Depression and Perceived Social Support Among College Students: the Mediating Role of Interpersonal Trust

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Abstract

Objective: To explore the relationship among depression, perceived social support and interpersonal trust.

Method: A total of 1140 college students were investigated with perceived social support scale, self-rating depression scale and trust in peoples scale. And through the establishment of structural equation model in-depth study of the interaction between the three mechanisms.

Results: Structural equation modeling showed that depression was a significant negative predictor of perceived social support and interpersonal trust ($\beta = -0.408, P < 0.001; \beta = -0.174, P < 0.001$). Interpersonal Trust significantly positively predicted perceived social support ($\beta = 0.340, P < 0.001$), and partially mediated the effect of depression on perceived social support.

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Conclusions: This study reveals the concurrent effects of depression and interpersonal trust on perceived social support, and provides evidence on improvement of interpersonal trust that can increase perceived social support for reducing depression among college students.

Keywords: depression, interpersonal trust, perceived social support, mediating effect, college student.

1 Introduction

College students inevitably encounter kinds of pressure such as emotions, academics, interpersonal relationships, economy and so on, which may make a different to their health. Increased rates of depression were reported in the past decade [1]. Depression is a mood disorder which demonstrated with symptoms of low motivation, lack of interest, feeling of guiltiness and so on. Among college students, symptoms of depression ranged from mild feelings of depression to very severe feelings of depression widely [2]. Depression may affect college students’ mental and physical health, social communication, vocational ability severely and also be suggested one of the most important risk factors for suicide [3]. Interpersonal trust is a crucial component of cooperative, mutually beneficial interpersonal relationships, and pervades nearly every social aspect of our daily lives. It is an expectation that individuals consider the words, promises, and statements of the person they are talking to be reliable [4]. Social support includes actual social support and perceived social support. Actual social support is about direct material assistance and social networks, while perceived social support is associated with the experience of being understood, respected, and its satisfaction [4]. Empirical evidence have suggested perceived social support can relieve stress or help depressed individuals adjust emotional stress to alleviate depressive symptoms [6]. Interpersonal trust regulates subjective feelings and evaluations in interpersonal relationships by influencing one’s assessment of future behavior or explaining the past behavior of the others [7]. However, how to regulate subjective feelings and evaluations in social relationship to improve the perceptivity of social supports among the depressed individuals have been still no enough in-depth studied. Aim of the current study is to investigate the direct and indirect predictive values of interpersonal trust or depression on perceived social support among college students. We established the hypothetical model as shown in Figure 1.
2 Materials and Methods

2.1 Research Subjects

In this study, we conducted a questionnaire survey in a college of Hunan province in China. A total of 1200 questionnaires were initially included. One hundred students were randomly selected from each department of the college with 12 departments. Subjects were consisted of 572 men and 568 women and their age ranged from 18-25 years. Among them, 60 were further excluded due to missing key items of the questionnaire and finally 1140 of which were collected. Before completing the questionnaires, we introduced the purposes of the research and obtained the informed consent.

2.2 Measures

2.2.1 Self-rating depression scale

The Depression Self-Rating Scale was developed by Zung to provide a well-established picture of the subject’s depressive symptoms and severity [8]. This scale consists of 20 entries measuring the past two weeks from 4 perspectives: depressive psychological disorder, psychotic-emotional symptoms, somatic disorder, and psychomotor disorder. The scale was scored on a 4-point scale. The Cronbach alpha coefficient for the current sample was 0.77.

2.2.2 Perceived social support scale

The Perceived Social Support Scale, developed by Zimet et al. in 1988, is a social support scale that emphasizes the subject’s self-understanding and self-perception[9]. This scale consists of 12 items which measures perceived adequacy of social support from three domains: family, friends, and significant others. The Chinese version of the Perception Social Support Scale[10], revised by Jiang Qianjin, was used as the research instrument in this study. Since the self-administered questionnaire was conducted in college students, the words “leaders, colleagues” were replaced by teachers, classmates. Each item was
scored on a 7-point scale. The Cronbach alpha coefficient for the current sample was 0.94.

2.2.3 Trust in people scale

The Trust in people scale, developed by Survey Research Center of American, measures the extent to which subjects trust others in their interpersonal relationships. This scale consists of 3 items which examines the faith in others about their credibility, honesty and kindness. The Chinese version of the Trust in people scale, revised by Fan Xiaodong[11]. Each item was scored on a 2-point scale. The higher scores indicate a higher level of trust in others.

2.3 Statistical analysis

First, we performed descriptive statistics to describe distributional characteristics of the study’s participants by SPSS22.0. Then, we tested the significance of the potential variables by Pearson correlation coefficient. Finally, AMOS23.0 was performed to confirm the structural relationship of the latent structure model. The measurement models of all latent variables were tested to assess the model fitting indices. If the validating measurement model indicators meet the criteria, the structural equation model (SEM) was tested using maximum likelihood estimation to verify the applicability of the hypothesized model. The estimates and significance levels of the correlation coefficients and regression parameters of the fitted models are given. Bootstrap was used to analyze the mediating effects. We thus obtained the total, direct and indirect effects of depression on perceived social support. The significance threshold was set at $p < 0.05$.

3 Results

3.1 Descriptive statistics and correlation analysis

The correlation coefficients for perceived social support, interpersonal trust, depression were shown in Table 1. The correlation coefficients showed that perceived social support was significantly positively correlated with interpersonal trust ($r=0.307$, $p < 0.01$) and negatively correlated with depression ($r=-0.427$, $p < 0.01$); interpersonal trust was significantly negatively correlated with depression ($r=-0.215$, $p < 0.01$).
Table 1 Correlation Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean(SD)</th>
<th>PSSS</th>
<th>ITS</th>
<th>SDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSSS</td>
<td>59.36 (13.88)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITS</td>
<td>2.27 (0.93)</td>
<td>0.307**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SDS</td>
<td>40.80 (7.44)</td>
<td>-0.427**</td>
<td>-0.215**</td>
<td>1</td>
</tr>
</tbody>
</table>

3.2 Model construction

In this paper, the structural equation model was constructed to test its fit indicator parameters from the suitability of the structural equation model, and the degree of fit of the sample to the hypothetical model was judged by comparing the output values of the fit indicators with the reference values. The path analysis of the constructed structural equation model was performed by using AMOS23.0, and after several corrections, the covariance relationships of e24 and e25, e28 and e29, and e32 and e33 were added to obtain the fitness of the final research model (Table 2), and the normalized path coefficients of the revised structural equation model are shown in Figure 2, i.e., GFI=0.938, AGFI=0.917, NFI=0.936, CFI=0.948, RMSEA=0.060. The model fit is good, although the Chi-Square value is slightly large, which is related to the large sample size and falls within the acceptable range. It is within the acceptable range.

The path coefficients between variables were obtained after analysis by AMOS software (Table 3). The results showed that the standardized path coefficient of depression on perceived social support was -0.408 \((p < 0.001)\), the standardized path coefficient of depression on interpersonal trust was -0.174 \((p < 0.001)\), and depression was significantly negatively related to both Interpersonal Trust and Perceived Social Support; and the standardized path coefficient of interpersonal trust on perceived social support was 0.340 \((p < 0.001)\), indicating a mediating effect of interpersonal trust in the effect of depression on perceived social support.

Table 2 Model fitting indices indices for the model

<table>
<thead>
<tr>
<th>Fitting Index</th>
<th>(\chi^2)</th>
<th>DF</th>
<th>(\chi^2/DF)</th>
<th>GFI</th>
<th>AGFI</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Model</td>
<td>736.284</td>
<td>143</td>
<td>5.14</td>
<td>0.938</td>
<td>0.917</td>
<td>0.936</td>
<td>0.948</td>
<td>0.060</td>
</tr>
<tr>
<td>Acceptable Range</td>
<td>&lt; 5</td>
<td>&gt; 0.9</td>
<td>&gt; 0.9</td>
<td>&gt; 0.9</td>
<td>&gt; 0.9</td>
<td>&lt; 0.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviation: \(\chi^2=\)Chi-Square; DF=Degree of Freedom; GFI=Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; NFI=Normed-Fit Index; CFI = Comparative Fit Index; RMSEA = Root-Mean Square Error of Approximation.
Table 3 Standardized estimates as well as p-values of the association between items

<table>
<thead>
<tr>
<th>Regression Weights</th>
<th>Estimates</th>
<th>S.E.</th>
<th>t - value</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITS &lt; -SDS</td>
<td>-0.174</td>
<td>0.021</td>
<td>-3.772</td>
<td>***</td>
</tr>
<tr>
<td>PSSS &lt; -ITS</td>
<td>0.340</td>
<td>0.199</td>
<td>7.632</td>
<td>***</td>
</tr>
<tr>
<td>PSSS &lt; -SDS</td>
<td>0.408</td>
<td>0.079</td>
<td>-10.444</td>
<td>***</td>
</tr>
</tbody>
</table>

Note: ***, P < 0.001

3.3 Mediating effect

The results were estimated by Bootstrap, with 5000 replicate samples at 95% confidence intervals, by the method of maximum likelihood, and were obtained as shown in Figure 3. Figure 3 shows the total effect, direct effect, and indirect effect of depression on perceived social support. In the non-standardized case, the point estimate of the total effect of depression on perceived social support was -0.939, |Z| = 9.84 > 1.96, p < 0.05; the point estimate of the indirect effect was -0.119, |Z| = 3.31 > 1.96, p < 0.05, and it did not contain 0 in the 95% confidence interval, so it can be obtained that the indirect effect exists. The point estimate of the direct effect was -0.820, |Z| = 9.43 > 1.96, p < 0.05, and did not contain 0 in the 95% confidence interval, so depression on perceived social support was a partially mediated model and interpersonal trust played an important role in the relationship between the two.
4 Discussion

This study examined the effects of depression or interpersonal trust on perceived social support and further investigated the mediating effect of interpersonal trust on the relationship between perceived social support and depression among the Chinese college students. In this study, direct effects showed depression existed negative effects, while interpersonal trust existed positive effects on perceived social support among the college students. These suggested that college students with the low level of interpersonal trust and high depression emotion were more likely to experience low understanding to supports from others.

Another result of this study was that the structural model suggested the mediation effect of interpersonal trust on depression and perceived social support. It demonstrated the path of depression $\rightarrow$ interpersonal trust $\rightarrow$ perceived social support was significant. That is, not only depression had an significant effect on the access of perceived social support, but also interpersonal trust had a partially mediating effect in the effect of depression on perceived social support among the college students. The findings were consistent with the psychological and neurophysiological results in previous references. Firstly, abnormal brain resting-state activity levels of depressed people may impact stimulus-induced neural activity for self-representation as well as external stimulus interactions. The higher cortical affective and cognitive functions were high-jacked by lower subcortical primary-process emotional systems [12]. It may account for reduced cognitive response to external social support in depressed people. Moreover, trust arises from the interactions of psychological systems (i.e., motivation, affect, and cognition). Individuals with mental illness were reported the ability to develop and maintain trust was often impaired[13]. Its
disruption was a significant factor in mental illness. Interpersonal trust, as an important lubricant in the social system, not only played a protective role in the process of negative affect, but also it was found that depressed individuals with high interpersonal trust experienced high social support among college students [14]. Further, a study investigated the variations in experience of social support and physical health demonstrated low levels of trust were negative social factors of interpersonal trust among adults [15]. In this study, the mediating effect of interpersonal trust provided new insight into the effects among perceived social support, interpersonal trust and depression.

Although the present findings provide new insight into the effects among depression, interpersonal trust, and perceived social support, limitations must be noted. This study is limited by its characteristics as a one-center study. The results should be interpreted with caution. In the future researches, multicenter researches should be performed to prove the higher predictive power of the finding.

References


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