



# The Influence of Family Functioning on College Students' Achievement Goals: The Mediating Role of Self-Esteem

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## Abstract

**Background:** We aimed to look into the associations between family interaction patterns, achievement goals, and self-esteem among college students, to provide references for promoting university-family interactions and jointly safeguarding college students' mental health.

**Methods:** Overall, 492 college students from Qiqihar Medical University, Heilongjiang Province, China were randomly selected as participants. The Family Assessment Device (FAD), Achievement Goals Scale (AGS), and Self-Esteem Inventory (SEI) were used to conduct assessments.

**Results:** Performance avoidance goals were directly linked to family dysfunction ( $r = 0.358$ ) and inversely linked to self-esteem ( $r = -0.438$ ). Mastery goals were inversely linked to family dysfunction ( $r = -0.34$ ) and directly linked to self-esteem ( $r = 0.304$ ). Family dysfunction and self-esteem were negatively correlated ( $r = -0.465$ ). Family dysfunction significantly indicated performance avoidance goals ( $\beta = 0.358$ ,  $P < 0.01$ ) and mastery goals ( $\beta = -0.340$ ,  $P < 0.01$ ). Mediation analysis revealed self-esteem served as a partial intermediary in the relationships between family dysfunction and performance avoidance goals, in addition to family dysfunction and mastery goals, with the mediating effects accounting for 45% and 25.6% of the total effects, respectively.

**Conclusion:** Self-esteem partially mediates the influence of family functioning on college students' achievement goals.

**Keywords:** Family functioning; Achievement goals; College students; Mediating effect

## Introduction

Chinese president Xi Jinping has highlighted that the youth are the most energetic and enterprising group in our society with the least conservative thinking (1). As the most dynamic group, college students demonstrate that the enterprising spirit can not only be shown by their achievements, but can also be reflected in their psychology as ambi-

tion and perseverance. Achievement goals can characterize this kind of "ambition" (2). Achievement goals have defined as cognitive representations of competence-related possibilities (3). Changes in achievement goals can lead to different achievement outcomes and are key factors for future career success (4,5) Researches on



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the correlations of college students' achievement goals can not only quantitatively analyze the significant correlated factors of achievement goals based on data, but also theoretically infer achievement goals to help us better understand them.

Family factors, as the biggest background, environment and support for each individual's survival and development, will continue to influence one's whole life (6). For college students, although they have left their parents and live independently on campus, the influence of family is still continuous and profound. The McMaster Model of Family Functioning asserts that the fundamental duties of a family are to supply the necessary environment essential for the development (physiological, psychological, social, etc.) of those who are part of it (7). To achieve these fundamental roles, the family system must perform an assortment of duties to adjust and encourage the growth of the family and its individuals, thus fulfilling the basic functions of the family and completing the basic tasks.

Some investigations have found students' self-esteem is also closely connected with family functioning (8). As an important trait of the self-system, self-esteem is the core of personality and psychological health (9), as well as the core part of self-concept (10). It has a positive impact on the healthy psychological development and formation of good personality of adolescents. Researchers have examined the linkage between family functioning and adolescent self-esteem, and found that adolescents' self-esteem levels are closely related to family functioning (11). The ecological system theory believes that parental parenting styles play a crucial role in self-esteem (9). Self-esteem, commonly known as self-reliance, must have some inherent connection with achievement goals. Self-esteem equals to success/ambition level (8). Li found in their analysis of self-esteem and achievement goals among eighth grade students in China that self-esteem can positively impact mastery goals and adversely affect performance avoidance goals (12). Based on the above, this study infers that self-esteem

may act as a mediator in the linkage between family functioning and achievement goals.

We selected college students from Heilongjiang Province, China as participants to study the contribution of family functioning to achievement goals and the mechanism of self-esteem, with the aim of providing references for promoting college students' mental health.

## Methods

### *Participants*

The study randomly involved 492 college students from *Qiqihar Medical University* in Heilongjiang Province, China as contributors from April 2021 to December 2022. It was approved by Ethics Committee of Qiqihar Medical University (No. 2023 [70]). Informed consent was secured from the attendees before the investigation. The participants were given unified instructions by trained staff before filling out the questionnaires. Totally, 540 surveys were handed out, and 492 surveys were collected and deemed valid, resulting in a response rate of 91.11%. There were 169 male and 323 female students; 237 only children and 255 non-only children.

### *Instruments*

#### *Achievement Goals Scale (AGS)*

The AGS was employed to assess students' achievement goal orientations. Weissman and Elliot revised it into three dimensions: performance-approach goals, performance-avoidance goals, and mastery goals, with a total of 18 items (4). Participants' feelings, reactions and degrees of agreement were utilized as evaluation indicators, and scored applying a 7-point scale. The criteria were: "1" denoted strong disagreement; "2" denoted disagreement; "3" denoted slight disagreement; "4" denoted neutrality; "5" denoted slight agreement; "6" denoted agreement; "7" denoted strong agreement.

#### *Self-Esteem Inventory (SEI)*

The SEI was compiled by Coopersmith in 1959 and modified by Ryden for use with adults (13).

The SEI has 58 items, each describing a situation in the first person, requiring participants to answer each item. 28 items are scored positively, meaning that answering "like me" represents high self-esteem, while answering "unlike me" represents low self-esteem. The other 30 items are scored in reverse.

### *Family Assessment Device (FAD)*

The FAD was created utilizing the McMaster Model of Family Functioning (MMFF) as its foundation, encompassing a total of 60 items distributed across 7 facets: problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and overall functioning. The reliability of each domain ranges from 0.66 to 0.76, with good parallel validity with FUI and FACES II. Each item has 4 answer choices, from strongly agree to completely disagree, scored 1-4 points. For items involving family dysfunction (unhealthy aspects), the scoring is reversed: 5 minus the actual score, so that 1 point represents health and 4 points represent unhealth. Each subscale's score is the average score of its items, with higher scores indicating poorer family functioning.

### *Statistical Analysis*

SPSS 26.0 (IBM Corp., Armonk, NY, USA) was employed for descriptive analysis, Pearson correlation analysis, t-test, and linear regression analysis. Amos 24.0 was employed for mediation examination.  $P < 0.05$  was presumed to offer statistical importance.

## **Results**

### *Correlation analysis of family functioning, self-esteem and achievement goals*

The family functioning score of the college students was  $(14.154 \pm 2.273)$ , the self-esteem score was  $(38.97 \pm 8.530)$ , the performance-approach goal score was  $(26.22 \pm 5.807)$ , the performance-avoidance goal score was  $(22.04 \pm 6.732)$ , and the mastery goal score was  $(31.95 \pm 6.002)$ . Performance avoidance goals demonstrated a positive relationship with family dysfunction ( $r = 0.358$ ) and a negative correlation with self-esteem ( $r = -0.438$ ). Performance approach goals and mastery goals exhibited a negative association with family dysfunction ( $r = -0.06$ ,  $-0.34$ ) and a positive relationship with self-esteem ( $r = 0.138$ ,  $r = 0.304$ ). Family dysfunction and self-esteem were negatively correlated ( $r = -0.465$ ). Except for the insignificant correlation between performance approach goals and family dysfunction, the other correlations were significant (Table 1).

**Table 1:** Correlation analysis of family functioning, self-esteem and achievement goals among college students ( $r$  values,  $n = 492$ )

Variable	Family Functioning	Performance Avoidance Goal	Performance Approach Goal	Mastery Goal	Self-Esteem
<b>Family Functioning</b>	1	-	-	-	-
<b>Performance Avoidance Goal</b>	0.358**	1	-	-	-
<b>Performance Approach Goal</b>	-0.06	0.157**	1	-	-
<b>Mastery Goal</b>	-0.34**	-0.301**	0.229**	1	-
<b>Self-Esteem</b>	-0.465**	-0.438**	0.138**	0.304**	1

Note: \*\*.Correlation is significant at the 0.01 level (2-tailed).

### Comparison of family functioning and self-esteem scores between achievement goal groups

The performance avoidance goal, performance approach goal, and mastery goal scores of the college students were sorted from high to low, and the top and bottom thirds were employed as

the cut-off lines to select the elevated and reduced categories. The differences in family functioning and self-esteem scores between the elevated and reduced categories of performance avoidance goals and mastery goals were statistically important (all  $P$  values  $<0.05$ ) (Table 2).

**Table 2:** Comparison of family functioning and self-esteem scores between college students with different achievement goal levels ( $\bar{x} \pm s$ )

Group	n	Family Functioning	Self-Esteem
Low Performance Avoidance Goal	174	13.219 $\pm$ 2.252	42.96 $\pm$ 6.903
High Performance Avoidance Goal	168	14.982 $\pm$ 2.138	34.43 $\pm$ 9.032
t value		-7.422	9.789
P value		$P < 0.01$	$P < 0.01$
Low Performance Approach Goal	124	14.366 $\pm$ 2.483	37.02 $\pm$ 9.202
High Performance Approach Goal	153	14.051 $\pm$ 2.206	40.06 $\pm$ 7.836
t value		1.116	-2.914
P value		$P > 0.05$	$P < 0.01$
Low Mastery Goal	162	14.941 $\pm$ 2.066	36.03 $\pm$ 8.801
High Mastery Goal	165	13.364 $\pm$ 2.298	41.56 $\pm$ 7.586
t value		6.525	-6.084
P value		$P < 0.01$	$P < 0.01$

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### Regression analysis

In the multi-linear regression analysis, family functioning served as the predictor, whereas performance avoidance and mastery goals acted as the outcomes. The findings highlighted that family dysfunction holds a important prediction ability for performance avoidance goals ( $\beta = 0.196$ ,  $P < 0.01$ ) and mastery goals ( $\beta = -0.253$ ,  $P < 0.01$ ), but did not predict performance approach goals. Self-esteem significantly predicted performance avoidance goals ( $\beta = -0.347$ ,  $P < 0.01$ ), performance approach goals ( $\beta = 0.14$ ,  $P < 0.01$ ), and mastery goals ( $\beta = 0.187$ ,  $P < 0.01$ ).

### Mediation analysis

To examine whether self-esteem mediates the association between family functioning and

achievement goals, Baron's three-step method for testing mediation effects was applied. The first regression equation examined the prognostic impact of family functioning on achievement goals, the second examined the forecasting influence of family functioning on self-esteem, and the third examined the predictive relationship of family functioning and self-esteem on achievement goals. As shown in Table 3 and 4, the  $t$ -tests for all four regression equations were significant. Therefore, self-esteem partially mediated the elationships between family dysfunction and performance avoidance goals, and between family dysfunction and mastery goals. The intermediary influence constituted 45% of the overall impact on performance avoidance objectives, and 25.6% on mastery objectives.

**Table 3:** The mediating role of self-esteem between achievement goals and family functioning

Standardized regression equations	Regression coefficient test
<b>Performance avoidance goal</b>	
Step 1: $y = 0.358x$	$SE=0.125, t=8.479^{***}$
Step 2: $m = -0.465x$	$SE=0.150, t=-11.611^{***}$
Step 3: $y = 0.196x - 0.347m$	$SE=0.133, t=4.363^{***}$ $SE=0.036, t=-7.71^{***}$

**Table 4:** Partial Mediating Role of Self-esteem in Achievement Goals and Family Functions

Standardized Regression Equation & Coefficient Test
<b>Mastery Goals</b>
$y = -0.340x$ $SE=0.112, t=-7.99^{***}$ ;
$m = -0.465x$ $SE=0.150, t=-11.611^{***}$
$y = -0.253x + 0.187m$ $SE=0.125, t=-5.346^{***}$ $SE=0.033, t=3.949^{***}$

## Discussion

These findings demonstrated that performance avoidance objectives demonstrated a positive relationship with family dysfunction, meaning that the worse the family functioning, the stronger the performance avoidance goal motivation of students, whose impetus to accomplish things stemmed from avoiding punishment. Mastery goals were negatively correlated with family dysfunction, indicating that children raised in a warm and positive parenting style tend to master more skills. For example, Griffin and Hu found that students' expectations are influenced by their perceived parental expectations (14). Marston et al, found through research on family parenting styles that parents' appropriate care helps promote children's pursuit of higher goals, while over-protection of children and over-rationalization of their mistakes will significantly reduce children's frustration tolerance, making them more prone to choose avoidance of failure rather than pursuit of success when setting goals, consistent with the results of this study (15). Performance approach goals were not correlated with family functioning, which may be related to the traditional Confucian doctrine of the golden mean in China. The Confucian golden mean emphasizes being low-key, inconspicuous and not

standing out, and regards these as virtues. The saying "the wind will destroy the tree that stands out in the forest" reflects such thinking. Therefore, it is inferred that the generally humble and reserved qualities in families with good functioning, along with the lack of support and encouragement in dysfunctional families, lead to performance avoidance goals rather than performance approach goals.

The research indicated that self-esteem was positively linked to performance approach and mastery objectives, consistent with Mehmet finding that university students' self-esteem was significantly positively correlated with performance approach and mastery goals and could predict approach and avoidance goals. Findings have revealed that the problem behaviors of left-behind children are related to family dysfunction, and self-esteem assumes a intermediating function, including the negative correlation between family functioning and self-esteem, consistent with our investigation. Psychoanalytic theory indicated that the influence of the family of origin on a person's life is significant. Healthy family functioning provides children with more understanding, support and encouragement, leading to higher self-esteem levels. This suggests that good academic performance and career success should be based on good family functioning.



The investigation discovered that different family functioning influences the types of achievement goals adopted by college students. Students with good family functioning focused more on mastery goals, while those with poor family functioning focused more on performance avoidance goals. This suggests that parents should create a positive family atmosphere, as supportive and inclusive family functioning helps students master more knowledge and skills (16), while students from dysfunctional families mainly learn to avoid punishment, and will lack motivation when they grow up and become independent due to lack of supervision.

This study found that self-esteem served as a partial mediator in the linkage between family functioning on achievement goals, suggesting that family functioning affects achievement goals partially through self-esteem.

While these findings used retrospective self-report questionnaires to assess family functioning, precautions were taken to guarantee the credibility and accuracy of the investigation through instructions, survey settings, etc. However, participants' recalled family functioning may still differ from the actual conditions. But perhaps the recalled family functioning is more predictive of their achievement goals than the actual conditions. Future studies could examine this issue. In addition, all the participants in this study were from the same university, limiting the representativeness of the sample. Future studies could use stricter sampling methods, select larger and more representative samples, to validate and expand the conclusions of our research.

## Conclusion

Self-esteem partially mediates the influence of family functioning on college students' achievement goals.

## Journalism Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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## Conflict of Interest

The authors declare that there is no conflict of interests.

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