Relationship between Self-differentiation and Self-disclosure of College Students: The Mediating Role of Peer Attachment

Xueting Zhu

School of Aeronautics & Astronautics, Shenyang Aerospace University, Shenyang 110136, China
cynthiajholmes@outlook.com

Abstract. The research conducts a survey of 623 students from 5 universities by the instruments of college students differentiation of self-inventory (DSI), inventory of parent and peer attachment (IPPA), self-disclosure and self-hideaway scale, which analyzes the relationship between self-differentiation and self-disclosure of college students, and studies whether peer attachment plays a mediating role between them. The findings are as follows: self-differentiation can significantly predict college students’ self-disclosure; peer attachment plays a partial mediating role between self-differentiation and self-disclosure of college students.

Keywords: self-differentiation; self-disclosure; peer attachment; college students.

1. Introduction

Self-disclosure refers to the process in which an individual reveals his or her own information (such as opinions and attitudes, interests and hobbies, economics status, working or studying condition, personality, physical condition, etc.) to others with a certain method (verbal, written or online) [1]. This concept was first proposed by Jourard in 1958. At first, he was convinced that self-disclosure was a disclosure of personal information to the selected “target-persons” (the persons to whom information about the self is communicated) [2]. Later, in The Transparent Self, he made a more specific definition of self-disclosure, that is, the process of telling another person about his own information and sincerely sharing his personal and secret thoughts and feelings with other [3]. Thereafter, more researchers began to pay attention to this research field and put forward more concepts about self-disclosure. In general, current researchers hold two different views on self-disclosure: one is to regard self-disclosure as a dynamic process or an interactive process of information disclosure between people [2, 4]; the other is to regard self-disclosure as a static phenomenon, a behavior, event or trait of a relationship [2, 5, 6].

The research shows that self-disclosure is of important social functions [5, 7, 8, 9]. Self-disclosure is a significant prerequisite for healthy personality [3]. In 1971, Jourard proposed that in the process of self-disclosure, one can understand each other more in-depth about their perceptions and feelings through each other's feedback, resulting in self-clarification. If a person lacks self-disclosure, it is difficult to understand the real needs and feelings of himself and others. Self-disclosure contributes to solving problems. In 1991, Cherry put forward that individuals tend to improve their ability to deal with problems after self-disclosure. Especially for the sense of guilt, people tend to find things not so difficult after self-disclosure [11], and just telling the problem can help people find solutions to the problem [9]. Self-disclosure can promote the establishment and development of relationships with others. Several studies have shown that self-disclosure is of benefit for the formation and development of intimate relationships [5, 12], which is an effective predictor of intimate relationship satisfaction. Via self-disclosure, people can get support in social relationships, and appropriate self-disclosure among peers is associated with lower feeling of loneliness [8, 13, 14]. Self-disclosure is also beneficial for physical and mental health. Studies have illustrated that psychological factors can affect the susceptibility of human organs to diseases [14], and avoidance of emotional disclosure is associated with some severe diseases [9,15], while confession and disclosure are rewarding for people’s physical and mental health [3, 9, 16].

Multiple studies have demonstrated that the process of self-disclosure is affected by various factors, such as gender [3, 17], the theme of self-disclosure [18, 19], and the “target-persons” of self-disclosure [13, 7]. Personality also have an important effect on self-disclosure. Studies have shown
that adolescents with high individual self-awareness possess a higher willingness to reveal to peers, which leads to less loneliness [8]. A high level of individual self-awareness is associated with a more accurate and detailed cognition of the individual’s inner self, which is the very material for self-disclosure.

According to Bowen’s family systems theory, the operation of the family system relies on the emotional bond between family members. However, too intense connection might lead to the disorder of family function. Therefore, self-differentiation becomes a necessary goal for growth of each family member. Self-differentiation is mainly divided into two levels, namely interpersonal and inner self. The level of inner self differentiation refers to the individual’s ability to distinguish between sense and sensibility, while interpersonal level of self-differentiation refers to the ability of individuals to be both independent and intimate in their relationship with others [21, 22, 23]. Self-differentiation can be summarized into four main dimensions, that is, I-position, emotional reactivity, emotional cutoff and fusion with others. In the differentiation of self-inventory (DSI), the higher the score of I-position, the lower the scores of the other three dimensions, thus the higher the level of individual self-differentiation [21, 22].

Fang Qing et al. compared online self-disclosure with real-life self-disclosure [24]. They found out that college students with higher degree of self-differentiation show significantly higher informational disclosure and intimate disclosure with friends in real interpersonal relationships than those with net friends in the network, whereas college students with lower degree of self-differentiation reveal significantly higher informational disclosure with friends in real interpersonal relationships than that with net friends in the network, but their intimate disclosure with their friends is significantly lower than that with their net friends. This shows that in terms of informational disclosure, college students with higher levels of self-differentiation and with lower levels are more inclined to disclose with their friends in real life. As for intimate disclosure, college students with a higher level of self-differentiation are more likely to disclose with their friends in real life, while college students with a lower level of self-differentiation tend to disclose with online friends.

Peer attachment refers to the persistent and long-lasting emotional connection between an individual and his current companion [25, 26, 27], which can be summarized mainly by three dimensions, namely peer trust, peer communication and peer alienation. The common feature of self-differentiation and peer attachment is that they both reflect the degree of emotional integration between individuals and others. However, self-differentiation emphasizes that individuals can obtain pleasant intimate experience while maintaining their independence [21, 22, 23], while peer attachment is more focused on the individual’s obtaining supports from the attachment object and the development of independent behaviors when the person is under pressure.

The survey results of Liu Chunyan [28] et al. illustrated that self-differentiation is negatively correlated with avoidant attachment and anxious attachment, which is consistent with previous studies [29], that is, individuals with excellent self-differentiation are inclined to the formation of secure attachment rather than insecure attachment such as avoidant attachment and anxious attachment. This reveals that when the level of individual self-differentiation is high, individuals are more capable of distinguishing between reason and emotion, and it is easier for them to keep the balance between independence and intimacy in interpersonal relationship. They are not likely to form insecure attachment such as avoidant attachment and anxious attachment [30], and the expression of intimacy from others is rarely avoided. Individuals with low level of self-differentiation tend to consider intimate relationship to be threatening, thus denying the importance of connection with people and excessively demanding independence [31].

Individuals of anxious attachment tend to seek reaffirmation from others [32, 33], and they rely on coping strategies from emotional center such as venting and introspection to solve problems [34, 35, 36]. Their lack of positive expectations for obtaining support prevents them from seeking support [37], or making it tough for them to directly seek support from others, and they could only express their needs through nonverbal signals such as sulking or crying [38].

Individuals of avoidant attachment tend to attach importance to achievement and competition, denying the importance of interpersonal function. Compared with those individuals with secure
attachment, they lack the skills of seeking feedback from the other person in the relationship and nonverbal communication skills [39, 40]. Cheng Yin et al. [41] studied the relationship between college students’ attachment and online self-disclosure. They found that avoidant attachment could backward predict online self-disclosure of college students.

To sum up, this study suggests that highly self-differentiated individuals are more likely to form secure attachment, while the secure peer attachment helps individuals to have courage to disclose with peers, that is, peer attachment plays a mediating role between self-differentiation and self-disclosure. At present, there are few empirical studies on how self-differentiation affects self-disclosure. This study focuses on the impact of self-differentiation on self-disclosure in the real life of college students. Meanwhile, it examines the mediating effects of peer attachment, so as to shed light on improving the peer relationship of college students and help with their mental health.

2. Research Methods

2.1 Participants

Participants were 663 young adults attending five different universities, ranging in age from 16 to 29 (M = 20.15, SD = 1.88). A total of 663 paper questionnaires were randomly distributed in the universities, including one engineering college, one liberal arts college and three comprehensive universities, and 623 questionnaires were recovered. 581 valid questionnaires were obtained after the invalid questionnaires were deleted, and the effective recovery rate was 93.25%. Most students majored in engineering (36%; n = 209), while 28.7% (n = 167) majored in liberal arts, 27.9% (n = 162) majored in science, and 7.4% (n = 43) majored in other fields (mostly in art). The sample composition was 48.4% (n = 281) male, 51.6% (n = 300) female, and was 28.7% (n = 167) freshman, 32.2% (n = 187) sophomore, 21% (n = 122) junior, 13.9% (n = 81) senior and 4.2% (n = 24) others (including medical students in their fifth year, and repeaters in their fifth and sixth year).

2.2 Instruments

2.2.1 Differentiation of Self Inventory (DSI)

The Differentiation of Self Inventory (DSI) applicable to Chinese college students revised by Wu Yuhui and Wang Guiping [42] was used in this study. The scale is revised on the basis of reversed edition of differentiation of self-inventory (revised by Skowron and Schmitt on the original differentiation of self-inventory [43]) and the adult attachment scale (revised by Li Tonggui, Kato Kazuo [44]), with good reliability and validity [42].

The scale is comprised of a total score and four subscales that represent four dimensions of differentiation of self: I-position (an explicitly defined sense of self as well as one’s capacity to reasonably adhere to one’s own standpoints and convictions even under pressure), emotional reactivity (the degree to which a person responds to environmental stimuli with flooding and labile emotions or hypersensitivity to the point of being consumed by them), emotional cutoff (fear of intimacy and the tendency to isolate oneself from others and one’s own emotions when too much tension emerges from intrapersonal or interpersonal experiences), fusion with others (emotional over-involvement and/or over-identification with one’s parents or significant others). There are 27 items in total, including 22 reverse scored items. Respondents rate items using a 6-point scale, where 1 = not true of me, 2 = mostly not true of me, 3 = partly untrue of me, 4 = a little true of me, 5 = mostly true of me, and 6 = completely true of me. The higher the total score, the better the level of self-differentiation. In this current sample, Cronbach alphas for the subscales were: I-position 0.792; emotional reactivity 0.877; emotional cutoff 0.841; fusion with others 0.901.

2.2.2 Inventory of Parent and Peer Attachment (IPPA)

Inventory of Parent and Peer Attachment (IPPA) is used in this study for peer attachment. It is a self-report instrument and was translated and revised by Liang Linghan et al [44, 45]. The scale was compiled by Armsden & Greenberg (1987) [45, 46, 47], and the revised scale is of good reliability and validity.
The scale includes three subscales that represent three dimensions of peer attachment: peer trust, peer communication, and peer alienation. There are 22 items in total, of which 7 are reversed scoring items. Respondents rate items using a 5-point scale, ranging from 1 (never) to 5 (almost always). With higher scores reflecting healthier type of peer attachment. In the current sample, Cronbach alphas of each subscale were: full scale 0.889; peer trust 0.823; peer communication 0.816; peer alienation 0.784.

2.2.3 The Distress Disclosure Index (DDI)

The Distress Disclosure Index (DDI) is a 12-item self-report instrument (including 6 reversed scored items), compiled by Kahn [47], with its internal consistency coefficient of 0.92. Frequencies are based on a five-point scale with values ranging from 0 (never) to 5 (almost always). With higher scores reflecting higher degree of one’s self-disclosure. In the current sample, Cronbach alpha is 0.916.

2.3 Procedure

Course instructors were college students trained with needed skills for the data collection of the procedure, and the participants were randomly selected on campus. After informed consent, the participants were asked to complete a packet of questionnaires comprised of a demographic form, DSI, IPPA and DDI presented in counter-balanced order, which took about 15 minutes. After eliminating the questionnaires with missing data and contradictory answers, spss22.0 is used for statistical analysis.

2.4 Data Analysis

Spss22.0 statistical software is used for the regression analysis of the data.

3. Results

3.1 Means, Standard Deviations and Correlation Coefficient of Each Variable

Table 1 makes a list of the means, standard deviations and correlation coefficient of each variable. In general, the self-differentiation (M = 4.47, SD = 1.23), peer attachment (M = 3.23, SD = 1.32) and self-disclosure (M = 3.14, SD = 1.21) of college students in this study are at the medium level. At the same time, the correlation of all variables is significant and consistent with the assumed direction, which provides a basis for the further mediating analysis.

<table>
<thead>
<tr>
<th>Items</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>total peer attachment</td>
<td>3.23</td>
<td>1.32</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>self-disclosure</td>
<td>3.14</td>
<td>1.21</td>
<td>0.235*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total self-differentiation</td>
<td>4.47</td>
<td>1.23</td>
<td>0.638*</td>
<td>0.256*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>peer trust</td>
<td>3.25</td>
<td>1.32</td>
<td>0.782*</td>
<td>0.176*</td>
<td>0.476*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>peer communication</td>
<td>3.20</td>
<td>1.32</td>
<td>0.816*</td>
<td>0.184*</td>
<td>0.496*</td>
<td>0.444*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>peer alienation</td>
<td>3.23</td>
<td>1.32</td>
<td>0.793*</td>
<td>0.202*</td>
<td>0.556*</td>
<td>0.435*</td>
<td>0.478*</td>
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<tr>
<td>I-position</td>
<td>4.47</td>
<td>1.24</td>
<td>0.543*</td>
<td>0.216*</td>
<td>0.863*</td>
<td>0.424*</td>
<td>0.403*</td>
<td>0.475*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>emotional reactivity</td>
<td>4.48</td>
<td>1.24</td>
<td>0.581*</td>
<td>0.255*</td>
<td>0.891*</td>
<td>0.424*</td>
<td>0.457*</td>
<td>0.510*</td>
<td>0.701*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>emotional cutoff</td>
<td>4.49</td>
<td>1.23</td>
<td>0.552*</td>
<td>0.266*</td>
<td>0.883*</td>
<td>0.391*</td>
<td>0.447*</td>
<td>0.483*</td>
<td>0.691*</td>
<td>0.725*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>fusion with others</td>
<td>4.46</td>
<td>1.22</td>
<td>0.605*</td>
<td>0.203*</td>
<td>0.945*</td>
<td>0.460*</td>
<td>0.466*</td>
<td>0.523*</td>
<td>0.761*</td>
<td>0.786*</td>
<td>0.773*</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: * means p <0.001. ** means p <0.05, the same below.
3.2 Mediating Effect Test of Peer Attachment

In order to verify the mediating effect of peer attachment on self-differentiation and self-disclosure, the stepwise regression method was used, which is divided into three steps. The first step is to test the total effect of independent variable \( X \) (self-differentiation) on dependent variable \( Y \) (self-disclosure), that is, to test the coefficient \( c \) in equation \( Y=cX+e1 \). The second step is to test the significance of coefficient product. Firstly, the effect of independent variable \( X \) (self-differentiation) on the mediating variable \( M \) (peer attachment) is tested, namely, testing the \( a \) in the equation \( M=aX+e2 \). Then the effect of the mediating variable \( M \) (peer attachment) on the dependent variable \( Y \) (self-disclosure) is tested, that is, to test the \( b \) in the equation \( Y=c'X+bM+e3 \). The third step is to examine the effect of the independent variable \( X \) (self-differentiation) on the dependent variable \( Y \) (self-disclosure), taking into consideration the effect of the mediating variable \( M \) (peer attachment). That is, if the coefficient \( c \) is significant, and the coefficients \( a \) and \( b \) are significant, and the coefficient \( c' \) is not significant, which means that after inserting the mediating variable \( M \) (peer attachment), the original significant effect (\( X \) on \( Y \)) is no longer significant. Such being the case, the mediating effect of the mediating variable is the complete mediating effect. In the third step, if the mediating variable \( M \) (peer attachment) is inserted, the original significant effect (\( X \) on \( Y \)) is still significant, which means that the mediating effect of the mediating variable is a partial mediating effect. The variable relationships are demonstrated in Figure 1.

![Fig. 1 Relationship among self-differentiation, self-disclosure and peer attachment](image)

The study carries out testing process by regarding self-differentiation as the independent variable \( X \), peer attachment as the dependent variable \( Y \), and self-disclosure as the mediating variable \( M \). The obtained standardized regression equation of the first step is \( Y=0.256X \); the standardized regression equation of the second step is \( M=0.638X \); the standardized regression equation of the third step is \( Y=0.180X+0.120M \). Namely, the coefficient \( a=0.638 \); the coefficient \( b=0.120 \); the coefficient \( c=0.256 \); the coefficient \( c'=0.180 \).

As can be seen from Table 1, the effects of each step above are significant \((p<0.01)\). Therefore, it can be known that self-disclosure plays a partial mediating role in the relationship between self-differentiation and peer attachment. According to the calculation, the mediating effect of peer attachment accounts for \( a*b/c=0.638 \times 0.120/0.256=29.9\% \) of the total effect.
Table 2. The mediating effect test of peer attachment on self-differentiation and self-disclosure

<table>
<thead>
<tr>
<th>Items</th>
<th>( R^2 )</th>
<th>B</th>
<th>SE</th>
<th>( \beta )</th>
<th>t</th>
<th>Standardized regression equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first step: Self-differentiation on self-disclosure</td>
<td>0.066</td>
<td>0.122</td>
<td>0.019</td>
<td>0.256</td>
<td>6.385*</td>
<td>( Y=0.256X )</td>
</tr>
<tr>
<td>The second step: Self-differentiation on peer attachment</td>
<td>0.407</td>
<td>0.377</td>
<td>0.019</td>
<td>0.638</td>
<td>19.926*</td>
<td>( M=0.638X )</td>
</tr>
<tr>
<td>The third step: Self-differentiation on self-disclosure</td>
<td>0.074</td>
<td>0.086</td>
<td>0.025</td>
<td>0.180</td>
<td>3.461**</td>
<td>( Y=0.180X+0.120M )</td>
</tr>
<tr>
<td>Peer attachment on self-disclosure</td>
<td>0.074</td>
<td>0.097</td>
<td>0.042</td>
<td>0.120</td>
<td>2.313**</td>
<td></td>
</tr>
</tbody>
</table>

4. Discussion

4.1 The Relationship between Self-Differentiation and Self-Disclosure

As is found in the study, there is a significant positive correlation between self-differentiation and self-disclosure in college students. High level of self-differentiation has a positive predictive effect on high level of self-disclosure, and self-differentiation has a direct effect on self-disclosure (\( \beta = 0.256, p < 0.001 \)), which is basically consistent with the existing research results. Adolescents with high self-consciousness have a higher willingness to disclose to peers [8]. High individual self-consciousness level means that the individual possesses a more accurate and detailed cognition of inner-self, as well as a closer connection with oneself, which lays a foundation for a high level of self-differentiation at the interpersonal level, namely the capacity to be both independent and intimate in their relationships with others [21, 22, 23]. This means that individuals with higher level of self-differentiation tend to have a higher level of self-disclosure. In addition, this study finds that the Iposition dimension in the differentiation of self-inventory is significantly positively correlated with self-disclosure. Whereas the other three dimensions, namely emotional reactivity, emotional cutoff and fusion with others are significantly negatively correlated with self-disclosure, which also verifies previous researches in related fields [10, 22,]. The clearer the individual’s “I” position is, the more effective the process of self-disclosure gets, which is an important social function. While excessive emotional reactivity, too severe emotional cutoff or too high tendency of fusion with others may affect the normal process of self-disclosure.

4.2 The Mediating Role of Peer Attachment between Self-differentiation and Self-Disclosure

The study finds that peer attachment plays a partial mediating role in self-differentiation and self-disclosure, with mediating effect accounting for 29.9% of total. In other words, individuals with a good level of self-differentiation are more likely to experience healthy peer attachment and a relevantly higher level of self-disclosure. Specifically, first, self-differentiation is negatively correlated with avoidant attachment and anxious attachment [29]. Individuals with higher level of self-differentiation tend to have more capacity to deal with the intimacy and independence in interpersonal relationships, as well as the contradiction between reason and emotion in intrapersonal experiences. Hence, they are more likely to establish peer trust and peer communication to form a healthy relationship with others; while it is difficult for college students with low level of self-differentiation to solve the above problems or to establish trust or effective communication with peers. Individuals with anxious attachment find it hard to seek support from others directly, and can only express their willingness to seek help through nonverbal signals such as sulking or crying [38]. Individuals with avoidant attachment lack the skills of seeking feedback in relationships and
nonverbal communication [20, 40]. Students with healthy attachment are able to establish mutual trust with peers and have more in-depth disclosure of self with peers. College students who are alienated from their peers find it tough to effectively communicate with others, thus resulting in less disclosure of self. Based on existing researches, this study confirms the correlation among self-differentiation, self-disclosure and attachment [7, 8, 21, 29, 39]. On this basis, the mediating role of peer attachment in self-differentiation and self-disclosure of college students is further verified, which suggests that in the future, self-disclosure of college students can be promoted by improving peer attachment.

References


