

RESEARCH ARTICLE

A study on college students' materialistic values in gratitude education at universities in Xinjiang, China

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ABSTRACT

Universities serve as the bases for cultivating high-quality modern talents. College students play an important role in promoting sustainable education development. Their prosocial behaviors are not only related to personal growth and social harmony but also from the foundation of civilization progress. The purpose of this study is to explore the impact of college students' materialistic values on their prosocial behavior, as well as the moderating effects of perceived social support and gratitude. The theoretical basis of this study is the value conflict theory, and the research subjects are college students from undergraduate institutions in Xinjiang. Through convenience sampling, this study surveyed students from eight undergraduate institutions, with four each from the northern and southern parts of Xinjiang, distributing 720 formal questionnaires and collecting 687 valid ones. The results show that materialistic values have a significant negative prediction on college students' prosocial behavior; that is, the higher the level of materialistic values among college students, the lower their tendency to engage in prosocial behavior. Both perceived social support and gratitude have significant moderating effects on the relationship between materialistic values and prosocial behavior.

Keywords: Materialistic values; prosocial behavior; perceived social support; gratitude

1. Introduction

The college years are a crucial period for the development of college students' moral virtues, values, and social responsibility^[1]. However, influenced by competitive pressures, a minority of college students exhibit strained interpersonal relationships, lack of trust, and indifference towards others and society. They are more focused on their own interests and values while neglecting the interests of others and the collective, as well as their own responsibilities^[2]. These characteristics of "egoism and selfishness" among college students reflect a weakness in their prosocial behavior, which affects their comprehensive development^[3].

Today's college students are growing up in an era of abundance. However, negative information from the Internet and social media constantly impacts their values, bringing certain negative effects^[4]. Contemporary college students have diversified channels for obtaining information, and the widespread use of social media further strengthens their materialistic tendencies, making utilitarianism and consumerism

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play important roles in their social behavior and interpersonal interactions ^[5]. Materialism is a personal value, and individuals with a materialistic tendency often focus excessively on possessions and money, which suppresses the occurrence of prosocial behavior and activities ^[6]. In universities, some students engage in blind overconsumption, fall into debt crises, and even trigger extreme consequences. In addition, it is not uncommon for students to neglect friendships in the competition for scholarships, grants, or honors ^[7]. These phenomena reflect that the strengthening of materialism is weakening traditional moral values such as thrift, self-discipline, unity, mutual assistance, and willingness to help others, and prosocial behavior is gradually decreasing among some groups of college students ^[8]. As the priority of materialistic values increases, its crowding-out effect on prosocial values may further intensify, thereby weakening individuals' prosocial behavior^[6].

In the expression of individual prosocial behavior, perceived social support is also a positive psychological resource ^[9]. Perceived social support encompasses the content of interpersonal relationships characterized by mutual support, understanding, and assistance among people, which coincides with prosocial behavior that reflects harmony and mutual aid ^[10]. The impact of college students' materialistic values on prosocial behavior may vary depending on the level of social support they receive, that is, higher levels of social support may mitigate the inhibitory effect of materialism on prosocial behavior ^[11]. Li et al. ^[9] also argue that students who highly perceive support from teachers and classmates, and have a good and close interpersonal environment, are more inclined to act in a prosocial manner and more willing to fulfill social responsibilities in daily interactions. Therefore, this study explores the moderating role of college students' perceived social support in the relationship between materialistic values and prosocial behavior.

Roberts and Ertubey ^[8] proposed the moral emotion theory of gratitude, arguing that gratitude is a moral emotion with a motivational nature that can inspire the grateful subject to engage in prosocial behavior. Learning to be grateful is an intrinsic requirement for college students to improve their own quality ^[12]. Schools should create a good moral atmosphere, and teachers should internalize gratitude education ^[13], stimulating students' feelings of gratitude and transforming them into actions of gratitude ^[14], thereby enhancing college students' prosocial behavior ^[15]. The emergence of gratitude means that an individual is aware of the help and kindness given by others and feels a sense of responsibility to reciprocate ^[16]. This motive to reciprocate directly drives an individual's prosocial behavior^[16,17]. Gratitude can not only weaken the utilitarian tendency brought by materialism but also inspire individuals' prosocial behavior through emotional connection, making them more concerned about the well-being of others and the collective ^[18]. Therefore, this study explores the moderating role of gratitude in the relationship between college students' materialistic values and prosocial behavior.

This study aims to explore the impact of materialistic values on students' prosocial behavior and to examine the moderating roles of perceived social support and gratitude in the relationship between materialistic values and prosocial behavior, thereby verifying the theoretical model. It is expected that the research findings and recommendations will provide valuable references for universities in Xinjiang in terms of management practice and promoting students' prosocial behavior.

2. Literature review

2.1. Value conflict theory

Value conflict is a branch of conflict theory, referring to the contradictions between an individual's internal values or beliefs ^[19]. Schwartz ^[20] proposed that people's values are not entirely isolated but exist within the same hierarchical structure. When individuals pursue different value goals, they often face

competition among multiple values. If a person holds two opposing values, value conflict arises, leading to psychological tension ^[21]. Rokeach ^[22], from a behavioral perspective, argued that value conflict induces psychological dissatisfaction in individuals. Those experiencing value conflict often need to weigh the importance of different values and ultimately choose the one that is more important to them. Mulligan ^[23] believed that value conflict originates from an individual's subjective feelings, and when core values clash, other values of the individual will also become conflicted.

When individuals choose a certain value, they must forgo the opposing value, making value conflict inevitable ^[24]. According to the value conflict theory by Burroughs and Rindfleisch ^[25], materialistic values are self-enhancement values that oppose self-transcendence values (such as prosocial values), implying a potential negative correlation between them. Although value conflicts with other values are often considered latent attitudes, in reality, values are more frequently reflected in behaviors and attitudes^[26,27]. Kim et al.^[28] pointed out that materialistic values can trigger more social comparison and competition, thereby further weakening individuals' prosociality and altruism.

Based on the above analysis, this study, grounded in the value conflict theory, explores the impact of materialistic values on prosocial behavior and introduces perceived social support and gratitude as moderating variables to examine their roles in this relationship.

2.2. Materialistic values and prosocial behavior

Materialistic values are primarily oriented towards an individual's material needs and achievements, focusing on how to enhance personal status or satisfy the self through the acquisition of wealth and possessions ^[29]. In contrast, prosocial behavior is oriented towards the well-being of others, emphasizing selfless help and contribution ^[30]. This difference in motivation may lead materialists to pay less attention to the needs of others and focus more on how to advance their own material interests, thereby reducing the occurrence of prosocial behavior ^[31]. Yang et al. ^[32] found that adolescents' materialism is negatively correlated with prosocial behavior towards friends and strangers in the long term. That is, the higher the materialism of adolescents, the lower the prosocial behavior they display in interactions with friends and strangers. Materialists tend to devote their time, energy, and resources to acquiring wealth and personal enjoyment, which may make them reluctant to allocate resources (such as money, time, and help) to support prosocial behavior ^[6]. Briggs et al. ^[33] demonstrated that materialists are more inclined to retain resources for personal consumption rather than using them to assist others or give back to society. Individuals with high materialistic tendencies undervalue intimate interactions among family and friends. They lack the enthusiasm to build friendly interpersonal relationships and emotional connections with others. Even when they do establish relationships, they typically do so with a strong sense of utilitarianism. They are reluctant to help others or make additional contributions without the expectation of a reward ^[34]. Moreover, they are more likely to engage in unethical behaviors ^[35] and do not place much importance on "warm relationships with others" ^[36].

Based on the above, this study proposes the following hypothesis:

H1: Materialistic values of college students in Xinjiang, China, have a significant negative impact on prosocial behavior.

2.3. The moderating role of perceived social support

Perceived social support has an emotional function that can reduce individuals' excessive dependence on material needs ^[37]. Materialists typically seek to fulfill their inner sense of security and self-worth through material wealth. However, when they experience support and recognition from society, this emotional

satisfaction can replace the false sense of security derived from material pursuits^[38]. Support from family, friends, or social groups makes individuals feel cared for and accepted, thus no longer relying solely on external material wealth to define their success^[39,40]. Therefore, a sense of belonging and internal emotional support can reduce the self-centered tendencies brought about by materialism, thereby prompting individuals to pay more attention to others and exhibit more prosocial behavior.

Individuals' values are not fixed but can be influenced by external environments and change under specific circumstances^[41]. In contexts with high social support, the relationship between individuals' materialistic tendencies and prosocial values is weakened^[42]. Li et al.^[9] pointed out that students who perceive support from teachers and classmates are usually more inclined to exhibit prosocial behavior and fulfill social responsibilities in a positive interpersonal environment. With the increase of perceived social support, college students can effectively alleviate negative emotions and are more likely to engage in prosocial behavior^[43]. However, individuals deeply influenced by materialistic values often focus on personal interests, neglecting the needs of others and social responsibilities^[44]. Nevertheless, social support helps individuals reexamine the relationship between the self and society by providing emotions, resources, and recognition^[45], and it alleviates the conflict between materialism and prosocial behavior by meeting the needs for belonging and connection. Chen et al.^[46] pointed out that when students have high perceived social support, the negative impact of materialistic values on prosocial behavior will be weakened; when students have low perceived social support, the negative impact of materialistic values on prosocial behavior will be strengthened. Based on the above, this study proposes the following hypothesis:

H2: Perceived social support among college students in Xinjiang, China, significantly moderates the relationship between materialistic values and prosocial behavior.

2.4. The moderating role of gratitude

Gratitude is a positive emotional state that involves the recognition and willingness to reciprocate the help, care, and support received from others^[47]. Materialists often focus more on the acquisition of material wealth and the maximization of personal interests, a value orientation that can easily lead individuals to overlook the needs and interests of others^[48]. However, the emergence of gratitude means that individuals become aware of the efforts and kindness of others and feel a sense of responsibility to give back^[16]. This motivation to reciprocate directly drives individuals to engage in prosocial behavior, such as helping others^[16] and contributing to society^[17]. Gratitude can not only weaken the utilitarian tendencies brought about by materialism but also inspire prosocial behavior in individuals through emotional connection, prompting them to care more about the well-being of others and the collective^[18].

Gratitude, as a form of altruistic emotion, can effectively mitigate the negative impacts of value conflicts^[49]. Under the influence of gratitude, individuals tend to focus more on the positive aspects of interpersonal relationships rather than merely pursuing material satisfaction^[50]. Gratitude encourages materialists to reexamine their relationships with others and society, helping them find a balance between material pursuits and prosocial motives^[51]. Individuals with higher levels of gratitude trait or a stronger state of gratitude are more likely to engage in prosocial behaviors^[52]. Bartlett and DeSteno^[53] reached a similar conclusion through laboratory studies: under conditions of gratitude, participants' prosocial behaviors were significantly higher than those in the control group. Individuals in a state of gratitude are more likely to engage in helping behaviors, whether the recipient is a stranger or someone who has previously provided help. Roberts et al.^[54] pointed out that when students have high levels of gratitude trait, the negative impact of materialistic values on prosocial behavior is weakened; conversely, when students have low levels of

gratitude state, the negative impact of materialistic values on prosocial behavior is enhanced. Based on the above, this study proposes the following research hypothesis:

H3: Gratitude among college students in Xinjiang, China, significantly moderates the relationship between materialistic values and prosocial behavior.

3. Research Method

3.1. Research Framework

The research framework of this study is shown in **Figure 1**.

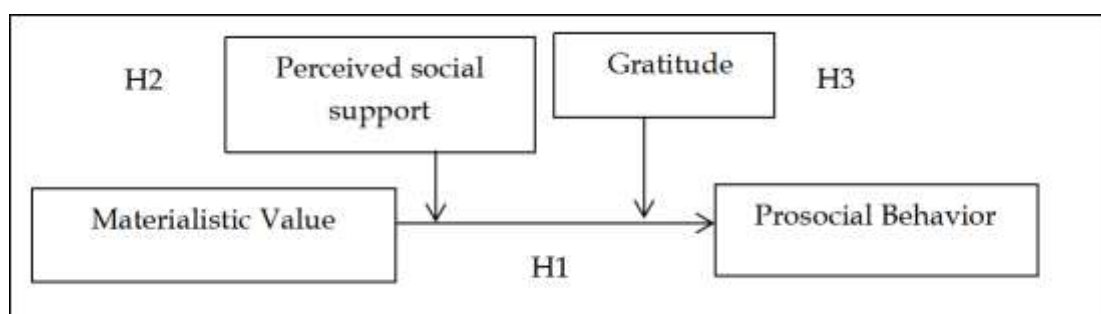


Figure 1. Research framework

3.2. Research subjects and sampling

This study focuses on college students in Xinjiang as the research subjects. Xinjiang, located in the western frontier and being a region predominantly inhabited by ethnic minorities, is an area with relatively underdeveloped economy and culture. Ethnic minority college students represent a unique group, characterized by a diverse range of living environments, educational experiences, cultural exposures, and traditional customs.

This study employed a convenience sampling method, providing participants with a questionnaire link on “Wenjuanxing” and inviting them to complete it. Wenjuanxing is a professional online platform for surveys, assessments, and voting, which allows questionnaires to be sent to users via web terminals. The questionnaire distribution period in this study was from January 2025 to March 2025.

In terms of research ethics, this study strictly adhered to the research ethics requirements of the National Research Council of Thailand in conducting the survey. Before developing the questionnaire, the study ensured that each participant was informed of the following: the questionnaire is solely for academic research; the research aims to explore the impact of materialistic values on the prosocial behavior of college students in Xinjiang; participation in the survey is voluntary, and the questionnaire is completed anonymously with the data being kept confidential; the study respects the rights and opinions of the participants, and there are no right or wrong, good or bad answers.

Considering the educational disparities between the northern and southern parts of Xinjiang, this study selected four undergraduate institutions from each region, totaling eight universities. From each university, 90 participants were conveniently sampled. After excluding invalid questionnaires, 687 valid questionnaires were recovered, yielding an effective recovery rate of 95.417%. The criteria for identifying invalid questionnaires in this study were selecting the same response option for all items and completing the questionnaire in less than 10 minutes.

The demographic distribution of the study sample is as follows: In terms of gender, there were 349 female respondents, accounting for 50.800%, and 338 male respondents, accounting for 49.200%. This

indicates that the gender distribution among the respondents was relatively balanced. Regarding academic year, 220 were first-year students (32.023%), 235 were second-year students (34.207%), 140 were third-year students (20.378%), and 92 were fourth-year students (13.392%). In terms of ethnic distribution, Han people accounted for 392 respondents (57.060%), while ethnic minorities accounted for 295 respondents (42.940%). Among the respondents, 245 were only children (35.662%), and 442 were not only children (64.338%).

3.3. Research tools

3.3.1. Material values scale

This study employed the Chinese version of the Material Values Scale developed by Richins and Dawson^[36] and revised by Li and Guo^[55]. The scale consists of 13 items across three dimensions. Items 4, 7, 9, 10, and 13 are reverse-scored. A higher total mean score indicates a stronger tendency towards materialism. This study employed a five-point Likert scale.

The reliability analysis of the Material Values Scale showed that the Cronbach's Alpha coefficients was .866 for the dimension "Defining success in terms of possessions," .864 for the dimension "Centered on acquiring possessions," and .864 for the dimension "Happiness pursued through acquiring possessions." The overall Cronbach's Alpha coefficient for the Material Values Scale was .910. Confirmatory factor analysis of the Material Values Scale produced the following fit indices: $\chi^2/df=1.500$, GFI=.980, AGFI=.970, NFI=.980, TLI=.991, CFI=.993, RFI=.995, IFI=.993, RMR=.023, RMSEA=.027, PNFI=.780, and PGFI=.668, all of which meet the standard criteria.

3.3.2. Prosocial behavior scale

This study utilized the Prosocial Behavior Scale developed by Kou et al.^[56]. The scale comprises six dimensions: public, anonymous, altruistic, compliant, emotional, and urgent prosocial behaviors, with a total of 26 items. A 5-point Likert scale was employed, where higher scores indicate a greater likelihood of engaging in prosocial behavior.

The reliability analysis of the Prosocial Behavior Scale showed that the Cronbach's Alpha coefficients was .871 for the "Public" dimension, .887 for "Anonymous," .885 for "Altruistic," .893 for "Compliant," .893 for "Emotional," and .844 for the "Urgent" dimension. The overall Cronbach's Alpha coefficient for the Prosocial Behavior Scale was .946. Confirmatory factor analysis of the Prosocial Behavior Scale produced the following fit indices: $\chi^2/df=1.173$, GFI=.965, AGFI=.957, NFI=.970, TLI=.995, CFI=.995, RFI=.966, IFI=.995, RMR=.026, RMSEA=.016, PNFI=.848, and PGFI=.781, confirming that the prosocial behavior scale used in this study had a good model fit.

3.3.3. Perceived social support scale

This study employed the Perceived Social Support Scale developed by Jiang^[57]. The scale consists of three dimensions: family support, friend support, and other support, with a total of 12 items. The scale uses a 5-point Likert scale. Higher scores indicate higher levels of perceived social support. The reliability analysis of the Perceived Social Support Scale showed that the Cronbach's Alpha coefficient was .880 for the dimension "Family Support," .880 for "Friend Support," and .878 for "Other Support." The overall Cronbach's Alpha coefficient for the Perceived Social Support Scale was .919. Confirmatory factor analysis of the Perceived Social Support Scale produced the following fit indices: $\chi^2/df=1.496$, GFI=.981, AGFI=.971, NFI=.985, TLI=.993, CFI=.981, RFI=.980, IFI=.995, RMR=.023, RMSEA=.027, PNFI=.761, and PGFI=.641, confirming that the Perceived Social Support Scale used in this study had a good model fit.

3.3.4. Gratitude scale

The Gratitude Scale developed by McCullough et al.^[58] consists of six items, with items 3 and 6 being reverse-scored. The scale uses a 5-point Likert scale. The reliability analysis of the Gratitude Scale yielded a Cronbach’s Alpha coefficient of .877. Confirmatory factor analysis of the Gratitude Scale produced the following fit indices: $\chi^2/df = 1.500$, GFI = .980, AGFI = .970, NFI = .980, TLI = .991, CFI = .993, RFI = .995, IFI = .993, RMR = .023, RMSEA = .027, PNFI = .780, and PGFI = .668. These results indicate that the model fit of the Gratitude Scale was satisfactory in this study.

4. Research results

4.1. Common method bias

In this study, an unrotated principal component factor analysis was conducted on all items. The results showed that the KMO value was .951, which is greater than the reference value of .800. The Bartlett’s test of sphericity was significant ($p = .000$), meeting the criteria for the test ^[59]. A total of 13 factors with eigenvalues greater than 1 were extracted, cumulatively accounting for 71.024% of the total explained variance. The first factor accounted for 28.162% of the explained variance, which is below the reference value of 50%^[60]. Therefore, it can be concluded that there is no common method bias in the data of the formal questionnaire of this study.

4.2. Descriptive analysis and correlation analysis

This study first analyzed the relationships among the variables using Pearson correlation. The correlation coefficient between materialistic values and prosocial behavior was $-.610$ ($p < .001$), between materialistic values and perceived social support was $-.372$ ($p < .001$), between materialistic values and gratitude was $-.295$ ($p < .001$), between prosocial behavior and perceived social support was $.279$ ($p < .001$), between prosocial behavior and gratitude was $.174$ ($p < .001$), and between perceived social support and gratitude was $.684$ ($p < .001$). All correlation coefficients were less than .800, indicating no high correlation or multicollinearity issues^[61]. See Table 1.

Table 1. Correlation analysis table

	M	SD	Materialistic Values	Prosocial Behavior	Perceived Social Support	Gratitude
Materialistic Values	2.749	0.752	1			
Prosocial Behavior	3.251	0.703	-.610***	1		
Perceived Social Support	3.352	0.825	-.372***	.279***	1	
Gratitude	3.560	0.782	-.295***	.174***	.684***	1

Note: *** $p < .001$.

4.3. Regression analysis

4.3.1. Analysis of the moderating effect of perceived social support

The analysis of the moderating effect of perceived social support is presented in Table 2. Gender, grade, ethnicity, and only child status were included as control variables, materialistic values as the independent variable, and prosocial behavior as the dependent variable in the regression equation to establish Model 1. Materialistic values had a significant negative impact on prosocial behavior ($B = -.574$, $p < .001$). The F-value was 78.290, $p < .001$, and $R^2 = .447$, indicating that materialistic values can explain 44.700% of the variance in prosocial behavior.

Second, to investigate the moderating effect of perceived social support on the relationship between materialistic values and prosocial behavior, Model 2 introduced perceived social support based on Model 1. Materialistic values ($B = -.548, p = .000$) still had a significant negative impact on prosocial behavior, while perceived social support ($B = .064, p = .015$) had a significant positive impact on prosocial behavior. The F-value was 69.739, $p < .001$, and $R^2 = .451$, indicating that gender, grade, ethnicity, only child status, materialistic values, and perceived social support together can explain 45.100% of the variance in prosocial behavior.

Finally, Model 3 added the interaction term between materialistic values and perceived social support to Model 2 to investigate the moderating effect of perceived social support on the relationship between materialistic values and prosocial behavior. As shown in Table 2, the interaction term between materialistic values and perceived social support was significant ($t = -3.711, p < .001$). The F-value was 64.688, $p < .001$, and $R^2 = .462$, indicating that gender, grade, ethnicity, only child status, materialistic values, perceived social support, and the interaction term between materialistic values and perceived social support together can explain 46.200% of the variance in prosocial behavior. The results of this study support the hypothesis that perceived social support moderates the relationship between materialistic values and prosocial behavior.

Table 2. Analysis of the moderating effect of perceived social support

Dependent Variable = Prosocial Behavior	Model 1				Model 2				Model 3			
	B	SE	β	t	B	SE	β	t	B	SE	β	t
Constant	5.028	.097		52.036***	4.752	.149		31.981***	3.409	.066		51.564***
Male Student	-.170	.040	-.121	-4.225***	-.180	.040	-.128	-4.462***	-.159	.040	-.113	-3.955***
Freshman	-.244	.065	-.162	-3.721***	-.254	.065	-.169	-3.885***	-.238	.065	-.158	-3.671***
Sophomore	-.284	.065	-.192	-4.380***	-.293	.065	-.198	-4.526***	-.283	.064	-.191	-4.399***
Junior	-.015	.071	-.009	-.210	-.022	.071	-.012	-.307	-.021	.070	-.012	-.307
Han nationality	.190	.041	.134	4.668***	.188	.041	.132	4.622***	.185	.040	.130	4.589***
Only Child	-.126	.042	-.086	-2.991**	-.120	.042	-.081	-2.843**	-.115	.042	-.078	-2.755**
Materialistic Values	-.574	.027	-.614	-21.385***	-.548	.029	-.586	-18.995***	-.336	.030	-.477	-11.276***
Perceived Social Support					.064	.026	.075	2.432*	.098	.025	.140	3.965***
Materialistic Values*Perceived Social Support									-.089	.024	-.149	-3.711***
R ²			.447				.451				.462	
Adjusted R ²			.441				.445				.455	
F-Value			78.290***				69.739***				64.688***	

Note 1: The control group female students, fourth-year students, ethnic minorities, and non-only children.

Note 2: * $p < .050$, ** $p < .010$, *** $p < .001$.

As shown in Figure 2, regardless of whether students have low or high perceived social support, higher levels of materialistic values are associated with decreased prosocial behavior. However, the decline in prosocial behavior is more pronounced among students with low perceived social support compared to those with high perceived social support. Therefore, high perceived social support can mitigate the impact of materialism on prosocial behavior.

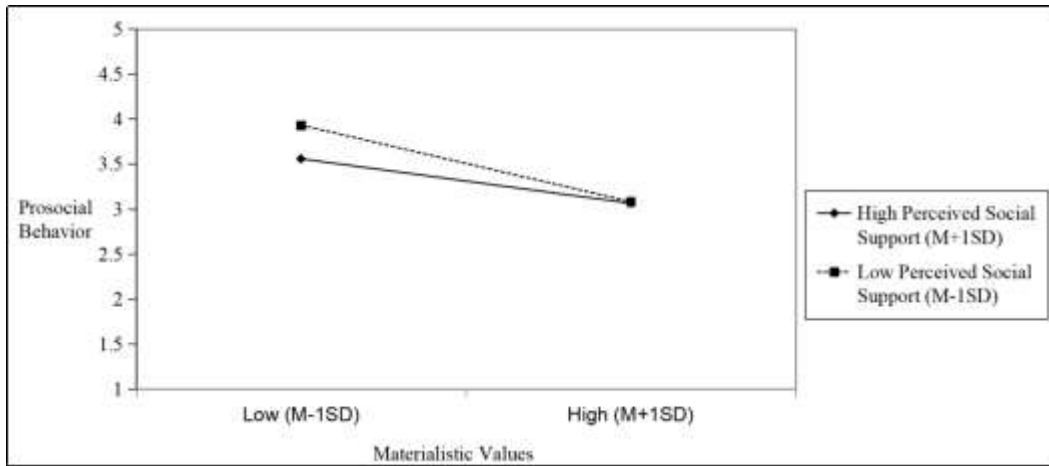


Figure 2. Moderating effect of perceived social support

4.3.2. Test of the moderating effect of gratitude

Gender, grade, ethnicity, and only child status were included as control variables, materialistic values as the independent variable, and prosocial behavior as the dependent variable in the regression equation to establish Model 1. Materialistic values had a significant negative impact on prosocial behavior ($B = -.574, p < .001$). The F-value was 78.290, $p < .001$, and $R^2 = .447$, indicating that materialistic values can explain 44.700% of the variance in prosocial behavior.

Next, to investigate the moderating effect of gratitude on the relationship between materialistic values and prosocial behavior, the analysis presented in the following table was conducted. Model 2 introduced the moderator variable (gratitude) based on Model 1. Materialistic values ($B = -.575, p = .000$) still had a significant negative impact on prosocial behavior, while gratitude ($B = -.003, p = .924$) did not have a significant impact on prosocial behavior. The F-value was 68.405, $p < .001$, and $R^2 = .447$, indicating that gender, grade, ethnicity, only child status, materialistic values, and gratitude together can explain 44.700% of the variance in prosocial behavior.

Finally, Model 3 added the interaction term between materialistic values and gratitude to Model 2 to investigate the moderating effect of the moderator variable on the relationship between materialistic values and prosocial behavior at different levels. As shown in Table 3, the interaction term between materialistic values and gratitude was significant ($t = -3.878, p < .001$). The F-value was 63.734, $p < .001$, and $R^2 = .459$, indicating that gender, grade, ethnicity, only child status, materialistic values, gratitude, and the interaction term between materialistic values and gratitude together can explain 45.900% of the variance in prosocial behavior. The results of this study support the hypothesis that gratitude moderates the relationship between materialistic values and prosocial behavior, as shown in Table 3.

Table 3. Analysis of the moderating effect of gratitude

Dependent Variable = Prosocial Behavior	Model 1				Model 2				Model 3			
	B	SE	β	t	B	SE	β	t	B	SE	β	t
Constant	5.028	.097		52.036***	5.039	.152		33.074***	3.412	.065		52.187***
Male Student	-.170	.040	-.121	-4.225***	-.170	.040	-.121	-4.199***	-.163	.040	-.116	-4.067***
Freshman	-.244	.065	-.162	-3.721***	-.244	.066	-.162	-3.718***	-.226	.065	-.150	-3.483***
Sophomore	-.284	.065	-.192	-4.380***	-.284	.065	-.192	-4.375***	-.276	.064	-.187	-4.294***
Junior	-.015	.071	-.009	-.210	-.015	.071	-.009	-.211	-.020	.070	-.012	-.291

Dependent Variable = Prosocial Behavior	Model 1				Model 2				Model 3			
	B	SE	β	t	B	SE	β	t	B	SE	β	t
Han nationality	.190	.041	.134	4.668***	.190	.041	.134	4.666***	.187	.040	.132	4.626***
Only Child	-.126	.042	-.086	-2.991**	-.126	.042	-.086	-2.988**	-.116	.042	-.079	-2.763**
Materialistic Values	-.574	.027	-.614	-21.385***	-.575	.028	-.615	-20.447***	-.363	.028	-.516	-13.139***
Gratitude					-.003	.027	-.003	-.095	.010	.021	.014	.480
Materialistic Values*Gratitude									-.083	.021	-.146	-3.878***
R ²			.447				.447				.459	
Adjusted R ²			.441				.440				.451	
F-Value			78.290***				68.405***				63.734***	

Table 3. (Continued)

Note 1: The control group includes female students, fourth-year students, ethnic minorities, and non-only children.

Note 2: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

As shown in Figure 3, regardless of whether students have low or high levels of gratitude, higher levels of materialistic values are associated with decreased prosocial behavior. However, the decline in prosocial behavior is more pronounced among students with low gratitude compared to those with high gratitude. Therefore, high levels of gratitude can mitigate the impact of materialism on prosocial behavior.

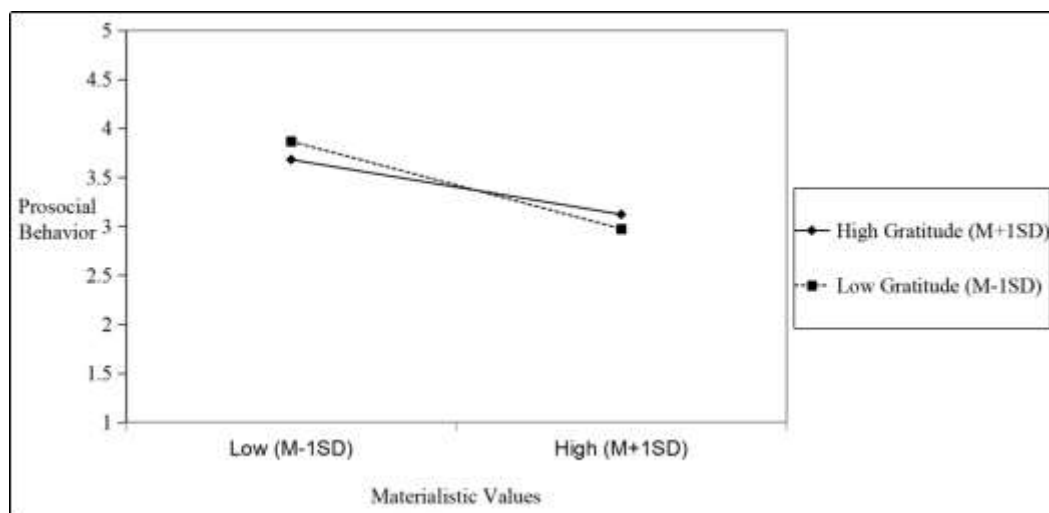


Figure 3. Moderating effect of gratitude

5. Research discussion

The study results indicate that materialistic values among college students in Xinjiang, China, have a significant negative impact on prosocial behavior, thereby confirming Hypothesis H1. From the perspective of value conflict theory, materialistic values emphasize the pursuit of material wealth and personal interests, while prosocial behavior emphasizes altruism and the assumption of social responsibility. These two sets of values are essentially conflicting. The reinforcement of materialistic values weakens individuals' concern for others and society, thereby reducing their tendency towards prosocial behavior [62]. From the perspective of psychological motivation, individuals with materialistic values are more inclined to pursue personal interests and material satisfaction. This psychological motivation leads them to exhibit lower altruistic motives and

social responsibility when facing social demands, thereby reducing their tendency towards prosocial behavior^[63].

The findings indicate that perceived social support among college students in Xinjiang, China, significantly moderates the relationship between materialistic values and prosocial behavior, thereby confirming Hypothesis H2. Individuals with higher levels of perceived social support are typically more capable of sensing and understanding the presence of social support. This social cognitive ability enables them to better balance personal interests and social responsibilities when confronted with the influence of materialistic values, thereby reducing the negative impact of materialistic values on prosocial behavior^[64]. Additionally, differences in resource allocation mechanisms are also important factors leading to the negative moderating effect of perceived social support^[63]. Individuals with higher perceived social support usually devote more time and energy to social interactions and support networks. This pattern of resource allocation allows them to better manage resources when faced with the influence of materialistic values, thereby reducing the negative impact of materialistic values on prosocial behavior^[65].

The study results indicate that gratitude among college students in Xinjiang, China, significantly moderates the relationship between materialistic values and prosocial behavior, thereby confirming Hypothesis H3. Individuals with higher levels of gratitude are more inclined to focus on social support and the help from others. This positive emotional experience and social cognition can counterbalance the excessive pursuit of personal interests driven by materialistic values, thereby reducing their inhibitory effect on prosocial behavior. Gratitude enhances individuals' perception of and reliance on social support networks, promoting their more active participation in social interactions and mutual aid behaviors, which in turn buffers the negative impact of materialistic values on prosocial behavior^[66].

6. Research conclusion

This study examined the underlying mechanism through which materialistic values influenced prosocial behaviour, as well as the moderating roles of perceived social support and gratitude. The key theoretical foundation of the research was Value Conflict Theory, which provided a framework for understanding how materialistic tendencies affected prosocial actions. The findings supported a central proposition of the theory—materialistic values significantly suppressed prosocial behaviour among university students, suggesting that the pursuit of personal material goals weakened altruistic tendencies and a sense of social responsibility. Moreover, the study found that perceived social support and gratitude had significant negative moderating effects on the relationship between materialistic values and prosocial behaviour. These findings not only enriched the Value Conflict Theory but also highlighted the need to develop culturally sensitive integrative models to better explain the complex interplay between material motivations and social behaviours.

7. Recommendations

Firstly, schools play a central role in the cultivation of values. To counteract the negative impact of materialistic values, schools should guide students to establish correct values through systematic courses, helping them to distinguish the relationship between the pursuit of material wealth and spiritual growth, and to avoid the tendency towards “materialism-only” thinking. For example, schools could offer a course titled “Values Education for Contemporary College Students,” which, by combining real cases and social phenomena, would deeply analyze the potential weakening effect of materialism on interpersonal relationships and social responsibility, thereby stimulating students' awareness and intrinsic motivation for prosocial behavior.

Secondly, based on the positive moderating effect of perceived social support, schools should strive to create a diversified and well-structured support system. Mechanisms such as the psychological health education center, student mutual aid platforms, and mentoring systems can not only provide practical help but also enhance students' awareness of caring for others and their sense of belonging to the collective. On this basis, schools could also regularly conduct group psychological counseling and peer support activities to further improve students' perception of support and awareness of social reciprocity.

Given Xinjiang's status as a multi-ethnic region, this study recommended that the design and implementation of value education and gratitude-based interventions should be tailored to reflect the cultural traditions of ethnic minority students, such as collectivist values and norms of interethnic mutual assistance. Educational practices could have incorporated culturally resonant forms of expression—such as storytelling, group-based reflection, or community service rooted in local customs—to enhance the effectiveness of moral and gratitude education. By aligning interventions with the cultural values and lived experiences of minority students, universities in Xinjiang would have been better positioned to foster prosocial behaviour and mitigate the negative influence of materialistic values.

Most crucially, there should be a strong emphasis on the systematic development of gratitude education. Research indicates that gratitude is not merely a positive emotional experience but also an intrinsic psychological resource that can effectively mitigate the negative effects of materialism and stimulate prosocial behavior. Schools can integrate gratitude education into ideological and political courses as well as campus cultural development by establishing programs such as “Gratitude Week,” “Gratitude Diary Writing,” and “Appreciation Actions.” These initiatives can guide students to express their appreciation through concrete actions, such as writing letters to teachers, family members, or classmates, participating in volunteer services, and engaging in reciprocal practices. These activities help students deepen their perception of the help they receive from others, awaken their sense of responsibility, and thereby promote the development of prosocial tendencies at both the emotional and behavioral levels.

Teachers also play an important role in this process. They should actively integrate gratitude education into their daily teaching by sharing personal experiences and guiding classroom discussions to help students understand the social significance of gratitude. At the same time, teachers' own expressions of gratitude and participation in public welfare activities serve as role models, which can subtly inspire students to imitate and internalize these behaviors. In addition, teachers can organize cooperative learning and group service projects to provide students with opportunities to experience and practice gratitude and prosocial behavior in real situations.

Conflict of interest

The authors declare no conflict of interest

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