THE ROLE OF PERSONALITY TRAITS IN PREDICTING DEFENSE MECHANISMS WITH MEDIA-TING ROLE OF ATTRIBUTION STYLES IN UNIVERSITY STUDENTS

ABSTRACT

The purpose of the present study was examining the role of personality traits in predicting defense mechanisms with mediating Role of Attribution Styles in University Students. The study sample consisted of 300 students of Islamic Azad University of Zanjan who were selected through a random stratified method. The research instruments were, NEO-Personality Inventory-Revised (NEO-FFI-R), Defense Mechanisms Questionnaire (DSQ-40), and Attributional Style Questionnaires (ASQ-48). Data analysis was carried out through Pearson Correlation Coefficient and Structural Equation Modeling (LISREL). The results showed that significant positive relationship among personality dimensions, i.e. extraversion, openness to experience, and conscientiousness with mature defense mechanisms, among personality dimensions, i.e. extraversion, conscientiousness and agreeableness with neurotic defense mechanisms, and among positive attribution style with mature and neurotic defense mechanisms. There was a negative significant relationship among neuroticism with mature defense mechanism and positive attribution style. Modeling and structural equation analysis proved the significant mediation of attribution styles in relationship between personality traits and defense mechanisms. According to the results of the present study, personality traits indirectly determined the type of defense mechanisms employed by the individuals through their attribution styles.

Key words: personality traits; attribution style; defense mechanism; structural equation modeling.

Introduction

Living in today’s complex world is full of stressful conditions, which causes individuals to be afflicted by various mental and even physical problems. Stress is not a mere negative phenomenon. An average level of stress is considered as the motivating cause of adjustment with new situations and conditions; however, if it is not controlled, it will have unfavorable effects on individual’s health. Any type of change, both favorable and unfavorable ones, in human’s life requires a type of dealing and adjustment. The method of dealing with life changes and the consequent stresses caused by such changes can be different in different individuals and based on different situations, which is known as defense mechanism. Defense mechanisms are unconscious mental processes that start to act in stressful and threatening situations and are divided into three categories of mature, immature, and neurotic. Mature defense mechanisms can distance effectively threatening feelings without distorting the reality while immature ones are mostly accompanied by reality distortion(12).

Different factors affect the mechanisms utilized by individuals. One of such factors are personality traits. According to Five Factors Theory, the most important personality traits include neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness(3).
Studies have proved a positive relationship between personality traits of extraversion and conscientiousness with immature defense mechanisms\(^{(1,4,5,6,7,8,9)}\). The noteworthy point in these findings is that personality cannot directly determine the type of defense mechanism. By affecting various factors such as the type of attitude and individuals’ explanation about the phenomena around themselves, personality traits can play an important role in determining the type of defense mechanism employed by the individuals. Attribution styles deal to the method of explaining the reason for behaviors, which can be optimistic or pessimistic. Causal attributions include internal-external, stable-instable, and general-specific dimensions which are important in understanding events and guiding human’s behavior. Internal-external dimension is related to internal factors like attempt, ability, temper, and self-concept, or external factors like task difficulty, chance, and stressful situations. Stable-instable dimension is related with the individual’s understanding of the stability rate of any of the abovementioned factors. General-specific dimension deals with the rate of generalizability of behavior in situations beyond a specific one\(^{(10)}\).

In general, individual’s attribution styles affect the quality of their lives. They can also influence the type of defense mechanisms used by individuals. Studies that have so far been conducted indicate the relationship between attribution style and defense mechanisms. According to the study carried out by Cramer\(^{(11)}\), there is a relationship between negative attribution style and immature defense mechanism. In their study, Esma’ili et al\(^{(6)}\) indicated that there was a relationship between positive attribution style and mature defense mechanism, and between negative attribution style and immature defense mechanism.

Therefore, individuals utilize different defense mechanism to cope with adverse and stressful problems and events according to their personality traits and attribution styles. As a result, the mediatory role of attribution styles needs to be taken into account in investigating the relationship between personality traits and defense mechanisms. In so doing, the present study was carried out in order to examine the mediatory role of attribution styles in the relationship between personality traits and defense mechanisms among university students.

### Method

The present study is descriptive with correlation research design. From Islamic Azad University of Zanjan, 300 students (53.7% male and 46.3% female) were selected with random stratified sampling and filled out NEO-Personality Inventory-Revised (NEO-FFI-R), Defense Mechanisms Questionnaire (DSQ-40), and Attributional Style Questionnaire (ASQ-48).

NEO-FFI-R was proposed by McCrae and Costa (1989) and has 60 items and 5 subscales of neuroticism (N), extraversion (E), openness to experience (O), agreeableness (A), and conscientiousness (C). The answers are scored based on a Likert scale. Some items of the questionnaire are directly and some are reversely scored. NEO-FFI-R reliability in Iran between students indicated values of 0.83, 0.75, 0.80, 0.79 and 0.79 respectively for N, E, O, A, and C.

ASQ is a self-report instrument to determine the individuals’ attribution style, and includes 12 hypothetical situations (6 negative ones and 6 positive ones). There are 4 questions in each situation. The first question that is answered in an essay-type form asks about the main cause of the event. This question is not scored, but it helps with answering the next 3 questions. The next three questions are the same for all situations and evaluate causal attribution dimensions. In many studies, the reliability of ASQ has been confirmed\(^{(12)}\) used Cronbach’s Alpha and reported its reliability as 0.50.

DSQ is a 40-item instrument with a 9-point Likert scale which evaluates 20 defense mechanisms based on 3 mature, neurotic, and immature defense styles (13). Reliability of mature, immature and neurotic styles used Cronbach’s Alpha calculated respectively 0.75, 0.73, 0.74, and through retest method was 0.82\(^{(14)}\).

### Results

Descriptive statistics and results of correlation coefficient between study variables is shown in tables 1 and 2. According to the significant relationship among personality traits with attribution styles and defense mechanisms, and the one between attribution styles and defense mechanisms, the mediatory role of attribution styles in the relationship between personality traits and defense mechanisms were investigated. In so doing, structural equation modeling was employed.
According to Figures 1 which represent the final model, the observed factorial loads of the variables which are \(N=0.69, E=0.84, O=0.74, A=0.71, \) and \(C=0.71\) which are loaded on hidden variables of personality traits. These factorial loads are calculated based on \(t\) and are completely significant. Equations of factorial loads of the observed variables on the latent variable of personality traits (personality) are as follows:

\[
\begin{align*}
N &= 0.69 F_1 + 0.53 e (N) \\
E &= 0.84 F_1 + 0.30 e (E) \\
O &= 0.74 F_1 + 0.46 e (O) \\
A &= 0.71 F_1 + 0.50 e (A) \\
C &= 0.71 F_1 + 0.49 e (C)
\end{align*}
\]

Where, \(F_1\) is the latent variable of personality traits and \(E(N)\) to \(E(C)\) are measurement errors of

<table>
<thead>
<tr>
<th>Variables</th>
<th>Scales</th>
<th>N.</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>Attribution Style</td>
<td>Positive internal attribution</td>
<td>300</td>
<td>2.17</td>
<td>7</td>
<td>5.37</td>
<td>0.92</td>
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<td></td>
<td>Positive stable attribution</td>
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<td>2.17</td>
<td>7</td>
<td>5.28</td>
<td>0.93</td>
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<td>Positive total attribution</td>
<td>300</td>
<td>2.17</td>
<td>7</td>
<td>5.17</td>
<td>1.07</td>
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<td>2.5</td>
<td>7</td>
<td>5.27</td>
<td>0.81</td>
</tr>
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<td>Negative internal attribution</td>
<td>300</td>
<td>1.33</td>
<td>7</td>
<td>4.09</td>
<td>1.1</td>
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<td>Negative stable attribution</td>
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<td>1</td>
<td>6.33</td>
<td>4.04</td>
<td>0.97</td>
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<td>Negative total attribution</td>
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<td>1</td>
<td>7</td>
<td>3.81</td>
<td>1.03</td>
</tr>
<tr>
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<td>Total score of negative attribution style</td>
<td>300</td>
<td>1.44</td>
<td>6.33</td>
<td>3.98</td>
<td>0.79</td>
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<td>Personality Traits</td>
<td>Neuroticism</td>
<td>300</td>
<td>3</td>
<td>44</td>
<td>23.99</td>
<td>7.4</td>
</tr>
<tr>
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<td>Extraversion</td>
<td>300</td>
<td>7</td>
<td>42</td>
<td>29.51</td>
<td>5.91</td>
</tr>
<tr>
<td></td>
<td>Openness to experience</td>
<td>300</td>
<td>14</td>
<td>40</td>
<td>25.97</td>
<td>4.91</td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>300</td>
<td>10</td>
<td>43</td>
<td>27.12</td>
<td>5.22</td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>300</td>
<td>14</td>
<td>48</td>
<td>32.99</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td>Total score of immature mechanism</td>
<td>300</td>
<td>50</td>
<td>178</td>
<td>123.77</td>
<td>20.97</td>
</tr>
<tr>
<td></td>
<td>Total score of mature mechanism</td>
<td>300</td>
<td>17</td>
<td>72</td>
<td>46.27</td>
<td>10.42</td>
</tr>
<tr>
<td></td>
<td>Total score of neurotic mechanism</td>
<td>300</td>
<td>17</td>
<td>72</td>
<td>45.89</td>
<td>10.72</td>
</tr>
</tbody>
</table>

Table 1: Descriptive statistics of variables of personality traits, attribution styles, and defense mechanisms.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Neuroticium</th>
<th>Extraversion</th>
<th>Openness</th>
<th>Agreeability</th>
<th>Conscientiousness</th>
<th>Positive attribution style</th>
<th>Negative attribution style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immature defense mechanism</td>
<td>0.302**</td>
<td>-0.130*</td>
<td>0.061</td>
<td>-0.334**</td>
<td>-0.182**</td>
<td>0.022</td>
<td>0.125*</td>
</tr>
<tr>
<td>Mature defense mechanism</td>
<td>-0.344**</td>
<td>0.363**</td>
<td>0.182*</td>
<td>0.058</td>
<td>0.378**</td>
<td>0.220**</td>
<td>-0.106</td>
</tr>
<tr>
<td>Neurotic defense mechanism</td>
<td>-0.066</td>
<td>0.172**</td>
<td>-0.075</td>
<td>0.227**</td>
<td>0.234**</td>
<td>0.121*</td>
<td>0.108</td>
</tr>
<tr>
<td>Positive attribution style</td>
<td>-0.230**</td>
<td>0.188**</td>
<td>0.006</td>
<td>0.05</td>
<td>0.230**</td>
<td>0.108</td>
<td></td>
</tr>
<tr>
<td>Negative attribution style</td>
<td>0.180**</td>
<td>-0.229**</td>
<td>-0.037</td>
<td>-0.01</td>
<td>-0.255**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Correlation coefficient of defense mechanisms, personality traits, and attribution styles. *\(p<0.05\) **\(p<0.01\)
each equation. Regard to this point that N factorial load was considered equal to 1 Therefore, the t is not calculated for it, but its values for E, O, A, and C in the model are respectively 12.35, 11.22, 10.79, and 10.89, which are significant at a level of $\alpha=0.01$.

Because the calculated value of t is bigger than critical t at a significant level of $\alpha=0.01$ (2.58), it can be stated that factorial loads 2 to 5 are significant on personality traits (F1) and indicate the reliability of the observed variable in measuring the variable of personality traits in the proposed model. According to standard coefficients of other variables’ factorial loads in all latent variables of the model including the strength of attribution style and defense mechanisms indicates that the available coefficients are significant. The results of the calculations indicated that factorial loads of all variables observed on latent variables were significant.

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<table>
<thead>
<tr>
<th>Variable</th>
<th>P-Value</th>
<th>$\chi^2$</th>
<th>D.F</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>NFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable value</td>
<td>0.01</td>
<td>134.84</td>
<td>51</td>
<td>0.88</td>
<td>0.82</td>
<td>0.92</td>
<td>0.074</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td>acceptable values</td>
<td>$\chi^2/d.f &lt; 3$</td>
<td>$134.84/51 = 2.64$</td>
<td>$&gt;0.9$</td>
<td>$&gt;0.9$</td>
<td>$0.05 &lt; x &lt; 0.08$</td>
<td>$&gt;0.9$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3: The indices of fit of the study model.

In Table 3, the indices of the model fit are showed. Index $\chi^2$ equals to 134.84 with a degree of freedom of 51 and P-value of 0.01, which indicates the lack of acceptable fit of the model with the available data. The smaller the index of $\chi^2$, the more the fit of the model will be. Therefore, the proportion of $\chi^2$ value to degree of freedom is used to examine the fit of the model. If the proportion of $\chi^2$ value to degree of freedom is below 3, the fit of the model will be acceptable. In the proposed model the proportion of $\chi^2$ value to degree of freedom of the model is 2.64, which indicates that the fit of the model is acceptable. The Goodness-of-Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) are respectively 0.88 and 0.82, which shows that the fit of the model is acceptable.

Root Mean Square Error of Approximation (RMSEA) is equal to 0.074. This index is acceptable when it is between 0.05 and 0.08. Normalized Fit Index (NFI) in the model is above 0.90 which indicates an acceptable fit of the model. Comparitive Fit Index (CFI) of the model is 0.92 which shows an acceptable level of fit. In general, assessing different indices of the model fit indicates the existence of fit of the perceptual model designed through the collected data. It can be stated that the proposed model has a good fit with empirical data.

As indicated in Table 4, the structural relationship between internal and external latent variables was significant based on t-test, and it proves the theoretical relationships. According to the results obtained from structural equation modeling, there is a significant relationship between personality traits and attribution styles of the calculated standard path coefficient of 0.48 at a level of P<0.01. Moreover, there was a significant relationship between attribution styles and defense mechanisms of the calculated standard path coefficient of 0.44 at a level of P<0.01. In addition, according to the reduction of the correlation between personality traits and
defense mechanisms after control of attribution styles, it can be stated attribution styles mediate a part of the relationship between personality traits and defense mechanism.

<table>
<thead>
<tr>
<th>Model</th>
<th>Eq. N.</th>
<th>Path</th>
<th>t value</th>
<th>standardized path coefficients</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Model</td>
<td>1</td>
<td>Personality traits*Defense mechanisms</td>
<td>-0.81</td>
<td>-0.06</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attribution styles*Defense mechanisms</td>
<td>5.79</td>
<td>0.44**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Personality traits* Attribution styles</td>
<td>6.15</td>
<td>0.48**</td>
<td>0.2</td>
</tr>
</tbody>
</table>

**Figure 4**: The coefficients of the path and t values of each structural equation routes according to the model.

**Discussion and conclusion**

According to the results of the present study, it can be stated that the type of attribution style and defense mechanisms are affected by personality traits. Based on the positive relationship among openness to experience, conscientiousness, and extraversion with positive attribution style, mature and neurotic defense mechanisms, and the negative relationship between neuroticism and positive attribution style and mature defense mechanisms, it can be stated that having a high level of positive dimensions of personality traits leads to more use of positive attribution style. Neuroticism and related concepts to it like pessimism and negative emotions, are accompanied by negative interpretation of events.

Therefore, it is natural that the higher the individuals’ level of neuroticism, they will use fewer positive attribution styles and more abnormal, inefficient, and immature defense mechanisms. Individuals that possess high level of neuroticism, do not have enough ability to recognize, suppression and sublimation; however, they use displacement of anxiety to a more tolerable and controllable issue. Such individuals are anxious and depressed, feel guilty in various areas, have low dignity, and are stressed, unreasonable, shy, and erratic(15).

They are also prone to unreasonable beliefs and cannot control their drives and stresses well. Therefore, they are not able enough to become adapted to the environment and cannot have an effective healthy cope with the anxiety and unfavorable events of their life. Perhaps their fragile emotions prevent them from being agreeable. Patients that are traditionally diagnosed as neurotic obtain high scores on neuroticism scale and usually utilize immature defense mechanisms. Due to the high level of impulsivity, violence, inability to control motivated behaviors and the possibility of doing unfavorable behaviors are caused by consistent anxiety, they feel severe anxiety and see themselves in danger after doing violent and aggressive behaviors.

Therefore, in order to set themselves from the anxiety caused by their impulsive and disagreeable behavior, they use cancellation of the action to remove its annoying consequences. they try to escape from stressful conditions with devaluation anxiety source and fantasy because of their high emotional instability and their inability to cope with their problems. On the opposite side; however, individuals with high scores on extraversion, conscientiousness, and openness to experience usually employed mature defense mechanisms. It seems that this matter is caused by the type of the individuals’ personality traits. Individuals with high scores on openness to experience are inclined to accept new beliefs and unusual values and experience positive and negative experience more deeply than inflexible individuals. Individuals with high scores on conscientiousness have characteristics like thinking before action, postponing satisfaction of their desires, adhering to rules and norms, and organizing and prioritizing their responsibilities. All of the three abovementioned factors are accompanied by experiencing positive emotions, and they can lead to better adaption to the environment and use of optimistic styles and mature defense mechanisms.

However, according to the results of the present study in regard to the relationship between positive aspects of personality traits and neurotic defense styles, as compared with mature defense styles, openness to experience replace with agreeability, maintaining extraversion and conscientiousness. Individuals with high agreeableness are basically philanthropist, feel sympathy toward others, are willing to help others, and believe that others will help them in return. As opposed to them, disagreeable individuals are militant, autonomous, and skeptic toward others. Such individuals are high willing to consider agreeableness as a quality that is socially favorable and mentally healthier. This is also a reality that agreeable individuals are more acceptable and popular than conflicting ones; however, it should be notice that readiness to struggle for one’s advantages is a privilege; therefore, agree-
ability in battleground or courtroom is not a virtue. Moreover, critical thinking and skepticism in science help ones with correct scientific analyses. None of the extreme poles of this factor is socially favorable, and none of them is necessarily useful in regard with individuals’ mental health. Therefore, the relationship between agreeableness and neurotic defense mechanisms can be explained in this way that obtaining high scores in agreeableness takes it away from the balanced situation and to some extent reduces the quality of adapting with environmental events. The results of the present study are in agreement with those of the studies carried out by[1,4,5,6,7,9].

The results of the present study indicated that there is a relationship between attribution styles and defense mechanisms, such that individuals with positive attribution styles are more likely to utilize mature and neurotic defense mechanisms while those with negative attribution styles are more willing to use immature defense mechanisms. In explaining this finding, it can be stated that when emotional and cognitive data are not understood and evaluated correctly in processing procedures, the individual’s emotions and cognitions organization will not have an optimal performance; therefore, the probability of using immature defense mechanisms in stressful situations will rise.

An increase in anxiety and emotional instability to certain level has positive effect on behavior, but when its intensity exceeds a certain level, the behavior will practically be disrupted. Individuals with positive attribution styles usually attribute their success to general, internal, stable factors and their failures to specific, external, unstable factors, which leads to an increase in self-esteem, self-efficacy, hope, and optimism. It is quite obvious that the method of attribution adopted by individuals is closely related to their mental health, especially that there are numerous studies have previously been conducted in this field[12,16,17]. In general, mature defense mechanisms are related with mental and physical health consequences[21].

Therefore, it can be concluded that positive attribution styles are correlated by using mature defense mechanisms. The results of the present study are in agreement with those of the study carried out by[6,18,20]. According to the results of the present study and those of previously conducted, it can be concluded that individuals with positive dimensions of personality traits are willing to use positive or optimistic attribution styles, and thus due to their optimism and hopefulness and other traits, they are much willing to utilize mature defense mechanisms. It seems that attribution styles can be influenced by personality traits through emotions, and they affect defense mechanisms. Individuals with positive personality traits make better evaluations about situations around them because of the stability of their emotions. They have reasonable beliefs and optimistic explanations. Optimistic individuals attempt change or remove stressors in the face of various problems and stresses. Against them, pessimistic individuals are skeptical and try get along with problems[20].

In opposite situation, individuals with negative personality traits are willing to employ negative and pessimistic sequence among attribution styles, emotions and behavior. In other words, attributions determine emotions which in turn affect the individuals’ behavior. In fact, attributions tell individuals what they feel, and feelings tell them how they should react. According to some cognitive theoretician, positive and negative emotions are created by cognition, and positive cognitions create positive emotions and positive emotions create the sense of wellbeing among individuals[21]. Likewise, negative cognition leads to emotional confusion which in turn causes problems for the individuals and motivate them to employ inefficient defense mechanisms. Correct observation of the situation and correct cognitive evaluation of their ability in dealing with problems, precise accomplishment of responsibilities and acceptance of the role of the individuals’ talents and capacities in how events occur indicate mental health. If emotional information cannot be understood and evaluated in the cognitive process, the individuals will be emotional and cognitive confusion and helplessness[6,22].

This helplessness disrupts the organization of the individual’s emotions and cognitions and increases the probability of employing neurotic and immature defense mechanisms. Therefore, since personality traits predict the type of individuals’ defense mechanisms, attribution styles enhance this prediction capacity. Thus, the type of attribution style adopted by individuals helps recognize the type of their defense mechanisms, and personality traits can predict the type of the defense mechanisms through attribution styles.
The role of personality traits in predicting defense mechanisms...

References


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