDIT Al Mumtaz, West Kalimantan. It is expected that this research will give information about the role of self-efficacy in helping teachers manage injuries among students. Moreover, the result of this research is expected to be used as the foundation of health programs in schools that not only raise awareness and skills but also increase self-efficacy in first aid management.

RESEARCH METHODS

This study employed a cross-sectional approach, a type of research design characterized by observation and data collection conducted at a single point in time without any follow-up over a specific period. Both the dependent and independent variables were measured simultaneously. The data collection technique used in this study was a questionnaire. The purpose of this research was to determine the relationship between teachers' self-efficacy regarding first aid and injury management at SDIT Al Mumtaz West Kalimantan.

Population and Sample

The population in this study consists of all the teachers recorded at SDIT Al Mumtaz Kalimantan Barat, totaling 62 individuals. The sample selection conducted by the author used the Nonprobability Sampling technique, which is a sampling method from the population where each member of the population does not have the same opportunity to be selected as a sample (Riyanto, 2022). The author used the total sampling technique, which is a method of determining the sample when all members of the population are used as the sample (Putra & Prasetyo, 2015).

Data Collection Instruments

The research instrument used in this study is a questionnaire that has undergone a validity test to ensure its accuracy and suitability in measuring the variables being studied. The teacher self-efficacy questionnaire regarding first aid uses an instrument that has been previously validated. In the variable of injury management, there are 7 valid items and 9 invalid items (calculated r value ≥ 0.361). The Cronbach's Alpha value of 0.603 indicates a sufficient reliability of the instrument. Invalid items need to be revised to improve the quality of the questionnaire.

Data Collection Procedure

Preparation Stage

The researcher first obtained ethical approval from the Research and Development Ethics Committee of Institute of Teknologi and health Muhammadiyah West Kalimantan. A research permit was also obtained from SDIT Al Mumtaz West Kalimantan (No.1463/II.3.AU/F/2025)

Implementation Stage

The author conducted intensive coordination with the school to obtain a list of teachers who would be respondents in this research. Before distributing the research instruments, the author provided a clear and thorough explanation of the purpose, benefits, and procedures for filling out the questionnaire to the respondents. Subsequently, the author distributed informed consent forms to the respondents who were willing to participate voluntarily. The research instruments, which consist of respondents' demographic data, a self-efficacy questionnaire regarding first aid, and a questionnaire related to injury management, were then distributed to the respondents. During the process of filling out the questionnaires, the author accompanied the respondents and provided them with the opportunity to ask questions if there were any unclear points or if further explanation was needed.

After the questionnaires were returned, the author conducted a thorough examination of the completeness and accuracy of the filled-out data to ensure the quality of the data obtained in this study.

Final Stage

The final stage involved data analysis, report preparation, and publication of research findings.

Data Analysis

According to Gunarto (2018), univariate analysis is used when only one variable is analyzed. This analysis includes descriptive statistics such as mean, median, mode, range, variance, and standard deviation, as well as frequency tables and charts. In this study, univariate analysis described the distribution of respondents' characteristics, last education, and teaching duration, as well as describing the frequency distribution of teachers' knowledge level about first aid and injury handling skills for students

Bivariate analysis examines the relationship between two variables—an independent variable and a dependent variable (Notoatmodjo, 2018). The Spearman rank correlation test was used to determine the relationship between the two variables at a 95% confidence level ($\alpha = 0.05$). Spearman's rank correlation is suitable for ordinal data and does not require both variables to share the same data source (Sugiyono, 2018). The correlation coefficient (ρ) ranges between -1 and +1:

- $\rho = 0$ indicates no correlation.
- $\rho = +1$ indicates a positive correlation.
- $\rho = -1$ indicates a negative correlation.

This analysis was used to determine the strength and direction of the relationship between teachers' self-efficacy regarding first aid and injury management.

RESULTS AND DISCUSSION

General Description of the Research Location

This research was conducted on teachers at SDIT Al Mumtaz Pontianak with a total of 62 questionnaires distributed. Based on these results, primary data in the form of numbers were obtained, distributed into percentages, and presented in table form, while the presentation of the results was described in narrative form. The characteristics of the research respondents are based on their highest education, age, gender, and teaching duration. This data was obtained from the questionnaire filled out by the teachers of SDIT Al Mumtaz as research respondents

Univariate Analysis

This analysis was conducted to describe the characteristics of respondents and the frequency distribution of each independent variable. including age, gender, Length of Teaching Experience (years), educational background, First Aid Training and the relationship between teachers' self-efficacy regarding first aid and injury management at SDIT Al Mumtaz. In this study, univariate analysis presents frequency distribution tables to display respondents' characteristics age, gender, Length of Teaching Experience (years), educational background, First Aid Training.

Table 1
Frequency Distribution of Respondents' Characteristics age, gender, Length of Teaching Experience (years), educational background, First Aid Training

Variable	Frequency (n)	presentation (%)
Age		
17-25	2	3
26-35	35	56
36-45	21	34
46-55	4	6
56-65	0	0

Gender		
Male	25	40
Female	37	60
Teaching Experience (years)		
<1	1	2
1-3	7	11
4-6	12	19
7-10	11	18
>10	31	50
educational background		
Senior High School	1	2
Bachelor's Degree	53	85
Master's Degree	8	13
First Aid Training		
Yes	15	24
No	47	76
Total	62	100

The research results show that the characteristics of the respondents in this study vary based on age, gender, teaching experience, education level, and first aid training history. Based on age groups, most respondents are in the 26–35 year age range, with 35 respondents (56%), followed by the 36–45 year age group with 21 respondents (34%). There are 4 respondents (6%) aged 46–55 years, while only 2 respondents (3%) are in the 17–25 year age group, and there are no respondents in the 56–65 year age group. The distribution indicates that the most of educators are in the adult age category and generally possess a significant amount of life and professional experience in their positions as instructors. Age is an important variable that influences a person’s ability to learn new information, interpret events, and determine what to do with his or her life experience. That the aging process gives an individual the ability to get experience, which helps in the formation of knowledge and behavioral patterns (Notoatmodjo,2018). This means that educators are often confronted with a lot of situations in the educational milieu, such as cases of student injuries. The knowledge they acquire throughout their teaching careers is invaluable in recognizing conditions related to injury and in determining the proper responses to take.

The distribution of respondents by gender shows that the majority of teachers are female, with 37 respondents (60%), while male teachers number 25 respondents (40%). The research results show that most of the participants are female teachers. This characteristic may be interesting to relate to self-efficacy and injury management strategies. Many studies have shown that women have lower self-efficacy compared to men when responding to emergencies that require immediate action, especially if they have not been trained or do not have direct experience. According to Bee et al. (2025), men are generally more confident in providing first aid, while women usually express greater self-doubt despite having an equivalent level of knowledge.

Based on teaching experience, the majority of respondents have more than 10 years of teaching experience, with 31 respondents (50%). Respondents with 4–6 years of service number 12 people (19%), those with 7–10 years of service number 11 people (18%), those with 1–3 years of service number 7 people (11%), and those with less than 1 year of service number 1 person (2%). The data shows that the majority of teachers have considerable teaching experience, allowing them to interact

with various conditions and issues occurring in the school environment, including incidents of student injuries. The obtained results revealed that most respondents have work experience over 10 years. Longer teaching experience means teachers were exposed to different situations happened at schools, including injuries occurred at school. Bandura (1997) explained that the primary source of self-efficacy information is mastery experiences, through direct experiences of success. Gale et al. (2021) and Klassen and Chiu (2011) found out that teacher self-efficacy tends to be higher in longer-tenured teachers compared with newly appointed teachers. Workneh et al. (2021) discovered that work experience positively correlated to teachers ability to recognize and manage injuries happened at school. Bakri et al. (2022) reported that teachers who have undergone first aid training have greater self-efficacy levels than those who have not been trained. It was also found in the report that first aid knowledge and certification have helped improve teachers' self-efficacy levels.

Based on the level of education, the majority of respondents have a Bachelor's degree (S1), with 53 respondents (85%), while 8 respondents (13%) have a Master's degree (S2) and 1 respondent (2%) has a Senior High School (SMA) education. There are no respondents with a Diploma III (DIII) or Diploma IV (DIV). These findings indicate that the majority of teachers possess higher education qualifications that meet the educator competency standards, thus they are expected to have adequate abilities in receiving, understanding, and applying various information related to student health and safety in schools. The research results indicate that most of the respondents graduated from college and hold a Bachelor's degree (S1). Education is one of the variables that may impact how people receive information, learn new knowledge, and establish confidence in their skills. The study conducted by Fackler and Malmberg (2018) revealed that teachers with higher educational attainment are likely to have higher teaching self-efficacy when it comes to performing their professional responsibilities. Perera et al. (2019) also reported similar findings; their study revealed that obtaining formal education helped increase teachers' self-efficacy when dealing with different teaching demands. According to Vermonden et al. (2023), those teachers who have undergone prior first aid training have been found to possess greater first aid knowledge and readiness to deal with any injury or medical emergencies. The researchers interpreted that since most of the respondents hold a bachelor's degree, most teachers have the sufficient academic foundation to understand first aid knowledge and build confidence when dealing with injuries that may occur at school.

From the history of first aid training, mostly respondents say they have never been in that kind of training, like quite a lot. In fact 47 respondents, or 76% , report that they have not participated, while only 15 respondents (24%) claim they have attended first aid training. So in other words this points to the idea that most teachers didn't get formal learning related to first aid, not really. The result of this research revealed more than 70% of participants never took any injured care or first aid training. Attendance in training is one of the determinants that is likely to affect knowledge, skills and self-efficacy level of an individual to manage an emergency situation. Research of Bakri et al. (2022) revealed that trained first aiders had higher self-efficacy than those who were non-trained. Similar findings are reported by Abelson et al. (2021), who concluded that training and practise directly affect individual's confidence in providing help in emergency situations. Workneh et al. (2021) also revealed that there is a positive association between previous first aid training and the competency to provide first aid among teachers. According to the researchers' interpretation, the high proportion of teachers who had never received training in injury management still indicated a potential to improve capacity by structured training to enhance teachers' self-efficacy and readiness to deliver first aid for student injuries.

Table 2. Frequency Distribution of Self Efficacy

Variable	Frequency (n)	presentation (%)
Good	18	29,0
Moderate	38	61,3
poor	6	9,7

The result of this study showed that most of the teachers have self-efficacy in moderate category, which is 38 teachers (61,3%). Respondents with high self-efficacy(good) were 18 people (29,0%) and low self-efficacy(poor) were 6 people (9,7%). These findings suggest that most teachers have a reasonable confidence in their ability to perform first aid and injury management, although there are still some teachers who are not fully confident in their ability. Self-efficacy refers to the belief in one's own ability to perform the actions necessary to achieve a desired outcome (Bandura, 1997). Meyer et al. (2025) study suggests that experience and training influence an increased self-efficacy in emergency situations. Meanwhile, the study Özdemir et al. (2023) results revealed that good self-efficacy could help people feel more confident with their decisions when dealing with issues that require immediate actions. According to the researcher analysis, the domination of the self-efficacy in moderate category indicates most of the teachers have confidence of their capabilities in treating injuries but they still have to be enhanced by training and experience so that the confidence will become more optimum.

Table 3. Frequency Distribution of injury management

Variable	Frequency (n)	presentation (%)
Skilled	40	65
Less Skilled	22	35

The result of the study is the majority of respondents are classified as skilled in managing injury, with 65% (40 respondents) and 35% (22 respondents) being less skilled. Results of this study showed that the majority of the teachers can perform simple acts of injury in the school. Teachers with higher knowledge and experience are more likely to have better first aid skills in managing student injury (Workneh et al., 2021). Bakri et al. (2022) also demonstrated that the first aid interventions received by teachers being trained positively change their attitudes towards injury management. Vermonden, M., et al. (2023) concluded that prior first aid training and experience were positively correlated with preparedness for handling injuries and medical emergencies among teachers at school. According to Joseph et al. (2022), having good knowledge of first aid among teachers helps them to respond properly and take necessary actions until professional medical help arrives; an adequate skill level in injury management among students enhances their safety and reduces the possibility of complications from delayed assistance (Alsulami, 2023). The analysis is that the majority of the teachers in this study have some skills in applying basic first aid to injuries, yet there are still some who are less skilled; thus, further improvement of competence through training and performing such tasks in recurring opportunities would be necessary to ascertain that first aid administered by all the teachers would be accurate and safe.

Bivariate Analysis

Statistical analysis was conducted to determine the relationship between the independent and dependent variables using a statistical test using a rank correlation value of 1 rho >1.

Tabel 4. The Relationship between teachers' self-efficacy regarding first aid and injury management at SDIT Al Mumtaz West Kalimantan.

Relationship Variables	Between	Injury Management						p-Value	Correlation Coefficient
		Less Skilled		Skilled		Total			
		F(n)	%	F(n)	%	F(n)	%		
self-efficacy	good	8	44,4	10	55,6	18	29	0,418	-0,105
	Moderate	12	31,6	26	68,4	38	61		
	poor	2	33,3	4	66,7	6	10		

Based on the Spearman Rank test analysis result, it was revealed that there is no significant difference between the teachers' self-efficacy in first aid and the injury management ability on SDIT Al Mumtaz Kalimantan Barat (p=0.418; r=-0.105). The correlation coefficient, that is a weak correlation, suggested that improvement on self-efficacy does not always result in enhancement of

injury management skills. From the results concluded that self-efficacy is not solely one of factors affecting the injury management skills, the injury management itself can be considered as a competent skill of people and a variety of factors interact so that the statistical connection may not clearly appear between the relationship self-efficacy with concrete skill. The self-efficacy is a judgment of oneself of their capabilities of completing a task (Bandura,1997). It affects individual motivation, choice of behaviour, selection of activity, and psychological reactions that are required in the behaviour. According to Bandura (1997), actual performance does not depend only on individual judgment on his capacity but it is also influenced by mastery experience, vicarious experience, social persuasion and emotional and physiological state. Thus, someone who may have high self efficacy may be lacking performance due to lack of mastery of real experience. Conversely, low confidence or medium may have well performance due to repeated experience.

These results indicates that about 61.3% of teachers report a moderate level of self-efficacy, and about 65% are classified as skilled in managing injuries. Through the cross-tabulation table it can be perceived that the moderate group presents a higher proportion of teachers skilled in managing injuries. This can't mean that a moderate self-efficacy is better than a high self-efficacy, but rather that the teachers belonging to the first group are probably able to see their abilities more accurately. Teachers with the ability to view their abilities appropriately attempt to apply basic first-aid instructions according to their capacities, they resort to the health-care systems whenever required and avoid making their own decisions for procedures that exceed their responsibilities. In other words, an overestimation of the abilities can not lead to a well-founded skill if it has not been strengthened with appropriate and practical trainings; for this reason, this study offers a certain descriptive tendency without statistically reaching a significant conclusion. International studies have contributed with related findings that sustain those results from the present work: Workneh et al. (2021) concluded that a teachers' practice of first aid is better correlated with his professional experience, school type and his knowledge concerning the topic rather than just psychological factors. Sihvo et al. (2025) create and validate a tool designed to measure self-efficacy in first aid, demonstrating that while it is strongly correlated to previous knowledge and training experience, it does not necessarily measures accurately practical skillfulness, also, when not sustained with subsequent retraining courses the confidence declines gradually. Abelson et al. (2020) in their study show that confidence gain after an adequate BLS training doesn't promise skills quality because skills might degrade with time if it is not kept constant. Jang et al. (2021) indicate that when the gain in self-efficacy is accompanied by a video-retraining and hands on exercises, the clinical skills improvement happens, thus suggesting that self-efficacy may function as moderator between the training process and the outcomes. Studies such as those conducted by Riggs et al. Which are included in a systematic review mentioned by Sihvo et al., report the complicated interaction between knowledge, self-efficacy, the willing to help and basic CPR skill, without clear direct relationship.

The characteristics of the respondents in this study further strengthen the suspicion that there are other factors more dominant than self-efficacy. The majority of teachers are in the productive age range of 26–45 years, have a bachelor's degree, and half of the respondents have been teaching for more than ten years. Long teaching experience allows teachers to encounter minor injuries at school more frequently, so their skills develop thru direct experience. On the other hand, 76% of the respondents have never attended first aid training, so their self-confidence remains in the moderate category. This condition is in line with the findings of Sihvo et al (2025) that the level of the formal training the increase of self-efficacy of the respondents, but the impact cannot be sustainable if no periodical support given to maintain it. Workneh et al. (2021) found out that the work experiences and also work exposure to the information is much consistent toward the practices of first aid and does not have relation towards some psychological correlates. The experience in dealing the injuries at SDIT Al Mumtaz teacher is influenced by their job experience as well as school support.

In analyzing the results of the study, self-efficacy being unrelated to injury management doesn't necessarily make self-efficacy useless; rather it means it is a belief state that requires an abundance of

experience, training, and practice to grow to into competent behaviour. The environment of SDIT Al Mumtaz, which has an active School Health Unit (UKS), health personnel, and exposure to injury cases during the learning process, allows teachers to gain informal learning experiences. These conditions are suspected to be the reason why most teachers have been able to handle injuries even tho their level of self-efficacy is still in the moderate category. The implication of this research is that improving teachers' competence is not sufficient thru increasing self-confidence alone, but it needs to be accompanied by simulation-based training, repeated practice, and periodic skill evaluations so that self-efficacy develops into a consistent ability to provide first aid to students.

CONCLUSIONS

Based on the current research, most teachers working at SDIT Al Mumtaz have a moderate self-efficacy level and decent abilities in managing injuries. Nevertheless, it appears that there is no correlation between teachers' self-efficacy related to first aid provision and their injury management skills. Consequently, it means that self-efficacy is not enough to guarantee practical skills in dealing with injuries. In other words, in order to improve teachers' competencies, it is necessary to provide assistance via simulation exercises, frequent practice, and skills assessment.

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