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# Does Interpersonal Trust Affect Happiness? Evidence from an Indirect Effect

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## Abstract

# Objective

This study aimed to explore the mechanisms through which interpersonal trust affects happiness.

# Methods

Participants were recruited from five universities in Jiangsu and Zhejiang provinces, China. Data were collected using a longitudinal survey design.

# Results

Interpersonal trust significantly and directly predicted happiness ($\beta = 0.11$, $p < 0.001$). In addition, three significant indirect pathways were identified: “Interpersonal Trust → Perceived Social Support → Happiness” (effect = 0.09, 95% CI [0.04, 0.13]), “Interpersonal Trust → Self-esteem → Happiness” (effect = 0.07, 95% CI [0.03, 0.11]), and “Interpersonal Trust → Perceived Social Support → Self-esteem → Happiness” (effect = 0.03, 95% CI [0.05, 0.07]).

# Conclusion

Interpersonal trust can influence happiness both directly and indirectly. It is affected not only by external resources but also through internalized processes. We term this mechanism the Relational Trust Resource Internalization Theory. Society should focus on creating a high-trust environment and cultivating individuals’ interpersonal trust to enhance overall happiness.

## 1 Introduction

Happiness is commonly defined as an individual’s overall subjective evaluation of their life quality, encompassing both cognitive satisfaction with life and the balance between positive and negative emotions (Niu et al., 2025). As an important concept in psychology and social sciences, happiness not only focuses on transient emotional states but also emphasizes the sustained experience of life meaning and overall quality (Oishi & Westgate, 2022). With the continuous development of the socio-economic environment, people’s material living standards have generally improved; however, happiness has not shown a linear increase, instead exhibiting complex variability and diversity. On the one hand, certain groups report higher levels of happiness due to well-established social security systems, improved educational and medical resources (Xu et al., 2023; Wang et al., 2022). On the other hand, fast-paced urban life, intense social competition, and information overload have caused many individuals to experience anxiety, loneliness, and psychological stress, thereby reducing their happiness (Zhang & Zhao, 2023). Scholars generally agree that factors influencing happiness include both external conditions and

internal traits. External conditions mainly involve economic income, perceived social fairness, employment status, and social security systems, which determine individuals' basic life security and social adaptability (Ugur, 2021). Internal psychological factors also play a critical role, including physical health, psychological resilience, personality traits, social support networks, and cultural values (Zhang & Sun, 2024). The level of happiness not only relates to psychological health but also closely affects social functioning. High levels of happiness provide multiple benefits, such as enhancing creativity and work efficiency, helping individuals cope with stress and challenges, and improving immune function and physical health, thereby potentially extending lifespan (Al Shami et al., 2023; Sonnentag et al., 2023). Furthermore, individuals with higher happiness tend to report greater satisfaction and stability in interpersonal and intimate relationships, more easily obtain social support, and achieve a stronger sense of self-worth (Leung et al., 2021). In contrast, low levels of happiness may lead to a series of negative outcomes, including depression, anxiety, and increased risk of physical illnesses such as cardiovascular disease (Allahverdipour et al., 2021). Therefore, happiness is not only an important indicator for assessing individual psychological health and life quality but also a critical target for modern social governance and public policy design.

Interpersonal trust is commonly defined as an individual's positive expectations and beliefs regarding the motives and reliability of others in social interactions, serving as a core mechanism for maintaining cooperation and interaction in human social relationships (Metz et al., 2022). Interpersonal trust has several notable characteristics: first, it is dynamic, continuously adjusting with accumulated social experiences; second, it is fragile, often difficult to restore once violated or betrayed; third, it combines universality and selectivity, meaning that individuals generally extend trust toward most people while exhibiting higher levels of specific trust toward close relational partners (Ku & Mitzen, 2022; Six & Latusek, 2023). In social interactions, interpersonal trust promotes relationship stability, reduces uncertainty and transaction costs, and enhances cooperation efficiency and group cohesion (Tianqi & Jinhao, 2024). High levels of interpersonal trust are conducive to psychological well-being, reducing feelings of loneliness and anxiety while enhancing happiness and life satisfaction (Myszka Strychalska, 2022). However, interpersonal trust is not exclusively beneficial and may have potential negative effects. On the one hand, excessive trust can make individuals vulnerable to deception or exploitation when lacking protective awareness (Shang et al., 2022). On the other hand, overreliance on interpersonal trust may suppress critical thinking, causing individuals to overlook necessary rational caution, thereby increasing risks in social interactions (Pongiglione, 2022). Overall, as a cornerstone of human social interaction, interpersonal trust is not only a key condition for maintaining social relationships and facilitating cooperation but also a psychological and social resource that requires moderation and dynamic adjustment. Its level and quality affect individual psychological health and social adaptation, while also bearing significant implications for the stability and development of society.

The relationship between interpersonal trust and happiness has long been a focal topic in psychology, sociology, and economics. Interpersonal trust is considered a core mechanism for maintaining human social cooperation and interaction. Its level not only affects the quality of individuals' interpersonal interactions but also relates to psychological health and happiness (Martinez et al., 2019). According to

social exchange theory, interpersonal trust can reduce uncertainty and risk in social interactions, increase positive interactive experiences, and provide individuals with emotional support and a sense of belonging, thereby enhancing happiness (Skiba & Wildman, 2019). A large number of empirical studies have confirmed a significant positive correlation between interpersonal trust and happiness (Wang, 2025). In the Chinese context, a study surveyed 117 rural teachers in Wuwei County, Wuhu City, using scales measuring interpersonal trust, teaching efficacy, life satisfaction, and affect. The results indicated that interpersonal trust was significantly correlated with life satisfaction and subjective happiness, and both interpersonal trust and overall efficacy significantly predicted rural teachers' subjective happiness (Ren & Long, 2013). Furthermore, a longitudinal study by Rotenberg et al. showed that children and adolescents with higher interpersonal trust exhibited fewer psychological adjustment problems and reported higher happiness levels throughout development (Rotenberg, 2010). Based on the above theoretical and empirical evidence, the present study proposes Hypothesis 1: Interpersonal trust can directly and significantly predict happiness.

# 1.1 The Indirect Role of Perceived Social Support

Perceived Social Support (PSS) refers to an individual's subjective perception and evaluation of the availability of emotional, informational, and material support from family, friends, and significant others, rather than merely the objective amount of social support present (Zhang et al., 2025). This concept emphasizes the cognitive processing and psychological experience of external support resources, and is therefore highly subjective and context-dependent. Compared to objective support, perceived social support can buffer the negative effects of stressful events, reducing levels of depression and anxiety (Wang et al., 2018). It also contributes to enhanced psychological resilience and self-esteem, providing motivation for individuals to actively cope with life challenges (Sethi, 2023). Moreover, higher levels of perceived social support are generally associated with greater subjective happiness and life satisfaction (Gulacti, 2010). As such, perceived social support, as a universal psychological resource, can promote individual psychological well-being across different social and cultural contexts. Overall, although perceived social support may not always perfectly align with objectively received support, it represents an individual's subjective experience of the availability of social relationships and resources, making it an important psychological variable for explaining differences in happiness and mental health.

Social capital theory emphasizes that social networks and the resources embedded within them play a crucial role in the development of individuals and groups. Social capital not only encompasses existing social relationships but also reflects an individual's ability to access resources, information, trust, and support through these relationships (Coleman, 1990). Social capital can be categorized into three types: first, bonding social capital, which refers to resources within tightly-knit networks such as family members and close friends, providing emotional support and basic assistance; second, bridging social capital, which refers to looser networks across groups and communities, expanding access to information and opportunities; third, linking social capital, which refers to connections between individuals and social institutions or power structures, facilitating access to formal resources and institutional support (Bhandari & Yasunobu, 2009). Social capital provides sustainable resource support

for individuals and society through the interaction of interpersonal trust, networks, and norms, making it an important theoretical framework for understanding social behavior and mental health (Kreuter & Lezin, 2002). Empirical studies have found a significant positive relationship between interpersonal trust and perceived social support. Interpersonal trust is considered an individual's belief in the reliability and sincerity of others, which in turn influences the extent of support perceived in social interactions (Li et al., 2025). Collectively, empirical evidence suggests that interpersonal trust is not only a key psychological mechanism for stabilizing social relationships but also a critical prerequisite for the subjective perception of social support, and its enhancement contributes to improved mental health, happiness, and social adaptability.

According to the stress-buffering model, social support acts as a "buffer" in stressful situations, mitigating the negative effects of stress on mental health. Specifically, social support—including emotional support (e.g., understanding and care), instrumental support (e.g., resources and assistance), and informational support (e.g., advice and guidance)—enables individuals to cope more effectively with adversity or major life events, thereby reducing the occurrence of negative emotions such as anxiety and depression, and enhancing happiness and psychological well-being (Cohen & Wills, 1985). A study on older adults found a significant correlation between perceived social support and happiness. Older adults often experience loneliness, depression, and anxiety due to "automatized" daily routines, which can lead to physical and mental health problems. Social support helps them address these challenges and achieve greater happiness (Ahmed & Mohamed, 2022). Based on the above, we propose Hypothesis 2: Perceived social support plays a significant mediating role between interpersonal trust and happiness.

## 1.2 The Indirect Role of Self-esteem

Self-esteem refers to an individual's overall evaluation of their own worth and abilities and is an important indicator for assessing self-perception and psychological health in psychology (Sagat et al., 2021). It not only reflects the degree of self-affirmation regarding one's abilities and personality but also indicates the level of self-acceptance and self-respect in social contexts. Research shows that individuals with high self-esteem generally possess stronger emotional regulation, stress resilience, and psychological robustness, enabling them to cope positively with challenges and stress, thereby reducing the occurrence of negative emotions such as depression and anxiety (Fernandes et al., 2022). In addition, self-esteem is closely associated with happiness; individuals with higher self-esteem typically experience greater life satisfaction and subjective happiness (Kaleta & Mroz, 2023). In contrast, individuals with low self-esteem are prone to self-doubt and negative cognition, are more likely to experience negative emotions when facing failure or setbacks, and may exhibit social avoidance, isolation, and psychological health problems (Thilakawardana & Jayasinha, 2025). Overall, self-esteem is not only a core component of individual psychological health but also an important psychological resource influencing social adaptation, academic achievement, and career development, making its cultivation and enhancement crucial in psychological interventions and educational practice.

Attachment theory posits that infants are innately equipped with attachment behaviors, such as crying, grasping, and smiling, to maintain proximity and a sense of security with caregivers. Through interactions

with caregivers, infants form an internal working model, which influences self-perception and expectations of others' reliability (Babic et al., 2016). Ainsworth further identified infant attachment types, including secure, avoidant, ambivalent, and disorganized, which not only affect childhood behavior but also extend into adult intimate relationships and psychological health (Ainsworth et al., 2015). Among these four attachment types, securely attached children typically experience consistent and reliable caregiver responses, establishing strong interpersonal trust and forming positive self-concepts and higher self-esteem. In contrast, avoidant or ambivalent children may experience neglectful or inconsistent caregiver responses, leading to negative or unstable self-perceptions and relatively lower self-esteem (Foster et al., 2007). Numerous studies have demonstrated a significant positive correlation between interpersonal trust and self-esteem, which has been consistently validated across different research contexts. For example, a study in China surveyed 166 hospitalized female adolescents with depression, using the Chinese version of the Children's Depression Inventory, an interpersonal trust scale, the Rosenberg Self-esteem Scale, and a multidimensional multi-attribution causality scale to assess depressive mood, interpersonal trust, self-esteem, and interpersonal attribution styles. Results indicated that interpersonal trust was significantly positively correlated with self-esteem, and self-esteem mediated the effects of interpersonal trust and interpersonal attribution style on depression, highlighting self-esteem as a key socio-cognitive factor affecting depression in female adolescents (Li et al., 2023). Another study using self-esteem and interpersonal trust scales surveyed high school students and found a highly significant correlation between interpersonal trust and self-esteem (Yang et al., 2007). In summary, the relationship between interpersonal trust and self-esteem is well-supported in psychological research, providing an important basis for understanding how social relationships influence individual psychological development.

Self-esteem Discrepancy Theory posits that when there is a substantial gap between an individual's actual self and their ideal self or ought self, negative emotional responses are triggered, undermining self-esteem and further reducing happiness (Higgins, 1987). For example, when the actual self fails to meet the standards set by the ideal self, individuals may experience feelings of disappointment and dejection; whereas when the actual self does not conform to the ought self, feelings of guilt, anxiety, and stress are more likely to arise. Yap and colleagues employed a multi-stage cluster sampling method to recruit 480 Malaysian secondary school students, who completed the Malay versions of the Subjective Happiness Scale, the Brief Motivation Scale, and the Rosenberg Self-esteem Scale. The study found that both self-esteem and motivation were positively correlated with happiness, indicating that individuals with higher self-esteem tend to have stronger motivation, which may contribute to greater happiness (Salavera et al., 2020; Yap et al., 2021). Based on this evidence, we propose Hypothesis 3: Self-esteem plays a significant mediating role between interpersonal trust and happiness.

## 1.3 The Chain Mediating Role of Perceived Social Support and Self-esteem

The Self-Enhancement Hypothesis is an important theory in social psychology regarding individual motivation, emphasizing a universal tendency in human cognition and social interaction to pursue

positive self-evaluation and enhanced self-esteem (Taylor & Brown, 1988). This hypothesis posits that individuals not only wish to recognize their own strengths but also seek social feedback to confirm their value and abilities, thereby gaining psychological satisfaction and adaptive advantages (Sedikides & Gregg, 2008). In other words, when individuals receive positive evaluations from others, they are more likely to perceive these evaluators as important sources of social support, which in turn elevates their self-esteem.

Numerous empirical studies have demonstrated a significant positive relationship between perceived social support and self-esteem (Maddy III et al., 2015; Chen & Li, 2008; Zhang, 2025). The perception of social support enhances individuals' sense of self-worth and psychological security, thereby improving self-esteem (Sethi, 2023). For instance, a study involving 243 healthy young adults used magnetic resonance imaging (MRI) to measure gray matter volume in the hippocampus and amygdala. Correlation analyses indicated that individuals with higher perceived social support had higher self-esteem, and the hippocampus played a major—but not exclusive—role in the link between perceived social support and self-esteem, offering a novel cognitive neuroscience perspective on how social support perception influences self-esteem (Lu et al., 2023). Based on this evidence, we propose Hypothesis 4: Perceived social support and self-esteem jointly play a significant chain-mediating role between interpersonal trust and happiness.

## 2 Method

# 2.1 Participants

Participants in this study were recruited from XX, Chaohu University, Zhejiang Gongshang University, and Huangshan University. Prior to the first survey, all participants provided written informed consent, clearly informed that they would not receive any compensation for participation and that their research data would be securely protected. The study strictly adhered to the ethical guidelines outlined in the Declaration of Helsinki. The study protocol was reviewed and approved by the Ethics Committee of the YY (Approval No.: IJPB5756830803).

Following the recommendations of Cole & Maxwell (2003) for structural equation modeling, which strongly advocate for a three-wave longitudinal design for indirect effect analyses, this study adopted a three-wave longitudinal survey approach. The interval between each wave of data collection was six months. To ensure data integrity, only participants who completed all three waves were included in the final analysis. Specifically, the first survey was conducted on September 13, 2024 to collect interpersonal trust data (independent variable; T1). A total of 1,143 questionnaires were distributed, and 1,120 were returned. The second survey was conducted on March 6, 2025 to collect perceived social support and self-esteem data (mediating variables; T2), with 1,137 questionnaires distributed and 1,130 returned. The third survey was conducted on September 16, 2025 to collect happiness index data (dependent variable; T3), with 1,115 questionnaires distributed and 1,098 returned. Only participants who completed all three waves were retained, and invalid questionnaires were subsequently excluded, resulting in a final sample

of 1,066 valid responses. Among the participants, 415 (38.9%) were male and 651 (61.1%) were female; 680 (63.8%) were from rural areas and 386 (36.2%) were from urban areas. The age distribution was as follows: 16–18 years old, 953 (89.4%); 18–20 years old, 47 (4.4%); and over 20 years old, 66 (6.2%).

## 2.2 Measures

### 2.2.1 Interpersonal Trust Scale

The Chinese version of the Interpersonal Trust Scale was used as the measurement tool in this study. The scale consists of 2 factors with a total of 25 items (12 positively keyed items and 13 negatively keyed items) and uses a 5-point Likert scale, with the following response options: strongly agree (1), somewhat agree (2), neither agree nor disagree (3), somewhat disagree (4), strongly disagree (5). Higher scores indicate higher levels of interpersonal trust (Rotter, 1971). In this study, the scale demonstrated good internal reliability (Cronbach's α = 0.86) and structural validity (CFI = 0.92, TLI = 0.90, RMSEA = 0.06, SRMR = 0.05), indicating that the instrument is both reliable and valid.

### 2.2.2 Perceived Social Support Scale

The Perceived Social Support Scale (PSS) developed by Zimet et al. (1988) was employed to measure perceived social support. This scale includes three dimensions: family support, friend support, and other support, with 4 items for each dimension. A 7-point Likert scale was used, with the following response options: strongly disagree (1), disagree (2), slightly disagree (3), neutral (4), slightly agree (5), agree (6), strongly agree (7). Higher total scores indicate greater perceived social support. In this study, the scale demonstrated excellent internal reliability (Cronbach's α = 0.95) and structural validity (CFI = 0.95, TLI = 0.94, RMSEA = 0.09, SRMR = 0.03), confirming the reliability and validity of the instrument.

### 2.2.3 Self-esteem Scale

The Rosenberg Self-esteem Scale (Rosenberg, 1965) was used to measure participants' self-esteem. This scale consists of a single factor with 10 items, including 5 positively keyed items and 5 negatively keyed items. Responses are recorded on a 4-point Likert scale: "strongly agree" (4), "agree" (3), "disagree" (2), and "strongly disagree" (1). Higher total scores indicate higher levels of self-esteem. In this study, the scale demonstrated good internal reliability (Cronbach's α = 0.87) and structural validity (CFI = 0.99, TLI = 0.99, RMSEA = 0.03, SRMR = 0.01), indicating excellent reliability and validity.

### 2.2.4 Happiness Index

The Happiness Questionnaire developed by Campbell et al. (1976) was used to measure participants' subjective happiness. The scale comprises the General Affect Index (weight = 1, 8 items) and the Life Satisfaction Questionnaire (weight = 1.1, 1 item). The weighted sum of these two questionnaires constitutes the total happiness score, with higher scores indicating greater perceived happiness. In this study, the scale demonstrated excellent internal reliability (Cronbach's α = 0.94) and structural validity (CFI = 0.98, TLI = 0.96, RMSEA = 0.09, SRMR = 0.02), confirming that the instrument is both reliable and valid.

## 2.3 Data Analysis Strategy

In this study, the data analysis proceeded in several steps. First, descriptive statistics and correlation analyses were conducted using SPSS to examine the basic characteristics of the sample and the relationships among variables. Second, the reliability and validity of the measurement instruments were assessed, including Cronbach's alpha coefficients and confirmatory factor analyses (CFA), to ensure that the instruments were both reliable and valid. Third, structural equation modeling (SEM) was employed to test the hypothesized relationships among variables, and indirect effect analyses were conducted to further explore the underlying mechanisms, ensuring the scientific rigor and robustness of the research conclusions.

To investigate the mechanism through which interpersonal trust affects happiness, a structural equation model with multiple indirect paths was constructed based on the theoretical framework. Specifically, interpersonal trust was treated as the independent variable, happiness as the dependent variable, and perceived social support and self-esteem as mediating variables, to reveal potential indirect pathways. The model was constructed and estimated using Mplus 7.0, and the path relationships are illustrated in Fig. 1. For model fit evaluation, this study adopted the criteria proposed by Steiger (1990), using RMSEA, SRMR, TLI, and CFI as primary indicators. An RMSEA and SRMR below 0.10 were considered acceptable, while TLI and CFI values above 0.90 indicated good model fit. Using multiple indices simultaneously allows for a comprehensive assessment of model fit and stability, minimizing potential biases associated with relying on a single fit index.

According to the research design, the model includes three indirect paths: First, "Interpersonal Trust → Perceived Social Support → Happiness", which aims to examine the mediating role of social support; second, "Interpersonal Trust → Self-esteem → Happiness", which tests the indirect effect of self-esteem in this relationship; and third, "Interpersonal Trust → Perceived Social Support → Self-esteem → Happiness", which explores the presence of multiple chained indirect effects. By simultaneously including these three indirect paths, the model provides a more comprehensive understanding of the underlying mechanisms through which interpersonal trust influences happiness. For testing the indirect effects, the bootstrap sampling method was employed to enhance the robustness of the results. Specifically, the number of bootstrap samples was set to 1,000, and 95% confidence intervals were calculated for each indirect effect. An indirect effect was considered statistically significant if the confidence interval did not include 0.

# 3 Results

## 3.1 Control and Test of Common Method Bias

This study examined common method bias using Harman's single-factor test. The results showed that eight factors with eigenvalues greater than 1 explained 64.64% of the total variance, and the variance explained by the first principal component was 22.01%, well below the 40% threshold, indicating no

single-factor effect. Additionally, confirmatory factor analysis (CFA) was conducted to compare the model with a common method factor and the model without it. The results showed no significant difference in model fit between the two, suggesting that there is no serious common method bias in this study (Podsakoff et al., 2003).

## 3.2 Descriptive Statistics and Correlation Analysis

Prior to data analysis, the normality of the main variables was tested. Results indicated that the skewness values were all below 2 and the kurtosis values were below 7, suggesting that the data were approximately normally distributed (Kline, 2011; Kim, 2013). Therefore, the data in this study are suitable for subsequent parametric statistical analyses.

Independent-samples t-tests were conducted to examine differences in gender and household registration among college students. The results indicated that males and females differed significantly in self-esteem ($t$ = -5.20, $p$ < 0.01) and happiness ($t$ = 2.10, $p$ < 0.05), but showed no significant differences in interpersonal trust (t = 1.29, p > 0.05) and perceived social support ($t$ = -1.65, $p$ > 0.05). Regarding household registration, students from rural and urban areas differed significantly in self-esteem ($t$ = -2.37, $p$ < 0.05) and perceived social support ($t$ = -2.27, $p$ < 0.05), while no significant differences were found in interpersonal trust ($t$ = -1.06, $p$ > 0.05) and happiness ($t$ = 0.65, $p$ > 0.05), as shown in Table 1.

One-way ANOVA was conducted to examine differences among students of different ages in interpersonal trust, perceived social support, self-esteem, and happiness. The results indicated significant differences in interpersonal trust scores across age groups ($F$ = 4.78, $p$ < 0.01), whereas differences in perceived social support ($F$ = 0.53, $p$ > 0.05), self-esteem ($F$ = 0.68, $p$ > 0.05), and happiness ($F$ = 0.02, $p$ > 0.05) were not significant, as shown in Table 2.

In the correlation analysis, the relationships between demographic variables and the main variables were first examined. The results indicated that gender and age were not significantly correlated with interpersonal trust or perceived social support ($p$ > 0.05). Although gender showed significant correlations with household registration ($\chi^2/df$ = 23.73, $p$ < 0.001), self-esteem ($r$ = 0.15, $p$ < 0.01), and happiness ($r$ = -0.06, $p$ < 0.01), the correlation coefficients were small, suggesting that gender was not a major influencing factor in this study. Similarly, age was not significantly correlated with household registration, interpersonal trust, perceived social support, or self-esteem ($p$ > 0.05), and although it was significantly correlated with happiness ($r$ = 0.09, $p$ < 0.01), the coefficient was small, indicating that age was also not a primary factor. Household registration was not significantly correlated with interpersonal trust or happiness ($p$ > 0.05), and although it showed significant correlations with perceived social support ($r$ = 0.06, $p$ < 0.05) and self-esteem ($r$ = 0.07, $p$ < 0.05), the coefficients were small, suggesting household registration was not a major influencing factor either. Further analysis of the relationships among the main variables revealed that interpersonal trust was significantly but weakly correlated with perceived social support ($r$ = -0.29, $p$ < 0.01), self-esteem ($r$ = -0.24, $p$ < 0.01), and happiness ($r$ = -0.24, $p$ < 0.01). Perceived social support was significantly and moderately correlated with self-esteem ($r$ = 0.37, $p$ < 0.01) and happiness ($r$ = -0.34, $p$ < 0.01). Self-esteem was significantly and moderately correlated with

happiness ($r$ = -0.41, $p$ < 0.01). In summary, the correlation analysis indicated that significant relationships generally existed among the different variables, providing preliminary support for the research hypotheses proposed in this study, as shown in Table 3.

## 3.3 Construction and Testing of the Structural Equation Model

In this study, to examine the mechanism through which interpersonal trust affects happiness, a structural equation model (SEM) was constructed based on the theoretical hypotheses. The model specified interpersonal trust as the independent variable, happiness as the dependent variable, and perceived social support and self-esteem as mediating variables. Three indirect paths were set: “Interpersonal Trust → Perceived Social Support → Happiness,” “Interpersonal Trust → Self-esteem → Happiness,” and “Interpersonal Trust → Perceived Social Support → Self-esteem → Happiness.” The model was estimated using Mplus 7.0 software. The model fit indices indicated a good fit: RMSEA = 0.07, SRMR = 0.03, TLI = 0.95, CFI = 0.93, suggesting that the model adequately represented the observed data. In this model, the demographic variables gender ($t$ = -0.00, $p$ > 0.05) and household registration ($t$ = 0.01, $p$ > 0.05) had no significant effect on happiness, whereas age ($t$ = 0.07, $p$ < 0.05) had a significant effect, as shown in Fig. 2.

Further path analysis indicated that interpersonal trust significantly and positively predicted happiness ($\beta$ = 0.11, $p$ < 0.001), supporting Hypothesis 1 of this study. All three indirect paths were significant. Specifically, the indirect effect for the path “Interpersonal Trust → Perceived Social Support → Happiness” was 0.09 [0.04, 0.13], for “Interpersonal Trust → Self-esteem → Happiness” it was 0.07 [0.03, 0.11], and for “Interpersonal Trust → Perceived Social Support → Self-esteem → Happiness” it was 0.03 [0.05, 0.07]. These results provide support for Hypotheses 2, 3, and 4, as shown in Table 4.

# 4 Discussion

This study found that interpersonal trust can significantly predict happiness, supporting Hypothesis 1 and providing empirical evidence for the perspective of social exchange theory. Specifically, interpersonal trust positively predicted happiness ($\beta$ = 0.11, $p$ < 0.001). When individuals hold higher levels of trust toward others and society, they are more likely to experience a sense of security and psychological support in daily life and social interactions. This can reduce anxiety and uncertainty, thereby enhancing subjective happiness. Thus, this study emphasizes the positive role of interpersonal trust as a social-psychological resource in enhancing individual happiness. It suggests that educators and social managers should focus on building and maintaining trust relationships when fostering individual happiness. Interpersonal trust, as a social-psychological resource, exerts a beneficial influence on individual happiness. In school settings, trust can be cultivated through team-based activities, where individuals are driven by shared goals and must engage in close interaction, division of labor, and information sharing. During this process, participants continuously establish and validate each other’s reliability and sense of responsibility. For example, in project collaborations, classroom discussions,

group tasks, or community practice activities, each member has specific responsibilities, and the team's overall success depends on the fulfillment of these roles. Experiencing this sense of responsibility helps individuals recognize the trustworthiness of others while motivating them to honor their own commitments, thereby creating a positive cycle of mutual trust at the psychological level. Moreover, team activities provide repeated opportunities for interaction, which can reduce uncertainty in social exchanges. Through multiple rounds of collaboration, individuals can observe others' behavioral patterns, evaluate their reliability, and develop stable interpersonal expectations by solving problems together (Muethel et al., 2012). Especially when facing complex tasks or stressful situations, mutual assistance and support among team members allow individuals to experience emotional security and a sense of achievement from collaboration, further reinforcing trust in others.

This study found that interpersonal trust can mediate happiness through perceived social support, supporting Hypothesis 2 and providing empirical evidence for social capital theory and the stress-buffering model. In this study, interpersonal trust negatively predicted perceived social support ($\beta$ = -0.29, $p$ < 0.001), which contradicts previous findings (Hamid & Lok, 2000; Grace & Schill, 1986). This result may be explained by the trust substitution effect: when individuals hold a high level of trust in others, they tend to assume that help will be provided when needed, which reduces their proactive seeking of external support and consequently lowers their subjective perception of social support. At the same time, the significant negative effect of perceived social support on happiness ($\beta$ = -0.18, $p$ < 0.001) indicates that perceived social support is not always a unidimensional positive resource. A possible explanation is that the participants in this study were Chinese, and in Eastern cultural contexts, individuals are often reluctant to trouble others and feel indebted when receiving help. Even when individuals perceive high levels of social support, this is often accompanied by increased social expectations or potential burdens, such as concerns about "owing favors" or being expected to reciprocate, which may increase psychological stress and reduce happiness (Li, 2022). The implication of this finding is that, within Eastern cultural contexts, individuals may reduce their proactive seeking of social support due to the fear of "owing favors." However, from a practical perspective, actively seeking support from others is an important way to solve difficult problems. Therefore, at all stages of school education, teachers should emphasize cultivating children's understanding and attitudes toward seeking social support.

This study found that interpersonal trust can mediate happiness through self-esteem, supporting Hypothesis 3 and providing empirical evidence for attachment theory and self-esteem discrepancy theory. In this study, interpersonal trust negatively predicted self-esteem ($\beta$ = -0.14, $p$ < 0.001), and self-esteem negatively predicted happiness ($\beta$ = -0.31, $p$ < 0.001). These results reveal a rather complex relationship pattern. Specifically, when individuals have a high level of interpersonal trust, their self-esteem may paradoxically decrease. This may be due to an overreliance on external social relationships to confirm self-worth, which can generate anxiety in social comparison or role expectations, ultimately leading to lower self-esteem (Byrne, 2009). At the same time, the significant negative effect of self-esteem on happiness may stem from excessively high self-esteem, which can result in unrealistic self-expectations and social comparisons. When these high expectations are not met, individuals may experience feelings of inferiority (i.e., self-esteem discrepancy), further reducing happiness (Nook et al.,

2022). These findings also suggest that in school education and psychological interventions, it is important to avoid emphasizing “the higher the self-esteem, the better” unilaterally. Instead, interventions should help individuals establish reasonable self-expectations and healthy social comparison patterns, promoting a dynamic balance between self-esteem levels and the real-world environment.

This study found that interpersonal trust can mediate happiness through the chain indirect effect of perceived social support and self-esteem, supporting Hypothesis 4 and providing evidence for the self-enhancement hypothesis. The results indicate that interpersonal trust not only has a significant direct effect on happiness, but its mechanism of influence is primarily realized through the chain mediation path of perceived social support and self-esteem. Specifically, interpersonal trust negatively predicted perceived social support ($\beta$ = -0.29, $p$ < 0.001), suggesting that higher levels of interpersonal trust are associated with lower perceived social support, a finding that contrasts with previous studies (Hamid & Lok, 2000; Grace & Schill, 1986). This may be because individuals with higher trust in others or society already experience a sense of security and psychological assurance, reducing their reliance on external social support to maintain this security (Spadaro et al., 2020). In other words, interpersonal trust itself functions as a “psychological buffer,” substituting for the need for external support. Further analysis revealed that perceived social support positively predicted self-esteem ($\beta$ = 0.33, $p$ < 0.001), indicating that individuals who perceive more emotional and instrumental support are more likely to develop a positive sense of self-worth and self-identity. Notably, this study found that self-esteem negatively predicted happiness ($\beta$ = -0.31, $p$ < 0.001), which differs from prior research (Salavera et al., 2020). A possible explanation is that high levels of self-esteem can, in certain contexts, lead to excessively high self-expectations and social comparisons. When these unrealistic self-expectations are unmet, they may collapse into perceived inferiority (i.e., self-esteem discrepancy), increasing psychological stress and anxiety, thereby reducing happiness (Nook et al., 2022). Overall, this study reveals that interpersonal trust affects happiness through the chain mediation path of “perceived social support → self-esteem,” highlighting the interactive role of social and individual psychological factors in shaping happiness. On one hand, interpersonal trust helps create a positive social environment for individuals, enhancing perceived social support. On the other hand, understanding self-esteem discrepancy can guide educators, psychologists, and organizational managers to avoid emphasizing “the higher the self-esteem, the better” unilaterally. Instead, attention should be paid to aligning self-esteem with realistic abilities and environmental support, promoting reasonable expectations and healthy social comparison patterns, thereby improving psychological resilience and happiness.

# 5 Limitations and Implications

We must acknowledge several limitations in this study, which may inform future research improvements. First, the data in this study primarily relied on self-report questionnaires, which may introduce the risk of social desirability effects and common method bias. Participants’ subjective responses could be influenced by social approval or personal defense mechanisms, potentially affecting the objectivity of the data. Second, the sample was mainly drawn from specific regions and groups (e.g., college students), whose developmental stage and social roles are unique, potentially limiting the generalizability of the

findings to other age groups or cultural contexts. Third, although the model included key variables such as interpersonal trust, perceived social support, and self-esteem, the formation of happiness is highly complex and may also be influenced by personality traits, cultural values, economic conditions, and other factors. The omission of these variables may result in interpretive bias. Future research could expand the sample scope, increase the number of measurement time points, employ multi-method data collection approaches, and consider additional potential variables to further validate and extend the conclusions of this study.

# 6 Conclusion

This study validated the mechanisms through which interpersonal trust influences individual happiness. Interpersonal trust not only provides external resources (perceived social support) but also, through internalization processes (self-esteem), transforms social resources into a stable self-system, ultimately forming both dual-path and chain-mediated mechanisms of happiness. We term this mechanism the Relational Trust–Resource Internalization Theory.

Based on these findings, we suggest three pathways to enhance individuals' happiness. First, at the societal level, attention should be given to creating a high-trust social environment. For example, improving laws and regulations, strengthening public services and social security, and reducing uncertainty and risks in social interactions can enhance the trust foundation among groups. Second, in educational and organizational practice, efforts should be made to cultivate individuals' interpersonal trust. Schools and workplaces can implement team cooperation training, peer-support programs, and leadership development activities to help individuals establish and maintain trust relationships in a safe environment. Third, in mental health promotion and intervention, practitioners should emphasize the indirect roles of social support and self-esteem. This involves guiding individuals to perceive and utilize social support resources, as well as enhancing their self-worth and self-affirmation, for example, through cognitive-behavioral therapy, positive psychology interventions, and other approaches to improve self-esteem.

# Declarations

### Ethics statement

This research protocol was approved by the Ethics Committee of the Institute of Judicial Psychology and Behavior, Zhejiang Police Vocational Academy (Approval No.: IJPB5756830803). All participants volunteered to participate in the experiment, and written informed consent was given to and supported by their guardians.

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**Author's Contribution**

In this study, J. H. was mainly responsible for the search of scientific literature and the signing of the informed consent form of the subjects, L. Z. was mainly responsible for the distribution and retrieval of the questionnaires and data processing, J. Z. and H. W. were mainly responsible for the writing of the thesis, the development of the research methodology, and the selection of the statistical analysis software. All authors were involved in data analysis, drafting or revising the article, ultimately approving the published version of the article, and agreeing to take responsibility for all aspects of the work.

**Data Availability Statement**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

**Consent for publication**

Not applicable.

**Competing interests**

The authors declare that they have no known competing financial interests or personal relationships that might influence the work reported here.

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# Tables

**Table 1 Differences in Interpersonal Trust, Perceived Social Support, Self-esteem, and Happiness across Gender and Household Registration**

| Dependent variable | Independent variable | F | Significance | t | Sig (two-tailed) |
|---|---|---|---|---|---|
| Interpersonal Trust | Gender | 2.17 | 0.14 | 1.29 | 0.19 |
| Perceived Social Support | | 10.81 | 0.00 | -1.65 | 0.09 |
| Self-esteem | | 2.33 | 0.12 | -5.20 | 0.00 |
| Happiness | | 12.30 | 0.00 | 2.10 | 0.03 |
| Interpersonal Trust | Household Registration | 1.86 | 0.17 | -1.06 | 0.28 |
| Perceived Social Support | | 0.04 | 0.83 | -2.27 | 0.02 |
| Self-esteem | | 8.58 | 0.00 | -2.37 | 0.01 |
| Happiness | | 3.57 | 0.05 | 0.65 | 0.51 |

**Table 2 Differences in Interpersonal Trust, Perceived Social Support, Self-esteem, and Happiness across Age Groups**

| Dependent variable | Independent variable | | Sum of Squares | Degrees of Freedom | Mean Square | F | Significance |
|---|---|---|---|---|---|---|---|
| Interpersonal Trust | Age | Between Groups | 429.81 | 2 | 214.91 | 4.78 | 0.00 |
| | | Within Groups | 47700.42 | 1063 | 44.87 | | |
| Perceived Social Support | | Between Groups | 185.15 | 2 | 92.57 | 0.53 | 0.58 |
| | | Within Groups | 183492.45 | 1063 | 172.61 | | |
| Self-esteem | | Between Groups | 16.74 | 2 | 8.37 | 0.68 | 0.50 |
| | | Within Groups | 13050.03 | 1063 | 12.27 | | |
| Happiness | | Between Groups | 6.14 | 2 | 3.07 | 0.02 | 0.97 |
| | | Within Groups | 126780.95 | 1063 | 119.26 | | |

**Table 3 Correlation Coefficients among Variables**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Gender | 1 | | | | | | |
| Age | 0.12（$\chi^2$/df） | 1 | | | | | |
| Household Registration | 23.73*** （$\chi^2$/df） | 1.77 （$\chi^2$/df） | 1 | | | | |
| Interpersonal Trust | -0.04 | 0.04 | 0.03 | 1 | | | |
| Perceived Social Support | 0.05 | -0.04 | 0.06* | -0.29** | 1 | | |
| Self-esteem | 0.15** | -0.00 | 0.07* | -0.24** | 0.37** | 1 | |
| Happiness | -0.06* | 0.09** | -0.02 | 0.24** | -0.34** | -0.41** | 1 |
| Mean | | | | 76.55 | 56.86 | 32.33 | 29.60 |
| Standard Deviation | | | | 6.72 | 13.13 | 3.50 | 10.91 |
| Maximum | | | | 116.00 | 84.00 | 43.00 | 63.70 |
| Minimum | | | | 49.00 | 12.00 | 17.00 | 9.10 |
| Kurtosis | | | | 4.50 | 0.87 | 1.25 | 0.46 |
| Standard Error of Kurtosis | | | | 0.15 | 0.15 | 0.15 | 0.15 |
| Skewness | | | | 0.66 | -0.30 | 0.22 | 0.29 |
| Standard Error of Skewness | | | | 0.07 | 0.08 | 0.08 | 0.08 |

Note: N=1066. *p < 0.05, **p < 0.01, ***p < 0.001.

**Table 4  Bootstrap Analysis for Significance Testing of Mediation Effects**

| Mediation Pathway | Effect Size | 95% Confidence Interval | |
|---|---|---|---|
| | | Lower Bound | Upper Bound |
| Interpersonal Trust→Perceived Social Support→Happiness | 0.09 | 0.04 | 0.13 |
| Interpersonal Trust→Self-esteem→Happiness | 0.07 | 0.03 | 0.11 |
| Interpersonal Trust→Perceived Social Support→Self-esteem→Happiness | 0.03 | 0.05 | 0.07 |

# Figures

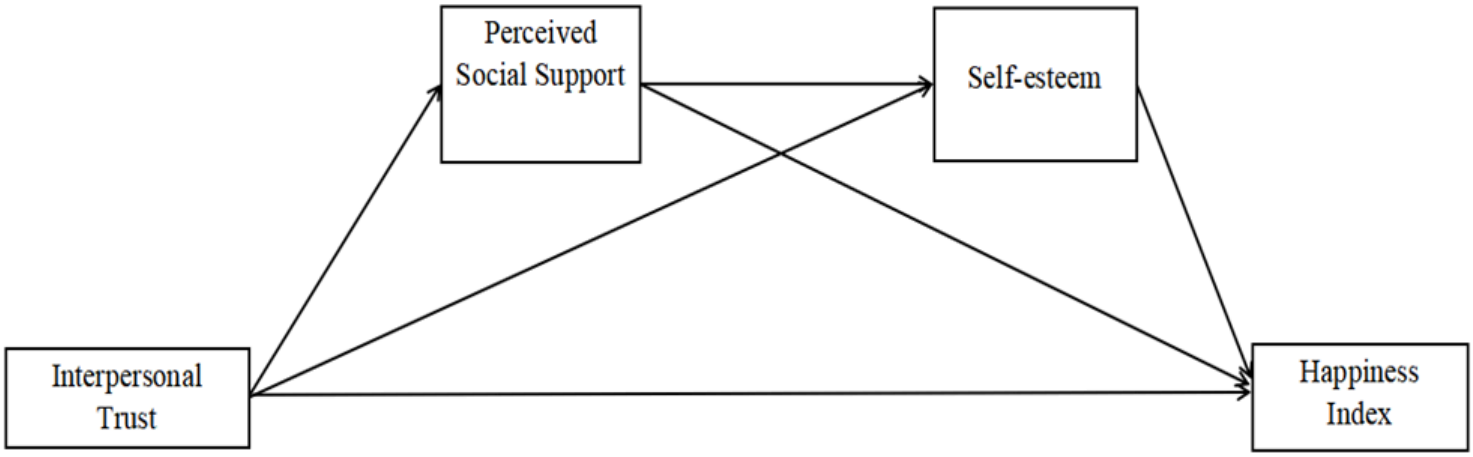



**Figure 1**

**Chain Mediation of Perceived Social Support and Self-esteem in the Relationship Between Interpersonal trust and Happiness**

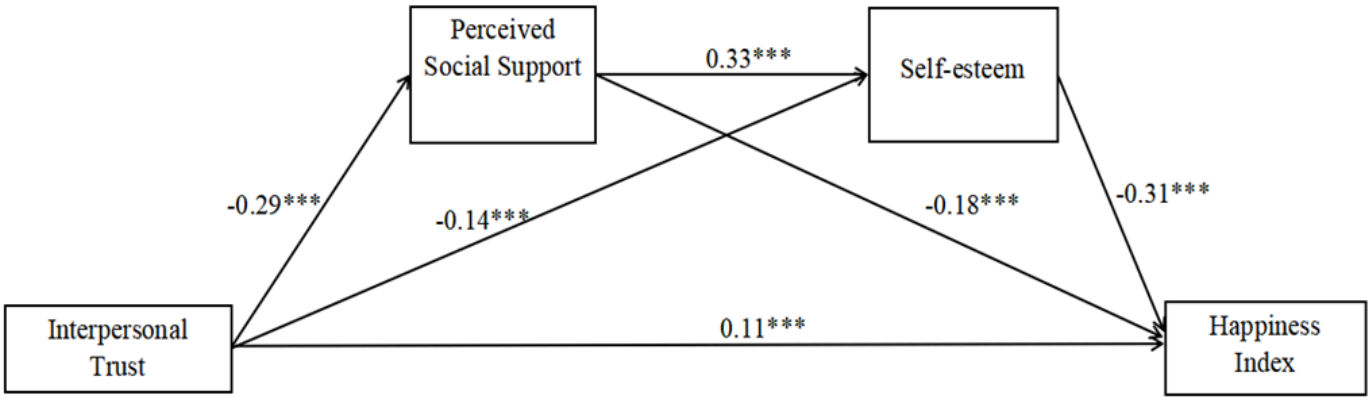



**Figure 2**

**Chain Mediation of Perceived Social Support and Self-esteem in the Relationship Between Interpersonal trust and Happiness**

**Note:**

Basic demographic information and Interpersonal Trust data: from the first wave of the survey (T1 time point)
Perceived Social Support and Self-Esteem data: from the second wave of the survey (T2 time point)
Happiness index data: from the third wave of the survey (T3 time point)