From bonds to beliefs: Investigating parent, peer attachment, and growth mindset in private vocational high schools

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1. Introduction

Indonesia stands as one of the developing countries earnestly seeking avenues to transition into a developed nation, particularly in the realm of education. The educational system in Indonesia adheres...
to the National Education System, which aims to propel the nation towards progress and advancement. Among the educational structures in Indonesia is the Vocational High School (Sekolah Menengah Kejuruan or SMK). Vocational High Schools are educational institutions designed to equip students with the prerequisites to enter mid-level professions and pursue further education in line with their chosen fields of study. The primary objective of SMK is to produce a skilled and sought-after workforce that is competitive in the job market, yielding graduates ready to vie with other professionals. In essence, SMK is geared towards providing a well-prepared workforce, honing their skills for specific trades. This very essence underscores the crucial roles of parents and educators in the SMK domain, as they play a pressing role in guiding and supporting students throughout their career development journey, motivating them and fostering a commitment to their chosen career paths [1]. Common challenges faced by SMK students, which are generally unavoidable, include both academic and non-academic issues. An academic challenge faced is academic stress, a prevalent issue among Vocational High School (SMK) students due to the predominant focus on practical-based education. Academic stress often arises as some students lack confidence and hold the belief that their abilities are unchangeable, fearing inevitable failure and poor outcomes in practical activities. Consequently, this perception can trigger the onset of academic stress among students within the school setting [2].

Efforts to confront challenges in students are heavily influenced by their mindset. Within the educational context, a series of assumptions have been outlined, highlighting a fundamental aspect of individuals, as introduced by [3], known as mindset. Mindset is a descriptor of an individual's characteristics, revolving around their perception of their intelligence, whether it leans toward being fixed or malleable. [3] also elaborates that there are two types of mindsets: fixed mindset and growth mindset. A fixed mindset entails the belief that abilities, talents, and personalities are unchangeable and static, whereas a growth mindset involves the conviction that an individual's skills can be developed and improved through effort and hard work. Students who possess a growth mindset tend to exhibit adaptive behavior. This entails their ability to adapt to environmental factors and new habits. When faced with challenges, individuals with a growth mindset adjust themselves, as they hold the belief that intelligence can be enhanced through effort and hard work, and that failure is a result of inadequate strategies or insufficient effort. On the other hand, students with a fixed mindset are inclined to prove that their intelligence remains static and perceive their intelligence as stable [4]. Conversely, the influence of a growth mindset extends to the crucial realm of students' mental health. The World Health Organization expounds that mental health encompasses a state where individuals recognize their inherent potential, possess effective stress-coping strategies, exhibit workplace productivity, and contribute positively to their immediate environment [5]. Additional studies elucidate that those embracing a growth mindset play a vital role in alleviating the burdens of mental health challenges, underscoring the significant contribution of a growth mindset to an individual's mental well-being [6].

The significance of a growth mindset also extends to the continuity of academic success among students. This is because individuals harboring a growth mindset view the classroom as an enjoyable arena for self-development and exploration of new concepts. Moreover, they tend to exhibit resilience when confronted with challenging and demanding situations [7]. Conversely, when students believe that their qualities and abilities can be cultivated through persistent effort and hard work, they uphold perseverance and determination in achieving academic success. Consequently, such students possess a heightened enthusiasm for attaining their desired academic achievements, similar to how adolescents can attain their targeted grades [8]. Furthermore, a growth mindset plays a pivotal role in career success. Adolescents with a growth mindset have a positive impact on their career trajectories, as they tend to be more diligent, persistent, and enthusiastic in their work endeavors. They possess self-confidence in their abilities, demonstrate commitment to their work, and exhibit an ability to enhance and unleash their potential [9]. The role of parents significantly influences the growth mindset of students, as parents hold a crucial position in aiding adolescents to fulfill their developmental tasks by forming an attachment. Attachment is fostered through emotional support and a sense of closeness provided by parents to their adolescent children [10]. Parent-child attachment is often referred to as "attachment." The term "attachment" was first introduced by John Bowlby [11]. According to Bowlby (1958), attachment is an emotional bond established by parents or caregivers with their children, characterized by warmth and intimacy, which results in feelings of contentment, happiness, comfort, and self-assurance in children.

The theory proposed by Bowlby explains the vital role of parents in shaping attachment. According to Ainsworth, attachment refers to the emotional bond formed between an individual and their close
A mother Attachment scale, \(\alpha = 0.789\).

and advice and others about success. The results of the reliab
are important for self
intelligence, talent
“Strongly agree). which is built based on growth mindset aspects according to
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in the aforementioned background, the research problem in this study is whether there is an influence
particularly in the development of students' mindsets. On the other hand, students who lack strong
attachment as the perception individuals and others have regarding the extent to which an individual
and their peers understand each other, communicate effectively, and derive comfort and security from
their peer relationships. Moreover, the influence of peers also plays a crucial role in an individual's
tendency to think or behave in alignment with their friends [21]. Peer attachment provide individuals
with opportunities to build their sense of self-worth [22]. When adolescents feel the need, they tend
to seek closeness and comfort from their peers in the form of advice [23]. Therefore, students who
have strong attachments with parents and peers are likely to impact their personal development,
particularly in the development of students' mindsets. On the other hand, students who lack strong
attachments with parents and peers may experience effects on their mindset development. Based on
the aforementioned background, the research problem in this study is whether there is an influence
between mother attachment and growth mindset among students. there is an influence between father
attachment and a growth mindset among students? and whether there is an influence between peer
attachment and growth mindset among students. Parent Attachment is hypothesized to have an influence
on students' growth mindset, whereas peer attachment is hypothesized to have no influence
on students' growth mindset. The aim of this study is to examine the influence of mother attachment
on students' growth mindset, the influence of father attachment on students' growth mindset, and the
influence of peer attachment on students' growth mindset.

2. Method
2.1. Participant
Participants were recruited from students in Private Vocational High School in Purwokerto,
Indonesia. We used a stratified proportionate random sampling technique to determine respondents in
this study. The participants were asked for their consent before participating in the study. A total of
235 students participated in this study. The participants of this study were dominated by women
(57.9%) rather than men (42.1%). The age of participants was dominated by 16 years (46.7%).

2.2. Measurement
1) Growth mindset
Growth mindset was measured using a mindset scale consisting of 20 items where each item was
assessed on a 4-point Likert type scale (1 = “Strongly disagree,” 2 = “Disagree,” 3 = “Agree,” 4 =
“Strongly agree), which is built based on growth mindset aspects according to [3], namely Belief in
intelligence, talent, and character that can be developed, Belief in challenges or difficulties and failures
are important for self-development, belief in effort and hard work to foster success, Belief in criticism
and advice and others about success. The results of the reliability test on the growth mindset scale \(\alpha = 0.789\).

2) Parent attachment
Parent attachment is measured \textit{Inventory of Parent and Peer Attachment (IPPA)} [13] Scale consists of
16 items mother attachment scale, the scale consists 17 items father attachment scale, in which
each item is rated on a 5-point Likert-type scale (1 = “Strongly disagree”, 2 = “Disagree”, 3 = “Neither agree or disagree,” 4 = “Agree,” 5 = “Strongly agree). The Inventory of Parent and Peer Attachment (IPPA) has been adapted in Indonesia [24]. The scale consists of three aspects: trust, communication, and alienation. The results of the reliability test of the independence scale mother attachment (α = 0.880), scale father attachment α = 0.862.

3) Peer attachment

Peer attachment is measured Inventory of Parent and Peer Attachment (IPPA) [13] Scale consists of 17 items, and each item is rated on a 5-point Likert-type scale (1 = “Strongly disagree”, 2 = “Disagree,” 3 = “Neither agree or disagree,” 4 = “Agree,” 5 = “Strongly agree). The Inventory of Parent and Peer Attachment (IPPA) has been adapted in Indonesia [24]. The scale consists of three aspects: trust, communication, and alienation. The results of the reliability test of the independence scale α = 0.801.

4) Data Analysis

Data were analyzed by mean, and standard deviation was used for the general characteristic of samples; Pearson product-moment correlation coefficient was used to test parent and peer attachment, growth mindset, and T-test analysis to compare in sex all variables. Linear regression was used to determine Mother, Father, and peer attachment as predictors to growth mindset. A p-value of less than 0.05 was considered statistically significant. All calculations use Jamovi version 2.0.0.0 for Windows.

3. Results and Discussion

Table 1 shows the relationships between different variables in the study. It provides insights into how these variables are interconnected and the extent of their associations. The main findings are as follows: The average age of the participants was 16.4 years, with a narrow standard deviation of 1.02, indicating a relatively homogenous age distribution in the sample. Mother Attachment: Participants’ attachment to their mothers had an average score of 55.6, with a standard deviation of 6.25. There was a positive correlation (r = 0.23) between Age and Mother Attachment, implying that as participants grew older, their attachment to their mothers tended to increase significantly. Father Attachment: The average score for attachment to fathers was 58, with a standard deviation of 6.47. A negative correlation (r = 0.22) between Age and Father Attachment indicated that as participants aged, their attachment to their fathers tended to decrease. Peer Attachment: Participants’ attachment to peers had an average score of 34.2, with a standard deviation of 5.17. There were relatively weak correlations between Peer Attachment and other variables, suggesting that peer attachment might be less influenced by age or attachment to parents-growth Mindset. The average Growth Mindset score was 41.6, with a standard deviation of 5.76. Growth Mindset showed positive correlations with Mother Attachment (r = 0.32) and Peer Attachment (r = 0.29), indicating that those with higher attachment to mothers and peers tended to have a more positive growth-oriented mindset. Conversely, a negative correlation was observed with Father Attachment (r = -0.28), suggesting that higher attachment to fathers might be associated with a less positive growth mindset.

Table 1. Correlation among variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>16.4</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Attachment</td>
<td>55.6</td>
<td>6.25</td>
<td>0.23***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father Attachment</td>
<td>58</td>
<td>6.47</td>
<td>-0.22***</td>
<td>0.54***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Attachment</td>
<td>34.2</td>
<td>5.17</td>
<td>0.06</td>
<td>0.12</td>
<td>0.18**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth Mindset</td>
<td>41.6</td>
<td>5.76</td>
<td>-0.28***</td>
<td>0.32***</td>
<td>0.29***</td>
<td>0.12</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01, *** p < .001

Table 2 shows the results of comparing male and female participants across various variables. Key insights from this table are Mother Attachment: There was a significant difference in Mother Attachment scores between genders. Females had significantly higher Mother Attachment scores (mean difference = 2.12), indicating that they tend to be more attached to their mothers compared to males. Father Attachment: No significant difference was found in Father Attachment scores between genders. The slight difference in means (1.38) and effect size (0.21) suggested that, while there was a numerical difference, it was not statistically meaningful. Peer Attachment: The table suggests a near-significant difference in Peer Attachment between genders. Although the p-value was slightly above the conventional threshold (p = 0.053), females exhibited slightly higher Peer Attachment scores (mean difference = 1.32) compared to males. Growth Mindset: There was a highly significant difference in Growth Mindset scores between genders. Females scored significantly higher (mean
difference = 4.08), indicating a more positive attitude toward growth and learning opportunities compared to males.

Table 2. T-test among male and female

<table>
<thead>
<tr>
<th>Variable</th>
<th>t-score</th>
<th>p-value</th>
<th>Mean Difference</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother Attachment</td>
<td>2.6</td>
<td>0.01</td>
<td>2.12</td>
<td>0.34</td>
</tr>
<tr>
<td>Father Attachment</td>
<td>1.62</td>
<td>0.106</td>
<td>1.38</td>
<td>0.21</td>
</tr>
<tr>
<td>Peer Attachment</td>
<td>1.94</td>
<td>0.053</td>
<td>1.32</td>
<td>0.26</td>
</tr>
<tr>
<td>Growth Mindset</td>
<td>5.71</td>
<td>&lt; 0.001</td>
<td>4.08</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Table 3 presents the coefficients from a model that predicts Growth Mindset scores based on various predictors. The key takeaways from this table are Mother Attachment: For each one-unit increase in Mother Attachment, participants were estimated to have a 0.3-unit increase in Growth Mindset scores. This suggests that a stronger attachment to mothers is associated with a more positive growth-oriented mindset. Father Attachment: Similarly, for each one-unit increase in Father Attachment, participants were estimated to have a 0.25-unit increase in Growth Mindset scores. This indicates that attachment to fathers also contributes positively to a growth mindset. Peer Attachment: For each one-unit increase in Peer Attachment, participants were estimated to have a 0.13-unit increase in Growth Mindset scores. While this predictor's impact was smaller compared to mother and father attachments, it still had a positive association with growth mindset. R² values: The R² values provide insights into how much of the variation in Growth Mindset scores can be explained by the predictors. Mother Attachment and Father Attachment together accounted for about 18% of the variance, while Peer Attachment contributed to a smaller extent (1%).

Table 3. Model Coefficients - Growth Mindset

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate</th>
<th>SE</th>
<th>95% CI</th>
<th>t</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Attachment</td>
<td>0.3</td>
<td>0.06</td>
<td>0.18</td>
<td>0.41</td>
<td>5.19</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Father Attachment</td>
<td>0.25</td>
<td>0.06</td>
<td>0.14</td>
<td>0.36</td>
<td>4.56</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Peer Attachment</td>
<td>0.13</td>
<td>0.07</td>
<td>-0.01</td>
<td>0.27</td>
<td>1.8</td>
<td>0.073</td>
</tr>
</tbody>
</table>

The findings of this research highlight the significant role that parent and peer attachments play in shaping students' growth mindsets within the context of Private Vocational High Schools in Purwokerto, Indonesia. The results illuminate interesting gender-based differences in attachment and mindset, contributing to our understanding of the psychological dynamics influencing students' attitudes towards learning and personal development (Fig.1). The substantial gender difference observed in Mother Attachment scores emphasizes the pivotal influence of maternal relationships on students' growth mindsets. This finding aligns with prior research suggesting that maternal figures often serve as emotional anchors, fostering a positive outlook on challenges and learning [25]. For example, previous studies reported that when the mother's growth mindset decreases, the child's growth mindset will also show a downward trend [26].

![Fig. 1. Estimate Result](image)

However, the lack of gender difference in Father Attachment suggests that fathers might exert a more consistent influence on both genders' growth mindsets, underscoring the significance of paternal involvement in fostering a growth-oriented attitude. The modest gender disparity in Peer Attachment scores implies that female students might be more inclined towards fostering close relationships with peers, which could contribute to their more optimistic growth mindsets. This insight underscores the importance of peer support and the social environment in nurturing a positive attitude towards learning. Furthermore, the linear regression analysis revealed that both mother and father Attachments...
 Hill. The interaction between a

out the influence of these relationships can contribute to more effective

The findings of this research carry

influence of parent and peer attachme

A notable strength of this research is its focus on a specific demographic, namely Private

for life [29]. In the context of the variable of father attachment towards growth mindset, this is

research conducted by [18], elucidating the father's significant influence on their

A conclusion, this study demonstrates the influential roles of parent and peer attachments on

students' growth mindsets in Private Vocational High Schools in Purwokerto, Indonesia. The gender

differences observed in attachment and mindset underscore the multifaceted nature of these dynamics.

The research emphasizes the potential of parental and peer relationships to shape students' attitudes

toward learning and personal development. As educators and stakeholders work to foster growth

mindsets, acknowledging the influence of these relationships can contribute to more effective

educational strategies and interventions.

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**References**


