Perceived Teacher Support and Self-Esteem as Mediators of the Relationship Between Peer Relationship and School Life Satisfaction Among Chinese Adolescents

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Abstract
To explore the influence of middle school students' peer relationship, perceived teacher support and self-esteem on school life satisfaction. A total of 626 middle school students in Xinjiang were selected to complete the questionnaire of peer relationship questionnaire, perceived teacher support behavior questionnaire, self-esteem scale and school life satisfaction questionnaire. The results showed that: a) Peer relationship, self-esteem, perceived teacher support and school life satisfaction were significantly positively related to each other. b) Step-wise regression analysis for variables predicting students’ school life satisfaction suggested that perceived teacher support, self-esteem and peer relationship were the outstanding influencing factors of school life satisfaction in the third step, predicting 16% of it. c) Based on the ecological systems theory, self-esteem and perceived teachers’ support were the moderating effect between peer relationship and school life satisfaction. The results of the present study will have a practical significance to better the school life satisfaction of middle school students.

Keywords: peer relationship, self-esteem, perceived teacher support, school life satisfaction, Xinjiang

1. Introduction
In recent years, subjective well-being(SWB), including happiness, life satisfaction, and positive affect (Diener E, 1984) is paid more and more attention by scholars. Life satisfaction is an important part of subjective well-being, and it is the result that estimators access the life quality level according to their own standards (Shin D C, Johnson D M, 1978). About the definition of school life satisfaction (SLS), there were many different versions. Initially, the definition was the overall well-being level that students develop in the field of school (Epstein, J. L., & Mcpartland, J. M., 1976). And JA and other scholars are defined as a subjective cognitive evaluation of the quality of school life based on their own internal standards (Baker, J. A, 1998). Because of the characteristic of adolescents, middle school students are in the transition period of juvenile and adulthood, which is a period of great changes in physiology and psychology (Qin Su, 2005). A deal of literature showed that students school life satisfaction was the lowest among the satisfaction of family, school, friends, self and life environments (Huebner, E. S., Drane, W., & Valois, R. F. 2000). Specifically, investigating the school life satisfaction of adolescents did good to assessing the school development (Lili Tian, 2008), as adolescents’ dissatisfaction with school life resulted in their negative behaviors (academic disabilities, school dropout, Internet addiction, etc.) (Fangbiao Tao, Ying Sun, et al, 2005). We found that the literature on students SLS is quite “knotty”-complex and sometimes contradictory. This paper tries to disentangle the knot by closely examining the current literature on the relationship between SLS and other variables at the middle and high school levels.

The idea that SLS fosters the students’ healthy behaviors and reduces health-risky behaviors is intuitively appealing to the point that scholars have considered SLS an important ingredient for the remedy for much trouble in education today. Numerous studies have investigated the SLS of middle school students. Such studies have consistently documented how other variables affected SLS or the operation mechanisms between different factors. A cross-cultural study showed that self-esteem and life satisfaction were correlated at the individual level, and the relation was moderated by the individualism of the society. Else, the associations of financial, friend, and family satisfaction with life satisfaction and with self-esteem also varied across nations (Diener E & Diener M, 1995). In recent years, there were a lot of studies about the influencing factors of SLS in China. High self-esteem, positive coping style and good academic achievement were the protective factors of middle school SLS, while negative coping style and age were the risk factors of SLS (Ying Sun & Fangbiao Tao, 2005). Furthermore, peer relationship perceived by middle school students and school satisfaction were negatively related to loneliness, and perceived peer relationship was positively related to school satisfaction (Zhang, Jiang Hui, Wei Jia, et al, 2014). School environments had an impact of SLS, such as children’s school satisfaction of migrant schools were significantly lower than that of public schools and mixing schools (Zou Hong, Li Xiaowei, & Ke Jia Qu, 2008). Students’ feelings and the security of school, the degree of participation in school activities and academic performance affected the level of students’ school satisfaction (Zhang Danhui, Zhao Qian, & Wei Feng, 2015). In total, school life satisfaction is a latent variable, in which there is a complex path model between factors from school teachers and classmates.
However, the majority of data on the SLS were collected from samples of Asian adolescents. And these studies revealed that Chinese adolescents were similar to those of Japan or Korean teenagers (Kim D H, Ji H K, 2013; Su J L, Moon H J, 2013; Jang S H, Oh E J, 2009). Considering Chinese multiracial background, Xinjiang is a multiple-ethnic region, in which adolescents grow up with all-embracing attitudes. Yet few studies were conducted of adolescents in the region.

It is apparent that ascertaining the influencing factors of students SLS is complicated by at least three factors: (a) researchers use different methods for SLS based on their multicultural contexts, and trying to pull together disparate ideas in this paper; (b) there is a paucity of experimental studies in the SLS research literature; (c) mediating factors and interacting variables in the influencing factors of SLS are often ignored.

2. Purpose
This paper explores the relationship between SLS and other influencing factors (perceived teacher support, peer relationship and self esteem), particularly focusing the group middle and high school students. The hypotheses are as follow: (a) Influencing factors (perceived teacher support, peer relationship and self esteem) has positive interrelationships with students SLS. (b) Perceived teacher support and peer relationship affect the school life satisfaction, including peer relationship plays an intermediary role between perceived teacher support and school satisfaction, and self esteem plays a regulatory role in mediating effect. (c) Based on ecological systems theory, influencing factors and SLS form a model, in which SLS is the dependent variable and influencing factors are the independent variables.

3. Research methods
3.1 Participants
The sample for the current study consisted of 626 secondary school students from two middle schools and one high school in Xinjiang of China. Among them, 251 were male, 370 were female, and 5 were missing, with average age of 14.80 years (SD=0.90).

3.2 Measurements
3.2.1 School Life Satisfaction (SLS)
The current study used 12-item Chinese version of School Life Satisfaction Questionnaire (Fangbiao Tao, 2005), which is answered using a five-point Likert scale ranging from 1 = "Far from Satisfied" to 5 = "Quite Satisfied". All the items are used for evaluating the satisfaction degree of students in the school from angles (teachers, classmates, help, learning and environment). A sample item for teacher is, "What do you think of the teachers' attitude on your studies performance?" and "What do you think of the teachers’ attitude on your behavior performance?". An example question for classmate is, "What do you think of the classmates’ attitude on your studies performance?" and "What do you think of the classmates’ attitude on your behavior performance?". Participants’ attitudes about school environment and the relationship with teachers are included in this scale. The total score is attained by putting the every item score together. The higher the score is, the higher degree of individual's life satisfaction. And this questionnaire has a good reliability and validity. In current study, $P_{25}$ is 36, $P_{50}$ is 42, and $P_{75}$ is 47. Based on the past literature, $P_{25}$ is defined as the critical mass, and scores below it are labeled the dissatisfaction. The coefficient of the questionnaire in current study was 0.83.

3.2.2 Self-esteem
Self-esteem Scale was complied by Rosenberg (Rosenberg M, 1965). It had ten questions including subjects’ evaluation of their own multifaceted nature. For instance, "I feel I have a lot of quality", "All in all, I am satisfied with myself" and "I always think myself as nothing". Since it had a good reliability and validity, many researchers used it in the studies. As so, it was accepted in current study for measuring the self-esteem degree of these surveyed. The scoring formula was a four-point changing from 1="Very" to 5="Not at all". Considering the cultural difference, five questions were in reverse scoring, and others were in positive scoring. The coefficient of the questionnaire in current study was 0.78.

3.2.3 Perceived Teacher Support
Perceived Teacher Support questionnaire was complied by Babad, and it was revised by Dan Ouyang and Fengning Song (Dan Ouyang and Fengning Song, 2005) then. In current study, we adopted the revised production. And teachers' attitudes and behaviors that students perceived in the class were included in the scale. Concretely speaking, learning support (4 questions), emotional support (6 questions) and the support of ability (4 questions) were the three dimensions. The questionnaire was answered using a five-point Likert scale ranging from 1 = "Never/Not at all" to 5 = "Always/Very". The higher score of it represented the more support students got from teachers. Else, good reliability and validity was found in it. The coefficient of the questionnaire in current study was 0.91.

3.2.4 Peer Relationship
In the current study, the peer relationship was programmed by Peixin Shi, and it was revised by Junfeng.
Wei (Junfeng Wei, 2007). Three dimensions (social anxiety, intimacy and joint activities) was contained in the questionnaire, in which a five-point Likert ranging from 1 = "Never/Not at all" to 5 = "Always/Very" was used. Among the questions, 12 were scored reversely, and 6 were counted in a positive direct. Same as others, the high score showed the good peer relationship. The reliability and validity of the questionnaire were good. The coefficient of the questionnaire in current study was 0.83.

3.3 Analytic procedure
Convenient sampling, two middle and one high school were chosen to take part in the study. Finally, 16 classes joined the investigation. Before the formal questionnaire, a voluntary informed consent to participate in the investigation was filled out by per student. The questionnaire took each student about 20 minutes to complete, and was collected at the first time lively. In addition, every class was equipped with a local teacher and a psychology postgraduate who accepted a centralized training before.

4. Results
4.1 The correlation analysis among 4 variables
Means, standard deviation and zero-order correlation are shown in Table 1. Among the examined variables, the means for students school life satisfaction was 3.44 (full mark = 5), suggesting that students’ satisfaction with school was at the general level. School life satisfaction (SLS) has a significant positive correlation with perceived teachers’ support, peer relationship and self-esteem. Else, there are 6 significant positive correlations among these 4 variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M±SD</th>
<th>PTS</th>
<th>PR</th>
<th>SE</th>
<th>SLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.PTS</td>
<td>4.20±0.81</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.PR</td>
<td>3.72±0.58</td>
<td>0.35**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.SE</td>
<td>2.81±0.44</td>
<td>0.40**</td>
<td>0.49**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4.SLS</td>
<td>3.44±0.67</td>
<td>0.35**</td>
<td>0.27**</td>
<td>0.31**</td>
<td>1</td>
</tr>
</tbody>
</table>

**P<0.01

Note. PTS=Perceived Teachers’ Support; PR=Peer Relationship; SE=Self-esteem; SLS=School Life Satisfaction.

4.2 Step-wise regression analysis for predicting School life satisfaction (SLS)
Because of positive correlations among 4 variables, we used step-wise regression to calculate a model in which school life satisfaction as the dependent variable. SPSS 19 software was allowed to select which variables would be entered and in order. The results showed that perceived teachers’ support, self-esteem and peer relationship were the influencing factors of school life satisfaction. From table 2, we knew that these 3 variables explained 16% of the observed variance in school life satisfaction.

<table>
<thead>
<tr>
<th>Step</th>
<th>R²</th>
<th>Predictor Variable</th>
<th>β</th>
<th>SE</th>
<th>β 95%CI(β)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0.120</td>
<td>Perceived Teachers’ Support</td>
<td>0.29</td>
<td>0.35</td>
<td>0.23–0.35</td>
<td>9.14***</td>
</tr>
<tr>
<td>Second</td>
<td>0.155</td>
<td>Perceived Teachers’ Support</td>
<td>0.22</td>
<td>0.27</td>
<td>0.16–0.29</td>
<td>6.57***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-esteem</td>
<td>0.32</td>
<td>0.21</td>
<td>0.19–0.44</td>
<td>5.11***</td>
</tr>
<tr>
<td>Third</td>
<td>0.160</td>
<td>Perceived Teachers’ Support</td>
<td>0.21</td>
<td>0.25</td>
<td>0.14–0.27</td>
<td>6.03***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-esteem</td>
<td>0.26</td>
<td>0.17</td>
<td>0.12–0.39</td>
<td>3.79***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peer Relationship</td>
<td>0.11</td>
<td>0.10</td>
<td>0.01–0.21</td>
<td>2.21***</td>
</tr>
</tbody>
</table>

***p<0.001

4.3 Amos model of school life satisfaction
From table 1 and table 2, we knew that school life satisfaction has a positive relation with perceived teachers’ support, self-esteem and peer relationship. To investigate the working mechanism of these three factors, we used Amos 19.0 to build a model. After much debugging, the results (figure 1) showed that perceived teachers’ support and self-esteem were the intermediary variables in the process school life satisfaction influenced by peer relationship. Perceived teacher support acted the mediation role between self-esteem and school life satisfaction, and self-esteem was the mediation between peer relationship and perceived teachers’ support. In the model, indexes (CMIN/df=1.86, P=0.133, RMSEA=0.04, CFI=0.99, NFI-0.99) were meet the good criterion (Jietai Hou, Zhonglin Wen, and Zijuan Cheng, 2004).
5. Discussion
As expected, peer relationship, self-esteem, perceived teachers’ support and school life satisfaction were significantly positively related to each other. Moreover, we found that the effect of peer relationship on school life satisfaction were partially mediated by self-esteem and perceived teachers’ support. Additionally, we found that the indirect effect of self-esteem on perceived teachers’ support was significant.

The results, which were shown in table1, table2 and figure 1, showed the following four points. First, the results that middle and high school students’ self-esteem, perceived teachers’ support and peer relationship were positively correlated to school life satisfaction were in harmony with previous studies. These findings support attachment theory (Bowlby, 1973), which shows that attachment can significantly influence subjects’ mental health, such as life satisfaction. Second, the current study found that peer relationship had a positive correlation with self-esteem and perceived teachers’ support. The findings are similar to Chinese studies before. When adolescents face stressful school events, individuals who have good peer relationships may tend to search peers’ help and believe in themselves that they can be supported in the first time. Third, perceived teachers’ support was associated with self-esteem that is in line with previous studies. Fourth, the findings that these three factors built a influencing model of school life satisfaction were according with the ecological systems theory (Bronfenbrenner, 1977).

For the reasons, the hypotheses are as followed. First, school life satisfaction was not inborn, but derived from the interaction with classmates and teachers. In other words, it was a mixed feeling after students experiencing complex psychological process. From the figure 1, we knew that peer relationship had a direct influence with school life satisfaction. So, we Chinese schools should strengthen peer relationship and school bullying should be declined to the lowest (Jian Qiu, 2012; Huihui Chen, 2011). Second, self-esteem and perceived teacher support were the mediators between peer relationship and school life satisfaction. The cultural background might be the reason. Because of huge population, Chinese schools are usually equipped with less teachers than other developed countries. And the ratio of teacher and students was about 33:1. Additionally, the press of homework and teaching is more than others. Schools should pay more attention to students mental and physical health.

6. Limitations
Our study computed each participant’s average score based on four scales as the measure of his/her performance. For adolescents, the questionnaires are a little inaccurate. Another salient limitation was that our participants represented a homogeneous sample, all drawn from one institution and one ethnic group. And, this distinctive aspect (Chinese adolescents) of the current study may limit the ecological validity of its results. It is recommended that future studies of this topic recruit more diverse groups of respondents.

7. Conclusion
The results of the current study suggest that:
   A) Peer relationship, self-esteem, perceived teachers’ support and school life satisfaction were significantly
positively related to each other.

B) Step-wise regression analysis for variables predicting students’ school life satisfaction suggest that perceived teachers’ support, self-esteem and peer relationship were the outstanding influencing factors of school life satisfaction in the third step, predicting 16% of it.

C) Based on the ecological systems theory, self-esteem and perceived teachers’ support were the moderating effect between peer relationship and school life satisfaction.

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