

Level of self-esteem: Is there any difference among physical, verbal, anti-social, and cyber bullies?

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ABSTRACT

Bullying is one of the major issues worldwide and is one of the most prevalent school violence. Bullying is a negative behavior toward an individual or group of individuals that are considered weak. Bullying is often associated with self-esteem. Therefore, this study was conducted to identify the influence of students' tendency to be bullies (physical, verbal, anti-social, and cyber) on self-esteem. This study involved 150 secondary school students in the north of peninsular Malaysia. The study also used the cross-sectional survey method by distributing a set of questionnaires to the respondents. The findings of the study found that students who tend to be bullies for the four categories of bullying, namely physical bullying ($\beta=0.076$, $t=3.048$, $p<0.05$), verbal ($\beta=0.080$, $t=3.052$, $p<0.05$), anti-social ($\beta=0.084$, $t=3.055$, $p<0.05$) and cyber ($\beta=0.046$, $t=2.815$, $p<0.05$) had a significant influence on level of self-esteem.

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1. INTRODUCTION

Recent reports published by the United Nation Educational, Scientific and Cultural (UNESCO) [1] confirm that bullying is one of the major problems worldwide. A study conducted by UNESCO involving 122 countries worldwide showed that one in three students (32%) is being bullied by their peers. UNESCO [2] defines bullying as one of the violence in schools. Bullying is a negative behavior toward an individual or group of individuals that are considered weak. According to Olweus [3], bullying is repeated aggressive behavior toward a person or group that is unable to defend themselves. Bullying is an act of beating and harassing an individual or group of individuals and the most passive act is isolation from the group of individuals. A bully may be an aggressive person who acts after being bullied or a victim of bullying who turns into a bully [4]. However, Cénat *et al.* [5] stated that bullies are those who have problems of lack of attention, low self-esteem, depression, and who have a high level of behavioral disorders to resist.

Other studies involving bullying behaviors such as a meta-analysis study involving 121 countries found that students with low self-esteem had a significant relationship with bullying behavior. Self-esteem is a person's attitude towards self, based on total self-esteem (assessment of personal values), self-confidence (assessment of personal competence), and self-responsibility (acceptance of one's actions and acting responsibly towards others) [6]. The level of self-esteem of bullies and victims of bullying is lower than those who have never been bullies or victims of bullying [7]–[9]. In addition, a study involving 22 high schools in South Korea found that bullying can affect students' self-esteem [10]. In conclusion, bullying behavior can affect students' self-esteem. Therefore, this study aimed to examine whether the tendency to be bullies in the physical, verbal, anti-social and cyber bullying categories affects students' level of self-esteem.

According to Rosenberg [11], self-esteem is a person's attitude toward themselves. He explained that life experience is one of the factors that can influence one's self-esteem. Many studies have found that students have life experiences such as engaging in bullying behavior affecting their self-esteem. A study conducted by Fanti and Henrich [12] also found that all groups involved with bullying behavior such as bullies, victims of bullying, and bystanders have low self-esteem compared to groups directly with bullying behavior. In addition, Leemis *et al.* [13] in their study found that students engaged in traditional bullying (physical bullying, verbal and anti-social bullying) and cyberbullying were different from students who had never been involved with bullying behavior.

The National Association of Human Rights Malaysia states that four categories of bullying, namely physical, verbal, anti-social, and cyber are common for primary and secondary school students in Malaysia. Therefore, this study took into consideration the four categories of bullying. Physical bullying, according to Salleh and Zainal [14] is an attack on a person's body either directly or indirectly. Physical bullying directly results in injury and indirectly affects the victim psychologically and emotionally. In the case of verbal bullying, Thompson, Amatea, and Thompson [15] stated that it is bullying done verbally which involves calling people unacceptable names, spreading rumors, threatening someone, and mocking or making fun of someone. According to Thompson, Amatea, and Thompson [15], this category of bullying is common among other categories of bullying, and words used are the weapon in the occurrence of verbal bullying.

Next, anti-social bullying is bullying that occurs to tarnish one's reputation or social position and this bullying can occur in two situations namely; either by excluding someone and making them feel unnecessary or by betraying someone's trust [15]. Anti-social bullying includes spreading someone's secrets to others to tarnish their reputation and encouraging others to ignore, punish and threaten someone. In addition, Thompson, Amatea, and Thompson [15] stated that cyberbullying is bullying happening on any technology device and that it includes e-mail, messages, and social networking sites (Facebook, Twitter, Instagram, WhatsApp). Similarly, Cheng *et al.* [16] stated that cyberbullying is a bad practice that involves sending and posting bad material via the Internet or any other digital technology. Thus, the hypothesis of the study are: i) There was no significant influence between the tendencies to be a physical bully on self-esteem (H01); ii) There was no significant influence between the tendencies to be a verbal bully on self-esteem (H02); iii) There was no significant influence between the tendencies to be an anti-social bully towards self-esteem (H03); iv) There was no significant influence between the tendencies to be a cyber-bully towards self-esteem (H04).

2. RESEARCH METHOD

2.1. Research design

This study used a cross-sectional survey method using a questionnaire for the data collection process to identify the direction and influence between the study variables [17], [18] This method also explained the phenomena that occurred through the influence between the variables studied [17]. This descriptive-correlation study is used to examine the strengths and to determine the influence between variables [18], [19]. Once information is obtained about the relationship between the variables studied, the use of descriptive-correlation design can predict the phenomenon that is the focus of the study [17].

The selection of the cross-sectional survey method for the study data collection process was because this study involved data collection in a large area and related to latent variables but can be identified by researchers through the use of a questionnaire [17]. The survey method was also suitable for the study because it is the best way to measure perceptions, attitudes, beliefs, opinions, practices, and orientation for large population sizes [18], [20]. According to Lehrer [17], Richey and Klein [21], the survey method is a frequently used method for studies related to model testing.

2.2. Sampling design

The study sample involved a total of 150 secondary school students in the northern state of peninsular Malaysia. The sample size of this study was qualified to use a randomized sampling technique where the sample size should be 10% to 35% of the total population [22]. Therefore, the stratified random sampling technique was chosen to be used in this study. Through this technique, a small group of people has the opportunity to be selected for sampling at the same rate as those in the population [23]. Stratified random sampling can represent the entire population if the sample is not large [22], [23]. Table 1 shows the sample selection strata based on the respondents' criteria for this study.

Table 1. Sample selection strata based on respondents' criteria

No.	School	No. of forms 1, 2, 4 students	Percentage	No. of sample
1.	A	188	188 X 25%	47
2.	B	180	180 X 25%	45
3.	C	192	192 X 25%	48
	Total	560	560 X 25%	140

2.3. Instrument

The instrument of this study involved Part A measuring bullying by category. Instruments for measuring bullies by category such as physical, verbal, anti-social and cyber bullying were instruments that have been modified and translated by researchers who had combined the items from several previous researchers, namely Orpinas and Frankowski [24] (name of instrument: aggression scale, $\alpha=0.88-0.90$); Parada [25] (name of instrument: adolescent peer relations instrument, $\alpha=0.83-0.95$); Bosworth, Espelage, and Simon [26], (name of instrument: modified aggression scale, $\alpha=0.70-0.83$); Warden *et al.* [27] (name of instrument: child social behavior questionnaire, $\alpha=0.63-0.68$); Austin and Joseph [28] (name of instrument: bullying-behavior scale, $\alpha=0.82$); Crick and Grotpeter [29] (name of instrument: children's social behavior scale – self report, $\alpha=0.83-0.94$); Chan, Myron, and Crawshaw [30] (name of instrument: school life survey, $\alpha=0.83-0.94$); Tarshis and Huffman [31] (name of instrument: children's social behavior scale – self report, $\alpha=0.90$); Poteat and Espelage [32] (name of instrument: homophobic content agent target scale, $\alpha=0.77-0.85$); Williams and Guerra [33] (name of instrument: Student School Survey, $\alpha=0.73-0.93$); and Henson [34] (name of instrument: bully survey, $\alpha=0.74-0.76$). Part B of this instrument used the Rosenberg self-esteem scale (RSES).

2.4. Data collection

This study implemented the study data collection process by following several steps, namely: i) obtaining approval from the Ministry of Education Malaysia through the education policy planning and research division (EPRD); and ii) obtaining approval from the school to conduct the study by submitting a letter of approval from the EPRD. During data collection, the self-administrated method was applied. The rationale for the self-administrated method was to enable the researchers to be directly involved in the data collection process of this study.

Subsequently, the researchers explained to the school administrators the purpose of the study and the method of selection of respondents for approval of the data collection process. School counselors OR teachers who were considered suitable have been appointed to assist the researchers in arranging meetings between the researchers and the students during the data collection process. The date and time for further data collection were agreed upon by both parties for the three schools involved in this study.

3. RESULTS

The return rate of the instrument set was considered good where out of 150 sets of distributed instruments, 90.00% or 140 sets of questionnaires were recovered by the researchers. Before the structural model was build, the data undergo two steps of validation process which is convergent and discriminant validity. Details on the validation process and developing of structural model are discussed in sub-section.

3.1. Measurement model

3.1.1. Convergent validity

According to Hair *et al.* [35], convergent validity is determined through factor loading, average variance extracted (AVE), and composite reliability (CR). Convergent validity results will confirm that all criteria are satisfactory by fulfilling the prescribed conditions such as each item having a loading factor exceeding 0.5, AVE value exceeding 0.5, and CR value above 0.7 as shown in Table 2. However, a total of 18 items were dropped due to having a low loading factor value (b7, b8, b50, b79, b80, b81, b82, b107, b108, c4, c6, c7, c8, c9, c10, c11, c12, c13).

Table 2. Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Physical bullying	B4	0.611	0.843	0.874	0.639
	B5	0.864			
	B6	0.901			
	B9	0.792			
Verbal bullying	B49	0.762	0.815	0.87	0.626
	B51	0.815			
	B53	0.725			
	B56	0.852			
Anti-social bullying	B75	0.683	0.761	0.837	0.564
	B76	0.639			
	B77	0.839			
	B78	0.818			
Cyberbullying	B105	0.565	0.818	0.851	0.664
	B106	0.895			
	B107	0.925			
Self-esteem	C1	0.714	0.767	0.841	0.573
	C2	0.904			
	C3	0.718			
	C5	0.667			

3.1.2. Discriminant validity

Discriminant validity is verified through heterotrait-monotrait ratio of correlations (HTMT) based on the multitrait-multimethod matrix as suggested by Henseler *et al.* [36]. The first method is if the HTMT value is greater than the HTMT value.85 its value is 0.85 [37] or HTMT.90 the value is 0.90 [35] then discriminant validity can be questioned. The second method is to test the null hypothesis ($H_0: HTMT \geq 1$) with an alternative hypothesis ($H_1: HTMT < 1$). If the confidence interval value is 1, then the indicator has less discriminant validity. Table 3 shows discriminant validity and Table 4 shows heterotrait-monotrait ratio.

Table 3. Discriminant validity

	Anti-social bullying	Physical bullying	Cyberbullying	Verbal bullying	Self-esteem
Anti-social bullying	0.751				
Physical bullying	0.266	0.8			
Cyberbullying	0.326	0.171	0.815		
Verbal bullying	0.59	0.422	0.424	0.791	
Self-esteem	0.164	0.138	0.116	0.177	0.757

Table 4. Heterotrait-monotrait ratio

	Anti-social bullying	Physical bullying	Cyberbullying	Verbal bullying	Self-esteem
Anti-social bullying					
Physical bullying	0.316				
Cyberbullying	0.492	0.349			
Verbal bullying	0.728	0.519	0.608		
Self-esteem	0.179	0.149	0.106	0.203	

3.2. Structural model

Structural model evaluation as shown in Table 5 and Figure 1 refers to the value of R², beta standard, and t-values through the procedure in bootstrapping that is with resample 5000, the perceived relevance (Q²) and the effect sizes (f²) will be evaluated as recommended by Hair *et al.* [35]. Table 5 shows the results of the study in which there was a significant positive influence of the tendency to be physical bullying on self-esteem ($\beta=0.076$, $t=3.048$, $p<0.05$). Therefore, hypothesis 1 (HO1) was rejected. Furthermore, the results of the study indicated that there was a significant positive influence of the tendency to be verbal bullying on self-esteem ($\beta=0.080$, $t=3.052$, $p<0.05$). Thus, the null hypothesis 2 (HO2) was rejected. In addition, the study found that there was a significant positive influence of the tendency to be anti-social bullying on self-esteem ($\beta=0.084$, $t=3.055$, $p<0.05$). Therefore, hypothesis 3 (HO3) was rejected. Finally, the results showed that there was a significant positive influence of cyberbullying on self-esteem ($\beta=0.046$, $t=2.815$, $p<0.05$). Thus, hypothesis 4 (HO4) was rejected.

Table 5. Structural model

Hs	Path relationship	Std. beta	SE	t-value	Decision	f ²	r ²	VIF	Q ²
H ₀ 1	Physical bullying -> self-esteem	0.076	0.076	3.048	Supported	0.050	0.125	0.761	
H ₀ 2	Verbal bullying -> self-esteem	0.080	0.079	3.052	Supported	0.053	0.154	0.834	0.068
H ₀ 3	Anti-social bullying -> self-esteem	0.084	0.082	3.055	Supported	0.074	0.173	0.973	0.076
H ₀ 4	Cyberbullying -> self-esteem	0.046	0.044	2.815	Supported	0.035		0.690	

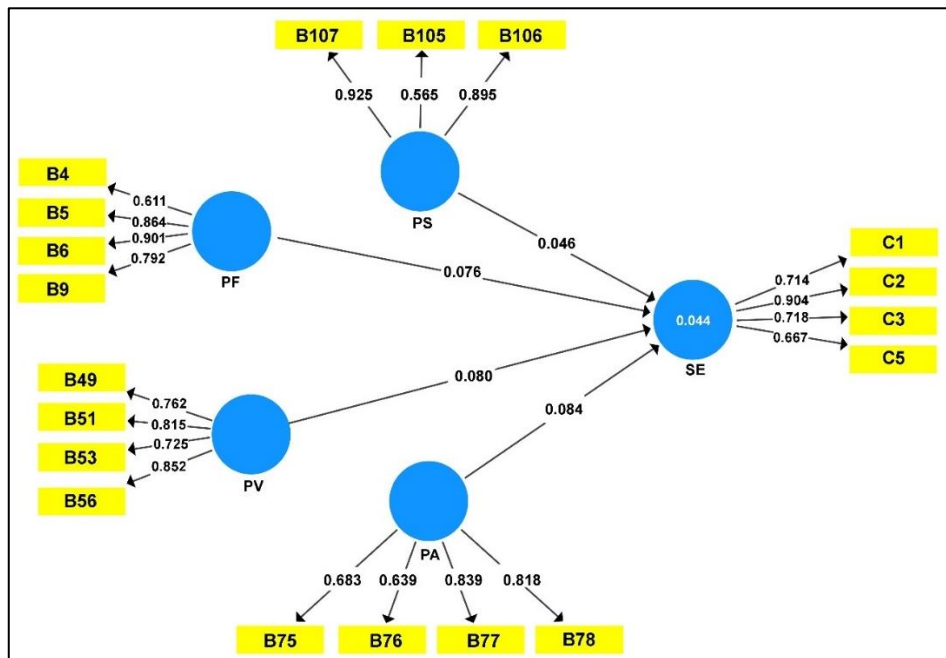


Figure 1. Structural model

4. DISCUSSION

Overall, students' tendency to become bullies for all four categories of bullying such as physical ($\beta=0.076$, $t=3.048$, $p<0.05$), verbal ($\beta=0.080$, $t=3.052$, $p<0.05$), anti-social ($\beta=0.084$, $t=3.055$, $p<0.05$) and cyber ($\beta=0.046$, $t=2.815$, $p<0.05$) had significant effects on self-esteem. For the physical bully, this finding is in line with findings of previous studies [9], [38] found that bullying behavior (bullying) affects the level of self-esteem of students. Hymel and Swearer [39] have found that bullying behavior (bullying) can lead to decreased self-esteem in children and adolescents. Being a victim of bullying as a child will affect their self-esteem for the rest of their lives [40].

Kowalski, Limber, and McCord [41] concluded that adolescents with high low self-esteem tend to be victims of verbal bullying and adolescents with high self-esteem tend to be bullies. Forms of verbal bullying involve calling others a bad name, spreading rumors, threatening someone, and making fun of or ridiculing someone. A study found that there are significant effects on self-esteem for cyber bullies [42]. Whereas, someone can be in low levels of self-esteem because of being bullied on social media such as Facebook, Instagram, and Twitter. In addition, a study by Choi and Park [43] found that students with high self-esteem were more likely to be bullies. On the other hand, the study conducted by Wang *et al.* [44] found that there was no significant influence on the level of self-esteem among bullies (physical, verbal, social, and cyber). Besides, Pascual-Sanchez *et al.* [45] also found that there was no significant influence on the level of self-esteem among bullies (physical, verbal, social, and cyber).

5. CONCLUSION

In conclusion, the tendency to be a bully influences a student's level of self-esteem. Students who tend to be bullies have a high level of self-esteem because they have high courage to bully others. This is because the meaning of self-esteem is self-confidence. Therefore, bullies feel that they are more powerful than students with low self-esteem, so they will continue to bully to restore their ego threat in themselves and maintain high self-esteem.

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