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IN SELANGOR: EXAMINING EMOTION REGULATION AND
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Abstract:

Relational aggression, a behaviour intended to harm social relationships, is often overlooked compared to other forms of aggression, though it has significant effect on mental health and social development. Although concerns about bullying and aggression in schools are increasing, research focusing specifically on relational aggression in Malaysia remains scarce. Emotion regulation and peer influence have been identified as important correlates of relational aggression, yet little is known about how these factors operate across genders. This study examined the relationship between emotion regulation, peer influence, and relational aggression among Malay adolescents, and assessed whether the independent variables varied by gender. Participants were 403 students from public secondary schools in Selangor. Missing data were addressed using multiple imputation in R, with both parametric and non-parametric methods applied to ensure robust results. Results indicated that peer influence was positively associated with relational aggression across methods, whereas emotion regulation strategies were not significantly related. Boys reported higher levels of relational aggression and peer influence than girls, but no gender differences were found in emotion regulation. The findings highlight the importance of peer based and gender sensitive interventions for reducing relational aggression and promoting healthier adolescent development. By situating relational aggression within the Malaysian context and incorporating gender perspectives, this study contributes to a more nuanced understanding of adolescent social development and its risk factors. These findings suggest that peer-focused, gender-sensitive interventions are critical for reducing relational aggression and promoting healthier adolescent

development. The study contributes to the growing body of Malaysian research by integrating gender perspectives into the analysis risk-factors influencing relational aggression.

Keywords:

Relational Aggression; Emotion Regulation; Peer Influence; Malay Adolescents; Multiple Imputation; Gender Difference

Introduction

Relational aggression is a social form of aggression with the purpose of intentionally harming individual social relationships or social goals by deliberate manipulations or exclusion (Crick & Grotpeter, 1995). This behaviour includes common behaviour like spreading rumours, gossiping, or silent treatments (Crick & Grotpeter, 1995; Murray-Close, Nelson, Ostrov, Casas, & Crick, 2016). Based on the Developmental Theory of Aggressive Strategies (Björkqvist, Österman, & Kaukiainen, 1992), relational aggression is more likely to emerge in early adolescence (stage three) when linguistic and social behaviour are more developed and learning other types of harm and aggression. Statistics show that more than 20% of adolescents have experienced aggression, particularly relational aggression as the most common (U.S. Department of Education, National Center for Education Statistics, 2021). Empirical studies show that collectivist countries with moderately higher prevalence of relational aggression (Kokkinos, Voulgaridou, & Despoti, 2021; Li, Huang, Jiang, Ma, & Ma, 2023; Rasyid, Maimanah, Nuqul, Rahayu, & Ridho, 2023) than individualistic settings (Goldstein et al., 2020; Pirc, Pecjak, Podlesek, & Štirn, 2023). Statistics in Malaysia confirmed this trend, highlighting relational and verbal aggressions as the highest forms of aggression (Ministry of Education Malaysia [MOE], United Nations Children's Fund [UNICEF], & Pertubuhan Pembangunan Kendiri Wanita dan Gadis [WOMEN:girls], 2018). Likewise, local studies like Sivabalan et al. (2020) suggest nearly half engaged in cyber exclusion.

The frequency of relational aggression highlights a clear public health and educational concern. Relational aggression often goes unmonitored compared to physical aggression despite its significant negative effects, such as mental health problems and poor academic performance (Aizpitarte, Atherton, Zheng, Alonso-Arbiol, & Robins 2019). Legate, Weinstein, and Przybylski (2021) indicate that relational aggression can negatively affect psychological development in both victims and perpetrators. Like physical aggression, the effect of relational aggression is equally harmful, if not more so, especially for adolescents when social bonds and status and the need to belong heighten during this period (Riaz, Bano, Abbas, & Rizwan, 2018; Voulgaridou & Kokkinos, 2015). This, together with the statistics of prevalence in Malaysia, emphasises the need to investigate the underlying risk factors that motivate the relational aggression. Developing successful prevention and intervention programmes requires an understanding of the risk factors. Emotion regulation and peer influence are two prominent risk factors associated with relational aggression in adolescents.

Emotion Regulation and Relational Aggression

Emotion regulation is the process of managing and controlling one's own emotions, whether conscious or automatic, intrinsic or extrinsic (Gross, 1998; Gross & Jazaieri, 2014; Gross & John, 2003). Gross (1998) proposes that regulation can take place either at earlier steps, termed 'antecedent-focused emotion regulation', or at the output, known as 'response-focused emotion

regulation'. The antecedent-focused strategy uses cognitive reappraisal to assess and adaptively produce emotions, and the response-focused method suppresses or delays emotions through expressive suppression (Gross, 1998; Gross & John, 2003). According to Gross (1998), cognitive reappraisal is an attempt to avoid feeling the emotion, while expressive suppression attempts to hide current emotion and can result in lower psychological well-being and less positive affect (Gross, 1998; Gross & John, 2003).

Emotion regulation has been assessed with several measures in the past. For instance, anger regulation, emotion management, and emotion dysregulation are connected to higher levels of verbal and relational bullying or aggression (Kokkinos et al., 2021; Monopoli, Evans, & Himawan 2022; Pirc et al., 2023; Qian et al., 2022). Despite the overwhelming focus on poor emotion regulation, only two studies employed Gross's (1998) emotion regulation strategies. For example, Kokkinos, Algiovanoglou, & Voulgaridou's (2019) study on the functions of relational aggression found a substantial positive correlation between expressive suppression and reactive relational aggression, but not between expressive suppression and cognitive reappraisal and proactive relational aggressiveness. Research indicates that the rate of emotion regulation was low in collectivist contexts but moderate to high in individualist countries (Arató, Zsidó, Lénárd, & Lábadi, 2020; Quintana-Orts, Mérida-López, Rey, & Extremera, 2021; Pirc et al., 2023). This inconsistent and restricted use of emotion management techniques emphasises the need for more research. In terms of sex, boys scored higher in expressive suppression, while girls scored higher in cognitive reappraisal (Li et al., 2023; Uddin & Rahman, 2022). A focused study is necessary to confirm the mechanisms linking emotion regulation strategies to relational aggression with the following hypotheses:

H01: Gender does not determine emotion regulation in Malay adolescents.

H02: There is no relationship between emotion regulation and relational aggression among Malay adolescents.

Peer Influence And Relational Aggression

Higher percentages of adolescent aggression and bullying occur in peer contexts, particularly among those who accept or are receptive to such behaviours (Jenson & Williford, 2018). Peer influence shapes group identity by affecting adherence to or divergence from traditional norms (Vanden Abeele, Van Cleemput, & Vandebosch, 2017). This influence can lead to peer pressure, where individuals conform to group values to attain status or membership (Smokowski, Guo, Cotter, Evans, & Rose, 2016). Furthermore, peer pressure is frequently reciprocal, with each pressuring or inciting the other to engage in norm-breaking activity.

The majority of empirical research on peer influence concentrated on deviant peer affiliation, which is usually measured by the frequency or numbers of deviant peers (Aizpitarte et al., 2019; Wang et al., 2020b). Adolescents' relational aggression, but not overt aggression, was positively connected with affiliation with closest friends or peers who display relational aggression (Wang et al., 2020a). Perceived popularity and peer pressure predicted creating and sharing ridiculed/physically bullied victims (Vanden Abeele et al., 2017). Goldstein et al. (2020) found a substantial association between susceptibility to peer influence and relational aggression, especially among girls. Finigan-Carr, Gielen, Haynie, and Cheng (2016) reported that acceptance of peer deviance, among others, predicted relational aggression, with low peer deviance acceptance among females predicting lower relational aggression. Individualist and collectivist cultures reported low to medium frequency of peer influence (Aizpitarte et al.,

2019; Lin et al., 2022; Yang, Gan, & Wang, 2024). Girls are more vulnerable to peer pressure (Goldstein et al., 2020), while boys are more likely to be connected to deviant peers (Fenny & Falola, 2020). Although studies have shown that relational aggression is influenced by deviant peers, they offer little understanding of the mechanism of influence.

Ho3: Gender does not determine peer influence in Malay adolescents.

Ho4: There is no relationship between peer influence and relational aggression among Malay adolescents.

The Present Study

The purpose of the study is to examine the relationship between emotion regulation, peer influence, and relational aggression among Malay adolescents in Selangor. A review of the literature reveals several research gaps that warrant exploration. The effect of emotion regulation has been broadly examined with general bullying or aggression, but exploring relational aggression separately, more so with specific strategies like cognitive reappraisal and expressive suppression, is limited. Zaki et al.'s (2024) systematic literature review confirms this notion and concludes that more study is needed, especially in Asian contexts. For this study, emotion regulation is measured by the sub-domain of expressive suppression, which is suggested to hurt an outcome (Gross, 1998). Likewise, peer influence is measured by one of the multidimensions of peer influence, other than the usual deviant peers representing peer influence. Since past studies have established the maladaptive effect of deviant peers, a shift in focus to other domains of peer influence, like peer pressure for fighting, is needed, hence the focus of this study. While peer pressure for fighting may focus on pressure to support or engage in physical aggression, Farrell et al. (2017) confirmed the relationship with relational aggression. Moreover, many of the studies are done in individualist contexts; thus, more studies are called for in collectivist contexts. Another angle to explore is gender differences in emotion regulation and peer influence. While past studies have explored gender differences in relational aggression, few studies have examined both independent variables of this study. Thus, using the Developmental Theory of Aggressive Strategies (Björkqvist et al., 1992) and the Social Cognitive Theory (Bandura, 1986) as theoretical foundations, this study addressed the research gaps by examining the association between the sub-scales of emotion regulation and peer influence with Malay adolescents' relational aggression in Selangor.

Method

Sample

A total of 403 Malay adolescents in Selangor, randomly selected through multistage sampling, participated in this study. Participants' ages ranged from 13 to 16 years (M age = 14.64, SD = 1.22). Adolescents were selected in line with the Developmental Theory of Aggressive Strategies (Björkqvist et al., 1992). Relational aggression appears more noticeable during adolescence, thus the respondents of the study. The study focused on Selangor because the state is the most populous in Malaysia and has the highest rates of adolescent misconduct (Naimi, 2024). Of the participants, slightly more were girls, 161 (60%), and 242 (40%) were boys that resided in rural areas (57.3%), while 173 were located in urban areas (42.7%). Based on the Department of Statistics, Malaysia, 2022) categories of family monthly income, more than half, 241 (59.8%), reported belonging in the Bottom 40% (B40) category, the rest belonging in the Middle 40% (M40) or Top 20% (T20) categories. As for parents' background, the majority

were married (83.9%), with ages ranging from 29 to 76. Approximately half of the parents' education levels were at a primary or secondary education level.

Procedure

Clearance from the university's institutional ethics committee (Jawatankuasa Etika Universiti untuk Penyelidikan melibatkan Manusia) [JKEUPM] was obtained, followed by the Ministry of Education, the Selangor State Education Department, and five out of six randomly selected secondary schools' principals. One school was unresponsive in participation and hence was dropped from the study. All instruments in the study, with approval obtained from the respective scale developers, were translated into Bahasa Melayu through the back-translation method, except for the already available Bahasa Melayu version of religiosity by the scale authors. Scales' validity and reliability were established. Before conducting the study, a pilot study was carried out at a public secondary school in Gombak. Self-administering questionnaires (available in Google Forms and hardcopy) had two sections for background information and the instruments. Respondents with consents (parents and respondents) completed the questionnaires within two weeks, followed by debriefing and a small token of appreciation.

Measures

There were three scales used in this study. First, the Children's Social Behavior Scale—Self-Report (CSBS-S; Crick, 1991; Crick & Grotpeter, 1995). This scale measures the level of occurrence of aggressive and prosocial behaviour. The five-item relational aggression subscale was used to measure adolescents' relational aggression. With a 5-point Likert scale (1 = never to 5 = all the time), scores were summed, with high scores signifying high engagement in relational aggression ($\alpha = .73$). Second, Gross and John (2003) Emotion Regulation Questionnaire (ERQ) scale was used to measure strategies of emotion regulation, that is, cognitive reappraisal and expressive suppression. The subscale expressive suppression was used to measure emotion regulation. The four items were rated on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree) and were summed for total scores. High scores show high usage of the expressive suppression strategy ($\alpha = .72$). Lastly, the domains of peer influence by Farrell, Thompson, & Mehari (2017) were used to measure peer influence. The scale measured five domains of either aggressive or non-aggressive peer influence. The peer pressure for the fighting subscale (five items) was selected to measure peer pressure. The scale was measured on a 6-point scale (1 = Never to 6 = 20 or more times), but responses 4 to 6 were collapsed, making the scale a 4-point scale based on the scale author's suggestion. All items were summed, and high scores indicated high peer pressure for fighting ($\alpha = .87$).

Data Analysis

All analyses were conducted in R (version 4.5.1; R Core Team, 2025). Before running analyses, data was cleaned and screened for the normal distribution assumption. Outliers and non-normally distributed data were observed, but no issues in multicollinearity. Missing values (3.6%) were handled using multiple imputation. Multiple imputation allows complete data analysis, providing statistical power, estimating uncertainty, replacing outliers, and allowing valid inferences (Austin, White, Lee, & van Buuren, 2021; Cousineau & Chartier, 2010; van Buuren, 2018). Multiple imputation was run in the package multivariate imputation by chained equations (MICE; van Buuren, 2018). The model included five auxiliary variables most correlated to missing values and a method suitable to variable types (Hardt, Herke, & Leonhart,

2012; van Buuren, 2018). The final model (seed = 1234) generated 20 imputations ($m = 20$) and 50 iterations (maxit = 50) with satisfactory convergence diagnostics.

Based on suggestions from other researchers, cases contributing to outliers and non-normality were not deleted, and parametric tests were run as the main analyses (Iacobucci Román, Moon, & Rouziès, 2025; Leys, Ley, Klein, Bernard, & Licata, 2013; van Buuren, 2018). However, following Rovetta's (2020) suggestions, sensitivity analysis with non-parametric analysis was conducted to compare results with the validity determination. Two main analyses include comparative analysis and bivariate correlation analysis. Gender differences for the independent variables were analysed using an independent samples t-test analysis and the Wilcoxon-Mann-Whitney test or Mann-Whitney U test. The Pearson product-moment correlation coefficient and Spearman rank order correlation coefficient were used for bivariate correlation. Both analyses were run in the package MICE. Parameter estimations were based on Rubin's Rules by running analyses separately on all 20 imputed datasets and results pooled together, which accounts for uncertainty from missing data variance (between-imputation variance) and sampling variance (within-imputation variance) (Rubin, 1987; van Buuren, 2018).

Results

The descriptive statistics in Table 1 included mean, standard deviation, median, interquartile range, and reliability for the study variables, which are emotion regulation, peer influence, and relational aggression. Based on the results, the prevalence of relational aggression was low, 324 (80.4%). The mean total score was 8.07 ($SD = 2.83$), ranging from five to 19. This indicates that only a small portion of Malay adolescents engaged in relational aggression. On the other hand, the total mean scores for emotion regulation were 20.38 ($SD = 4.76$), ranging from 5 to 28. This means that Malay adolescents' scores were at a relatively high level of emotion regulation. As for peer influence, the total mean score was 8.33 ($SD = 3.75$), with scores ranging from five to 20. This shows that, like relational aggression, Malay adolescents' exposure to peer pressure for fighting was low.

Table 1: Descriptive Statistics Of Study Variables (N=403)

Variable	Mean	(SD)	Median(IQR)	Range
Emotion Regulation	20.38	4.76	21(7)	5-28
Peer Influence	8.33	3.75	7(5)	5-20
Relational Aggression	8.07	2.83	7(4)	5-19

Table 2 shows the pooled results for the independent t-test to analyse gender differences in emotion regulation and peer influence. Both results are the subscale scores; emotion regulation was measured using expressive suppression, and peer pressure for fighting represents peer influence. The result for emotion regulation was not significant, $t(399) = -.12$, $p < .31$, $SE = .12$, 95% $CI = [-.36, .11]$. This shows that there are no gender differences in expressive suppression strategy. For peer influence, the t-test result was significant: $t(399) = -.20$, $p < .02$, $SE = .09$, 95% $CI = [-0.38, -0.03]$. Therefore, boys ($M = 1.84$, $SD = .98$) engaged in peer pressure for fighting significantly more than girls ($M = 1.64$, $SD = .81$). Thus, based on the results, H_{01} was accepted due to non-significant results to infer gender differences in expressive suppression strategy. Peer influence, however, was significant between genders, which signifies that boys are more affected by peer pressure for fighting than girls. Thus, H_{02} was rejected.

Table 2: Descriptive Statistics And Pooled Independent T-Test (N=403)

Variable	Boys (161)		Girls (242)		<i>t</i>	<i>p</i>	SE
	M	SD	M	SD			
Emotion Regulation	5.17	1.14	5.05	1.22	-.12	.31	.12
Peer Influence	1.84	.98	1.64	.81	-.20	.02	.09

Notes: M = Mean, SD = Standard Deviation, *t* = Independent *t*-Test, *p* = significance, SE = Standard Error

Table 3 presents the pooled results for Pearson correlation coefficients (*r*) with the standard errors, significance, and 95% percentile confidence interval. The result for the relationship between emotion regulation and relational aggression was not statistically significant ($r = .05$, $p = .29$, $SE = .05$, 95% CI = $[-.05, .15]$). This indicates that emotion regulation strategy via expressive suppression does not influence Malay adolescent relational aggression. In contrast, the correlation between peer influence and relational aggression was found to be positively significant ($r = .30$, $p < .001$, $SE = .05$, 95% CI = $[.21, .39]$). The moderate correlation between both variables shows that high peer influence through peer pressure for fighting heightens engagement in relational aggression among Malay adolescents. Apart from that, the correlation between emotion regulation and peer influence was also statistically significant ($r = .14$, $p < .001$, $SE = .05$, 95% CI = $[.04, .24]$). Based on bivariate correlation results, Ho3 was accepted, which means that emotion regulation did not relate to relational aggression. On the other hand, the significant relationship between peer influence and relational aggression means that Ho4 was rejected.

Table 3: Pooled Correlation Coefficients For Relational Aggression, Emotion Regulation, And Peer Influence (403)

Variable	1	2	3
1. Emotion Regulation	—	.14*** (.05) [.05, .24]	.05 (.05) [-.05, .15]
2. Peer Influence		—	.30*** (.05) [.21, .39]
3. Relational Aggression			—

Note: *r* = Pearson Correlation Coefficient, () = Standard Errors, [] = 95% Confidence Interval, ** $p < .01$, *** $p < .001$.

Sensitivity Analysis

To ensure that the findings were not affected by the violation of parametric assumptions, a sensitivity analysis was conducted. The non-parametric versions for both correlation and comparison analyses (Spearman correlation analysis and Mann-Whitney U test) were analysed for comparison of robustness. As Rovetta (2020) suggests, similar results from both methods indicate that the main analysis, parametric analysis, is valid under violation of parametric assumptions. The results across both methods were consistent in terms of direction of relationship and significance levels. For example, the Mann-Whitney U test for gender differences in peer influence ($U = 21,970.0$, $p = .03$) and emotion regulation ($U = 20,366.5$, $p = .44$) provided the same significance results as the *t*-test. For correlation analysis, the

Spearman correlation coefficients between emotion regulation and relational aggression ($\rho = .01$, $p = .85$) and between peer influence and relational aggression ($\rho = .33$, $p < .001$) were nearly identical to the parametric counterpart. The relatively similar results produced across different methods, parametric and non-parametric, validate the use of the parametric analysis as the main analysis.

Discussions

The purpose of this study was to investigate the psychosocial factors that influence relational aggression in Malay adolescents. The associations between emotion regulation, peer influence, and relational aggression were explored in terms of frequency, gender differences, and correlations between variables. Emotion regulation was focused on expressive suppression and peer influence, measured by peer pressure for fighting. Thus, the findings centre on these domains, and the discussion is limited to these elements.

The findings reveal that the level of relational aggression among Malay adolescents was low. Likewise, Malay adolescents were less affected by peer pressure for fighting. On the other hand, the level of expressive suppression was high, meaning that Malay adolescents use a high amount of expressive suppression when regulating emotions. The findings correspond to past studies (Kokkinos et al., 2019; Kokkinos et al., 2021; Li et al., 2023; Qian et al., 2022). One explanation for the results is the cultures that Malays grew up with, that is, religious and cultural teachings that underscore ethics, respect, and self-control (Ali et al., 2022). Therefore, these elements may prevent Malay adolescents from engaging in maladaptive behaviour like relational aggression and peer pressure for fighting and make them choose a much more suppressed emotion regulation strategy like expressive suppression.

Second, gender difference was observed for peer influence but not emotion regulation. Specifically, Malay boys are more likely to engage in peer pressure for fighting than girls. However, there were no differences between emotion regulation strategies via expressive suppression. The results align with Finigan-Carr et al. (2016) that girls are less likely to accept peer deviance, which in turn lessens relational aggression. However, for emotion regulation, the results contradict Li et al. (2023) and Uddin and Rahman (2022) on gender differences in emotion regulation strategy. A similar explanation of Malay cultures of self-control may explain the lack of gender differences.

Lastly, correlation analysis found similar results to the comparative analysis above: no relationship between emotion regulation and relational aggression, but the relationship between peer influence and relational aggression was significant. This demonstrates that high peer influence through pressure for fighting influences Malay adolescents to engage in relational aggression. This parallels the Goldstein et al. (2020) study in which susceptibility to peer influence increases the likelihood of relational aggression. Furthermore, the significant relationship suggests that fighting, a physical form of aggression, can influence a social form of aggression. Not surprisingly, considering that relational aggression and physical aggression are highly correlated (Ettekal & Ladd, 2020). In contrast, the results for emotion regulation contradict past studies. For example, Kokkinos et al. (2019) found a significant link between expressive suppression and reactive relational aggression but not between expressive suppression and proactive relational aggression. This suggests that the effectiveness of the emotion regulation strategy depends on the functions of relational aggression.

The results offer significant theoretical, practical, and methodological implications. First, the significance of peer influence and gender differences emphasises the importance of intervention and prevention programmes and policies that are peer-based and gender-based, focused on lessening the effect of relational aggression among adolescents. More specifically, programmes should promote positive peer norms and pro-social behaviour. Moreover, awareness of the effect of peer pressure on relational aggression, especially among boys, is important. For emotion regulation, further studies are needed to explore reasons for non-significance in terms of a more specific focus, like Kokkinos et al. (2019), or factors like research design and planning. As for methodology, multiple imputations and non-parametric analyses are sensitive analyses that provide methodological rigour and implications for future studies. Specifically, multiple imputation prevents deleting cases, thus retaining statistical power, and non-parametric methods provide cross-checking of parametric analysis results despite violation of assumptions. This indicates that a variety of methods can be applied in spite of methodological issues.

There are some limitations that should be addressed. First, this study is a cross-sectional study, meaning that causal inferences cannot be made. This means that a longitudinal study is necessary. Second, self-report measures like this study are prone to social desirability bias; thus, multi-informant approaches (e.g., peer and teacher reports) are advisable. Third, the results explain the effect on Malay adolescents and should not be generalised to other populations not included in the study. Future study should include other geographical areas and ethnic groups in Malaysia or other age groups. Lastly, the study focused on sub-scales of emotion regulation and peer influence; hence, caution is needed in making inferences outside these domains.

In conclusion, the study provides significant insight into the relational aggression literature by focusing on the psychosocial factors related to Malay adolescents' relational aggression. The results show that relational aggression and peer influence among Malay adolescents were low, but emotion regulation was relatively high. Moreover, boys are more susceptible to peer influence than girls, but there are no differences in emotion regulation. Lastly, high peer influence may heighten the likelihood of relational aggression among Malay adolescents. Together, the study provides empirical support for the Malaysian context and provides insight for programmes aimed at addressing relational aggressiveness in adolescents.

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