

The Mediating Role of Anxiety: The Relationship Between Anxious Attachment Style and Willingness to Move out of Multi-Person Dormitories in Chinese University Students

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Abstract: Dormitory life has an important impact on university students, especially in China, where the total population and the number of university students are large. In China, university students usually live in multi-person dormitories based on social common sense and even social norms. Studies have shown that different attachment styles are likely to have different preferences for accommodation, but there are still gaps in research on how the various influence mechanisms work. This study analyzed the direct and indirect effects of anxious attachment style on the willingness to move out of multi-person dormitories, mediated by anxiety state. An online questionnaire was distributed to Chinese university students via Chinese social media. The results show that the anxiety state is the important and significant influence mechanism in achieving the correlation between anxious attachment style and moving-out willingness and was linked closely to both of them. For the direct effect, there was a nearly significant positive correlation between the independent and dependent variables. The results are consistent with the previous research on attachment and housing choices. On this basis, the conclusion obtained in this study regarding the significant correlation of the anxiety state with the variables and effect is important for revealing the way attachment styles work.

1 INTRODUCTION

Dormitory life is an important and integral part of universities, especially in China. If students decide to live in the multi-person dormitories on campus, i.e., not in a private room by themselves, it means that they have to share their living space with others. In these spaces, university students inevitably have to interact with other people. Moreover, the situation might be more intense in Chinese society. In China, it is common sense that university students need to, should, or can live in multi-person dormitories is social common sense. Meanwhile, under the tight policies in many universities, most students choose to live in multi-person dormitories instead of commuting when they enroll. Moreover, due to the high population and increasing number of university students, the multi-person dormitory environment that students need to face may be even more severe. According to the statistics from the Ministry of Education of the People's Republic of China (MOE) in 2023, there were a total of 47.6319 million students enrolled in various forms of higher education, an increase of 1.0811 million from the previous year

alone, and a gross enrollment rate of 60.2% (Ministry of Education of the People's Republic of China, 2024).

Dormitory life can bring more things to handle for university students. University students who live in dormitories, no matter male or female, have higher stress and social dysfunction levels than those who do not live in dormitories, as the study by Molasaedi points out (Molasaedi, 2014). These differences may be explained through attachment theory to some extent. Attachment theory was first proposed by Bowlby, who noted that this infant attachment behavior to the mother would bring them rich emotional responses and teach them social adaptation skills (Bowlby, 1997). In the study by Ainsworth et al., this pattern of attachment was further distinguished into secure, anxious, and avoidant attachment styles through the Strange Situation, expressing a pattern of exploration of the environment influenced by the caregiver's behavior (Ainsworth, 2014). Individuals with an anxious attachment style in adulthood are more likely to have stronger emotional ups and downs and a desire for return in romantic relationships, while those with

avoidant attachment styles are more likely to avoid intimacy (Hazan, 1987). In the last thirty years, as more and more studies on adult attachment styles have been conducted, new research has emerged that can explain the relationship between attachment styles and dormitory life. According to Lapsley and Edgerton, insecurely attached individuals are less adaptable to college, which may affect their adjustment to residential life and their ability to manage interpersonal interactions in multi-person dormitories (Lapsley, 2002). Attachment styles do affect the housing choice during university. Compared to securely attached individuals, avoidantly and anxiously attached individuals are more likely to choose to live alone or with their parents instead of sharing the space with others, as pointed out in Sasso and Paladini's study (Sasso and Paladini, 2021). However, there is still a gap in the field regarding the specific mechanism through how insecure attachment styles lead to their choice of not living with other students, including living in multi-person dormitories.

This study focused on the relationship between anxious attachment style and willingness to not live in multi-person dormitories. It further confirmed the hypothesis that individuals with higher anxious attachment styles are more likely to have the willingness to move out of multi-person dormitories based on the social culture and atmosphere of the research subjects, Chinese university students. The independent variable was set as the score of anxious attachment styles, while the dependent variable was the willingness to move out of multi-person dormitories. To study the influencing mechanism, an intervening variable, the anxiety state of living in a multi-person dormitory, was set up to investigate whether the correlation between anxious attachment style and the willingness to move out of a multi-person dormitory is achieved by anxiety state

2 MATERIALS AND TOOLS

2.1 Samples

The questionnaire was imported into a well-known Chinese platform and distributed through Chinese social media to find college students currently enrolled in universities in China. In addition to the main questions, questions were added to count the current accommodation situation and the grade of the sample. The valid rate of the questionnaire was calculated by excluding responses that were too short, too random, or too repetitive.

2.2 Experience in Close Relationships Scale- Chinese Short (ECR-CS)

This study used the Experience in Close Relationships Scale- Chinese Short (ECR-CS) to measure the attachment styles of the subjects. The ECR-CS was first revised into a Chinese version by Chinese scholars Li et al. in 2016, based on the original ECR developed by Brennan, Clark, and Shaver, and then revised again into a Chinese short version by She et al. in 2014. The ECR-CS revised by She et al. has good internal consistency (She et al., 2015). This study indirectly cited the ECR-CS by She et al. in the appendix of Dong's article (Dong, 2021). The advantage of ECR-CS is that it is suitable for the measurement of adult attachment styles, conforms to the Chinese context, and is short enough to ensure more valid data can be collected in a limited time. Considering that the subjects were Chinese university students, which was different from the young and middle-aged people in Dong's research, the author replaced all the "spouses" with "partners" in the scale. Also, the main question section indicated that subjects could imagine future partners or important others if they did not have romantic relationship experience since some Chinese university students might lack it.

2.3 State Anxiety Inventory (SAI)

Concerning the moderate variable, anxiety state, this study used the State Anxiety Inventory (SAI) part of the State-Trait Anxiety Inventory, STAI-Form Y(STAI). The original English version was developed by Spielberger et al., and the Chinese version used by this questionnaire was developed by Wang et al. in 1992 and is included in the Rating Scale for Mental Health (Wang et al., 1999). The reason for choosing the SAI instead of the Trait Anxiety Inventory (TAI) or STAI is that the anxiety experienced by individuals in the dormitory that motivates them to want to move out of the dormitory is more likely to be state anxiety than trait anxiety. Meanwhile, the SAI is shorter than the STAI, ensuring that the questionnaire has a high return rate and is efficient.

2.4 Moving-Out Willingness

Considering the sociocultural context of China, besides the dependent variable itself, which was the willingness to move out of a university dormitory, the subjects also had to answer the difficulty level of moving out of the dormitories if they had ever had

thought about moving out (i.e., not choosing “I have never considered about it, I have never had such thoughts”). This was to make sure the difficulty of moving out would not affect the willingness.

3 PROCEDURE

This study developed an online questionnaire that was distributed online via Chinese social media, and a

total of 343 valid questionnaires were collected. The questionnaire divided the subjects into three groups through their campus housing situation and set different question-skipping logic. This is intended to allow subjects in different housing situations to answer SAI scales with different modifiers, and subjects who no longer live in university dormitories do not need to answer the questions about their willingness to move out.

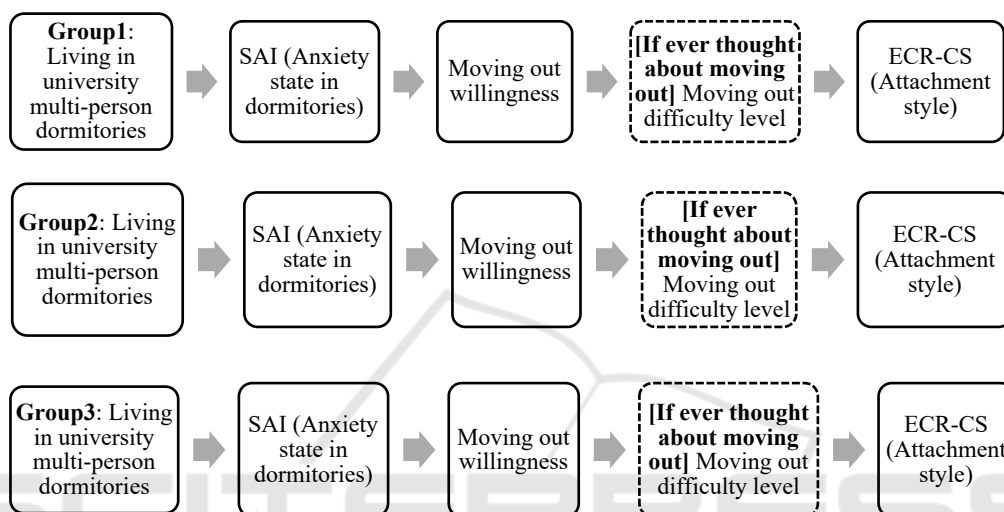


Figure 1: Different questions that need to be answered by different groups (Photo/Picture credit: Original).

There were three sets of SAI with different modifiers for three different groups (See Fig. 1.). The differences were nearly only the modifiers of some sentences to make the questions more relevant to the situation of the subjects. For example, the stems for SAI for Group 1 and Group 2, respectively, “Considering my feelings about dormitory life and staying in the dormitory” and “Thinking back to when I lived in the university dormitory before;” for the scale questions, one in Group 1 was “I am presently worrying about living in the dormitory, feeling it may be over possible misfortunes,” whereas the other was “I worry about living in the dormitory, feeling it may be over possible misfortunes.” It is worth noting that the English version of the questionnaire shown in this article is translated by the author for only demonstration purposes. It was not used in formal experiments and has not been reliability tested.

Because the ECR-CS and the three versions of the SAI scale for different groups all had different extents of changes in modifiers and question sentences, Cronbach’s Alpha was used to measure the reliability of those for scales. However, the SAI scale for Group 3 was not tested due to insufficient samples ($N=1$).

After data collection was completed, the questionnaire data was exported from the online questionnaire platform to IBM SPSS statistical software. It was finally found that there was a total of 336 questionnaires in Group 1, while there were 4 and 3 in Group 2 and 3, respectively. Since the sample sizes of Group 2 and 3 were too small, this study mainly limited the scope of the data analysis to the 336 Chinese university students in Group 1 who were still living in the school dormitories.

Before the formal analysis, the correlation and significance between the willingness to move out and the difficulty of moving out were first analyzed using the Spearman correlation coefficient to ensure that the difficulty of moving out would not affect the individual’s willingness to move out. Because the original questionnaire included the option “I’m not sure/I haven’t looked into how difficult it is to move out of the dormitory,” the sample that selected this option was excluded from the analysis of the correlation between willingness and difficulty. The willingness to move out and the difficulty of moving out were treated as 0-5 and 0-4, respectively. For the main hypothesis, PROCESS Version 4.2 was used to

obtain the results of the mediation analysis on the independent variable of the mean score of anxious attachment style, the mediator variable of the mean score of anxiety state, and the dependent variable of the willingness to move out.

The main hypothesis was additionally verified from the dimension of avoidant attachment, that is, X was replaced by the mean value of the individual avoidant attachment dimension measured by the ECR-CS, and an additional multiple regression analysis was performed. Meanwhile, a cross-tabulation analysis was also conducted based on demographic questions to determine differences in propensity to move out between different grades.

4 RESULTS

After a total of 371 responses to this questionnaire, questionnaires with obviously unreasonable answers (those with evidently repeated and regular answers, as well as those with answers that were too short) were eliminated. A total of 343 valid questionnaires were collected, for an effective rate of approximately 92.5%. Of these, 336 were from Group 1 (currently living in a university multi-person dormitory) and were used for the main data analysis. The grade distribution of the 336 subjects ranged from undergraduate freshmen to third-year graduates. Among them, there were 135 undergraduate freshmen (FR), 59 undergraduate sophomores (SO), 62 undergraduate juniors (JR), 49 undergraduate seniors (SR), 5 first-year graduate students (G1), 15 second-year graduate students (G2), and 11 third-year graduate students (G3).

The reliability of the 20-item SAI for Group 1 (336 samples), using Cronbach's Alpha, turned out to be $\alpha=0.956$, which is a high internal consistency and consistent measurement of the topic of anxiety states. The Group 2 version, which also had 20 items, only yielded four valid responses, but was still measured, and turned out with an alpha of 0.958. All 343 valid responses answered the 12-question ECR-CS, yielding an alpha of 0.856, indicating good internal consistency.

Table 1. Mean value and standard deviation of willingness to move out and difficulty of moving out.

	Mean value	Standard Deviation
Willingness to move out	1.32	1.225
Difficulty of moving out	2.13	1.103

The willingness to move out and the difficulty of moving out were treated as 0-5 and 0-4, respectively. The mean value and standard deviation are shown in Table 1. In the Spearman correlation and significance test to examine the willingness to move out and the difficulty of moving out, $r=-0.003$ and $p=0.968$ were obtained. This shows that there is no significant correlation between the willingness to move out and the difficulty of moving out. Therefore, the difficulty of moving out is not considered as a variable. The dependent variable only considers the willingness to move out.

4.1 Mediation Analysis

In a multiple regression analysis using PROCESS v4.2 with a confidence level of 95%, the R^2 was 0.0265 in the mediator model part, which means that the mean value of the individual anxious attachment style scale (X) explained 2.65% of the mediator variable, anxiety state (M). It turned out that $p=0.0027$, which is less than 0.05, can be considered statistically significant. The non-normalized regression coefficient b is 0.0804, which indicates that for every unit increase in the individual anxious attachment style score, the anxiety state score increases by about 0.0804.

With regard to the part of the dependent variable model, it can be seen from $R^2=0.4791$ that X and M explained 47.91% of the dependent variable, the willingness to move out (Y). It is evident that individuals' anxious attachment style and anxiety state in the dormitory had a very strong explanatory power on the willingness to move out of the dormitory. Meanwhile, in the indirect effect, the effect was 0.1045, which means that part of the effect of X on Y is achieved through the anxiety state; and the confidence interval is 95% CI [0.0314, 0.1759], which indicates that it is significant. If the effect of M on Y is considered alone, $b=1.3008$, $p<0.0001$, it can be seen that the mediator variable, anxiety state, has an extremely strong and significant effect on increasing the willingness to move out. However, when X acts on Y alone, $b=0.0697$, $p=0.0675$, is not statistically significant but close to, and the effect is not as strong as M on Y. This might mean that the effect of anxious attachment style on willingness to move out is mainly achieved by the mediator variable. That is, it is more the anxious attachment style that leads to an anxiety state, and the anxiety state leads to a willingness to move out, rather than the anxiety state acting as an influencing factor.

When X is replaced with individual avoidant attachment style scores and analyzed again, the effect

of X on M, M on Y, and the mediation effect were basically the same, but for the direct effect, which is, the effect of X on Y alone, $b=-0.0421$, $p=0.1662$. In other words, for every unit increased in avoidant

attachment style scores, the willingness to move out decreased by 0.0421, but the result is not significant (See Table 2).

Table 2. Direct and indirect effects in mediation analysis.

	X→M	M→Y	X→Y	indirect effect
X: Anxious attachment	$b=0.0804$	$b=1.3008$	$b=0.0697$ $p=0.0675$	0.1221
Y: Avoidant attachment	$b=0.0905$	$b=1.3493$	$b=-0.0421$ $p=0.1662$	0.1045

4.2 Cross-Tabulation Analysis

In the cross-tabulation analysis of the differences in the willingness to move out between different grades based on the demographic questions, the comparison

of the percentages of options selected in each grade is shown in the figure below (See Fig. 2.). It can be seen that the largest number of people in FR and G3 chose to have not considered moving out of the dormitory at all, and the smallest number of people in FR already had a complete plan.

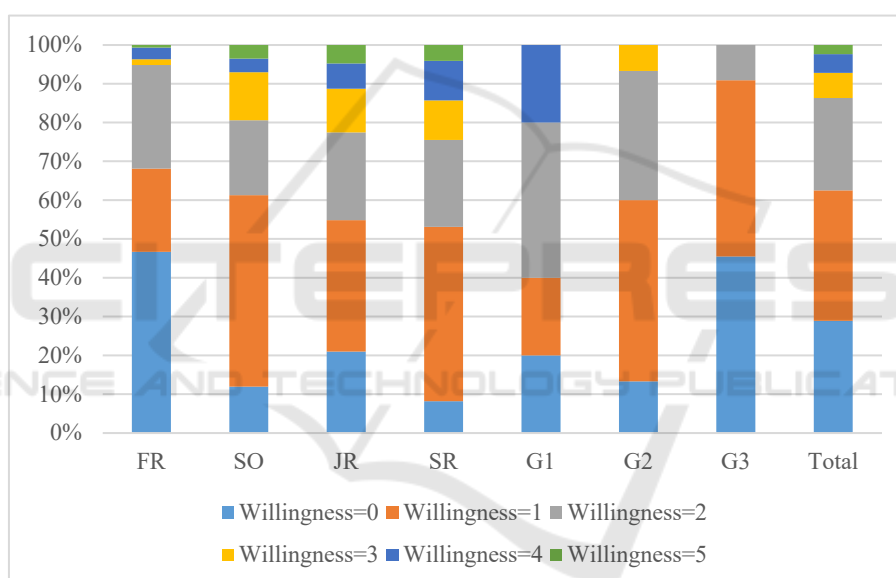


Figure 2: Proportions of dormitory moving out willingness levels among students by grade (Photo/Picture credit: Original).

5 DISCUSSION

5.1 Anxious Attachment Style, Anxiety State, and Moving-out Willingness

In mediation analysis, it was shown that the direct effect of anxious attachment style to moving out willingness was relatively low and close to significant ($b=0.0697$, $p=0.0675$), while the indirect effect when using anxiety state as mediator variable (the effect was 0.10450, 95% CI [0.0314, 0.1759]), the effect of independent variable to mediator variable ($b=0.0804$, $p=0.027$), and the effect of mediator variable to

dependent variable ($b=1.3008$, $p < 0.0001$) all had high and significant effectiveness. First, consistent with the hypotheses of this study, these results can prove that anxiously attached individuals are more likely to show anxiety state in multi-person dormitories, and this kind of state will increase their willingness to move out of the dormitories. Meanwhile, the anxiety state was an extremely important mediation in this indirect effect, and this result was also statistically significant. However, although anxious attachment style also had a direct effect on moving-out willingness, it is not significant enough.

This shows a situation that this mediation effect was mainly achieved through the mediator variable, anxiety state, which may reflect a certain psychological mechanism in Chinese culture and society: Although an individual is anxiously attached, if they do not feel a more influential, intuitive, and “obvious” anxiety state, they may not easily realize their internal need to move out of the dormitory, nor will they easily realize that moving out of the dormitory is more in line with their personal needs. In the Chinese culture, this may stem from an emphasis on collectivism; “living in a dormitory” is seen as something that everyone should do as a matter of course and is harmless, while “behaving differently from the group” brings cultural pressure and a sense of shame to the individual. A prior study by Guess points out that under collectivist values, individuals are more cautious and want their decisions to conform to social expectations (Guess, 2004). When this culture reflects onto society, the individuals may discover that the vast majority of people around them are either viewing tolerating dormitory living as a matter of course or just continuing tolerating it reluctantly. At the same time, if individuals seek feedback from the outside world, they find that parents and teachers do not have a positive attitude towards moving out of the dormitory. Especially anxiously attached individuals might be more likely to seek feedback from others, for example, Hepper and Carnelley’s research shows that individuals with a high-anxious attachment style are more eager for feedback and more open to negative feedback (Hepper and Carnelley, 2010). These are all possible reasons that affect the result that individuals did not evaluate their decision on dormitory through their own personality and interpersonal characteristics until they realized their distress in an anxiety state. In the design stage of this study, three groups were designed based on different accommodation situations, but the final samples that were not currently living in a dormitory only accounted for about 2.04%. This data distribution can also prove to some extent that not living in a shared accommodation is not mainstream at all.

On the contrary, when using avoidant attachment style as an independent variable, the result can only support avoidantly attached individuals are also more likely to have anxiety state in multi-person dormitories, and this state can prompt them to consider moving out. When the avoidant attachment style directly affects the moving-out willingness, the direction of this effect is negative, and the result is very insignificant. This can prove that the effect of an avoidant attachment style and an anxious one on the

moving-out willingness is different. It is worth noting that, as shown in Table 1, the greatest effect value in the two mediating analyses is the part where anxiety leads to an increase in the willingness to move out. This shows that regardless of attachment style, anxiety is a strong factor influencing the willingness to move out of the dormitory.

The results of the cross-analysis of demographic questions and willingness to move out show that undergraduate freshmen (FR) were the least likely to consider moving out of the dormitories, but this changed with increasing grade levels. As the grade level increases, more and more individuals have a stronger desire to move out of the dormitories, which might be related to the anxiety state they experienced in their residential life, or the gradual maturity of their abilities as growing up. It is worth noting that the sample size among the graduate student population was very limited, so the proportions of willingness levels among the three graduate student grades are of limited reference value.

5.2 Limitation and Expectation

In terms of sample collection, the sample size of different grades was not evenly distributed, which might have a certain impact on the results of the specific situations in different grades, such as undergraduate freshmen seemed less likely to think about moving out. The most significant limitation of this study was that the cultural and social background might have a strong impact on the subjects, for example, there was a very limited size of subjects that did not live in university multi-person dormitories. Meanwhile, as mentioned earlier, collectivist values might have an impact on the study. Subsequent research should add culture-related questions to the questionnaire to increase consideration of the impact of cultural background on individual values and decision-making patterns. At the same time, the hypothesis also deserves cross-cultural research and observation if the direct effect would be stronger. This hypothesis also needs to be carried out in societies with more diverse university accommodation and commuting methods to assess whether anxious attachment styles and anxious states have an impact on different commuting methods, that is, a further subdivision based on moving out of the dormitory.

6 CONCLUSION

In this study of the correlation between anxious attachment style and willingness to move out of multi-person dormitories, in addition to the near-significant correlation between the two variables, the role of anxiety as a mediator variable was significantly verified. The results show that anxiety state is a very strong and powerful factor in the achievement of the relationship between anxious attachment style and moving-out willingness, especially the impact of anxiety state on willingness ($b=1.3008$, $p<0.0001$). This means that, if anxiously attached individuals decide to live in multi-person dormitories, they need to pay more attention to their anxiety and find coping strategies to ensure that stress does not affect their study life. In addition, they also need to focus more on their own needs in daily life and when making housing decisions, and consider the high risk of anxiety state they may encounter. For those anxiously attached individuals who are in anxiety in multi-person dormitories, this study will be a tool that helps them understand their situation and reminds them to pay attention to their mental state. For higher education institutions, such as universities, this will be a reminder to provide more flexible commuting policies and give more understanding to diverse students. For the field of attachment theory research, this can be an introduction to focusing on the more specific influence pattern of anxious attachment styles.

REFERENCES

- Ministry of Education of the People's Republic of China, Statistical bulletin on the development of national education in 2023, Ministry of Education of the People's Republic of China Official Website (2024)
- Molasaeidi, A comparison of mental health in dormitory and non-dormitory students, *Indian J. Fundam. Appl. Life Sci.* **4**, 328–334 (2014)
- J. Bowlby, *Attachment and loss: Vol. 1. Attachment*, Pimlico, London. (1997)
- M.D.S. Ainsworth, *Patterns of attachment: A psychological study of the strange situation*, Psychology Press, New York. (2014)
- C. Hazan, P. Shaver, Romantic love conceptualized as an attachment process, *J. Pers. Soc. Psychol.* **52**, 511–524 (1987)
- L.K. Lapsley, D.J. Edgerton, Separation-individualization, adult attachment style, and college adjustment, *J. Couns. Dev.* **80**, 484–492 (2002).
- P.A. Sasso, A. Paladini, Around the house: A descriptive study of attachment styles, living arrangement, and

- involvement in undergraduate commuter students, *J. Campus Act. Pract. Scholar.* **3**, 16–29 (2021)
- Z. She, Q. Sun, G. Jiang, Revision of the Experience in Close Relationship Scale-Short Version (ECR-CS), in *Proceedings of the 18th National Academic Conf. on Psychology: Psychology and Social Development*, Chinese Psychological Society Ed., 945–946 (2015)
- S.Q. Dong, Intervention research on psychological distress in middle-aged and young lymphoma patients based on adult attachment theory, Master's thesis, Zhengzhou University (2021)
- X.D. Wang, X.L. Wang, H. Ma, *Manual of mental health assessment scales (Revised Edition)*, Chinese J. Ment. Health Press, Beijing. (1999)
- C.D. Guess, Decision making in individualistic and collectivistic cultures, *Online Read. Psychol. Cult.* **4**, 1 (2004)
- E.G. Hepper, K.B. Carnelley, Adult attachment and feedback-seeking patterns in relationships and work, *Eur. J. Soc. Psychol.* **40**, 448–464 (2010)