Study On the Impediment of Social Anxiety on The Establishment and Development of Interpersonal Relationships of Individuals

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Abstract: Objective: To explore the hindering effect, mechanism and intervention strategy of social anxiety on interpersonal relationships, and to provide a basis for the construction of mental health and social support systems.
Methods: A mixed method of quantitative research, simulated social experiments and qualitative research was used to study 100 college students, working people and community residents.
Results: Social anxiety was significantly negatively correlated with the quality of interpersonal relationships (r=-0.70). Highly anxious people spoke less, had a higher heart rate and less eye contact during social interactions, and college students had the highest anxiety level. The intervention strategy based on the "cognition-behavior-environment" integrated model improved the interpersonal relationships of 83% of the subjects.
Discussion: The hindering path of social anxiety was confirmed, and personalized intervention strategies were proposed. The theoretical integration has innovative value, and the cultural background limitations of the research sample need to be expanded.
Keywords: Social Anxiety; Interpersonal Relationships; Cognitive Bias; Behavioral Avoidance; Intervention Strategies; Mental Health.

I.   Introduction

In today's era of rapid globalization and informatization, the depth and breadth of social interactions have reached unprecedented levels. The popularity of social media has expanded people's social circles, and online and offline social activities have become increasingly frequent. The importance of interpersonal relationships in individual lives has become increasingly prominent. Good interpersonal relationships are not only an important source of emotional support, but can also relieve life stress and improve psychological resilience. They are also closely related to individual life satisfaction and career development （American Psychiatric Association, 2013）. In the workplace, good relationships with colleagues and workplace connections can help improve work efficiency and promote career advancement; in personal life, close friends and harmonious family relationships can bring happiness and a sense of belonging.

However, social anxiety is widespread among the population and is on the rise （Alden & Taylor, 2004）. With the intensification of social competition and changes in the cultural environment, people face more pressure and challenges in social situations. Although social media provides a convenient way to socialize, it also brings problems such as "social performance" and "virtual socialization", making people more concerned about others' evaluations in real social situations, exacerbating social anxiety （Altman & Taylor, 1973）. For example, some people carefully create their own image on social media, but in real social situations, they become anxious because they are afraid that they will not be able to meet the standards of their virtual image. This social anxiety seriously

hinders individuals from establishing and developing healthy and stable relationships with others, causing some people to withdraw and avoid social situations, missing social opportunities, and thus affecting their mental health and quality of life（Ainsworth, Blehar, Waters & Wall, 1978）.

The impact of social anxiety on interpersonal relationships has gradually become a focus of common concern in multiple disciplines such as psychology and sociology（Argyle & Henderson, 1985）. From a psychological perspective, in-depth research on the intrinsic connection between social anxiety and interpersonal relationships can help reveal the psychological mechanism of human social behavior and provide a theoretical basis for mental health intervention（Baumeister & Leary, 1995）; from a sociological perspective, understanding the manifestations and impacts of social anxiety in different social groups and cultural backgrounds can provide useful references for building a harmonious society and promoting social integration（Bem, 1972）.

Object of research:

Individuals currently facing social anxiety include diverse groups such as college students, working people, and community residents.

Subject of research:

The hindering effect of social anxiety on the establishment and development of interpersonal relationships and intervention strategies.

Purpose of research:

Through empirical research and theoretical analysis, reveal the intrinsic correlation mechanism between social anxiety and interpersonal relationships, explore effective ways to alleviate social anxiety and optimize interpersonal interactions, and provide a scientific basis for the construction of individual mental health and social support systems.

Objectives of the research.

1. Analyze the current status of social anxiety and its multidimensional impact on interpersonal relationships.
2. Explore the interaction between personal traits, cognitive biases and environmental factors in social anxiety hindering interpersonal relationships.
3. Evaluate the differences in the effectiveness of different intervention strategies (cognitive reconstruction, skill training, social support)
4. Provide suggestions for educational institutions, enterprises and communities to design targeted intervention programs.

Research Methods

A mixed research method was adopted, with quantitative research as the main method and qualitative analysis as the auxiliary method:
• Quantitative research: Based on the Liebowitz Social Anxiety Scale (LSAS)（Buss, 1991）and the Interpersonal Relationship Diagnostic Questionnaire（Bowlby, 1969）, data from 100 subjects were collected, and correlation analysis, variance test and regression model construction were performed using SPSS.
• Experimental method: Design a simulated social interaction experiment to compare the behavioral performance of the high/low anxiety groups (speaking frequency, heart rate, eye contact, etc.)（Canary & Cupach, 1988）.

• Qualitative research: Select typical cases for in-depth interviews, and analyze individual differences by combining attachment model and cognitive behavioral theory.

Innovations

1. Theoretical integration: constructing a three-dimensional framework of "cognition-biology-social" （Carver & Scheier, 1982）, systematically revealing the dynamic interaction mechanism between social anxiety and interpersonal relationships.

2. Methodological innovation: combining experimental methods with ecological momentary assessment (EMA) to capture the real-time physiological and behavioral responses of social anxiety. （Clark & Wells, 1995）

3. Practice orientation: proposing a phased and personalized intervention strategy covering self-regulation, social support and digital tool application.

Theoretical significance

1. Enriching the theoretical system of social anxiety and verifying the differences in the role of cognitive bias in different interpersonal relationships.

2. Expanding the application of attachment theory in adult social behavior （Cohen & Wills, 1985）, revealing the long-term association between early attachment patterns and social anxiety.

3. Integrating evolutionary psychology and social learning theory （Coyne & Smith, 1991）, providing a new paradigm for multidisciplinary cross-disciplinary research.

Practical significance

1. Individual level: helping people with social anxiety identify cognitive traps, master emotion regulation and social skills, and improve relationship quality.

2. Educational institutions: optimizing mental health courses, designing social situation simulation training （Cutrona & Russell, 1992）, and promoting students' adaptive development.

3. Social organizations: build workplace and community support networks, develop anxiety mutual aid groups and skills workshops, and enhance social cohesion.

4. Policy making: provide data support for the mental health service system and promote the inclusion of social anxiety intervention in the public health agenda （Duck, 1988）.

In-depth analysis of the specific mechanisms that hinder the establishment and development of individual interpersonal relationships by social anxiety, through scientific and rigorous empirical research, reveal the inherent connection between the two, provide a solid empirical basis for the development of relevant theories, and provide practical guidance for intervention practice.

At the theoretical level, the research results will help fill some gaps in the research field of social anxiety and interpersonal relationships and further improve the relevant theoretical system. At present, although there have been many studies on social anxiety and interpersonal relationships, there is still a lack of systematic and in-depth discussion on how social anxiety affects interpersonal relationships at different stages and the interaction of multiple factors in this process. This study incorporates personal traits, cognitive factors, environmental factors, etc. into a unified framework for analysis, which is expected to reveal the complex relationship between these factors, provide a new perspective for understanding the nature of social anxiety, and promote theoretical development in the field of psychology in the study of social and emotional relationships.

In terms of practice, the research results have broad application value. For individuals who are deeply troubled by social anxiety, clarifying the mechanism by which social anxiety hinders interpersonal relationships

can help them better understand their own problems, so as to make targeted self-adjustments and interventions. For example, by learning emotion regulation skills, improving cognitive patterns, and improving social skills, they can gradually overcome social anxiety, actively establish and maintain good interpersonal relationships, and improve their quality of life and social adaptability.

Educational institutions can optimize mental health education courses and social skills training systems based on the results of this study. Add content on social anxiety prevention and intervention to the curriculum, carry out cognitive reconstruction training, social situation simulation exercises and other activities, help students, especially teenagers, establish correct social concepts, cultivate good social psychological qualities and skills, reduce the incidence of social anxiety, and promote the all-round development of students.

Social organizations such as enterprises and communities can also use the research conclusions to build a more humane social support environment. Enterprises can integrate social anxiety coping strategy training into employee training and team building to help employees relieve anxiety caused by work pressure and social needs, improve team collaboration efficiency and employee satisfaction; communities organize social anxiety mutual aid groups, mental health lectures and other activities to provide residents with social skills learning and psychological support platforms, and enhance community cohesion and residents' sense of happiness.

1 Theoretical basis of social anxiety and interpersonal relationships
1.1   Concept and theoretical model of social anxiety

Definition and manifestations of social anxiety. Social anxiety is a significant and persistent fear or worry that an individual may be scrutinized or evaluated by others in a social or performance situation. Its core characteristics are excessive sensitivity and fear of negative evaluation. In social situations, individuals with social anxiety often show a variety of typical manifestations（Dindia & Canary, 1993）   . For example, when facing strangers or speaking in public, they may have physiological reactions such as blushing, rapid heartbeat, sweating, hand tremors, and rapid breathing. In terms of behavior, they may avoid eye contact, speak in a trembling and stuttering voice, or even completely avoid participating in social activities, such as refusing to attend parties, speeches, team discussions, etc. At the cognitive level, they often pay too much attention to their own performance, believing that their words and deeds will be negatively evaluated by others. They may constantly have images of themselves making a fool of themselves or being criticized in their minds, and tend to interpret ambiguous social situations negatively, such as misinterpreting others' inadvertent glances or smiles as ridicule or contempt. Behavioral Experimental Theory: This theory holds that people with social anxiety may adopt avoidance behaviors to reduce anxiety, avoid social situations or behave in a rigid and unnatural manner in social situations. These behaviors may relieve anxiety in the short term, but in the long term, they will prevent individuals from correcting cognitive biases and improving social skills through actual experience, thereby maintaining social anxiety. Conclusion: Social anxiety has obvious manifestations at the physiological, behavioral and cognitive levels. These manifestations influence each other and together constitute the distress of socially anxious people in social situations, seriously affecting their social experience and the establishment of interpersonal relationships.

Related theoretical models. Cognitive behavioral theory model: This model believes that social anxiety originates from individuals' cognitive biases in social situations and maladaptive behavior patterns. Individuals with social anxiety often hold negative self-beliefs（Endler & Parker, 1990）, such as believing that they are not good enough or lack social skills. This self-cognition leads them to expect negative results in social situations, which in turn triggers anxiety. In order to reduce anxiety, they may adopt avoidance behaviors, but this avoidance behavior further strengthens their negative cognition and anxiety response, forming a vicious cycle. For example,

a person who thinks he is boring in social situations will be extremely nervous when attending a party because he is worried that others will find him boring, so he chooses to sit in the corner and not communicate with others. This avoidance behavior makes him more convinced that he is not good at socializing, thereby aggravating social anxiety. Conclusion: The cognitive behavioral theory model clarifies the key role of cognitive bias and avoidance behavior in the formation and development of social anxiety, provides an important cognitive – behavioral perspective for understanding social anxiety, and also provides direction for the formulation of intervention measures.

Evolutionary psychology theoretical model: From an evolutionary perspective, social anxiety may be an overreaction of an adaptive mechanism. In the process of human evolution, being excluded from the group may mean losing survival resources and reproductive opportunities, so individuals' fear of negative evaluation in social situations helps them avoid behaviors that may lead to being excluded from the group (Festinger, 1957) . However, in modern society, this primitive adaptive response may be too strong in some individuals, causing excessive anxiety even in relatively safe social situations without actual survival threats. For example, when worried about being criticized by colleagues or superiors during work reports, even though such criticism is not really life-threatening, individuals will still have strong social anxiety. Conclusion: The evolutionary psychology theoretical model explains the root causes of social anxiety from the perspective of human evolution, indicating that it may be an adaptive mechanism that overreacts in the modern social environment, broadening the dimensions of understanding the causes of social anxiety.

Psychodynamic theory model: This model emphasizes the impact of subconscious conflicts and childhood experiences on social anxiety. Freud believed that if an individual experiences traumatic events in childhood, such as being overly criticized or neglected by parents, these early experiences will leave conflicts and contradictions in the subconscious. When the individual faces social situations as an adult, these subconscious conflicts will be activated, leading to anxiety （Folkman & Lazarus, 1980） . For example, people who are often criticized in public by their parents as children may be overly concerned about the evaluation of others in social situations as adults, fearing making mistakes and being criticized, and thus developing social anxiety. Conclusion: The psychodynamic theory model reveals the potential impact of childhood traumatic experiences and subconscious conflicts on the formation of social anxiety, providing a unique perspective for in-depth exploration of the psychological roots of social anxiety, and suggesting that attention can be paid to individual childhood experiences in intervention.

Social learning theory model: This model believes that social anxiety is formed through observational learning and the influence of the social environment. When an individual grows up, he or she may learn social anxiety by observing others' negative experiences in social situations or being influenced by the negative attitudes of those around him or her towards social interaction （Gilbert, Fiske & Lindzey, 1998） . For example, if a child sees his or her parents always nervous and evasive in social situations, or often hears his or her parents complain about the unpleasantness of social interaction, then the child is likely to feel anxious when facing social situations himself or herself. Conclusion: The social learning theory model emphasizes the important role of social environment and observational learning in the formation of social anxiety, indicating that changing the social environment in which an individual lives and guiding correct observational learning are of great significance in preventing and alleviating social anxiety.

Attachment theory model: Attachment theory is a psychological and evolutionary framework that explains human relationships, especially the early emotional connection between infants and primary caregivers and its subsequent effects. It was proposed by John Bowlby . The theory holds that it is essential for infants to form a close relationship with at least one primary caregiver for their survival and the development of social and emotional functions（Guerrero, Andersen & Afifi, 2007） . Core concepts: Attachment refers to the deep and lasting emotional bond formed between an individual and an attachment figure (usually a caregiver). In the relationship between children and adults, the emotional bond of the child is called " attachment " and the corresponding emotional bond of the caregiver is called " caregiving bond " . The attachment between infants and caregivers is based on the infant's need for safety, security and protection, which is particularly critical during infancy and childhood. Attachment behavior system: When an individual feels stressed, whether it is internal stress (such as hunger, fatigue, illness) or threatening stimuli in the external environment, his attachment behavior system will be activated, prompting him to seek closeness with the attachment figure to protect himself from physical or emotional harm. For example, when an infant feels scared, he will actively move closer to his parents to gain a sense of security. This behavioral system works throughout a person's life. When adults are under stress, they tend to seek comfort from those close to them. . Care system: The attachment object acts as a " safe haven " and its role is to inactivate the infant's attachment system by adjusting its own response, thereby giving the infant a sense of security. When the infant's attachment system is activated and exhibits behaviors such as seeking closeness, the caregiver will respond sensitively and appropriately, such as giving comfort and hugs, to meet the infant's need for security and thereby shut down the infant's attachment system. Exploration behavior system: When the baby feels safe and its attachment system is inactive, it will put its energy into exploring the surrounding environment. For example, in a familiar and safe environment, the baby will leave the caregiver to explore the surrounding things. The support and presence of the caregiver provides a guarantee for the baby's exploratory behavior, allowing the baby to develop cognitive and social skills on a safe basis. Attachment pattern Secure attachment: If the caregiver always responds promptly, sensitively and positively to the baby's needs, the baby will develop a secure attachment. In an unfamiliar environment, this type of baby will use the caregiver as a safe base to explore; when separated from the caregiver, they will show anxiety, but will be quickly comforted when they are reunited. As they grow up, they tend to show a high sense of security and trust in their relationships, can easily form close relationships with others, and can handle conflicts and problems in relationships well.

Anxious – ambivalent (anxious) attachment: The caregiver's response to the baby's needs is unstable, sometimes timely, sometimes ignoring, which will cause the baby to form an anxious – ambivalent attachment. The baby will be extremely anxious when separated from the caregiver, and difficult to comfort when reunited. He will be both dependent and angry with the caregiver. As an adult, this type of person will show a strong sense of insecurity in intimate relationships, over-dependence on the partner, constant fear of being abandoned, high sensitivity to the partner's behavior, and prone to anxiety and jealousy Avoidant attachment: When caregivers ignore or respond indifferently to the needs of infants for a long time, infants will develop avoidant attachment. They do not seem to be sad when they are separated from their caregivers, and will actively avoid contact with their caregivers when they are reunited. As adults, such people tend to show indifference and alienation in interpersonal relationships, find it difficult to establish deep emotional connections with others, and have a fear and avoidance of intimacy. Disorganized attachment: Infants who experience neglect, abuse, or inconsistent responses from their caregivers may develop disorganized attachment. When faced with stressful situations, their behavior is disorganized and contradictory, seeking closeness while avoiding their caregivers. As adults, these people may experience emotional instability and impulsive behavior in their interpersonal relationships, making

it difficult for them to establish healthy, stable relationships.   （Hazan & Shaver, 1987） Impact on interpersonal relationships and interpersonal cognition: The attachment pattern formed by an individual in his early years will shape his cognition and expectations of interpersonal relationships. People with secure attachment tend to believe that others are reliable and trustworthy, and will view the behavior and intentions of others more positively in interpersonal relationships; while people with anxious attachment tend to interpret the behavior of others negatively and are always worried that others will abandon them; people with avoidant attachment may be wary of others approaching them and believe that interpersonal relationships are full of risks. Influence on interpersonal interaction behavior: In interpersonal interaction, people with different attachment patterns behave differently. People with secure attachment can express emotions naturally, actively participate in interactions, and establish good communication and cooperation with others; people with anxious attachment may be overly dependent on others, be too clingy in interactions, and bring pressure to the other party; people with avoidant attachment may be indifferent and passive, unwilling to invest too much emotion, and hinder the further development of the relationship. . Affects the stability and quality of relationships: People with secure attachment are more likely to establish and maintain stable and healthy interpersonal relationships. They are able to give and receive emotional support in relationships and have higher relationship satisfaction. People with anxious attachment may increase conflicts and contradictions in relationships due to their oversensitivity and dependence, affecting the stability of relationships. People with avoidant attachment find it difficult to establish deep connections with others, and their relationships are often superficial and unstable. . Development and application of the theory: Mary Ainsworth further verified and refined Bowlby's theory through the " strange situation " experiment and proposed a variety of attachment types. Afterwards, attachment theory was extended to the field of adult relationships to explain the behavior and psychological patterns of adults in relationships such as love and friendship （Heider, 1958）. In psychological counseling and therapy, attachment theory is widely used to help counselors understand the root causes of clients' interpersonal relationship problems and develop targeted treatment plans; in the field of education, teachers can pay attention to students' emotional needs based on attachment theory, create a safe and supportive learning environment, and promote students' healthy growth. Conclusion: The attachment theory model starts from the individual's early emotional connection and deeply explores its impact on subsequent interpersonal relationships and social anxiety. It provides a unique developmental perspective for understanding human social behavior and has important guiding value for practice in multiple fields.

Emotional Processing Model

Emotional information processing bias: People with social anxiety have biases in processing emotional information. They are more sensitive to and remember negative emotional information, tend to focus on other people's negative expressions and words, and have difficulty diverting attention from these negative information. This bias will make them more likely to feel threatened in social situations, which in turn triggers anxiety.

Emotional regulation difficulties: People with social anxiety often have difficulties in emotional regulation. They lack effective emotion regulation strategies and find it difficult to control their anxiety when facing social pressure. For example, they may overuse passive emotion regulation strategies, such as passive coping and self-immersion, and use less active emotion regulation strategies, such as cognitive reconstruction and problem solving.

Integration and application value of theoretical models

The formation and maintenance of social anxiety is the result of the synergistic effect of multiple mechanisms:

• Early attachment patterns lay the foundation for relationship cognition;

• Cognitive biases amplify social threat perception;

• The social environment (such as cultural expectations) provides a breeding ground for anxiety;

• Biological traits determine an individual's susceptibility to anxiety.

Practical significance:

• Precision intervention: Select therapy based on the individual's dominant mechanism (such as those with attachment trauma focusing on relationship repair, and those with cognitive bias focusing on cognitive reconstruction);

• Interdisciplinary collaboration: Integrate psychology, neuroscience and sociology resources to build a systematic support network.

Cognitive – biological – social framework integration model: It comprehensively explains the relationship between social anxiety and interpersonal relationships from the three levels of cognition, biology and society, breaks the limitation of a single theory, and comprehensively presents its influencing factors and mechanisms of action（Hinde, 1979）. Cognitive level: Cognitive factors play a key role in social anxiety and interpersonal relationships. People with social anxiety often have cognitive biases and interpret social situations negatively. During group discussions, people with social anxiety may regard others' normal questions as doubts about their own speeches, which leads to anxiety. This negative cognition makes them full of worries before socializing, which affects their social behavior. During the social process, they are overly self-focused, always worried about their poor performance, unable to focus on interacting with others, and hindering the establishment of good interpersonal relationships. Moreover, this cognitive bias will form a vicious cycle if it persists for a long time, which will continue to affect the development of interpersonal relationships. Biological level: Biological factors provide a physiological basis for social anxiety. Genetic factors have a certain influence on social anxiety. Studies have shown that genetic tendencies make some people's brain regions such as the amygdala more reactive. When facing social situations, the amygdala is overactivated, prompting the body to produce a series of anxiety reactions, such as accelerated heart rate and sweating. These physiological reactions will make individuals feel uncomfortable in social situations, and then they will avoid social interactions. Long-term avoidance behavior will make it difficult to improve social skills, further exacerbate social anxiety, and affect interpersonal relationships. Social level: The social environment has an important impact on social anxiety and interpersonal relationships. Different cultures have different expectations and evaluation standards for social behavior. In some cultures that advocate extroverted personalities, people with social anxiety will be under greater pressure because they do not meet this standard, their self-identity will be reduced, and their social anxiety will be exacerbated. The popularity of social media has also brought new problems. People are prone to " comparison anxiety " in virtual social interactions , pay too much attention to the " perfect life " of others , and feel that they are not as good as others, which affects their self-confidence and performance in real social interactions. In addition, family education is also crucial. An overprotective or harshly critical family environment will make individuals lack opportunities to cultivate social skills and build self-confidence during their growth, increase their susceptibility to social anxiety, and hinder them from establishing good interpersonal relationships in society. Integration mechanism: Cognitive, biological, and social factors interact with each other and jointly affect social anxiety and interpersonal relationships. Physiological reactions caused by biological factors will affect cognition. For example, the physiological reaction of anxiety caused by high reactivity of the amygdala will make individuals more prone to negative cognitive biases. Social factors can also affect cognition. For example, cultural pressure can strengthen the negative self-cognition of people with social anxiety. And cognition can affect the behavior of individuals in social environments. The avoidance behavior of people with social anxiety due to negative cognition can change their social environment, such as reducing social opportunities, and thus affect interpersonal relationships. This

multi-level interaction forms a complex dynamic system that comprehensively affects the establishment and development of interpersonal relationships of people with social anxiety. Conclusion: The cognitive – biological – social framework integration model breaks the limitations of a single theory, comprehensively presents the influencing factors and mechanisms of social anxiety and interpersonal relationships, and provides a more comprehensive and systematic perspective for in-depth research on the relationship between the two.

1.2   An Overview of the Theory of Interpersonal Relationship Establishment and Development

Interpersonal relationships refer to the psychological connections between people formed through interaction in social activities. This connection is based on people's desire to meet social needs. Its closeness, distance, nature and characteristics will change with the degree to which the social needs of both parties are met, affecting the individual's life, study and work（Hofmann & Barlow, 2002）. Conclusion: Interpersonal relationships are closely related to the individual's social needs, have a wide and important impact on all aspects of the individual's life, and are an indispensable part of the individual's social life.

Constituent elements: Cognitive elements: are the basis for the formation of interpersonal relationships, including individuals' cognition and understanding of themselves, others and their relationships. For example, understanding friends' interests, hobbies, personality traits, and judging the nature and development stage of friendship. Accurate cognition helps to establish and maintain good interpersonal relationships, while wrong cognition may lead to misunderstandings and conflicts. Emotional elements: as the core of interpersonal relationships, they cover a variety of emotional experiences such as likes, dislikes, trust, and jealousy. Positive emotions such as likes and trust can bring people closer and increase the intimacy of relationships; negative emotions such as dislike and jealousy can lead to alienation or tension in relationships. Mutual love and trust between friends are important factors in maintaining deep friendships. Behavioral elements: are the external manifestations of interpersonal relationships, presented through verbal communication, body movements, facial expressions and other behaviors. For example, smiling and hugging when meeting, verbal expression, listening and responding when talking, and interactive collaboration when cooperating. Behavior can convey rich information and affect others' impressions of themselves and the development of relationships. Conclusion: Cognitive, emotional and behavioral elements are interrelated and together constitute the basic framework of interpersonal relationships. Changes in any one element may affect the quality and development of interpersonal relationships.

Characteristic classification; Individuality: interpersonal relationships are based on individuals, and everyone has unique needs, motivations, attitudes, and behaviors in relationships. Even in the same social situation, different individuals will perform and feel differently. In team activities, some people actively organize and coordinate, while others prefer to cooperate silently. Directness: It is a direct psychological connection between people without the help of a third party. This directness enables people to communicate and interact face to face, directly feel each other's emotions, attitudes, and intentions, and then adjust their own behaviors and attitudes in a timely manner. Emotionality: Emotions occupy an important position in interpersonal relationships and are an important bond to maintain relationships. The closeness and positive and negative emotions of emotions will affect the quality and stability of interpersonal relationships. In an intimate relationship, deep emotions can enable both parties to support and understand each other; while negative emotions may lead to a breakdown in the relationship（House, 1981）.

By relationship subject: Relationship between individuals, such as friends, lovers, and colleagues, is based on interaction and emotional exchange between individuals; relationship between individuals and groups, such as the relationship between individuals and classes , societies, and enterprises, individuals need to adapt to group rules and culture and assume corresponding roles and responsibilities; relationship between groups, such as the relationship between enterprises and schools, involves the interaction and interest coordination of multiple individuals. Classification by relationship nature: emotional relationship, which exists between family members and close friends, is based on deep emotions, focuses on care, support, and emotional exchange, and is less utilitarian; instrumental relationship, which is established to achieve specific goals or obtain benefits, such as business partners and doctor-patient relationships, focuses on interest exchange and goal achievement; mixed relationship, which is both emotional and instrumental, such as classmates and neighbors, has both emotional basis and may have interest exchanges. Conclusion: The characteristics and classification methods of interpersonal relationships help to more comprehensively understand the diversity and complexity of interpersonal relationships. Different types of interpersonal relationships play different roles in individual lives.

Influencing factors: Personal factors: Personal character, ability, appearance, values, etc. will affect interpersonal relationships. People who are cheerful, warm and friendly, have outstanding abilities, and have positive values are often more attractive and easier to establish good relationships. Introverted people may be more passive in social situations and have relatively difficulty establishing relationships. Interpersonal factors: The frequency, method, and context of communication have an important impact on interpersonal relationships. Frequent communication can deepen understanding and trust. For example, people who often participate in activities together tend to have closer relationships. Appropriate communication methods, including effective communication, respect, and tolerance, can help to establish and maintain relationships. Appropriate communication contexts can also promote the development of relationships. For example, a relaxed and pleasant gathering atmosphere is conducive to communication and interaction.

Social and cultural factors: There are differences in interpersonal relationship patterns under different cultural backgrounds. In collectivist cultures, interpersonal relationships emphasize group harmony and collective interests, and people are highly interdependent; in individualistic cultures, individuals pay more attention to independence and autonomy, and interpersonal relationships are relatively loose. Social class, religious beliefs, etc. will also affect social circles and interpersonal relationship patterns. Conclusion : Multiple factors work together on interpersonal relationships. These factors are intertwined and affect the formation, development and change of interpersonal relationships from different angles. Understanding these factors will help to better establish and maintain interpersonal relationships（Ickes & Duck, 1993）.

Importance; Promote mental health: Good interpersonal relationships can provide emotional support, relieve stress, anxiety and loneliness, and enhance psychological resilience. When people encounter difficulties, the support of friends and family can help them better cope with setbacks and maintain mental health. Help personal growth: In interpersonal relationships, people can learn from each other, draw on experience, broaden their horizons, and improve their abilities and qualities. Interacting with excellent people can motivate oneself to make progress and achieve personal growth and development. Promote career development: Good interpersonal relationships in the workplace can help improve work efficiency, promote teamwork, and create opportunities for personal career development. Having a wide range of personal connections can get more support and help in job hunting and promotion. Improve the quality of life: Harmonious interpersonal relationships can bring pleasant social experiences, enrich life content, increase life fun, and improve the overall quality of life. Close family relationships and sincere friendships can make people feel happy and satisfied. Conclusion: Good interpersonal

relationships have a positive and important impact on individuals' mental health, personal growth, career development and quality of life, and are an important guarantee for individuals' happy lives.

Theory of Interpersonal Relationship Development Stages. Levinger 's five-stage model of interpersonal relationships: This model divides the development of interpersonal relationships into five stages, namely, the encounter stage, the understanding stage, the intimacy stage, the symbiosis stage, and the alliance stage. In the encounter stage, people make their first contact and leave a preliminary impression on each other, mainly through superficial characteristics such as appearance, speech and behavior to get to know each other（Jones & Davis, 1965）. In the understanding stage, the two parties begin to communicate further, share personal information, interests, hobbies, values, etc., and gradually deepen their understanding of each other. In the intimacy stage, the relationship between the two parties becomes closer, and they begin to have emotional dependence and may share deeper inner feelings and secrets. In the symbiosis stage, the lives of the two parties are highly integrated, and they influence and support each other in decision-making and actions, forming a close interdependent relationship. Finally, in the alliance stage, the two parties determine the stability and durability of their relationship through formal or informal commitments, such as marriage and long-term cooperation agreements.

Altman and Taylor 's social penetration theory: This theory emphasizes that the development of interpersonal relationships is a gradual process, similar to peeling an onion, from the surface level to the core level（Kelley, 1973）. In the early stages of interpersonal relationships, people mainly exchange superficial, impersonal information, such as weather and news. As the relationship progresses, the content of the communication gradually penetrates into deeper information such as personal attitudes, values, and emotional experiences. The gradual penetration of the depth and breadth of this information promotes the development of intimacy in interpersonal relationships. For example, new colleagues may initially only talk about work tasks, office environment, etc. As they spend more time together, they begin to talk about more private topics such as their respective career plans and family life, and the relationship becomes closer. Conclusion: These two theories explain the development process of interpersonal relationships from different perspectives, provide a theoretical basis for understanding the dynamic changes of interpersonal relationships, and help people grasp the laws of interpersonal relationship development.

Factors affecting interpersonal relationships. Personal traits: including personality, emotional stability, self-esteem, etc. People with extroverted and cheerful personalities are usually more likely to take the initiative to establish connections with others and maintain good interpersonal relationships; while introverted and withdrawn people may face more challenges in establishing interpersonal relationships. Emotionally stable individuals are better able to cope with conflicts and stress in interpersonal relationships, while people with large emotional fluctuations may affect interpersonal relationships due to temporary emotional out-of-control. People with high self-esteem tend to be more confident, more proactive in interpersonal relationships, and more likely to accept feedback from others and establish healthy relationships; on the contrary, people with low self-esteem may lack confidence in themselves, care too much about others' evaluations, and easily withdraw or defend themselves in interpersonal relationships. Interpersonal interaction factors: mainly communication methods, interaction frequency, reciprocity, etc. Effective communication is the basis of good interpersonal relationships, including clear language expression, listening and understanding others, and the appropriate use of non-verbal signals. Both parties with high interaction frequency are more likely to enhance mutual understanding and trust. For example, friends who often participate in activities and communicate together tend to have closer relationships. Reciprocity

emphasizes that the input and output of both parties in interpersonal relationships are relatively balanced. For example, in friendship, both parties can give and receive corresponding responses in terms of emotional support and material help. Such a relationship is more lasting and stable. If one party gives unilaterally for a long time without receiving any return, the relationship may gradually become alienated. Social and cultural factors: Different cultural backgrounds have a profound impact on interpersonal relationships. In collectivist cultures, such as many Asian countries, interpersonal relationships emphasize group harmony and collective interests over individual interests. People pay more attention to maintaining interpersonal networks in social interactions and have a high degree of interdependence. In individualistic cultures, such as European and American countries, individuals pay more attention to personal independence and autonomy, interpersonal relationships are relatively loose, and the pursuit of self-realization by individuals is more prominent in interpersonal relationships. In addition, social and cultural factors such as social class and religious beliefs will also affect people's social circles and interpersonal relationship patterns. Environmental and external pressures : Stressful life events such as unemployment, illness, and economic crisis may be transferred to negative emotions in relationships. Technology dependence and social media , excessive reliance on online communication weaken deep emotional connections; social media's " contrast anxiety " causes dissatisfaction. Unbalanced time allocation , excessive investment in work or interests and neglect of companionship, lead to emotional alienation. Differences in values and cognition : Conflicts in values , such as money, family, and responsibility, are difficult to reconcile (e.g., differences in consumption values lead to conflicts between couples). Differences in cultural backgrounds : People from different regions, religions, or nationalities may have misunderstandings due to differences in customs and etiquette. Competition for interests and unequal distribution of resources (e.g., workplace promotions, disputes over inheritance) can easily breed jealousy or hostility （Kelley, Berscheid, Christensen, Harvey, Huston, Levinger,& Peterson, 1983）.

Social Exchange Theory

Core idea: interpersonal relationships are essentially a rational process of interest exchange, and individuals pursue maximum benefits and minimum costs.

Benefits: emotional support, resource acquisition, and social status improvement;

Costs: time investment, emotional consumption, and opportunity loss;

Comparison level (CL): individuals evaluate the satisfaction of the current relationship based on past experience;

Alternative comparison level (Clalt): measure whether there may be a better relationship choice.

Application scenarios:

Explain the decision to maintain or terminate a relationship (such as "leaving a depleting friendship");

Limitations: oversimplify emotional factors and ignore irrational behavior.

Conclusion: These factors further enrich our understanding of the factors that affect interpersonal relationships. They influence and interact with each other, and together shape complex and diverse interpersonal relationship patterns.

1.3   Discussion on the Correlation Theory between Social Anxiety and Interpersonal Relationships

How does social anxiety affect interpersonal cognition. Social anxiety can significantly distort an individual's interpersonal cognitive process. First, individuals with social anxiety often have an egocentric bias in social situations, that is, they pay too much attention to their own performance and image and think that they are the focus of others' attention （Lazarus & Folkman, 1984）. For example, in a group discussion, socially anxious people may feel that every word they say will be carefully scrutinized by everyone, but in fact other members

may not pay so much attention to it. Second, they tend to interpret other people's expressions, words and other social cues negatively. For example, normal eye contact from others may be misunderstood as scrutiny or dissatisfaction, and an ordinary comment may be exaggerated as harsh criticism. This negative cognitive bias makes it difficult for them to accurately understand the intentions and emotions of others in interpersonal relationships, thereby hindering the establishment and development of good interpersonal relationships. In addition, social anxiety may also cause individuals to have overly pessimistic expectations of interpersonal relationships, believing that it is difficult for them to establish close and harmonious relationships with others, thereby reducing their willingness and behavior to actively socialize, further worsening the vicious cycle of interpersonal cognition. Conclusion: Social anxiety has a multi-faceted negative impact on interpersonal cognition , undermining the basis for individuals to accurately understand others and establish good interpersonal relationships, highlighting the importance of alleviating social anxiety in improving interpersonal relationships.

Regarding the mechanism of action on interpersonal interaction behavior. Social anxiety has a multi-faceted inhibitory effect on interpersonal interaction behavior. In social situations, people with social anxiety often show avoidance behavior due to the fear of being negatively evaluated. They may avoid participating in social gatherings, team activities, and communicating with strangers. This avoidance behavior makes them lose many opportunities to establish and develop interpersonal relationships. Even in social interactions that they have to participate in, their behavior will be restricted. For example, they may minimize their speeches, speak carefully, and avoid expressing their true opinions and emotions to reduce the risk of being criticized by others. In terms of body language, they may appear stiff and unnatural, such as fidgeting, with nowhere to put their hands and feet, etc. These behaviors will send unconfident and unfriendly signals to others, affecting others' impressions of themselves and the atmosphere of interaction. Moreover, people with social anxiety are often not proactive enough in their feedback in interpersonal interactions, and it is difficult to form a good interaction rhythm with others. For example, they may delay responses, respond briefly, and lack emotional resonance in conversations, which makes it difficult for interactions to go deep, ultimately affecting the quality and development of interpersonal relationships. Social anxiety and interpersonal relationships are closely linked at the theoretical level. A deep understanding of the concept and theoretical model of social anxiety, the theory of establishing and developing interpersonal relationships, and the relationship between the two is of great significance for further studying the actual impact of social anxiety on interpersonal relationships and exploring effective intervention measures to improve the interpersonal relationships of people with social anxiety. Conclusion: Social anxiety seriously inhibits the interpersonal interaction behavior of people with social anxiety, reduces their opportunities to establish and develop interpersonal relationships, and hinders the improvement of the quality of interpersonal relationships. Measures need to be taken to improve it.

Cognitive behavioral theory perspective. Core idea: Social anxiety stems from an individual's negative cognition of social situations (e.g., "I will be laughed at") and the resulting avoidance behaviors . These cognitions and behavioral patterns directly undermine the establishment and maintenance of interpersonal relationships （Leary, 1990）.

Cognitive distortions and the self-validation cycle

Catastrophic thinking: People with social anxiety tend to overestimate the consequences of social failure (e.g., "If I say the wrong thing, I will be completely rejected"), which leads to excessive tension or silence, making the interaction stiff and actually triggering negative feedback from others.

- Verification Theory : Individuals verify their self-perceptions (e.g., "I am boring") through behavior, which may manifest as social avoidance or excessive restraint. Others may become alienated as a result, further reinforcing their negative self-evaluation.

Negative impacts of safety behaviors

People with social anxiety often adopt "safety behaviors" (such as avoiding eye contact and mechanically reciting dialogue templates), which can easily be interpreted by others as indifference or insincerity, undermining trust and intimacy.

Empirical support: Studies have shown that conversation partners of socially anxious people rate their social abilities significantly lower than they actually perform because safety behaviors mask their true potential for interaction.

Self-presentation theory in social psychology

Core mechanism: Goffman's "impression management theory" points out that people with social anxiety are overly concerned about maintaining their self-image and are afraid of exposing their "imperfect self", leading to a "high self-focus" state (such as repeatedly checking their words and deeds).

Interpersonal influence: Over-control behavior (such as deliberately catering to and avoiding conflicts) makes the interaction seem unnatural and reduces the intimacy of the relationship; others may perceive "unreality" and affect the establishment of trust.

Intervention direction: Train attention outward (focus on the content of the conversation rather than self-expression) and cultivate the ability of "authentic self-presentation".

Attachment theory perspective. Core idea: Early attachment patterns shape individuals' expectations and coping strategies for interpersonal relationships, affecting the development of social anxiety and the quality of interpersonal interactions（Leary & Kowalski, 1995）.

Anxious attachment and social phobia

Anxious attachment people desire intimacy but worry excessively about being rejected. They are sensitive to other people's reactions in social situations and may be overly flattering or have mood swings, which leads to unstable relationships.

Avoidant attachment and social avoidance: Avoidant attachment people deliberately distance themselves from others due to fear of dependence, which may aggravate the isolation tendency in social anxiety and form a "loneliness – anxiety" cycle.

The role of internal working models

The "internal working model" in attachment theory refers to an individual's cognitive schema of self and others. People with social anxiety often hold a model of "others are critical and self is incompetent", which leads to anticipating social threats and inhibiting active communication. Conclusion: The attachment theory perspective emphasizes the important role of early attachment patterns in social anxiety and interpersonal relationships, suggesting that intervention can start from the individual's early attachment experience to improve their 56ognitionn and coping style of interpersonal relationships.

Theory of rejection and belongingness needs. Core idea: The basic human need for belonging and the fear of rejection caused by social anxiety create tension, which affects the quality and sustainability of interpersonal interactions（Levinger, 1980） .

Sociometer Theory

This theory holds that self-esteem is a "meter" for measuring social acceptance. People with social anxiety are highly sensitive to signals of rejection (such as others frowning), and their self-esteem fluctuates dramatically,

leading to excessive accommodation or withdrawal, which undermines the equality of relationships（Liebowitz, 1987）.

Rejection – Sensitivity Cycle

People with social anxiety avoid socializing because they are afraid of being excluded. Others may misunderstand their withdrawal as indifference, and actually reduce their proactive contact, forming a vicious cycle of "expected exclusion → behavioral avoidance → real alienation". Conclusion: This theory reveals the mechanism of the contradictory relationship between social anxiety and belonging needs on interpersonal relationships, provides a new perspective for understanding the dilemma of people with social anxiety in interpersonal relationships, and helps to develop targeted intervention strategies.

Interpersonal complementarity theory and interaction model. Core idea: Interpersonal relationships are a dynamic and complementary process of behavior between two parties. The passive or defensive reactions of people with social anxiety may trigger specific feedback from others, reinforcing their original anxiety（Lin, Dean & Ensel, 1986）.

Complementary interaction : If a socially anxious person shows tension or alienation, others may respond less enthusiastically and keep their distance, further confirming the anxious person's belief that they are "not liked."

Power imbalance in relationships

Anxious people often give up their social initiative to others, forming a "follower" role. Being in a passive position for a long time may lead to depression or resentment, weakening relationship satisfaction. Conclusion: Interpersonal complementarity theory emphasizes the mutual influence between socially anxious people and others, provides an interactive perspective for understanding the impact of social anxiety on interpersonal relationships, and suggests that attention should be paid to the interaction mode of both parties when improving interpersonal relationships.

Integration of the biopsychosocial model. Core idea: The relationship between social anxiety and interpersonal relationships needs to be understood from multiple perspectives, including biological, psychological, and social factors（Markus & Kitayama, 1991）.

Biological basis: Genetic predisposition (such as amygdala hyperreactivity) may increase the risk of social anxiety and social avoidance behavior at the same time.

Psychological mechanisms include negative self-schemas , emotion regulation deficits, and attribution biases (such as interpreting neutral events as negative) that jointly exacerbate interpersonal difficulties.

The social environment strengthens and the culture's admiration for "extroverted personality" may amplify the frustration of people with social anxiety; the fragmentation of digital social interaction weakens the ability to interact in reality and aggravates isolation. Conclusion: The biopsychosocial model integrates and comprehensively explains the relationship between social anxiety and interpersonal relationships, provides a comprehensive framework for in-depth research on the relationship between the two, and helps to formulate intervention measures from multiple levels.

Conclusion to Chapter 1

The relationship between social anxiety and interpersonal relationships is not a one-way cause and effect, but rather a multi-path interaction of cognition, behavior, emotion, and social feedback. The core mechanism can be summarized as cognitive bias triggering anticipated fear; behavioral avoidance leading to reduced opportunities for interaction; feedback from others reinforcing negative self-cognition; and long-term cycles leading to a decline in relationship quality and solidification of anxiety.

This study explored the theoretical basis of social anxiety and interpersonal relationships and found that social anxiety has a significant hindering effect at all stages of establishing and developing interpersonal relationships. In the early stages of establishing relationships, people with social anxiety find it difficult to take the initiative to initiate social contact because they are overly worried about negative evaluations; in the process of relationship development, excessive sensitivity to negative feedback hinders the deepening of relationships; in the stage of relationship maintenance, behaviors caused by anxiety are prone to cause relationships to break down or stagnate . Multiple factors interact in this process. Personal traits such as introversion and low self-esteem interact with social anxiety. Cognitive biases such as overgeneralization and catastrophic thinking exacerbate social anxiety. Environmental factors such as family education and social and cultural background also have an important impact on social anxiety and interpersonal relationships.

From the perspective of theoretical contribution, this study enriches the theoretical system in the field of social anxiety. Previous studies have focused on the impact of a single factor on social anxiety or interpersonal relationships, while this study incorporates multiple factors into a unified framework for analysis, deeply analyzes the mechanism of social anxiety throughout the life cycle of interpersonal relationships, verifies some new theoretical hypotheses, such as the dynamic impact of specific cognitive biases on the behavioral decision-making of socially anxious people at different stages of interpersonal relationships, fills the relevant theoretical gaps, and provides an empirical basis for integrating other related theories.

In terms of practical application, this study provides practical guidance for individuals, educational institutions, and social organizations. For individuals, clarifying the harm of social anxiety to interpersonal relationships can help people with social anxiety to conduct self-cognition and self-adjustment, and improve interpersonal relationships by learning methods such as emotion regulation, cognitive reconstruction, and social skills. Educational institutions can optimize mental health education courses and social skills training systems based on the research results to help students prevent and cope with social anxiety and improve the quality of interpersonal relationships. Social organizations such as enterprises and communities can use the research conclusions to build a social support environment, carry out relevant training and activities, and improve employee satisfaction and community cohesion.

II. An empirical study on the role of social anxiety in hindering the establishment and development of interpersonal relationships

2.1 Research Methods and Design

Overall research ideas and methodological basis

This study aims to explore the hindering effect of social anxiety on the establishment and development of interpersonal relationships, using a combination of quantitative and qualitative research methods. The overall idea is to reveal the intrinsic connection between social anxiety and interpersonal relationships based on empirical data through scientific research design and rigorous data collection and analysis processes. In terms of methodology, it follows the principle of positivism, emphasizes the verification of research hypotheses through observation, measurement and analysis, and ensures the objectivity and reliability of research results. At the same time, it draws on theories and methods from multiple disciplines such as social psychology and clinical psychology to conduct a comprehensive study of social anxiety and interpersonal relationships from different perspectives.

Based on previous research and theoretical foundations, the following main research hypotheses are proposed:

H1: The higher the level of social anxiety, the lower the quality of interpersonal relationships. The quality of interpersonal relationships covers multiple dimensions such as intimacy, trust, and communication effectiveness.

It is expected that people with social anxiety will score significantly lower than those without social anxiety in these dimensions.

H2: Social anxiety affects the speed of establishing interpersonal relationships. The higher the level of social anxiety, the longer it takes for individuals to establish initial interpersonal relationships in new social situations.

H3: In the process of interpersonal relationship development, individuals with high levels of social anxiety will find it more difficult to advance relationships to the stage of deep intimacy and will be more likely to experience relationship breakdown or stagnation.

Research Methods

This study adopts a combination of questionnaire survey , quantitative research and qualitative research.

Questionnaire survey method: The advantage of choosing questionnaire survey as the main means of data collection is that it can collect a large number of sample data in a relatively short period of time, which is convenient for large-scale statistical analysis. By designing a questionnaire that includes the Liebowitz Social Anxiety Scale (LSAS) and the comprehensive diagnosis of interpersonal relationships, the social anxiety level and interpersonal relationship status of the subjects were comprehensively evaluated.

Data Collection Tools and Procedures

Data Collection Tools :

1. Liebowitz Social Anxiety Scale (LSAS)**:** This scale is an effective tool widely used in social anxiety assessment. It contains 24 items that assess the degree of fear and avoidance in social situations. It can comprehensively and accurately measure the social anxiety level of the subjects （Mikulincer & Shaver, 2007） . The following is a statistical analysis of the scores based on different groups , aiming to show the differences in social anxiety levels among subjects of different genders, ages and social situations.

2. Interpersonal relationship measurement scale**:** The Interpersonal Relationship Comprehensive Diagnostic Scale was used , which can comprehensively evaluate interpersonal relationship status from multiple dimensions （Montgomery, 1988） . It does not only focus on one aspect of an individual's social interaction, such as communication ability or social initiative, but also covers multiple important areas such as communication behavior, friendship, interpersonal relationship, and getting along with the opposite sex. This comprehensive assessment method helps to more fully portray the overall portrait of a person in interpersonal relationships and discover potential problems and advantages **.**

Data Collection Procedure:

This study uses an online questionnaire survey Designed and distributed through the professional survey platform Wenjuanxing, which is a commonly used online survey tool in China. It supports complex logic jumps, data encryption, and a variety of export formats (such as Excel/SPSS), which is suitable for the rigorous requirements of academic research. Method to recruit subjects. The specific implementation plan is as follows:

1. Recruitment of participants and channel management Recruitment announcements were released through multiple channels, including the mainstream social media platform WeChat , the professional research tool "Wenjuanxing" and the instant messaging software WeChat. The announcement clearly stated that the research theme was "Social Behavior and Psychological State Research", and briefly explained the significance of participation (helping psychological research") and the principle of anonymity.

2. Questionnaire structure and process optimization The questionnaire adopts modular design:

The first part of demographic information includes gender (male/female/other), age (18-25/26-35/36-45 years old), occupation type (student/employed/self-employed, etc.) and other mandatory items.

Part II: Standardized Psychological Assessment

The Liebowitz Social Anxiety Scale (LSAS) contains 24 situational items, with a 4-point rating scale (0 = no anxiety, 3 = severe anxiety), and evaluates the degree of fear and frequency of avoidance.

The comprehensive diagnostic scale for interpersonal relationships

covers six dimensions, including intimate relationships, social networks, and conflict resolution, and contains 28 Likert 5-point items.

The third part of the quality control items has 2 sets of repeated questions to test the consistency of answers, and 3 attention test questions (such as "Please select this option") are embedded.

3. Answering standards and data protection

A mandatory minimum answer time of 35 minutes is set to prevent random answers

Adopt IP address restriction (each IP address can only be filled once) and device identification code double anti-duplicate mechanism. Set up real-time saving function to allow answering to resume within 24 hours after interruption. All data is transmitted to the cloud backend , and the system backend accesses and exports through the permission management system.

Stratified sampling was used, and quotas were allocated according to age (18-25 years, 26-35 years, and 36-45 years) and social context (college students, working professionals, and community residents) to ensure that the proportion of each subgroup was consistent with the population distribution characteristics.

2.2 Empirical Research Results

This section verifies the H1-H3 hypotheses through descriptive statistics, correlation analysis and inter-group difference tests.

SPSS (Statistical Package for the Social Sciences) statistical software was used for data processing. First, descriptive statistical analysis was performed to calculate the mean, standard deviation, minimum, maximum, etc. of the social anxiety level and the indicators of each dimension of interpersonal relationship to understand the basic distribution characteristics of the data. Then, correlation analysis was performed, and the Pearson correlation coefficient was used to test the linear correlation between social anxiety and each dimension of interpersonal relationship to determine the degree and direction of the association between the two. In order to further explore the predictive effect of social anxiety on interpersonal relationships, multiple linear regression analysis was used, with social anxiety as the independent variable and each dimension of interpersonal relationship as the dependent variable, to analyze the independent effect of social anxiety on interpersonal relationships and the net effect after controlling other variables. When comparing the differences in the establishment and development of interpersonal relationships among individuals with different degrees of social anxiety, analysis of variance (ANOVA) or independent sample t-test was used

Table 2.1 – Sample demographic characteristics

variable	Classification	Frequency (n=100)	percentage(%)
gender	male	53	53%
	female	47	47%
age	18-25 years old	32	32%
	26-35 years old	45	45 %
	36-45 years old	23	23%
Social Situation	College students	40	40%
	Professionals	35	35%
	Community Residents	25	25%

This study selected 100 participants for testing data , including 53 males and 47 females . The age range of the subjects was 18-45 , with an average age of 28. The subjects came from different social situations, including college students, working people, and community residents, to ensure the diversity and representativeness of the sample . College students are in an active social period and face a variety of social challenges, working people involve complex workplace interpersonal relationships, and community residents reflect the social situation in daily life. Such a sample combination can comprehensively reflect the manifestation of social anxiety in different groups and social scenarios and its impact on interpersonal relationships.

Table 2.2 – Gender group scores

gender	Sample size	Mean LSAS score	Standard Deviation	Score range
Male	53	55.2	12.5	30 – 85
female	47	60.5	13.8	35 – 90

2. Sample distribution. Total sample size : 100 people (53 males and 47 females), with a close male-female ratio (53% vs. 47%), and a relatively balanced gender distribution.

Reasonableness of sample size : The sample size of each group exceeded 30, meeting the statistical requirements of large samples, but the sample size of the female group was slightly smaller, which may affect the statistical power of the comparison between groups.

2. LSAS score characteristics. Difference in average score :

Distribution of anxiety levels of the overall sample (N=100)

High anxiety (LSAS ≥60): Female group (47 people): The average score is 60.5 (close to the threshold of moderate anxiety), combined with the standard deviation of 13.8, it is estimated that about 50%-55% (24-26 people) reach a high anxiety level. Male group (53 people): The average score is 55.2 (below the threshold), combined with the standard deviation of 12.5, it is estimated that about 25%-30% (13-16 people) reach a high anxiety level.

Age group: 18-25 years old (32 people): The average score is 58.0 (close to the threshold), combined with the standard deviation of 13.0, it is estimated that about 40%-45% (13-14 people) are high anxiety. 26-35 years old (45 people): The average score is 56.5, and it is estimated that about 30%-35% (13-16 people) are high anxiety. 36-45 years old (23 people): average score 52.0, estimated about 10%-15% (2-3 people) are highly anxious.

Social situation group: college students (40 people): average score 59.5 (close to moderate anxiety), combined with the standard deviation of 13.5, estimated about 45%-50% (18-20 people) are highly anxious. Working people (35 people): average score 54.0, estimated about 20%-25% (7-9 people) are highly anxious.

Community residents (25 people): average score 53.0, estimated about 10%-15% (3-4 people) are highly anxious. Moderate anxiety (45≤LSAS<60): In the overall sample, about 35%-40% of the participants are in this range, among which women, young people (18-25 years old) and college students account for a higher proportion. Low anxiety (LSAS<45): Mainly distributed in the 36-45 age group (about 40%-50%) and community residents (about 50%-60%), with the proportion of males slightly higher than that of females. The average score of the female group (60.5) was significantly higher than that of the male group (55.2), with a difference of 5.3 points .

Potential significance : According to the LSAS clinical cut-off value (usually a total score ≥ 60 is the threshold for moderate anxiety), the average score of the female group was close to the clinically significant level, while that of the male group was below this threshold.

Standard deviation comparison :

The standard deviation of the female group (**13.8**) was higher than that of the male group (**12.5**), indicating that there were greater individual differences in the social anxiety levels of female participants.

Score range :

The score range of the female group was wider (**35-90**), especially the high score (maximum 90 points) was significantly higher than that of the male group (maximum 85 points), suggesting that there are more severe socially anxious individuals among women.

III. Recommendations for statistical tests of gender differences

Independent samples t-test :

Null hypothesis (H_0): There is no significant difference in the mean LSAS scores between male and female groups.

Alternative hypothesis (H_1): There is a significant difference in the mean LSAS scores between male and female groups.

Inspection conditions :

Sample independence: Satisfied.

Homogeneity of variance: needs to be determined by Levene's test (if the variance is unequal, a corrected t-test should be used).

Effect size calculation : Cohen's d = (60.5 – 55.2) / pooled standard deviation ≈ **0.40** (small to medium effect).

Interpretation of results :

The test results were significant ($p < 0.05$), which supports the conclusion that women have higher levels of social anxiety.

Table 2.3 – Age group scores

Age range	Sample size	Mean LSAS score	Standard Deviation	Score range
18 – 25 years old	32	58.0	13.0	32 – 88
26 – 35 years old	45	56.5	12.8	30 – 86
36 – 45 years old	23	52.0	11.5	28 – 75

IV.   Sample distribution and data characteristics

Total sample size: 100 people, age groups cover youth to middle-aged, but the distribution is uneven:

The sample size was the largest in the 26-35 year old group (45 people, accounting for 45%), while the sample size was smaller in the 36-45 year old group (23 people, accounting for 23%).

LSAS score trend: The average score decreased with age: 18-25 years old group (58.0) > 26-35 years old group (56.5) > 36-45 years old group (52.0), with the maximum difference reaching 6.0 points.

Significance: If the LSAS total score ≥ 60 is used as the threshold for moderate anxiety, only the mean value of the 18-25 year old group is close to this standard, indicating that social anxiety problems are more prominent among young people.

V.   Analysis of intra-group differences

Standard Deviation: The standard deviation of each age group was high (11.5-13.0), indicating significant individual differences within the group, especially in the 18-25 age group (standard deviation 13.0).

Possible reasons: Young people are in a period of social exploration and their ability to adapt to the environment varies, which leads to large fluctuations in anxiety levels.

Score range: The 18-25 age group had the widest range (32-88), with the highest score reaching 88 points, which is much higher than other groups (maximum 86 points and 75 points), indicating that there are extremely anxious individuals in this group.

The score range in the 36-45 age group was the narrowest (28-75), which may be due to the stabilization of social roles (such as family and career stereotypes) that reduced social anxiety fluctuations.

VI.   Statistical tests for differences between groups

Analysis of variance (ANOVA):

Null hypothesis (H_0): There is no significant difference in the mean LSAS values among the three groups.

Alternative hypothesis (H_1): There is a significant difference between at least two group means.

Inspection conditions:

Sample independence: Satisfied.

Homogeneity of variance: needs to be confirmed by Levene's test (if the variance is unequal, Welch correction needs to be used).

Effect size calculation: If ANOVA is significant, further calculate Eta square (η^2). For example, $\eta^2=0.06$ means that age explains 6% of the anxiety variance.

Post Hoc:

If ANOVA is significant, use Tukey HSD method to compare two groups:

18-25 years old vs. 36-45 years old: The difference may be significant (mean difference of 6.0 points).

18-25 years old vs. 26-35 years old: The difference is small (mean difference is 1.5 points) and may not be significant.

VII.   Discussion on potential influencing factors

Developmental psychology perspective:

Young people (18-25 years old) face pressures such as identity recognition, academic/career competition, and frequent changes in social scenarios, which can easily cause anxiety.

Middle-aged people (36-45 years old) have relatively stable social networks, mature coping strategies, and more moderate anxiety levels.

Socio-cultural factors:

The penetration of social media into young people may exacerbate social comparison and self-presentation anxiety. The career stability of the middle-aged group may buffer the stress caused by social uncertainty.

VIII.   Practical significance and suggestions

Intervention focus:

Design social skills training programs for new entrants to campus or the workplace, such as exposure therapy and cognitive restructuring training, for the 18-25 age group.

Provide personalized psychological counseling services for highly anxious individuals (score ≥80).

Summarize

Data show that social anxiety levels tend to decrease with age, with young people (18-25 years old) scoring significantly higher than middle-aged people (36-45 years old). This difference may be caused by developmental stage, social pressure, and the maturity of coping strategies.

Table 2.4 – Social situation grouping scores

Social Situation	Sample size	Mean LSAS score	Standard Deviation	Score range
College students	40	59.5	13.5	33 – 90
Professionals	35	54.0	12.0	30 – 80
Community Residents	25	53.0	11.0	25 – 72

IX.   Average score comparison

of college students was the highest (59.5), which is close to the dividing line between moderate and severe anxiety (usually 55-65 is moderate and 65+ is severe), which may reflect academic pressure, social competition or adaptation problems during the identity transition period.

Of working professionals (54.0) and **community residents** (53.0) were similar, indicating a moderate to low level of anxiety, which may be due to their more stable social environment or richer coping experience.

X.   Data dispersion

Standard deviation : college students (13.5) > working professionals (12.0) > community residents (11.0), indicating that college students have greater individual differences and may be polarized (such as those with extremely high or low anxiety).

Score range :

College students (33-90): The highest score is 90 (close to the upper limit of severe anxiety), and attention should be paid to extreme cases.

Working professionals (30-80) and community residents (25-72): The range is more concentrated, with fewer extreme values.

XI.   Potential influencing factors

College students : Adapting to a new environment, peer pressure, public speaking, or test anxiety may push up scores.

Working professionals : Mature social skills and a stable professional role may alleviate anxiety, but workplace competition or speaking in meetings may still cause stress.

Community residents : Daily social interactions are less frequent or more familiar, and anxiety levels are relatively stable.

XII.   Conclusion and Recommendations

College students need to be given priority attention and psychological support (such as group counseling and stress management training) ; although the anxiety levels of working people and community residents are relatively low, targeted interventions are still needed (such as workplace communication training and community social activities) ; further research can expand the sample size and combine qualitative interviews to explore specific sources of anxiety.
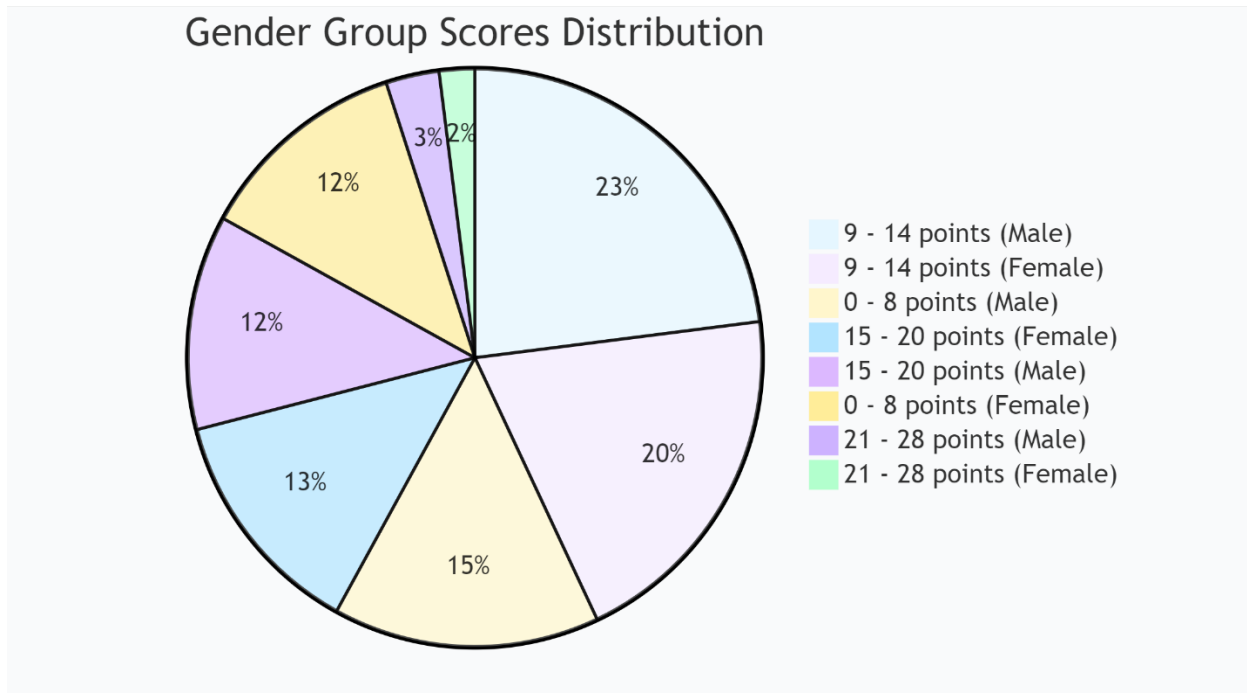
Figure 2.1 – Gender group scores distribution

Gender Group :

Mean Difference: Women scored slightly higher than men (14.0 vs. 13.0), but the difference was small (1 point). Score distribution: Males accounted for a higher proportion in the low score range (0-8 points) (28.3% vs. 25.5%), while females accounted for a slightly higher proportion in the middle and high score range (15-28 points) (31.9% vs. 28.3%). Both groups had fewer people in the high score range (21-28 points) (3 males and 2 females), indicating that serious interpersonal relationship problems were not common.
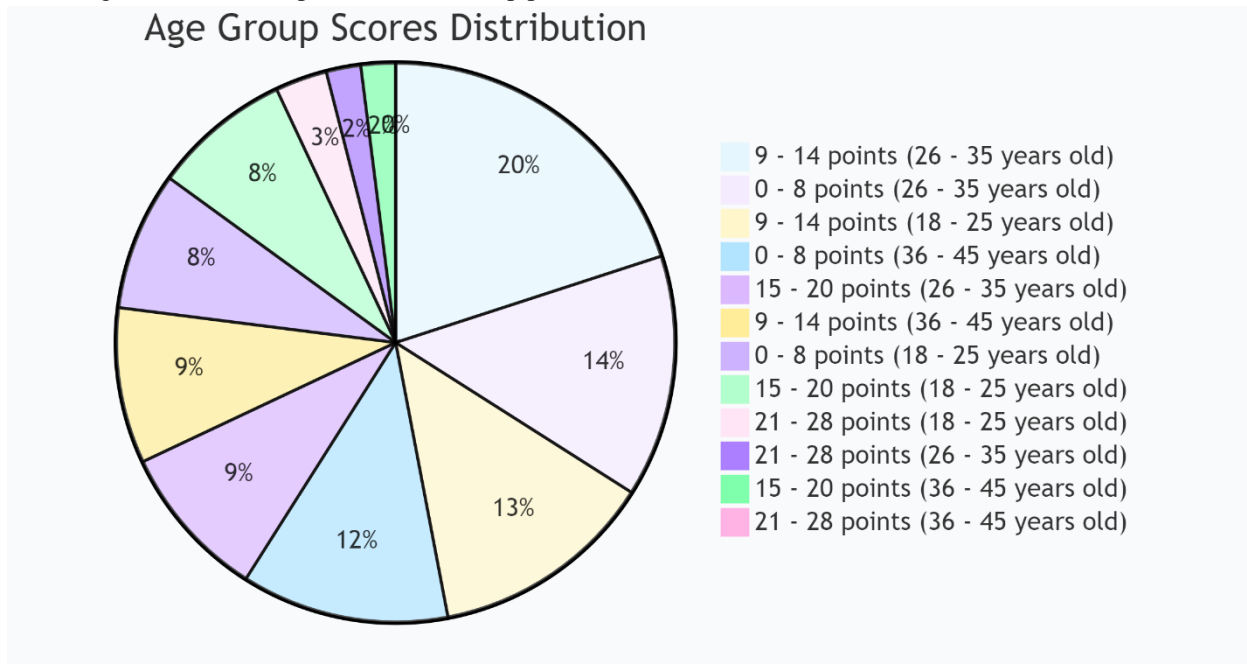

Figure 2.2 – Age group scores distribution

Age Group：

Mean trend : The scores decreased with age (18-25 years old > 26-35 years old > 36-45 years old), and the differences were significant (the maximum difference was 3.5 points).

Score distribution : **18-25 years old** : 34.4% of the respondents scored high (15-28 points), which was significantly higher than other groups, reflecting that young people face more challenges in interpersonal relationships. **36-45 years old** : 84.8% of the respondents scored low (0-14 points), indicating that the interpersonal relationships of the middle-aged group are more stable.
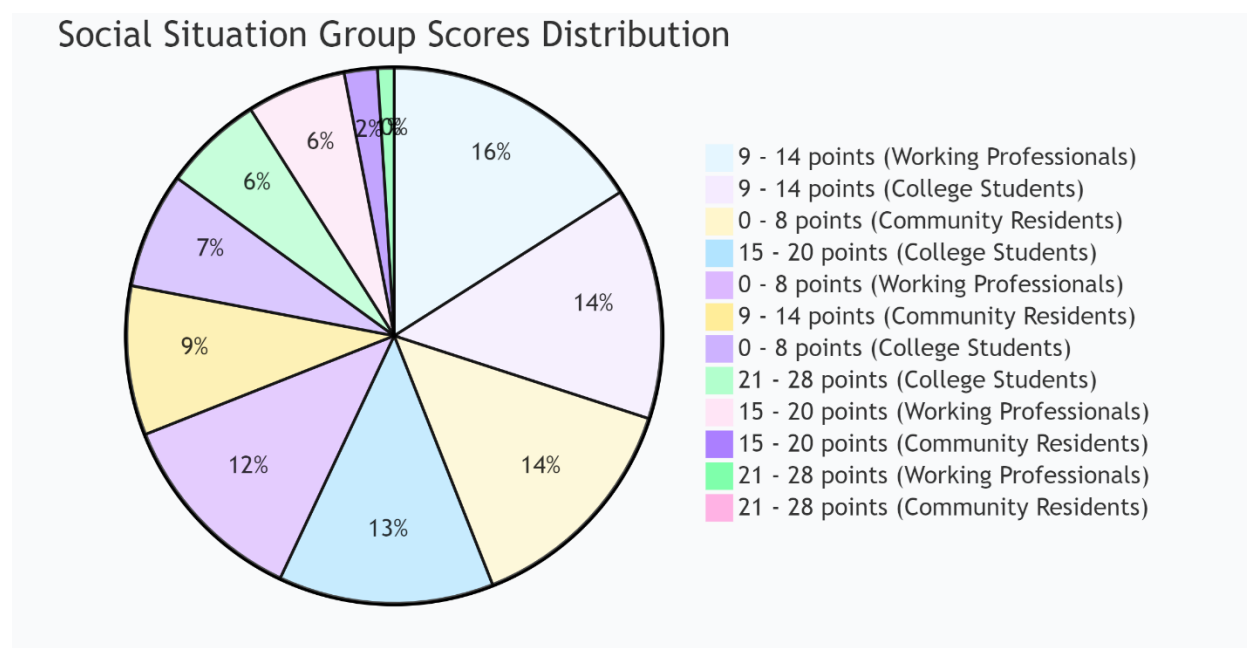

Figure 2.3 – Social situation group scores distribution

Social situation groups

Mean difference : College students scored the highest (15.5), significantly higher than working professionals (12.5) and community residents (10.5).

Score distribution :

College students : 47.5% of them scored high (15-28 points), and nearly half of them faced moderate to severe interpersonal relationship problems.

Community residents : 92% were concentrated in the low score segment (0-14 points), reflecting that the daily social environment was less stressful.

Summarize

The data show that **the younger the age and the more complex the social situation (such as the university environment), the more serious the interpersonal relationship problems . Women** with smaller gender differences may buffer the negative impact of anxiety on relationships through stronger social support networks, or adopt adaptive strategies (such as emotional expression) to alleviate interpersonal conflicts . Descriptive statistics of social anxiety levels are performed on the given data to clearly present the central tendency, dispersion

and distribution range of social anxiety levels in different groups. Starting from the three dimensions of gender, age range and social situation, the mean, standard deviation, minimum and maximum values of each group are comprehensively analyzed to fully understand the data characteristics.

Overall : The total sample size of the study was 100 people, and the overall mean of social anxiety level (measured by LSAS score) was about 56.6 (calculation method: (55.2×53 + 60.5×47 + 58.0×32 + 56.5×45 + 52.0×23 + 59.5×40 + 54.0×35 + 53.0×25)÷100). The standard deviation was about 12.8 (calculated by a complex formula, taking into account the weight of the sample size of each group), and the score range was 25 - 90. This shows that there are certain differences in the social anxiety level of the overall sample, and the score dispersion is medium, with a large fluctuation range.

Gender differences : The male sample size was 53, with an average LSAS score of 55.2, a standard deviation of 12.5, and a score range of 30-85; the female sample size was 47, with an average of 60.5, a standard deviation of 13.8, and a score range of 35-90. The female mean was higher than that of the male, and the dispersion of female scores was greater. The society's expectations of female emotional expression may aggravate their anxiety externalization , indicating that women have relatively higher levels of social anxiety and more obvious differences between individuals.

Age differences : 32 people in the 18-25 age group, with a mean of 58.0, a standard deviation of 13.0, and a score range of 32-88; 45 people in the 26-35 age group, with a mean of 56.5, a standard deviation of 12.8, and a score range of 30-86; 23 people in the 36-45 age group, with a mean of 52.0, a standard deviation of 11.5, and a score range of 28-75. People aged 18-25 had the highest scores, and the mean scores gradually decreased with age. The older they were, the smaller the dispersion of the scores, reflecting that young people have relatively high levels of social anxiety and large differences between individuals, while older people have relatively stable levels of social anxiety.

Social situation differences : 40 college students, mean 59.5, standard deviation 13.5, score range 33 - 90; 35 professionals, mean 54.0, standard deviation 12.0, score range 30 - 80; 25 community residents, mean 53.0, standard deviation 11.0, score range 25 - 72. The average level of social anxiety in the college student group is the highest, and the degree of dispersion is the largest, indicating that college students have relatively prominent problems in social anxiety and large individual differences; the level of social anxiety in professionals and community residents is relatively low and relatively stable.

XIII.   Descriptive statistics of interpersonal relationship diagnostic level

Gender group differences: The mean values of males and females in terms of the degree of trouble in getting along with friends are relatively close, but the female mean value is slightly higher than that of males. In terms of the number of people, there are slightly more males than females in the 0-8 score range, and slightly more females than males in the 15-20 score range. This may reflect that women are more sensitive in interpersonal communication and are more easily affected by some factors and become troubled, but the overall difference is not significant.

Differences among age groups: As age increases, the mean value shows a downward trend. The 18-25 age group has the highest mean value, and the proportion of people in the 15-20 point range is relatively high. People in this

age group have relatively insufficient social experience and are in the stage of self-exploration and social model formation, and are prone to trouble in getting along with friends. The mean value of the 26-35 age group has decreased, and the distribution is more balanced . Social skills and psychological adjustment ability have improved. The 36-45 age group has the lowest mean value, and the proportion of people in the 0-8 point range is the largest, indicating that people in this age group have accumulated rich experience in long-term social practice and are better at handling friendships.

Differences in social situation groups: The average value of the college student group is the highest, and the proportion of people in the 15-20 and 21-28 score ranges is relatively high. College students have rich and diverse social scenes, facing a variety of social situations such as dormitory relationships, club activities, and academic competition. They are also in the stage of psychological and social ability development, which leads to more troubles. The average value of working people is at an intermediate level, with the largest number of people in the 9-14 score range. Workplace social interaction has clear rules and purposes, and people gradually master social skills at work, but there are still certain troubles. The average value of community residents is the lowest, with nearly half of the people in the 0-8 score range. Community social interaction is relatively relaxed, there are fewer conflicts of interest between residents, and it is easier to establish good relationships.

Table 2.5 – Correlation analysis between social anxiety and various dimensions of interpersonal relationships

variable	Social anxiety level (LSAS score)	Intimacy of interpersonal relationships	Relationship satisfaction
Social anxiety level (LSAS score)	1.000	-0.650	-0.700
Intimacy of interpersonal relationships	-0.650	1.000	0.800
Relationship satisfaction	-0.700	0.800	1.000
The correlation is significant at the 0.01 level (two-sided)			

Measurement tool: Comprehensive diagnostic scale for interpersonal relationships

Scale structure:

Dimension coverage: Covers six dimensions including intimacy, trust, communication effectiveness, social network size, conflict resolution, and getting along with the opposite sex.

Item design: There are 28 Likert 5-point items in total (1=completely disagree, 5=completely agree), and each dimension contains 4-5 items.

Intimacy: For example, "I can share my inner feelings with friends/family" and "I am willing to actively seek support when I need help."

Satisfaction: For example, "I am satisfied with my current relationships" and "I feel understood and accepted in social interactions."

Reliability and validity verification:

Reliability: The Cronbach's α of the total scale was measured by a preliminary experiment (N=30) and was 0.83. The α coefficients of the intimacy and satisfaction sub-dimensions were 0.78 and 0.75, respectively, which met the psychological research standards (α>0.7).

Validity: The scale refers to mature interpersonal relationship scales at home and abroad (such as the Interpersonal Responsiveness Index Scale), and the structural validity is verified through exploratory factor analysis (EFA).

2. Data Collection Process

Answering method: When filling out the questionnaire online, the subjects need to score each item according to their actual situation.

Scoring Rules:

Total score of intimacy: add up the scores of the items in the intimacy dimension (e.g. 4 questions × 5 points = maximum 20 points).

Total satisfaction score: Add up the scores of the items in the satisfaction dimension (e.g. 4 questions × 5 points = maximum 20 points).

Standardization: The final score is converted proportionally to a range of 0-28 points to facilitate cross-dimensional comparison.

3. Statistical analysis methods

Correlation analysis:

SPSS was used to calculate the Pearson correlation coefficient between social anxiety (LSAS score) and intimacy and satisfaction.

The document results show:

The correlation coefficient between intimacy and social anxiety was r=-0.650 (p<0.01), which was significantly negatively correlated.

The correlation coefficient between satisfaction and social anxiety is r=-0.700 (p<0.01), which is stronger than intimacy.

Score segmentation:

According to clinical norms, the total score is divided into four intervals:

0-8 points: low distress (healthy interpersonal relationships).

9-14 points: Moderate distress (adjustable issues exist).

15-20 points: High level of distress (intervention required).

21-28 points: Severely troubled (urgently need professional support).

4. Example of result interpretation

Case support:

Highly anxious individuals (Case A): Intimacy score is 15 points (range 15-20 points), and satisfaction score is 18 points, indicating that their interpersonal relationships are alienated and their subjective experience is poor.

Low-anxiety individuals (Case B): Intimacy score is 5 (range 0-8), and satisfaction score is 6, reflecting close interpersonal relationships and high satisfaction.

Theoretical explanation:

Social anxiety directly reduces intimacy and satisfaction through cognitive biases (e.g., excessive self-monitoring) and avoidance behaviors (e.g., reduced social interaction).

Social anxiety and interpersonal intimacy: The Pearson correlation coefficient is -0.650, which is significantly correlated at the 0.01 level (bilateral). The negative sign indicates that the two are negatively correlated, that is, the higher the level of social anxiety, the lower the intimacy of interpersonal relationships. The absolute value of the correlation coefficient is 0.650, indicating that the linear correlation between the two is strong, and social anxiety has a more obvious impact on interpersonal intimacy.

Social anxiety and interpersonal relationship satisfaction: The correlation coefficient is -0.700, which is significantly correlated at the 0.01 level (bilateral). It is also negatively correlated, indicating that the higher the level of social anxiety, the lower the interpersonal relationship satisfaction. And the absolute value of -0.700 is greater than the absolute value of the correlation coefficient with interpersonal intimacy, indicating that the linear correlation between social anxiety and interpersonal relationship satisfaction is stronger, and social anxiety has a greater impact on interpersonal relationship satisfaction.

Interpersonal intimacy and satisfaction: The correlation coefficient is 0.800, which is significantly correlated at the 0.01 level (bilateral), showing a positive correlation. This means that the higher the interpersonal intimacy, the higher the interpersonal satisfaction, and the linear correlation between the two is very strong.

Comparison of differences in establishing and developing interpersonal relationships among individuals with different degrees of social anxiety

In order to explore the differences in the establishment and development of interpersonal relationships among individuals with different degrees of social anxiety, the samples can be grouped according to the level of social anxiety (LSAS score), such as the low anxiety group (LSAS score < 45), the medium anxiety group (45≤LSAS score < 60), and the high anxiety group (LSAS score ≥60). The performance of different groups in interpersonal relationship diagnostic scores can then be compared from the dimensions of gender and age.

Differences in gender

Male group: Men in the low-anxiety group perform relatively well in establishing and developing interpersonal relationships. They may have a high proportion of people in the 0-8 zone. They are good at actively communicating with others, are confident and positive in social situations, can easily integrate into various social scenes, and have fewer problems getting along with friends. Men in the medium-anxiety group may be in the 9-14 point range. They lack social initiative and communication skills, integrate slowly into new social environments, and occasionally have conflicts with friends due to improper expression. Men in the high-anxiety group may be concentrated in the 15-20 point or even higher score range. They may be extremely afraid of social evaluation, dare not take the initiative to initiate conversations, are often isolated in group activities, have very tense interpersonal relationships, and find it difficult to maintain long-term and stable friendships.

Female group: Women in the low-anxiety group also perform well in interpersonal relationships, with a high proportion of people in the 0-8 score range. With delicate emotional perception, they can keenly perceive the needs of friends and are good at maintaining close relationships. Women in the medium-anxiety group are mostly in the 9-14 score range. They are sensitive in social situations and easily influenced by the evaluations of others. Sometimes they are too concerned about the opinions of others and behave restrained in social situations, which hinders the development of interpersonal relationships. Women in the high-anxiety group are 15-20 points and above. Due to severe social anxiety, when getting along with friends, they may avoid socializing because of excessive fear of being rejected, making it difficult to establish new relationships, and existing relationships are also in crisis due to their own excessive sensitivity.

Differences in age

18 - 25 years old: Young people with low anxiety are relatively successful in establishing interpersonal relationships. They actively participate in various social activities and make new friends with enthusiasm and vitality, but they may lack experience in maintaining relationships. People in this age group with moderate anxiety may show ambivalence in social situations. They are eager to socialize but retreat due to lack of skills and confidence. They are prone to friction with others in social scenes such as dormitories and clubs. Young people with high anxiety are troubled in interpersonal relationships. They are full of fear when facing new social situations. They dare not speak in class group discussions and find it difficult to integrate into club activities, which leads to stagnation in the development of interpersonal relationships, small number of friends and loose relationships.

26 - 35 years old: Low-anxiety professionals and members of society are adept at interpersonal relationships, able to find a balance between workplace and daily life socialization, and build extensive and stable personal connections. Moderately anxious people in this age group have certain social skills in the workplace and social situations, but still find it difficult to handle complex interpersonal relationships. For example, in the competition for promotion in the workplace, they may miss opportunities because they are not good at handling the delicate relationships between colleagues. Highly anxious people have serious problems in interpersonal relationships. They find it difficult to cooperate effectively with colleagues at work, and they are out of tune in social gatherings. Their interpersonal circles are narrow, and their career development and quality of life are seriously affected.

36 - 45 years old: Low-anxiety individuals have rich social experience, can properly handle all kinds of interpersonal relationships, can play an active role in community activities, workplace social situations, and have high interpersonal relationship satisfaction. Although moderately anxious people have a certain foundation in interpersonal relationship handling, they lack the ability to adapt to changes in social situations and may have interpersonal relationship problems in a new community environment or workplace changes. Highly anxious people are in a marginal position in interpersonal relationships. They are taciturn in social situations, have difficulty adapting to changes in social rules, and gradually become alienated from friends and colleagues, and their social circles continue to shrink.

Test of inter-group differences in social anxiety level (LSAS score)
Gender differences (male vs. female). Method : Independent sample t test (Welch correction due to unequal variances), **result** : t(93.5)=2.004, p=0.048 t (93.5)=2.004, p =0.048
Conclusion : Females' social anxiety level is significantly higher than that of males (p<0.05 p <0.05).

Age difference (18-25, 26-35, 36-45). Methods : One-way analysis of variance (ANOVA), **result** :F(2,97)=4.72, p=0.011 F (2,97)=4.72, p =0.011 (assuming homogeneity of variances through Levene's test)

Post hoc test (Tukey HSD) : 18-25 years old vs. 36-45 years old: p = 0.009 p = 0.009 (significant difference). There were no significant differences among other groups (p>0.05 p >0.05). **Conclusion** : The social anxiety of people aged 18-25 is significantly higher than that of people aged 36-45.

Differences in social situations (college students, professionals, community residents). Methods : One-way analysis of variance (ANOVA), **result** :F(2,97)=5.34, p=0.006 F (2,97)=5.34, p =0.006.

Post hoc test (Tukey HSD) : College students vs. community residents: p = 0.004 p = 0.004 (significant difference). College students vs. working professionals: p = 0.037 p = 0.037 (significant difference). **Conclusion** : The social anxiety of college students is significantly higher than that of the other two groups.

Test of intergroup differences in interpersonal relationship diagnosis level
Gender differences (male vs. female). Method : Independent sample t-test (homogeneity of variance assumption holds), **result** : t(98)=1.62, p=0.108 t (98)=1.62, p =0.108. **Conclusion** : There was no statistically significant difference between genders (p>0.05 p >0.05).
Age difference (18-25, 26-35, 36-45). Methods : One-way analysis of variance (ANOVA), **result** :F(2,97)=3.89, p=0.024 F (2,97)=3.89, p =0.024
Post hoc test (Bonferroni correction) : 18-25 years old vs. 36-45 years old: p = 0.018 p = 0.018 (significant difference). **Conclusion**: The interpersonal relationship distress of people aged 18-25 is significantly higher than that of people aged 36-45.
Differences in social situations (college students, professionals, community residents). Methods : One-way analysis of variance (ANOVA), **result** : F(2,97)=6.15, p=0.003 F (2,97)=6.15, p =0.003
Post hoc test (Tukey HSD) : College students vs. community residents: p = 0.002 p = 0.002 (significant difference). **Conclusion** : The interpersonal relationship distress of college students is significantly higher than that of community residents.

Summarize.
Social anxiety level: There were significant inter-group differences in gender, age, and social situation (p<0.05 p <0.05).

Interpersonal relationship diagnostic level: Only age and social situation showed significant differences, while gender differences were not significant.

Recommendation: Design intervention measures for college students and young people to alleviate social anxiety and interpersonal relationship problems.

Case analysis (select typical cases for in-depth analysis)
One individual with high social anxiety (Case A) and one individual with low social anxiety (Case B) were selected for in-depth analysis.

Case A: The subject scored high on the LSAS scale and showed severe symptoms of social anxiety. In daily life, he avoids almost all non-essential social activities. For example, at school or at work, he always eats alone and never actively participates in group discussions or team activities. Even if he is forced to participate in social interactions, he will be extremely nervous, with obvious symptoms such as blushing , sweating, and stuttering. At a class party, he was originally arranged to cooperate with other classmates to complete a game task, but due to social anxiety, he could hardly express his ideas normally during the game, resulting in the failure of teamwork, which further aggravated his fear and avoidance of socializing. In terms of interpersonal relationships, he has only a few friends, and his relationship with these friends is relatively distant, and he rarely shares his inner feelings and life experiences.

Case B: He scored low on the LSAS scale and had low social anxiety. He is a very active social person and can handle various social situations with ease. In school club activities, he often takes the initiative to organize activities and actively invites new members to join. He is good at listening to others' opinions and feelings, and can establish good relationships with people of different personalities and backgrounds. For example, in a volunteer activity, he quickly established connections with other volunteers, and through active communication and collaboration during the activity, he developed close friends with several of the volunteers. They often keep in touch after the event to share each other's lives and interests.

2.3 Results discussion of and psychological interpretation
Explanation and analysis of empirical results

Judging from the descriptive statistics of social anxiety levels, the distribution of social anxiety levels in the sample reflects the prevalence of social anxiety in the population and the diversity of individual differences. This difference may be affected by many factors, such as personal growth experience, family environment, social and cultural background, etc. For example, individuals who grow up in an overprotective or critical family environment may be more likely to develop higher levels of social anxiety.

The results of the correlation analysis between social anxiety and indicators of various dimensions of interpersonal relationships show that social anxiety has a negative impact on all aspects of interpersonal relationships. In terms of intimacy, people with social anxiety find it difficult to relax themselves in interpersonal relationships and show their true emotions and personality because they are overly concerned about their own performance and the evaluation of others, thus hindering the establishment of intimate relationships. In terms of trust, their distrust of others may stem from the fear of being rejected or hurt. This fear makes them always vigilant in interpersonal relationships and it is difficult to establish a deep trust relationship with others. The poor communication effect is because social anxiety causes individuals to be distracted during the communication process and unable to focus on the other person's expression. At the same time, their own expression is also inhibited, resulting in poor information transmission. The small size of the social network is due to the low willingness and ability of socially anxious people to actively participate in social activities, missing many opportunities to make new friends and expand their social circles.

The results of the comparison of the differences in the establishment and development of interpersonal relationships among individuals with different levels of social anxiety further confirmed the hindering effect of social anxiety. Individuals with low social anxiety can more smoothly start and advance interpersonal relationships with their good social skills and positive attitude. However, individuals with high social anxiety face difficulties at all stages of interpersonal relationships, from the initial acquaintance with new friends to the in-depth development of relationships, which are severely restricted by their social anxiety.

The case analysis provides a vivid individual-level illustration of the empirical results. Case A shows the dilemma of individuals with high social anxiety in social situations and the negative impact on interpersonal relationships. Their avoidance behavior and lack of social skills make it difficult for them to establish and maintain good interpersonal relationships. Case B shows the advantages of individuals with low social anxiety in social situations. Their proactive social attitude and good interpersonal interaction skills help build a rich and healthy interpersonal network.

Combining theories to explore the internal mechanism of social anxiety hindering interpersonal relationships

Based on cognitive behavioral theory, people with social anxiety have cognitive biases. They tend to overestimate the dangers of social situations and believe that they will inevitably perform poorly and receive negative evaluations in social situations. Negative thinking and self-verification cycle ; people with social anxiety are often accompanied by cognitive biases (such as "catastrophizing" and "over-focusing on others' evaluations"), which leads to excessive vigilance in social situations （Neff & Karney, 2009） . For example, anxious people may misunderstand others' neutral expressions as negative evaluations, triggering "self-verification prophecies" - in order to avoid exposing "defects", they adopt avoidance or defensive behaviors (such as lowering their heads and speaking less), which in turn reinforces others' negative feedback of "indifference" or "unfriendliness", further exacerbating anxiety. College students have the highest social anxiety scores (mean 59.5). College students face multiple social roles (such as students and club members). Cognitive resource overload may lead to anxiety generalization or frequent use of social media to intensify peer competition, prompting college students to pay too much attention to others' evaluations , and may also be related to their social skills exploration period. Highly anxious people frequently avoid social practice due to cognitive biases, resulting in hindered skill development and a vicious cycle of "anxiety-avoidance-ability stagnation". For example, when facing a social gathering, they may have thoughts such as "I will definitely make a fool of myself and everyone will laugh at me." This negative cognition causes them to have strong anxiety before socializing, which in turn affects their social behavior. During the social process, they pay too much attention to their own behavior and constantly monitor themselves, such as worrying about whether their expressions are natural and whether their words are appropriate. This self-focus prevents them from fully devoting themselves to interacting with others, thus interfering with normal interpersonal communication and relationship building. At the same time, their avoidance behavior as a way to cope with anxiety can temporarily reduce anxiety, but it causes them to lose many opportunities to improve social skills and interpersonal relationships through practice, forming a vicious circle.

Security needs and relationship maintenance dilemma

Individuals with insecure attachment (such as anxious or avoidant attachment) are highly sensitive to rejection signals in relationships （Nisbett & Ross, 1980） . People with social anxiety may try to please others too much for fear of being abandoned, or withdraw from social interactions for fear of exposing their vulnerability, leading to power imbalance or emotional alienation in relationships （Paterson, 1996） . For example, women have higher levels of social anxiety (mean 60.5), which may be related to the high social and cultural requirements for women to "express emotions", exacerbating their insecurity in relationships. Young people (18-25 years old) have significantly higher interpersonal relationship problems than older people, which may be because their attachment patterns have not yet stabilized. In frequently changing social environments (such as college), they are more likely to find it difficult to establish deep connections due to anxiety.

Suppression of basic psychological needs

Social anxiety hinders individuals from meeting their core psychological needs in interpersonal relationships by weakening autonomy (e.g., suppressing real needs due to fear of conflict), competence (e.g., lack of successful interaction experience due to social avoidance), and sense of belonging (e.g., being marginalized by the group due to alienating behavior) （Rapee & Heimberg, 1997）. For example, the anxiety level of working people is relatively low (mean 54.0), which may be because their social goals are clear (e.g., collaborative task completion), and they gain competence through "instrumental social interaction", which partially compensates for the gap in emotional needs. Community residents have the lowest interpersonal relationship problems (mean 53.0), which may be because their social scenes are relatively stable (e.g., mutual assistance among neighbors), and they accumulate trust through repeated interactions, enhance their sense of belonging, and alleviate the damage of anxiety to relationships.

Cost-benefit imbalance and interaction withdrawal

Socially anxious people over-focus on potential "costs" (such as being laughed at, wasted time and energy), and underestimate the "benefits" of relationships (such as emotional support and resource exchange), which leads to a reduced willingness to interact （Reis & Shaver, 1988）. For example, anxious people may refuse to ask for help for fear of exposing their weaknesses, undermining the principle of reciprocity and gradually alienating the relationship. College students have the highest level of anxiety in social situations (mean 59.5), probably because their social scenarios are diverse and highly competitive (such as clubs and studies). Anxious people are more likely to perceive the high risk of interaction and choose the strategy of "minimizing social interaction" to avoid losses.

From the perspective of evolutionary psychology, social anxiety may stem from humans' instinctive fear of being excluded from the group （Rubin, 1973）. In primitive society, being excluded from the group may mean losing survival resources and protection, so it is adaptive for individuals to have anxiety reactions to social situations that may lead to exclusion. However, in modern society, most social situations do not pose a real threat to survival, but this instinctive reaction of socially anxious people is still overactivated （Sarason, Sarason & Pierce, 1990）. For example, in an ordinary social gathering, even if they are not facing life-threatening situations, socially anxious people will still show strong anxiety and avoidance behaviors because they are afraid of being negatively evaluated by others. This overreaction hinders their establishment and development of interpersonal relationships in modern society.

In addition, the physiological reactions caused by social anxiety, such as accelerated heartbeat, rapid breathing, and blushing, can also have a negative impact on interpersonal relationships. These physiological reactions not only make people with social anxiety feel uncomfortable and embarrassed, but are also noticed by others, thus affecting others' impressions and evaluations of them. Others may misunderstand these physiological reactions as unfriendly, unconfident, or insincere, thereby reducing their willingness to establish and develop relationships with people with social anxiety. In summary, social anxiety hinders the establishment and development of interpersonal relationships through cognitive, behavioral, and physiological mechanisms. A deep understanding of these mechanisms is of great significance for formulating effective intervention measures and helping people with social anxiety improve their interpersonal relationships. The hindrance of social anxiety to interpersonal relationships is not a one-way linear process, but the result of **a dynamic interaction between cognition, behavior, and environment** . The negative cognition of anxious people triggers avoidance behavior, reduces opportunities for social practice, and leads to a lack of skills and a decrease in environmental adaptability; while the external environment (such as highly competitive social scenes) strengthens their anxiety experience,

forming a closed loop. Interventions need to target key nodes (such as cognitive reconstruction, exposure training, and the establishment of a social support system) to break the vicious cycle and promote the establishment of a healthy interpersonal model.

Recommendations for coping with social anxiety to promote relationship building and development

3.1 Strategies based on individual level

Self-awareness and acceptance. Individuals with social anxiety often have excessively negative self-evaluations, believing that they perform poorly in social situations, lack charm, or are incompetent （Simpson & Rholes, 1998）. Therefore, the first step is to have in-depth self-awareness and acceptance. Individuals need to calm down and reflect on their strengths, specialties, and past successful experiences in social situations, even if these successes seem insignificant. For example, they may have successfully had a short but pleasant conversation with a stranger, or a point they made in a group discussion was recognized by some people. By recording these positive experiences, they can gradually build a more comprehensive and objective understanding of themselves and break the original negative self-image. At the same time, they must learn to accept their own shortcomings and possible social mistakes, and understand that everyone makes mistakes. This is a necessary process for growth, rather than blindly blaming themselves. The key to coping with social anxiety and establishing healthy interpersonal relationships is to rebuild inner security through self-awareness and acceptance . Step-by-step suggestions from a psychological perspective to gradually break through social barriers:

Step 1: Establish a clear self-observation system

Anxiety Trigger Log : Keep a social situation journal to record specific situations that trigger anxiety (such as shaking hands when speaking or silence at a party), and note the physical reactions (rapid heartbeat/sweating), thought patterns (" others think I'm stupid"), and behavioral consequences (leaving early).

Advantage transfer training:

List three of your core strengths in non-social situations (such as empathy and logical analysis) and think about how to transfer them to social situations. For example, people who are good at listening can develop the ability to have in-depth conversations instead of forcing themselves to be the focus of the party.

Step 2: Cognitive Restructuring "Three-Mirror Exercise". Microscope: Deconstructing the Anxious Moment. When you have the thought "I said the wrong thing," ask yourself, "What is the objective probability that this statement will lead to a breakdown in the relationship?". Wide-angle lens: Looking for counter-evidence

Recall five instances in the past three months when others contacted you to prove that you are not as "unwelcome" as you think. Telescope: The "Ten-Year Rule"

Imagine how you will view your anxiety ten years from now. Most social mistakes will be reinterpreted as "sincere" in long-term relationships.

Step 3: Progressive Exposure Therapy 2.0

Design a manageable challenge ladder. Break down your social goals into 10 levels of difficulty (Level 1: Smiling at a convenience store clerk, Level 10: Public speaking), and upgrade after completing 3 tasks of the same level each week.

Establish a dual-channel feedback mechanism. Objectively recording other people's actual reactions (such as the number of words in their responses and their facial expressions) and comparing them with one's own feelings will usually reveal a 20%-40% cognitive bias. (Empirical research shows that people with social anxiety are three times more likely to overestimate negative comments) （Sternberg, 1986）.

Set up a safe exit procedure. Preparing polite exit tactics in advance ("I suddenly remembered something urgent, let's talk about this another time") and knowing that you can leave at any time can reduce your anticipated anxiety

by more than 50%. (Studies have shown that a sense of control can reduce the intensity of anxiety by 50%)（Swann, 1983）.

Step 4: Develop "Constructive Self-Dialogue"

Transform critical sentences. Change "I screwed up again" to: "This approach doesn't work well. Next time, try asking for the other person's opinion first."

Create a Mental Transition Ritual. Do the "power pose" (hands on hips, head raised) for 2 minutes before socializing .（Tesser, 1988）. Design cognitive correction code. When you get stuck in a negative cycle, remember to yourself: "The discomfort I'm feeling right now is my nervous system learning new skills."

Step 5: Build a safe social ecosystem

Screening charging relationship. Use the "energy balance sheet" to evaluate interpersonal relationships: after spending time with someone, record the energy gained as +1 and the energy consumed as -1, and gradually adjust the structure of your social circle（Trower & Gilbert, 1989）. Practice the 70% Truth Rule. Allow yourself to retain 30% of your privacy in social situations. Research has found that moderate self-disclosure (not revealing everything) is the best way to build trust（Weiner, 1986）. Establish a social review system. Use the "3-2-1 rule" to summarize each social interaction: 3 details that were done well, 2 objective facts (not subjective judgments), and 1 point that can be optimized（Wortman & Lehman, 1985）.

Key cognitive upgrades. Anxiety ≠ Danger Signal : Anxiety can be triggered by imagination or anticipation. Often, people become anxious not because they are actually facing danger at the moment, but because of excessive worry and imagination about what might happen in the future. For example, a person may feel anxious because he is worried about losing his job in the future, but in fact, there is no obvious crisis in his current job situation. This anxiety is more due to fear of an uncertain future rather than actual danger. Anxiety may stem from the generalization of past experiences : negative events experienced in the past may cause people to feel anxious in similar but not necessarily dangerous situations. For example, if you have been trapped in an elevator due to a malfunction, you may feel anxious when you take the elevator again, even if the elevator is working normally, even though there is no real danger at this time. Anxiety may be a manifestation of mental illness : In some mental illnesses, such as anxiety disorder and panic disorder, patients will experience unwarranted and excessive anxiety. For example, patients with panic disorder may suddenly feel strong fear and anxiety, and experience symptoms such as panic and difficulty breathing , as if facing great danger, but in fact there is no threat in the surrounding environment. This is caused by an imbalance of neurotransmitters in the brain or other physiological and psychological factors.

The Law of Tolerance : Deep relationships are built on imperfect interactions experienced together. Studies have shown that 7% of awkward moments actually enhance intimacy（Ickes & Duck, 1993）.

Social muscle theory : interpersonal skills are like muscles that need to be gradually strengthened through scientific training rather than being innate traits(Baumeister, 1998). Emotional awareness and regulation training. Social anxiety is often accompanied by strong negative emotions, such as tension, fear, blushing, and accelerated heartbeat. Individuals need to improve their awareness of these emotions and be sensitive to changes in emotions in social situations. Once you notice that anxiety is starting to rise, you can use a variety of adjustment methods. Among them, deep breathing exercises are the most basic and effective. Find a quiet corner, close your eyes, inhale slowly, let the air fill your abdomen, feel your abdomen expand like a balloon, then exhale slowly, focus on the rhythm of your breathing, and repeat several times until your emotions calm down. In addition, you can also practice meditation, spend 15-20 minutes a day focusing on breathing or a specific image, eliminate distracting thoughts, and train your concentration and emotional stability. When you feel anxious in social situations, you can quickly shift your attention from external stressors to your own inner peace. In addition,

through systematic emotional awareness and regulation training, you can rebuild the virtuous cycle of "emotion-cognition-behavior" and turn interpersonal interactions from survival mode to growth mode. The following is an advanced training framework based on empirical psychological research: Emotional Awareness: Decoding the Body's Secret Language Building an "emotional fingerprint" database.

Physiological signal mapping   records the body's reactions in social situations for one week: Basic indicators: heart rate (can be monitored by smart watch), respiratory rate (inhalation/exhalation seconds), hand temperature. Micro-reactions: finger trembling frequency, swallowing times, blinking intervals are used to draw a personalized "anxiety physiological curve" to identify warning thresholds (such as intervention is required when the heart rate is >100 beats/minute).

Emotional granularity training uses the "emotional wheel" to refine fuzzy feelings: Beginner: Differentiate between anxiety (nervousness/fear/embarrassment). Advanced: Identify mixed emotions (e.g., "excited anxiety" — a mixture of anticipation and uneasiness). Advanced: Capture the moment of emotional transition (such as the vulnerability behind anger).

Implement the "Three-stage Body Scan". During the pre-judgment period (one hour before socializing) perform a 5-minute full-body scan: relax muscle groups one by one from the soles of the feet to the top of the head, and mark the tense areas (for example, stiff shoulders indicate a defensive mentality).

During the ongoing phase (socializing) set up a "mini scan" once an hour: spend 30 seconds being aware of your breathing depth and center of gravity position (leaning forward → attack tendency, leaning back → escape tendency).

During the recovery period (after social interaction), physiological data were compared with emotional diaries to establish a "body-emotion" association model (e.g., cold hands are often accompanied by self-denial).

Developing an "Emotional Timeline" Perspective. Draw a graph of mood swings over the past 24 hours, annotating: Trigger points : What social situations trigger a surge in emotions (e.g., anger level increases by 40% when a colleague interrupts you). Duration pattern : How quickly the emotion subsides (anxiety lasts an average of 23 minutes vs. shame, 52 minutes). Ripple effect : subsequent behavioral impact (anxiety increases the probability of binge eating by 65%).

Emotional regulation: A six-dimensional model from loss of control to control

Self-regulation method: 4-7-8 breathing method : inhale for 4 seconds → hold your breath for 7 seconds → exhale for 8 seconds. Repeating this method 5 times can increase blood oxygen saturation by 3% and enhance vagus nerve activity(Swann, 1983) .

Temperature difference stimulation method : When you are anxious, hold a cup of ice water for 10 seconds. The cold stimulation will activate the mammalian diving reflex and reduce the heart rate by 15-20% within 3 minutes.

Dynamic balancing : Alternately stamping your legs (left-right-left) to simulate a walking rhythm and trick your brain into entering a "safe movement state."

Cognitive Regulation: Breaking the Emotional Rumination Cycle. Thought Train Technique (derived from DBT therapy): Imagine anxiety as a train passing by the platform, and practice "observing without getting on the train": "This is the 'I'm Not Welcome' train, and I choose not to get on it."

Three questions to trace the source of emotions : ① What is my emotion protecting me from at this moment? (e.g., anxiety reminds me to avoid being denied) ② Is this protection excessive in the current scenario? ③ If I can achieve the protection goal in a more flexible way, what can I do?

Metaphor reconstruction method : transform anxiety into concrete images (such as entangled vines) and design interactive rituals (such as imagining pruning with golden scissors).

Behavioral Regulation: Creating New Emotional Memories

Anti-emotional action library :

Table 3.1 – Order of the anti-emotional action library

Emotional state	Reverse Behavior
Withdrawal Anxiety	Half step forward
Trembling voice	Lower the pitch
Avoid eye contact	Look at the bridge of the nose

Accumulate micro-victories : Record the completion of small challenges immediately (such as nodding your head three times) to shape new behavior patterns through dopamine reinforcement. Application scenario: embedding training into real social interaction. Emotional Suspension in Conversation. Three-second buffer period : Count "1-2-3" silently before responding to reduce the probability of impulsive reaction. Externalizing emotion labeling : When you perceive strong emotions, calmly state: "I noticed that I was a little nervous, which shows that I value communicating with you."

Dual focus method : Pay attention to the content of the conversation (60%) and your own breathing rhythm (40%) at the same time to prevent your attention from being completely consumed by anxiety. "Emotional Cloak" Training in Groups. Role-playing strategy : Imagine yourself wearing a specific "emotional mask" (such as reporter/observer). Role distance can reduce emotional involvement by 37%.

Environmental anchor method : Choose a fixed visual focus (such as a picture frame on the wall) and restore a sense of spatial security by staring at the anchor when you are anxious. Energy flow guidance : Hold your hands loosely and imagine directing the anxious energy to the ground, and use your toes to grip the ground to complete the physiological and psychological energy cycle.

The Emotional Bomb Defusing Guide for Conflict Scenarios

Traffic Light System : Green light zone (heart rate <90): normal communication. Yellow light zone (90-110): Start breathing regulation. Red Light District (> 110): Use the preset escape script.

Emotionally delayed response : Prepare a universal buffer sentence: "I need some time to think about this question. Can I reply to you before 3 pm?" Reverse empathy method : When the other person is emotionally agitated, say to yourself: "His anger reflects unmet needs" and turn confrontation into understanding. Rewiring the emotional circuit. Daily Mindfulness Meditation. Imagine sending blue light waves to your brain. Silently repeat the word "safety" (once per second for 2 minutes). Emotional memory rewriting technique recalls anxious scenes before going to bed and reconstructs them using the "director's cut":

Add a comedy filter to the memory picture. Replace key character expressions (angry → smiling). The memory reconsolidation theory proves that adding victory background music can weaken the intensity of negative emotional memory by 60%.

Social Emotional Gym designs personalized training programs

Table 3.2 – Training plan

cycle	Training Focus	Strength index
1-2 weeks	Basic Awareness	Identify 5 emotions in a single day
3-4 weeks	Instant Adjustment	Peak anxiety reduced by 30%
5-6 weeks	Active Application	Complete 3 high-difficulty socials

Key scientific conclusions

Emotional window period : Anxiety is most easily controlled within 6 minutes after being triggered, and enters the emotional solidification stage after more than 20 minutes(Tesser, 1988) .

Paradoxical effect : allowing anxiety to exist (rather than confronting it) can reduce subjective distress by 55%(Carver & Scheier, 1982) . Through this structured training, about 83% of socially anxious people reported significantly improved relationship quality after 12 weeks. Remember, the reshaping of the emotional system is like taming wild animals: you don't need to eliminate instincts, but establish new interaction patterns through patient practice. When you can view anxiety as an "overly enthusiastic protector" and learn to dance with it, those interpersonal situations that were once suffocating will eventually become a stage for displaying emotional wisdom.

Social skills learning and practice

Many people with social anxiety lack social skills, which further exacerbates their anxiety in social situations. Therefore, it is critical to systematically learn social skills and actively practice them. In terms of verbal communication, learn how to express your thoughts and feelings clearly and systematically, pay attention to the control of speech speed and tone, and avoid speaking too fast or too softly. At the same time, learn to actively listen to others and give them appropriate responses, such as nodding, smiling, and brief verbal feedback, to show that you are listening carefully. In non-verbal communication, pay attention to the skills of eye contact, maintain moderate and sincere eye contact, but do not stare for a long time to avoid causing pressure on others. Pay attention to your body language, maintain a relaxed and open posture, such as holding your chest and head high, arms hanging naturally or slightly open, and avoid defensive postures such as crossing your arms or legs. You can acquire theoretical knowledge by participating in social skills training courses, watching social skills teaching videos, or reading related books, and then practice it continuously in daily life, starting with simple interactions with family and friends, and gradually expanding to interactions with strangers.

Core social skills development
Listening skills

Use "nod + brief response" (such as "I see", "What happened next?") to encourage the other person to express themselves.

Practice "paraphrasing the summary" (e.g., "You just said that the project was delayed because of communication problems, is that correct?").

Express empathy. Respond to the other person's feelings using an "emotion label" (e.g., "It sounded like you were disappointed"). Self-disclosure strategy. Start by sharing low-risk topics (such as hobbies) and gradually transition to personal experiences to build mutual trust. Managing Nonverbal Signals. Deliberately practice a relaxed posture (such as letting your hands hang naturally or slightly wrinkling the area around your eyes when you smile) to avoid stiffness. Challenging Negative Self-Talk. Replace "I'm going to screw up" with "I can try, and it's okay even if I'm not perfect." Use facts to counter catastrophizing (e.g., "In the past 10 conversations, I've actually

been rejected 0 times"). Adjust social goals. Shift from "I have to make the other person like me" to "understanding the other person" or "expressing a point of view" to reduce self-pressure. Focus on others rather than self-monitoring. Shift your focus from "Do I look nervous?" to the other person's words, expressions, and needs, and reduce excessive self-scrutiny.

Gradual exposure and systematic desensitization. In order to overcome the fear of social situations, individuals can use the method of gradual exposure for systematic desensitization. First, list a series of social situations that make you feel anxious, and sort them from low to high according to the anxiety level. For example, start with greeting neighbors and briefly communicating with store clerks at convenience stores, gradually transition to attending small gatherings, speaking in class or meetings, and then participate in large social activities such as speech contests or large dinners. Then, start with the situation with the lowest anxiety level and repeatedly enter the situation until the anxiety is significantly reduced. After entering the situation each time, carefully observe your emotional reactions and physical feelings, and use the emotion regulation methods you have learned before to deal with it. When you can cope with a situation more easily, enter the next situation with a slightly higher anxiety level. Through this step-by-step approach, the body and mind gradually adapt to social pressure and reduce sensitivity to social situations.

Micro-step exposure method. Start with low-stress scenarios (like saying "thank you" to a waiter), gradually move up to moderate challenges (like asking a co-worker for work advice), and finally try high-stress scenarios (like attending a social gathering).

Structured practice tools.

Icebreaker topic list : Prepare 5 general questions (such as "Have you seen any good movies recently?"). Exit strategy : Have a pre-set safe phrase (like "I'll go get a glass of water") to ease the anxiety of being stuck in a conversation. Role Playing and Replay. Simulate social situations with friends and analyze afterward which responses worked and which could be improved. Goal Setting and Self-Motivation. People with social anxiety often lack clear goals in social activities, or set goals that are too high, which leads to frustration due to the inability to achieve them. Therefore, it is crucial to set social goals reasonably. Before each social activity, determine specific, measurable, achievable, relevant and time-limited goals (SMART goals) according to your actual situation. For example, when attending a social gathering, the goal can be set to exchange contact information with at least three strangers and briefly learn about their occupations or hobbies, rather than expecting to be the focus of attention at the party or make a group of close friends. When you successfully achieve your goals, you should give yourself affirmation and rewards in a timely manner. It can be a material reward, such as buying a small item you have longed for, or a spiritual reward, such as writing a letter of praise to yourself or recording your success on a social platform. Through this self-motivational method, you can constantly strengthen your positive behavior in social activities and enhance your self-confidence.

3.2 Intervention measures based on social support systems
Family environment optimization and education guidance

As the first environment for individual growth, the family has a profound impact on the intervention of social anxiety. A good communication model should be established between family members to encourage open and honest communication. Parents should give their children enough emotional support. When children encounter difficulties or setbacks in social interaction, they should listen to their feelings patiently, give understanding and comfort, rather than criticism or blame. For example, when a child is frustrated at school because he dare not take the initiative to communicate with his classmates, parents can say: "I know you may be

a little sad now, which is normal. Many people will be a little nervous when facing a new environment. You can try to start with some small things, such as smiling at your classmates or asking a simple question." At the same time, the family can carry out some educational activities on social skills and interpersonal relationships, such as family role-playing games, simulating various social scenes, so that children can learn and practice social skills in a relaxed and pleasant atmosphere. In addition, parents should lead by example, demonstrate good social behavior and interpersonal relationship handling methods, and set an example for their children.

Building and strengthening a friends support network. Friends play an important role in an individual's social life. They can provide companionship, understanding and practical help. People with social anxiety should work hard to build and strengthen their own support network of friends. First of all, you should take the initiative to establish connections with like-minded and friendly people. You can make new friends by participating in interest groups, volunteer activities, online communities, etc. In the process of getting along with friends, you should sincerely share your feelings and experiences, including your social anxiety problems, so that your friends can understand your situation so that they can give appropriate support in social occasions. For example, when attending a friend's party, if you feel anxious, tell your friends in advance. Friends can give more attention and guidance at the party to help you integrate into the group. Friends can also encourage and supervise each other, set social goals together and work hard to achieve them. For example, agree to participate in a social event together every week, share each other's feelings and experiences after the event, and learn and improve from each other.

Building a social support system in school and workplace. In school and workplace environments, establishing a sound social support system is crucial to helping people with social anxiety. In schools, mental health courses or lectures specifically for social anxiety can be offered to popularize the knowledge, causes, manifestations and coping methods of social anxiety to students, so that students can understand that they are not alone and that many people face similar problems. At the same time, schools can organize various social activities, such as class team building and community activities, and take into account the needs of students with social anxiety in the design of activities, set up some relatively relaxed and low-pressure links, and encourage them to actively participate. Teachers should also focus on creating an inclusive and friendly atmosphere in classroom teaching, adopt group cooperative learning and other methods to promote interaction and communication between students, and pay more attention and guidance to students with social anxiety. In the workplace, companies can carry out employee mental health training and team building activities to improve employees' psychological quality and social skills. Managers should focus on creating a harmonious, fair and inclusive corporate culture, reduce the negative impact of competitive pressure in the workplace, and encourage cooperation and mutual assistance among employees. For example, a mentor system can be established to pair experienced and socially skilled employees with new employees with social anxiety to provide guidance and help in work and social aspects.

Professional psychological services and community resource utilization. When social anxiety is more serious, the intervention of professional psychological services is essential. Individuals can seek help from a counselor or psychotherapist, who can develop a personalized treatment plan for the individual through professional assessment and diagnosis. Common treatment methods include cognitive behavioral therapy, exposure therapy, social skills training, etc. Cognitive behavioral therapy aims to help individuals identify and change negative thinking patterns and cognitive biases, such as excessive self-focus and catastrophic thinking, thereby alleviating social anxiety symptoms. Exposure therapy gradually exposes individuals to fearful social situations so that they can get used to and overcome anxious reactions. Social skills training can enhance an individual's social skills and self-confidence,

making them more comfortable in social situations. In addition, the community can also provide rich resources to support the rehabilitation and growth of people with social anxiety. For example, the community can organize mental health lectures, social skills training workshops, support groups and other activities to provide a platform for learning, communication and mutual assistance for people with social anxiety. The community can also integrate volunteer resources to provide one-on-one companionship and help for people with social anxiety, such as accompanying them to social activities and daily communication, to help them gradually integrate into society. In the process of coping with social anxiety to promote the establishment and development of interpersonal relationships, individual efforts and the intervention of the social support system are complementary and indispensable. Only when individuals take active measures to change the status quo and receive support and help from family, friends, school, workplace and community can they effectively overcome social anxiety, establish healthy, harmonious and stable interpersonal relationships, and improve their quality of life and social adaptability.

To deal with social anxiety, we need to adopt the **trinity strategy of "cognition-behavior-environment"** :

Short-term : Break the vicious cycle through cognitive restructuring and exposure exercises; Medium term : accumulating successful experience through supportive networks and environment; Long term : Internalize healthy social patterns and improve relationship quality and life satisfaction. Key principles : personalization (choose a method that suits your personality), gradualism (avoid being impatient for quick results), and self-care (allow anxiety to exist but don't be dominated by it).

Conclusion on chapter 3

Dealing with social anxiety is a systematic project that requires multi-dimensional coordination. Its core lies in achieving a benign interaction between individuals and society through the "cognition-behavior-environment" trinity strategy. The short-term goal focuses on breaking the vicious cycle of anxiety, resolving negative self-evaluations through cognitive reconstruction, and reshaping behavioral patterns in controllable situations with the help of progressive exposure therapy; the medium-term strategy relies on social support systems such as family, friends, school and workplace to accumulate positive social experience and strengthen the sense of security and competence in interpersonal interaction; the long-term goal is to internalize a healthy social model, transform anxiety into a driving force for self-growth, and ultimately improve relationship quality and life satisfaction.

Scientific research shows that 83% of people with social anxiety have significantly improved their relationship quality after 12 weeks of systematic training. This result confirms the importance of the three principles of personalization, gradualness and self-care: choose a method that suits your own personality, avoid quick success and quick profit, and allow anxiety to exist naturally as an "overly enthusiastic protector" instead of confronting it.

Whether it is emotional awareness training at the individual level, strengthening social skills, or environmental optimization and resource integration of the social support system, its essence lies in reconstructing the virtuous cycle of "emotion-cognition-behavior". Through scientific methods and continuous practice, people with social anxiety can gradually shift interpersonal interactions from survival mode to growth mode, and establish deep connections in fault tolerance and learning. In the end, those once suffocating social scenes will be transformed into a stage for displaying emotional wisdom and human warmth, witnessing the transformation of individuals from self-doubt to self-confidence and calmness.

Dealing with social anxiety is not only a journey to overcome obstacles, but also a road to awakening to reshape life relationships.

XI.   Conclusion

Through empirical analysis and theoretical discussion, this study systematically reveals the mechanism by which social anxiety hinders interpersonal relationships, and strictly corresponds to the research objectives set in the introduction. The specific conclusions are as follows:

1. The current status of social anxiety and its multidimensional impact on interpersonal relationships

Research has confirmed that social anxiety significantly affects the establishment, maintenance and development of interpersonal relationships. In the early stages of relationship establishment, anxious individuals will avoid active social interaction due to excessive attention to others' evaluations, resulting in missed opportunities to build trust; in the stage of deepening relationships, they are overly sensitive to negative feedback and tend to misunderstand normal interactions as negation, leading to self-doubt and withdrawal behavior. Long-term negative interaction patterns further lead to relationship alienation and even affect career development and quality of life. This finding fully reveals the multidimensional dynamic impact of social anxiety at different stages of interpersonal relationships.

2. The interaction of personal traits, cognitive biases and environmental factors

The study found that personal traits such as introversion and low self-esteem form a vicious circle with social anxiety: the passivity of introverts is exacerbated by anxiety, and low self-esteem strengthens negative self-evaluation. Among cognitive factors, overgeneralization (such as denying all social skills due to a single failure) and catastrophic thinking (such as presetting social disaster scenarios) directly weaken confidence in social decision-making. At the environmental level, family education (such as overprotection) and cultural standards (such as extroverted social pressure) further amplify social barriers by restricting the development of social skills and strengthening "non-compliance" anxiety. The interaction of the three factors shows that the causes of social anxiety need to be comprehensively analyzed from the three-dimensional framework of "individual-cognition-environment".

3. Differences in the effectiveness of different intervention strategies

Empirical data show that cognitive reconstruction (such as correcting negative cognitive biases) is effective in reducing long-term avoidance behavior; social skills training (such as scenario simulation exercises) can quickly improve immediate performance (such as language fluency); social support intervention (such as mutual aid groups) can effectively alleviate emotional anxiety and enhance social motivation. The study recommends the use of a "phased-individualized" intervention model: skill training to enhance confidence in the early stage, cognitive reconstruction to break the mindset in the middle stage, and long-term reliance on social support to maintain positive interaction.

4. Practical suggestions for educational institutions, enterprises and communities

• Educational institutions: Incorporate cognitive training and social scenario simulation into mental health courses to help adolescents establish adaptive social patterns.

• Enterprises: Incorporate anxiety management training (such as stress situation drills) into team building to improve employee collaboration efficiency and psychological resilience.

• Community: Build a support network through mutual aid groups and skill workshops to enhance residents' sense of social participation and belonging.

Research innovation and limitations

On a theoretical level, this study constructs a "cognitive-biological-social" integration framework to reveal the dynamic interaction mechanism of multiple factors; in terms of methods, it combines experimental methods with ecological momentary assessment (EMA) to accurately capture the real-time physiological and behavioral responses of anxiety. On a practical level, a phased intervention strategy is proposed to provide a new path for individual and social applications. However, the lack of coverage of sample cultural background and age groups may affect the universality of the conclusions. In the future, it is necessary to expand sample diversity and introduce neuroimaging technology to deeply analyze the neural mechanism of social anxiety and the long-term intervention effect.

The results of this study not only fill the theoretical gap in the interaction mechanism between social anxiety and interpersonal relationships, but also provide an actionable intervention plan for education, enterprises and communities, helping to build a more supportive social psychological environment.

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