Abstract

Purpose: The purpose of this study is to comprehensively examine an under self esteem and interpersonal problems by predicting the mediating effects of self esteem and negative emotions including depression and self focused attention, and consequently, by exploring the effects on the interpersonal problems.

Method: A questionnaire survey was conducted targeting 127 college students from the departments related to early childhood education located in Gyeongnam. To examine and understand the mediating effects of self focused attention and depression in the relationship of effect between human self esteem and interpersonal problems, a hypothetical research model was set, which was sought to be statistically validated. For such research data, the descriptive statistics, Pearson correlation analysis, and the serial multiple mediator model regression analysis were performed by using the statistical programs of SPSS 26.0 and PROCESS v35.

Results: First, self esteem demonstrated a significantly positive correlation with general self focused attention and a significantly negative correlation with depression and interpersonal problems, and the general self focused attention demonstrated a positive correlation with the immersive self focused attention. Furthermore, the immersive self focused attention demonstrated a positive correlation with depression and interpersonal problem, and the depression and interpersonal problem demonstrated a significantly positive correlation. Second, in terms of the effect of self esteem on the interpersonal problems, depression turned out to have a partially mediating effect. Furthermore, as for the path of the relationship of effect between self esteem and interpersonal problems, both the ego focus and immersive ego focus turned out to have an effect on the depression.

Conclusion: Self esteem and depression are the psychological characteristic variables which tend to remain constant and stable despite the changes amidst the passage of time, and since the self esteem influences the interpersonal relationships based on the self focused attention, it is necessary to develop a program which can help strengthen and enhance the positive aspects of one’s inside.

[Keywords] Self Focused Attention, Self Esteem, Relationship, Inter Personal Problem, Depression

1. Introduction

As social beings, human live on while constantly building their relationships with others from the beginning of their lives. Such relationship building with others is crucial in that it brings satisfaction and stability to the individuals’ lives[1]. interpersonal relationships are dynamic, continuous and complex interactions made and taking place by and between one’s self and
others, and are also an important foundation for the individuals’ development and growth [2]. Positive inter personal relationships have a positive effect on the human growth and development, whereas negative inter personal relationships cause emotional difficulties including depression, anxiety, frustration, loneliness, and alienation [3][4][5]. In particular, the social support secured via the mature and healthy inter personal relationships help to alleviate the psychological pains experienced by modern people, and also provides for a resource to endure the psychological pains caused by various stresses [6][7][8].

Inter personal problem means the difficulties as a source of personal experiences or subjective pains related to others, and also means failing to form a relationship which pursues mutual satisfaction based on respect, or the lack, distortion or a defect of the knowledge and skills needed to continuously maintain and develop such a relationship [9]. As for such inter personal problem, one avoids relationships with others or acts inappropriately because of the fear of being rejected in one’s relationship with others or experiencing failure as well as experiencing rejection by others [7]. Consequently, in severe cases, it may cause negative consequences including aggression, social isolation, and a sense of depression [10][11]. Furthermore, when one is not satisfied with the formation of inter personal relationship, difficulties in forming social relationships may negatively influence one’s growth and development, thereby resulting in dysfunctional phenomena [12]. Such dysfunctional phenomena include various psychological and social maladaptive phenomena [13], emotion of inferiority due to inappropriate peer relationship related experiences [14], and psychological problems including depression or anxiety [15], which may expand to learning disabilities or social problems. In addition, they may be overly dependent on others or demonstrate passive behaviors. It might also lead to inter personal problems including aggressive or defiant inter personal behaviors and inter personal anxiety disorder [3]. As such, unhealthy inter personal relationships have become an important criterion for a painful life for the individuals and healthy inter personal relationships for the individuals to lead a happy life [9][16].

College students entering their adulthood establish their sense of identity, view of life, and values during this period [17], and the act of forming close and effective inter personal relationships is a crucial developmental task for the successful college life and personal development [18]. College students of this period, in particular, future preschool teachers, compared to other majors, begin to establish their teaching and professional views as soon as they enter college. Since it is necessary to form new relationships with people from various positions in the field of childcare through childcare practices and various curricular activities, and in order to efficiently achieve the purpose of this study, college students from the departments related to early childhood education were selected as the subjects. College students of Korea lack inter personal experiences given their entrance examination oriented young adulthood [3], and the expansion of the COVID-19 has restricted making contact with others, thereby increasing the difficulties in forming inter personal relationships [19]. Such difficulties in forming inter personal relationships interfere with self identity and personality development, and may further cause difficulties in adapting to society as independent adults [20].

In particular, the recent growth of the inter personal sensitivity due to the COVID-19 and the increased feeling of discomfort, inadequacy, and inferiority in the course of interaction with others further intensifies the negative self concept [21][22]. Such a negative self concept causes stress and depression, and is also related to the self focused attention, which is a temperamental tendency to focus on one’s present and past inner aspects of an internal perceptual form, through which attention is directed towards oneself rather than the external world [21][23][24]. The self focused attention is a concept related to the direction of attention, and also refers to a tendency to pay attention to the internal and concealed aspects of oneself [25], where those of high self focused attention pay excessive attention to themselves inside, thereby further intensifying the anxiety and influencing the inter personal problems [24][26]. Self focused attention takes on dual aspects as the direction of attention is focused on one’s thoughts, feelings, actions, and appearance [27]. It is also divided into the adaptive self focused attention, which
enhances self knowledge and contributes to psychological adaptation, and the maladaptive self focused attention, which is related to the psychological distress or maladaptation\textsuperscript{[25]}. The self focused attention of the adaptive side pays much attention to one’s self, yet the attention is not occupied only towards a specific aspect and takes on the characteristic that the direction of attention can be flexibly shifted\textsuperscript{[28]}, whereas the maladaptive self focused attention is also called self immersion as it is a rigid characteristic which makes it difficult to easily shift attention to other areas by paying too much attention to the inner aspects\textsuperscript{[29]}. In Korea, Lee and Kwon\textsuperscript{[29]} classified the adaptive tendency to pay attention to other aspects or the outside of one’s self without being too focused on one’s own specific aspects into the “general self focused attention” and the “immersive self focused attention,” which is a maladaptive tendency which makes it difficult to turn the attention to other aspects or the outside.

When the tendency of maladaptive(immersive) self focused attention which excessively immerses in one's internal information becomes significant, it becomes impossible to efficiently process the external stimuli\textsuperscript{[4]}, and it causes difficulties in controlling emotions\textsuperscript{[30]}, thereby leading to a higher possibility of depression\textsuperscript{[31]}. Depression causes various negative symptoms, based on which, it negatively influences the scenes of performance or general everyday life. The reason for causing depression is the fact that the people with depression caused are biased in how they perceive and interpret reality, and the reason for their biased interpretation is that they process the treatment of attention to themselves dysfunctionally.

Furthermore, it is reported that the excessive attention to one’s self activates the negative self schema and also promotes the negative information processing not only regarding one’s self but also on the world and the future, thereby causing depression and maintaining such\textsuperscript{[32]}. In particular, the people with depression are sensitive to rejection or criticism from others, are passive and dependent in their inter personal relationships\textsuperscript{[33]}, and often exhibit excessively behaviors in trying to please others, and sometimes demonstrate inter personal problems of being aggressive and competitive, and controlling and wary\textsuperscript{[34]}.

Based on the previous studies examined thus far, it is apparent that the depressed people generally have a low self esteem, such as by critically looking at themselves, which is related to the self focused attention with which they focus on themselves. It may also be inferred that this might lead to inter personal problems. That is, while the self focused attention and depression are important variables for the self esteem and inter personal problems, the comprehensive studies on such variables seem to be inadequate.

While there are many studies which have individually examined the relationship of variables including depression and inter personal relationship\textsuperscript{[35][36][37][38]}, depression and the self focused attention\textsuperscript{[37][39][40]}, self esteem and depression\textsuperscript{[41][42]}, and the self focused attention and inter personal relationship\textsuperscript{[37]}, there are only a few studies which have comprehensively considered their relationship. Furthermore, the studies on the effect of the self focused attention and depression on explaining the relationship of self esteem and inter personal problem are relatively inadequate.

Hence, this study was conducted with a view to comprehensively examine the self esteem and inter personal problems by predicting the mediating effects of self esteem and negative emotions including depression and self focused attention, and by exploring the effects on the inter personal problems. That said, the hypothetical research questions set for this study are as follows. And The continuous multiple regression model is as follows in <Figure 1>.

Research question #1 : What is the direct effect of the college students' self esteem, inter personal problem, self focused attention, and depression?

Research question #2 : What is the indirect effect of the self focused attention and depression mediating on the effect of college students' self esteem on the inter personal problems?
2. Research Method

2.1. Research subject

This study was conducted targeting 127 college students of the departments related to early childhood education located in Gyeongnam. The average age of the subjects was 19.4 years, and the 19 years olds accounted for 66.1% of the total. As for the gender, female students accounted for 98.4% of the total, capturing the majority of the survey subjects, and as for their educational background, 68.5% of students enrolled in 2 to 3 year colleges and universities. As for the subjects, sophomores were the most at 71.7%, and 75.6% of them lacked any practical experiences. The detailed background of the research subjects is presented in <Table 1>.

Table 1. General characteristics of the research subjects.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Classification</th>
<th>N(%)</th>
<th>Variable</th>
<th>Classification</th>
<th>N(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>2(1.6)</td>
<td>Practical experiences</td>
<td>Yes</td>
<td>31(24.4)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>125(98.4)</td>
<td></td>
<td>No</td>
<td>96(75.6)</td>
</tr>
<tr>
<td>Type of college</td>
<td>2-3 year college</td>
<td>87(68.5)</td>
<td>Age</td>
<td>18 year old</td>
<td>13(10.2)</td>
</tr>
<tr>
<td></td>
<td>4 year college</td>
<td>40(31.5)</td>
<td></td>
<td>19 year old</td>
<td>84(66.1)</td>
</tr>
<tr>
<td>Grade year</td>
<td>Freshmen</td>
<td>18(14.2)</td>
<td></td>
<td>20 year old</td>
<td>14(11.0)</td>
</tr>
<tr>
<td></td>
<td>Sophomores</td>
<td>91(71.7)</td>
<td></td>
<td>21 year old</td>
<td>9(7.1)</td>
</tr>
<tr>
<td></td>
<td>Juniors</td>
<td>18(14.2)</td>
<td></td>
<td>22 year old or older</td>
<td>7(5.5)</td>
</tr>
</tbody>
</table>

Note: N=127.

2.2. Tools of measurement

2.2.1. Self esteem

The testing tool for measuring the self esteem of the research subjects is the questionnaire produced by Kim[43] and Choi[44], which is an adaptation of the references of Nathaniel Branden’s “The Six Pillars of Self Esteem” and “The Power of Self Esteem.”

Based on the 2 basic concepts of self esteem(self efficacy and self esteem), the self esteem’s measurement tool is consisted of a total of 40 questions including 7 sub factors including self concept, conscious life, self acceptance, self responsibility, self assertion, purposeful life, and diligence, and in this study, the sum of sub factors was used to determine the overall level of
self esteem. Each question is consisted of a 5 point scale of Likert of 'Not at all'(1 point) to 'Absolutely agree'(5 points), and the total score ranges from 40 to 200, meaning that the higher the score, the higher the self esteem. The credibility Cronbach’s α value of the self esteem in this study is .81.

2.2.2. Self focused attention’s tendency scale(scale for dispositional self focused attention in social situation: SDSAS)

In order to identify and understand the self focused attention’s tendency scale of the research subjects, the self focused attention’s tendency scale developed by Lee and Kwon[29] was used based on the concept of private self consciousness of Fenigstein et al[45]. This scale is consisted of a total of 30 questions, including 9 questions for the general self focused attention scale and 21 questions for the immersive self focused attention scale. The general self focused attention tendency is intended to measure the extent to which one pays attention to one’s self, and it is also consisted of 9 questions such as ‘I try to understand myself’ and ‘I pay attention to myself.’ The immersive self focused attention is a measure of the tendency which focuses excessively and continuously on a particular aspect of one’s self and easily shift attention to other aspects or the outside of one’s self, and it is also consisted of 21 questions such as ‘I often get caught up in certain thoughts, and it is difficult for me to notice my opinion,’ and ‘I keep paying attention to a certain mood.’

In the form of the questionnaire, the extent to which the content of the question is consistent with the subject’s demonstrated tendency is evaluated on a 5-point Likert scale for ‘Not at all(1 point)’ to ‘Absolutely agree(5 points).’ The reliability Cronbach’s α value of the general self focused attention scale and the immersive self focused attention scale presented by Lee and Kwon[29], who developed this scale, were .79 and .94 each, and in this study, the general self focused attention was .81, and the immersive self focused attention was .92.

2.2.3. Depression

In order to measure the depression of future teachers, the Korean version of Beck's depression scale[46] was used. The Korean version of Beck’s depression scale(Beck Depression Inventory - Korean version: K-BDI) is a self-report questionnaire for evaluating the symptoms of depression, and is consisted of a 4-point scale(0-3 points), with a total of 21 questions. The Cronbach’s α value reported by the tool developer was .93(Beat, 1978), while the Cronbach’s α value of the Korean version of Beck's depression scale(K-BDI) was .80[46]. The K-BDI score distribution ranges from 0 to 63, and the higher the score, the higher the extent of depression. A total score between 0 and 9 is considered to be normal, a score between 10 and 18 is mild depression, and a score of 19 or higher is concerned to be severe depression[47]. The reliability Cronbach's α coefficient for the depression scale in this study was .85.

2.2.4. Inter personal problem

In order to measure the future teachers’ inter personal problems, the short form of KIIP - Circumplex scales(KIIP-SC) of the Korean version of inter personal problem test(KIIP) standardized by Kim, Jin, Cho, Kwon, Hong, and Park[48], which was restructured by Alden, Wiggins and Pincus[49] for the measure produced by Horowitz, Rosenberg, Baer, Ureno and Villasenor[50] was used.

This scale can measure the extent of difficulty an individual experiences in the inter personal relationship. The sub factors are consisted of 8 categories of control domination, self centeredness, apathy, social inhibition, non-assertiveness, hyperconformity, self sacrifice, and over involvement. Each of the sub factors is consisted of 5 questions for a total of 40 questions, and is also consisted of a Likert-type 5-point scale. The higher the score, the larger the difficulty in terms of the inter personal problems. In this study, the reliability Cronbach’s α coefficient of the inter personal problem scale is .87.
2.3. Analytical method

This study set a hypothetical research model to learn about the mediating effect of the self focused attention and depression in terms of the interpersonal relationship of effect between the human self esteem and interpersonal problems, and also attempted to statistically validate it. As for this study’s data, the statistical programs of SPSS 26.0 and PROCESS v35 were used.

First, the mean value, standard deviation, skewness, and kurtosis of the index variables were verified to determine as to whether the index variables satisfy the assumption of normality. Next, the reliability of the sub factor used for the measurement model was examined by calculating the Cronbach’s α coefficient, which is the internal consistency index. Subsequently, the correlation of the measurement variables was examined based on the Pearson’s correlation analysis. Finally, a serial multiple mediator model regression analysis was performed to examine the mediating effect of the self focused attention and depression in terms of the relationship of effect where the self esteem has effect on the interpersonal relationship.

3. Research Results

3.1. Correlation and descriptive statistics of the research variables

Table 2 below illustrates the correlation between the variables used for this study. First, the self esteem has a significantly positive correlation with the general self focused attention(r=.457, p<.01), whereas the depression(r=-.474, p<.01) and inter personal problem(r=-.440, p<.01) demonstrated a significantly negative correlation. The general self focused attention demonstrated a positive correlation with the immersive self focused attention(r=.412, p<.01). The immersive self focused attention demonstrated a positive correlation with the depression(r=.486, p<.01) and inter personal problem(r=.555, p<.01), while the depression and inter personal problem demonstrated a significantly positive correlation(r=.654, p<.01).

To validate the normality, skewness and kurtosis of the measurement variables were verified. If the absolute values of skewness and kurtosis exceed 3 for skewness and 8 for kurtosis, they are viewed to be problems. However, in this study, skewness turned out to be .044 to 1.017 and kurtosis turned out to be .110 to 2.276, demonstrating that the distribution of each variable was assumed to be normal.

Table 2. Correlation and descriptive statistics of the research variables.

<table>
<thead>
<tr>
<th>Sub variable</th>
<th>Self esteem</th>
<th>General self focused attention</th>
<th>Immersive self focused attention</th>
<th>Depression</th>
<th>Inter personal problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self esteem</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General self focused attention</td>
<td>.457**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immersive self focused attention</td>
<td>-.160</td>
<td>.412**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>-.474**</td>
<td>.012</td>
<td>.486**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Inter personal problem</td>
<td>-.440**</td>
<td>-.026</td>
<td>.555**</td>
<td>.654**</td>
<td>1</td>
</tr>
<tr>
<td>M</td>
<td>10.91</td>
<td>30.42</td>
<td>50.94</td>
<td>10.39</td>
<td>96.83</td>
</tr>
<tr>
<td>SD</td>
<td>1.68</td>
<td>6.31</td>
<td>17.95</td>
<td>8.31</td>
<td>15.73</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.78</td>
<td>-.10</td>
<td>.31</td>
<td>.66</td>
<td>1.10</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.77</td>
<td>.48</td>
<td>-.66</td>
<td>-.38</td>
<td>1.62</td>
</tr>
</tbody>
</table>

Note: N=127, *p<.05, **p<.01, ***p<.001.
3.2. Results of the continuous multiple mediation regression analysis performed

3.2.1. Analysis of the mediating effects of general self focused attention

As with Model 1, in the regression analysis of the independent variable of self esteem on the general self focused attention, it demonstrated 20.9% of explanatory power with a significantly positive(+) effect($p<.001$). In Model 2, as a result of the regression analysis performed on the effect of self esteem and general self focused attention, which is an antecedent parameter, on depression, which is a posterior parameter, as for the self esteem, it has a significantly negative(-) effect and the general self focused attention has a significantly positive(+) effect, while the explanatory power turned out to be 29.1%($p<.001$). Finally, in Model 3, as a result of the regression analysis performed on the effect of the independent variable of self esteem and the general self focused attention and depression, which are parameters, on the interpersonal problem, it turned out that the self esteem has a significantly negative(-) effect, and the depression has a positive(+) effect, with the explanatory power being 45.2%($p<.001$) <Table 3>.

Table 3. Results of the regression analysis.

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model 1 (Subordinate: general focus)</th>
<th>Model 2 (Subordinate: depression)</th>
<th>Model 3 (Subordinate: interpersonal problem)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>coeff</td>
<td>se</td>
<td>coeff</td>
</tr>
<tr>
<td>Self esteem</td>
<td>.120***</td>
<td>.021</td>
<td>-.210***</td>
</tr>
<tr>
<td>General self focusedness</td>
<td>.382***</td>
<td>.112</td>
<td>.149</td>
</tr>
<tr>
<td>Depression</td>
<td>1.055***</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td>R-sq</td>
<td>.209</td>
<td>.291</td>
<td>.452</td>
</tr>
<tr>
<td>F-value</td>
<td>33.063***</td>
<td>25.480***</td>
<td>33.824***</td>
</tr>
</tbody>
</table>

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

Table 4 illustrates the results of the indirect effect. Ind1 means the indirect effect on ‘self esteem → general self focused attention → interpersonal problem,’ and it turned out that the scale of the indirect effect was .018, and was insignificant since 0 was included for the confidence interval. Ind2 is an indirect effect of ‘self esteem → depression → interpersonal problem,’ and it turned out that the scale of the effect was -.221, and was significant since the confidence interval did not include 0. Finally, Ind3 is the path of ‘self esteem → general self focused attention → depression → interpersonal problem,’ and it turned out that the scale of the indirect effect was .048, and there was a significant indirect effect since 0 was not included for the confidence interval.

Table 4. Results of the indirect effect analysis.

<table>
<thead>
<tr>
<th>Mediating effect path</th>
<th>Indirect effect</th>
<th>Confidence level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LCI</td>
<td>UCI</td>
</tr>
<tr>
<td>Ind1</td>
<td>.018</td>
<td>-.024 .061</td>
</tr>
<tr>
<td>Ind2</td>
<td>-.221</td>
<td>-.325 -.134</td>
</tr>
<tr>
<td>Ind3</td>
<td>.048</td>
<td>.017 .092</td>
</tr>
</tbody>
</table>
<Table 5> illustrates the differences in the scale of the indirect effect by the mediating effect path. As a result of validating the differences between the indirect effect of 'self esteem → depression → inter personal problem' and the indirect effect of 'self esteem → general self focused attention → depression → inter personal problem,' it turned out that the difference for the indirect effect was .063, and since the confidence interval did not include 0, it was significant. It also turned out that the indirect effect of 'self esteem → depression → inter personal problem' was larger than the indirect effect of 'self esteem → general self focused attention → depression → inter personal problem.'

Table 5. Differences of the indirect effect.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Difference in indirect effect</th>
<th>SE</th>
<th>Confidence level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>LCI</td>
</tr>
<tr>
<td>Ind1 minus Ind2</td>
<td>.239</td>
<td>.053</td>
<td>.234</td>
</tr>
<tr>
<td>Ind1 minus Ind3</td>
<td>-0.30</td>
<td>.053</td>
<td>-1.143</td>
</tr>
<tr>
<td>Ind2 minus Ind3</td>
<td>-0.269</td>
<td>.063</td>
<td>-0.579</td>
</tr>
</tbody>
</table>

3.2.2. Analysis of the mediating effects of immersive self focused attention

As with Model 1, it turned out that the independent variable of self esteem was not significant in the regression analysis on the immersive self focused attention. In Model 2, as a result of the regression analysis performed on the effect of self esteem and the immersive self focused attention, which is an antecedent parameter, on depression, which is a posterior parameter, it turned out that the self esteem has a significantly negative(-) effect, while the immersive self focused attention has a significantly positive(+) effect, with the explanatory power being 39.8%(p<.001). Finally, in Model 3, as a result of the regression analysis performed on the effect of the independent variable of self esteem and the parameters of the immersive self focused attention and depression on the inter personal problem, it turned out that the self esteem has a significantly negative(-) effect and the immersive self focused attention and depression have a significantly positive(+) effect, with the explanatory power being 53.1%(p<.001) <Table 6>.

Table 6. Results of the regression analysis.

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model 1 (Subordinate: immersive focus)</th>
<th>Model 2 (Subordinate: depression)</th>
<th>Model 3 (Subordinate: inter personal problem)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>coeff</td>
<td>se</td>
<td>coeff</td>
</tr>
<tr>
<td>Constant</td>
<td>69.117</td>
<td>10.182</td>
<td>21.935</td>
</tr>
<tr>
<td>Self esteem</td>
<td>-0.119</td>
<td>0.066</td>
<td>-0.141***</td>
</tr>
<tr>
<td>Immersive self focusedness</td>
<td>0.195***</td>
<td>0.033</td>
<td>0.288***</td>
</tr>
<tr>
<td>Depression</td>
<td>0.759***</td>
<td>0.151</td>
<td></td>
</tr>
</tbody>
</table>
Table 7 illustrates the results of the indirect effect. Ind1 means the indirect effect on 'self esteem → immersive self focused attention → inter personal problem,' and it turned out that the scale of the indirect effect was -.034, and was insignificant since 0 was included for the confidence interval. Ind2 is an indirect effect of 'self esteem → depression → inter personal problem,' and it turned out that the scale of the effect was -.107, and was significant since the confidence interval did not include 0. Finally, Ind3 is the path of 'self esteem → immersive self focused attention → depression → inter personal problem,' and it turned out that the scale of the indirect effect was -.018, and there was a significant indirect effect since 0 was not included for the confidence interval.

Table 8 illustrates the differences in the scale of the indirect effect by the mediating effect path. As a result of validating the differences between the indirect effect of 'self esteem → depression → inter personal problem' and the indirect effect of 'self esteem → immersive self focused attention → depression → inter personal problem,' it turned out that the difference in the indirect effect was -.0893, and since the confidence interval did not include 0, it was significant. Hence, 'self esteem → immersive self focused attention → depression → inter personal problem' turned out to be larger than the indirect effect of 'self esteem → depression → inter personal problem.'

4. Discussion and Conclusion

The purpose of this study was to examine and validate the mediating effect of the self focused attention based on the depression and self understanding in the relationship of effect between
the human’s self esteem and inter personal relationship targeting college students of the departments related to early childhood education in Gyeongnam. To this end, the levels of self esteem, depression, self focused attention, and inter personal problem were examined, and the correlations between such variables were confirmed. Furthermore, the mediating effects of depression and self focused attention on the self esteem and inter personal problems were examined.

The key results and discussion of this study are as follows.

First, the correlation analysis was performed in order to examine and understand the relationship of effect between the key variables set for this study. First, the self esteem demonstrated a significantly positive correlation with the general self focused attention, and demonstrated a significantly negative correlation with the depression and inter personal problems, while the general self focused attention demonstrated a positive correlation with the immersive self focused attention. Furthermore, the immersive self focused attention demonstrated a positive correlation with the depression and inter personal problem, while the depression and inter personal problem demonstrated a significantly positive correlation.

That is, the self esteem demonstrated a positive correlation with the general self focused attention, yet had no correlation with the immersive self focused attention, while the general self focused attention did not demonstrate a direct correlation with the depression and inter personal problems. It is interpreted that those with a high self esteem have less inter personal problems and a lower sense of depression, and the general self focused attention tendency which pays attention to the other people’s positions or the outside more easily is elevated. Furthermore, those with a high general self focused attention have a consistently high self esteem since they pay attention to themselves and the external stimuli in various manners, whereas those with the immersive self focused attention tendency which pays attention continuously towards their inner selves rather than others or the outside imply that the self immersion which pays excessive attention to one’s own specific aspects has no significant relevant to the self esteem. Furthermore, the excessive self focused immersion seems to have a negative effect on the depression and inter personal problems.

This is quite similar to the research results of Kim and Lee [51], and Joirman, Parrott and Hammersla[52], whose meaning is also similar as with the study of Woo OS and Lee JY [7] which claimed that there is a significantly positive correlation between the general self focused attention and inter personal competence. Furthermore, the personality traits vulnerable to the depression not only cause various problems in terms of the inter personal relationship, but also are consistent with the research results of Gottlip and Robinson [53] and Park and Chung [54], which claimed that emotions and inter personal relationship are related. Their results are identical to those of a study [55] which claimed that the greater the self esteem, the lower the level of depression, and the lower the self esteem, the greater the level of depression. Examining the results of such studies, and considering the fact that self esteem [56] and depression [57][58] are the psychological variables which are maintained stably despite the changes in the passage of time, and that they are psychological variables which are mutually influential [59], if the self esteem is elevated, depression will decline, and the declined depression would influence the inter personal problem and change the negative effects such as avoidance of inter personal conflict and strengthen the sense of alienation towards positive effect [60][61]. This implies that the development of a program which can help the strengthen and enhance positive aspects and change and reduce the negative aspects is required since even when the self esteem is high and the depression is low, there is a tendency which is continuous and maintained stably. Furthermore, it is necessary to pay attention to the self esteem related promotion programs and manage them continuously.

Second, in terms of the effect of self esteem on the inter personal problem, depression turned out to have a partially mediating effect. Furthermore, in terms of the path of the relationship of effect between self esteem and inter personal problem, both the ego focus and immersive ego focus turned out to have an effect on depression. It turned out that the ego focus and
depression have an indirect effect on the relationship of effect of the self esteem on the interpersonal problem, and since self esteem not only directly influences the interpersonal problem but also indirectly influences the interpersonal problem through depression, it may be considered that there is a partial mediating effect. It may be considered that those with a low self esteem feel more depressed, which further intensifies the interpersonal problems. In particular, given the fact that those who tend to use the self focused attention influence the sense of depression, which influences the interpersonal problems, self esteem sequentially influences the self focused attention and depression in the relationship of interpersonal problems as a matter of double mediating effect.

Such results are quite similar to the previous studies[62][63] which reported that the college students’ low self esteem was particularly and highly related to the depression, and a study[64] which reported that the college students of a low self esteem experienced a more severe form of depression than the college students of a high self esteem. and similar results. See also Byeon et al.[63] is in line with the study that reported that college students with low self esteem have higher levels of depression, and that high levels of depression influence interpersonal problems. Furthermore, Byeon et al.[62] is consistent with the study which reported that the college students of a low self esteem have a higher level of depression, and that the high levels of depression influence the interpersonal problems. They are quite similar to the previous studies[65][66] which claimed that the self focused attention strengthens violence or social anxiety and maladaptive behaviors, and are also consistent with the study which claimed that those of a high general self-focused attention related score have excellent skills for empathy with others and also have a continuous and positive effect on the interpersonal problems as in the study of Kim and Lee[51], Joireman, Parrott, and Hammersla[52].

Gathering which, it may be viewed that the self esteem influences the self focused attention and depression, and that it influences the interpersonal problems. Specifically, those of a low self esteem are maladaptive and immersive in themselves, which further intensifies depression. A depressed person with a maladaptive self focused attention causes one to be immersed in one’s past and present experiences in conflict situations with others and soon would become overwhelmed by one’s own emotions. The emotional empathy related response which emerges at this point in time is not a response of sensitively recognizing and understanding the emotions of others, but rather is a self immersive response in responding to one’s own emotions. The emotional empathy related response which emerges at this point in time is not a response of sensitively recognizing and understanding the emotions of others, but rather is a self immersive response in responding to one's own emotions. Bat-son[67] and Schreiter et al.[68] explain that the depressed people consequently avoid or withdraw from any social situations themselves since, rather than demonstrating warmth and compassion for others by looking at and understanding them from the others’ point of view when they see others in trouble, they look towards the others from their own point of view and reflect on painful memories similar to the past or re-experiencing negative emotions, and hence, the moment of facing the others comes primarily as an excessive discomfort.

This demonstrates that the immersive self focused attention tendency does not sensitively understand the positions and emotions of the negative others via depression, thereby causing interpersonal problems. That is, the self focused attention tendency and the negative bias are explained as the mechanisms which cause highly emotional responses among the depressed people, which influences the interpersonal problems. Schreiter et al.[68] is consistent with the study which claimed that the depressed people respond to others’ problems with a high level of empathic pains since the emotional responses are caused by primarily accepting, experiencing, and interpreting the others’ problems as if they were their own. Such previous studies are supportive of the results of the study which claimed that the depressed people are influenced by self esteem, which leads to an excessive emotional reactivity as they focus on their negative inner selves. Considering the fact that the self esteem and depression are not significantly influenced by the changes of time, and that the characteristics of the previous points in time are the variables which are continuously and stably maintained even after the points of time, the results of this study which claim that the self focused attention of those of a low self esteem and depression negatively influences the interpersonal relationships implies that the act of
loving and respecting one’s self and distancing from the maladaptive self focused attention, that is, the fact that the skills to classify one’s self from others by breaking away from the state of being overly immersed in one’s self are crucial for maintaining amicable interpersonal relationships.

In particular, the emotional support from peers is very important for the college students who experience various psycho-social environments from the perspective that the interpersonal problems experienced by the college students who are the research subjects would have a lasting effect not only on their adaptation to their college life but also on their future social life. The college students of a low self esteem continue to experience the interpersonal problems without attracting emotional support from their peers. Based on which, the results of the previous studies and this study imply that it is important to distinguish between the personal psychological responses and the psychological responses from the perspective of others via the insight into one’s own experiences. The ability to distinguish one’s self from others is grown beyond the self focused attention, it will be connected to the psychological variables such as depression and will also help in pursuing even better interpersonal relationships. Towards this end, it is necessary that the tendency of focused attention is not only focused on one’s self, but also be dispersed to others, and it may also be expected that it will be helpful for the depressed people for their accurate empathy and improvement of their interpersonal relationships.

5. References

5.1. Journal articles


5.2. Thesis degree


5.3. Books


### 6. Appendix

#### 6.1. Authors contribution

<table>
<thead>
<tr>
<th>Initial name</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lead Author</strong></td>
<td>✔ Set of concepts, ✔ Design, ✔ Getting results, ✔ Analysis, ✔ Make a significant contribution to collection, ✔ Final approval of the paper, ✔ Corresponding, ✔ Play a decisive role in modification, ✔ Significant contributions to concepts, designs, practices, analysis and interpretation of data, ✔ Participants in Drafting and Revising Papers, ✔ Someone who can explain all aspects of the paper</td>
</tr>
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<td><strong>Corresponding Author</strong></td>
<td>✔ GB</td>
</tr>
<tr>
<td><strong>Co-Author</strong></td>
<td>✔ YJ, ✔ MY</td>
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