

Influence of Self-Esteem and Loneliness on Online Communication

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Abstract: With the vigorous development of online communication, big data has gradually entered the people's field of vision, and our thinking and behavior habits are quietly changing. Self-esteem and loneliness, as a unique psychological feeling of human beings, are also agitated with our own innovation. How does self-esteem and loneliness play a role in online communication? What impact did it have? These questions aroused people's thinking. The purpose of this article is to study the influence of mutual self-esteem and loneliness on online communication. This research starts from online communication, analyzes and investigates the factors of online communication preferences, compiles online social preference measurement tools, explores the influence of self-esteem and loneliness on online communication, and analyzes the two different social supports of real social support and online social support the role of style in the relationship between online communication preferences and self-esteem and loneliness. This study uses quantitative research methods to explain the online social status of adolescents with strong self-esteem and loneliness, and supplements the interview method in qualitative research methods to further understand the reasons for the formation of adolescents and loneliness, as well as the influence of self-esteem and loneliness on the Internet Whether the interaction behavior has an impact. The survey results show that 75% of teenagers' loneliness is within the range of strong loneliness, and 23% of teenagers' loneliness is within normal levels, indicating that most teenagers are still very lonely in the environment of online communication.

1 INTRODUCTION

Nowadays, the application of big data in all walks of life is in full swing, and everyone is exploring the value of big data, and social networks are an important position for data generation. (Xia, 2019; Social Science Computer Review, 2019) Nowadays, network communication plays an increasingly important role in people's lives. It has gradually integrated into people's daily life and has become a part of people's daily life. (Szczeniak, 2020; Zhang, 2019) And with the participation of more and more individuals, companies, groups, etc., social networks have gradually become a window for people to obtain information, show themselves, and promote marketing. (Du, 2018; Iskender, 2018) Network communication is an extension of real social interaction in virtual space, and it is also a supplement to real communication. (Kareen, 2018; Bachnio, 2018) However, the many undesirable phenomena that accompany it are also increasingly noticeable. Self-esteem and loneliness are unpleasant emotional experiences when individuals

are unable to satisfy the quantity and quality of their own social interactions. (Andrzej, 2019; Pilar, 2019) Research on the influence of self-esteem and loneliness on online communication has become the focus of research in the fields of psychology and pedagogy.

In the research on the influence of self-esteem and loneliness on online communication, many scholars have conducted in-depth analysis and achieved good results. For example, Xue Y explored the relationship between online social networks OSNs (onlinesocial networks) and loneliness, and developed A model was developed to explain the influence of relationship characteristics (such as self-disclosure and network ability) and OSN characteristics on the perception of loneliness. The results show that the degree of online network use is negatively correlated with loneliness, that is, more online social networks are used, and loneliness is greater. (Xue, 2018) Based on the questionnaire survey samples, Arianna used descriptive statistics, factor analysis, and correlation analysis to conclude that "on the one hand, loneliness prevails among netizens in my country. The stronger the sense of

loneliness, the deeper the dependence on the Internet, the deeper the application of various functions of the Internet, the overall use of the Internet helps to weaken the feeling of loneliness of Internet users. (Arianna, 2019)

This article first uses questionnaire surveys to investigate the current status of online social interaction of young people, including online social objects, social content, social motivations, and social channels. The data application of online communication behavior in the era of big data is used to explore and analyze self-esteem and loneliness. Strong and weak network interactions and interpersonal relationships change. Furthermore, the UCLA loneliness scale was used to investigate the loneliness of urban youth living alone in the online social environment. At the same time, through the interview method, we have in-depth and supplemented the understanding of whether young people's online communication can help alleviate loneliness, and whether face-to-face social interaction or online social satisfaction is better. This research also puts forward countermeasures on how to alleviate loneliness when interacting online.

2 THE INFLUENCE OF SELF-ESTEEM AND LONELINESS ON ONLINE COMMUNICATION

2.1 Relationship Between Self-Esteem, Loneliness and Online Communication Preferences

Subjectively, the non-face-to-face nature of online communication will reduce social anxiety and self-awareness, and bring people more positive subjective experiences such as safety, effectiveness, and self-protection, but objectively, the intermediary nature of online communication itself, the absence of the body leads to the lack of non-verbal cues in the social process, reduces the amount of information resources in the social process, and limits the establishment of effective interpersonal relationships.

The public's understanding of the various characteristics of online communication and their own positive views on online communication are significantly related to their gaining more instrumental support. The richer the actual interpersonal relationship and social support resources, the individual will hope to extend this

good state to network communication, thus forming a preference for network communication that is consistent with the actual support resources. The less the subjective experience of being respected, supported, and understood in real social life, the worse the real social ability. This may be because it is difficult for individuals to obtain good interpersonal relationship experience in social life, resulting in insufficient social confidence, and thus Hindered the development of its social skills.

Preference for online communication will bring about the negative consequences of loneliness, but preference for online communication does not necessarily bring about the negative consequences of loneliness. This effect is not direct. The preference for online communication will come through the role of online social support. Affecting loneliness will also affect loneliness through real social support. Therefore, although the preference for online communication may have many negative consequences, if the individual has a good real social support system and his various needs and supports can be met in online communication, it may not be easy to feel lonely negative consequences. Moreover, online communication preferences can influence individual online social support through real social support, which better explains that online communication is the extension and expansion of real social in virtual space.

2.2 Measures to Regulate the Use of the Internet and Reduce Loneliness

2.2.1 Develop Good Surfing Habits

First, make a schedule for surfing the Internet. For young people with poor self-control in using the Internet, if necessary, they can restrict themselves by planning their time online. Develop a weekly or monthly online schedule, indicate the specific time period and specific items for using the Internet, and strictly follow the table time to access the Internet. Second, clarify the purpose of surfing the Internet. Before going online, teenagers do not think they will be addicted to the Internet, but once they enter the Internet, they are out of their control and unconsciously attracted by things on the Internet. Therefore, when you have a clear goal, you can choose to go online. If the goal is achieved, you will leave the network and avoid sinking.

2.2.2 Be Aware of Network Security

First of all, it is necessary to learn to distinguish and choose carefully in terms of obtaining online information and online dating. The information on the Internet is mixed. Because of their inexperience in society, young people are easily deceived by false information and used by people with ulterior motives. When using the Internet, you must be vigilant and always give yourself some psychological hints to help you maintain a high degree of self-consciousness when surfing the Internet, be able to distinguish right from wrong, and use the Internet safely.

Second, there must be a sense of self-protection. The most basic thing in the interaction between people is mutual trust, but this kind of trust is greatly compromised on the Internet. In the process of online communication, basic personal information is not easily disclosed to strangers, and invitations to netizens cannot be accepted casually to prevent being deceived.

Negative emotions in life are inevitable, but being in a lonely and dull environment is harmful to the individual's physical and mental development. Therefore, we must learn to adjust bad emotions and turn pessimistic emotions into a driving force for progress. Don't escape when facing difficulties and setbacks, build self-confidence, hone your will, and laugh at life with a positive and optimistic attitude.

2.2.3 Cultivate Hobbies

First of all, you can regulate personal loneliness by developing your own hobbies. Finding one's area of interest can, to a large extent, help oneself relieve the mood and enjoy the body and mind. Being able to participate in outdoor activities will not only help you divert your attention to other new things, but you can also meet more friends with the same hobbies. Re-energize yourself and devote yourself to learning and other activities with full enthusiasm.

Second, arm the brain with knowledge, enrich the spiritual world, and constantly improve and upgrade oneself. Finally, scientifically plan your life and rest time. Loneliness is often waiting for opportunities when there is little or nothing to do in the society. Regular time arrangements can not only allow us to orderly engage in learning, entertainment and other matters, but also improve work efficiency. Make your life fuller, thus develop a healthy lifestyle, and help reduce feelings of loneliness.

2.2.4 Actively Interact with Others

First of all, you need to take the initiative to open yourself up and put it into continuous action. Second, actively participate in outdoor or indoor competitions. Group activities can mobilize enthusiasm, explore one's potential in cooperation with others, reshape one's self-image, and improve oneself.

Finally, coordinate the relationship between network communication and actual communication. As an aid to actual communication, network communication has opened up another world for young people and brought great convenience. However, after all, it cannot replace reality, cannot be captured by the network, and be the master of the network.

2.3 Online Social Network Sampling Algorithm: MHRW Algorithm

The MHRW algorithm prefers to accept low-level nodes while rejecting high-level nodes to avoid the deviation caused by high-level nodes being sampled. Therefore, low-level nodes will be oversampled. The transition probability is:

$$P_{V,W}^{MH} = \begin{cases} \frac{1}{K_V} \cdot \min(1, \frac{K_V}{K_W}) \\ 1 - \sum_{y \neq v} P_{V,Y}^{MH} \\ 0 \end{cases} \quad (1)$$

Here v is the seed sampled from the OSN under study, and w is a neighbour of v and may be sampled with probability in the next step.

HRW is proved to converge to uniform sampling, that is, the sampling probability of each node in the graph is $1/|V|$, and the randomized jump parameter p is added to the MHRW algorithm, that is, the Albatross Sampling algorithm. AS has a shorter convergence time than MHRW and BFS. In large social networks with few effective user IDs, the cost of sampling jumps will be very high. The transition probability from node u to v is:

$$P_{V,W}^{AS} = \begin{cases} \min(\frac{1-P}{K_u}, \frac{1-P}{K_v}) + \frac{P}{|V|} \\ 1 - P - \sum_{w \neq v} \min(\frac{1-P}{K_u}, \frac{1-P}{K_v}) + \frac{P}{|V|} \\ \frac{P}{|V|} \end{cases} \quad (2)$$

3 EXPERIMENTAL RESEARCH ON THE INFLUENCE OF SELF-ESTEEM AND LONELINESS ON ONLINE COMMUNICATION

3.1 Research Methods

This study uses a questionnaire survey method to make a quantitative analysis of the adolescents' online social interaction status. The questionnaire topics involved the youth's online social profile; the UCLA network communication loneliness scale was used to measure the degree of loneliness of adolescents; compared with face-to-face social interaction, adolescents' online social satisfaction. The survey of this network interaction takes the whole country as the survey area.

3.2 Questionnaire Design and Interview Design

3.2.1 Design of Online Communication Questionnaire

This study uses a questionnaire survey method to make a quantitative analysis of the current status of adolescents' online social networking. The questionnaire topics involved adolescents' online social profile; UCLA loneliness scale was used to measure the degree of loneliness of adolescents; compared with face-to-face social interaction, adolescents' online social satisfaction. This survey took the whole country as the survey area.

3.2.2 Interview Design

Starting from understanding whether online social interaction can help young people alleviate their loneliness, the interview outline for the year of adolescence involves four parts: one is the cause of young people's loneliness and how to solve or alleviate it; the other is the frequency of youth's online social interaction and the whether online

social interaction can help alleviate feelings of loneliness; third is the comparison of teenagers' satisfaction with face-to-face social interaction and online social interaction; fourth is whether there is online autism.

3.2.3 Survey of Questionnaire

In this survey, a total of 300 questionnaires were distributed online, and the complete answer rate of the questionnaire was 100%, because the questionnaire emphasized that non-teens do not need to fill in, and those who do not use social networking do not need to fill in. Therefore, the total number of valid questionnaires obtained in this survey is 300, and the effective rate of the questionnaire is 100%. Of course, it is not ruled out that there are people who do not meet the conditions to fill in, and the questionnaire still has errors.

4 EXPERIMENTAL DATA ANALYSIS ON THE INFLUENCE OF SELF-ESTEEM AND LONELINESS ON ONLINE COMMUNICATION

4.1 Self-Esteem and Loneliness

According to the scoring standard of the UCLA Loneliness Scale, a score of more than 44 indicates a strong sense of loneliness, a score less than 28 indicates a weak sense of loneliness, and a score of 33-39 indicates that the sense of loneliness is at a normal level. After analyzing 300 adolescents' loneliness scale, the following data are obtained: 75% of adolescents' loneliness is within a strong range of loneliness, and 23% of adolescents' loneliness is within a normal level. The loneliness of the remaining 2% of urban youth living alone is in a weak range. The specific results are shown in table 1:

Table 1: Self-esteem and loneliness.

Self-esteem and loneliness	21-25 years old	26—30 years old
Very lonely	75%	69%
Loneliness is normal	23%	15%
Loneliness is weak	2%	16%
Strong sense of self-esteem	67%	76%
Normal self-esteem	24%	18%
Low self-esteem	9%	6%

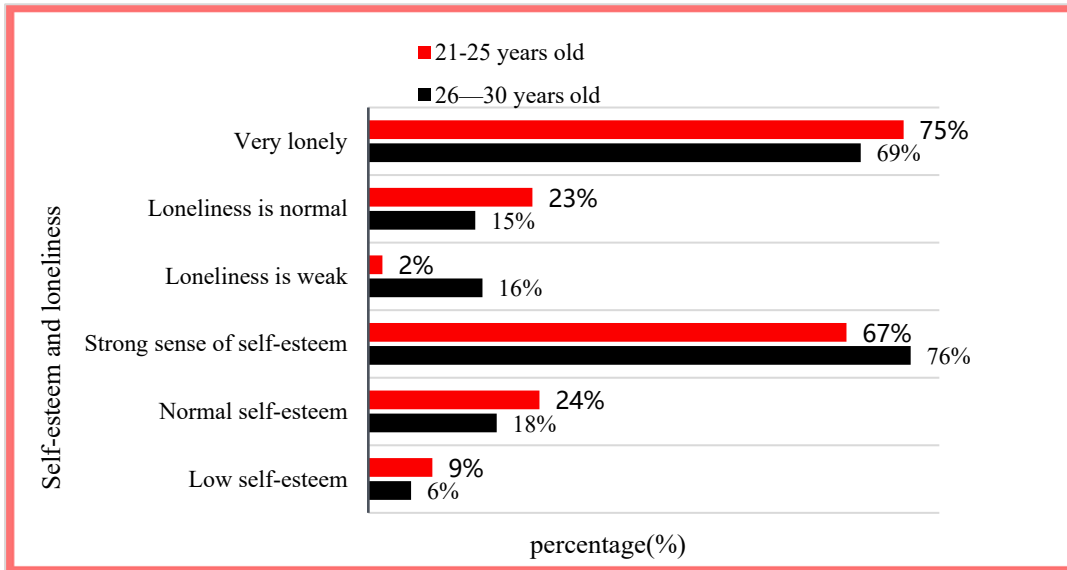


Figure 1: Self-esteem and loneliness.

Table 2. Distribution of main social objects of self-esteem and loneliness.

Social objects	Strong	normal	weak
Family members	43.24%	56.15%	63.36%
Classmates and friends	21.22%	82.36%	82.50%
Work colleagues	57.14%	69.12%	61.05%
Business, industry, or mutual interest relationship	50.00%	30.00%	32.45%
stranger	85.71%	12.10%	3.10%
other	13.24%	3.00%	5.40%

As can be seen in Figure 1, in terms of age, the 21-25 age group has a higher score for loneliness, which may also be due to the large proportion of respondents in this age group. It may also be because teenagers of this age are at a critical stage of career struggle, so they are busy in their careers and do not have time to socialize, so the degree of loneliness will be higher. In addition, most adolescents have a strong sense of loneliness in the online social environment. Only a small number of adolescents have a normal level of loneliness, and a very small number of adolescents have a weak sense of loneliness.

4.2 Influence of Self-Esteem and Loneliness on Online Social Objects

This study investigated the influence of self-esteem and loneliness on social objects on the Internet. The

survey results show that the main social objects of teenagers with strong self-esteem and loneliness are strangers, the main social objects of teenagers with normal self-esteem and loneliness are classmates and friends, and those with weak self-esteem and loneliness are also classmates and friends. The specific results are shown in table 2.

According to Figure 2, the stronger the self-esteem and the sense of loneliness, the social frequency of adolescents and relatives and fellow villagers is decreasing. This further proves that the self-esteem and loneliness of the adolescents mentioned above have increased, and their network interactions show the characteristics of weaker relationships and stronger social relationships. The stronger the sense of loneliness, the stronger the social relationship between young people living alone in the city and their "relatives and fellow villagers" gradually decreases.

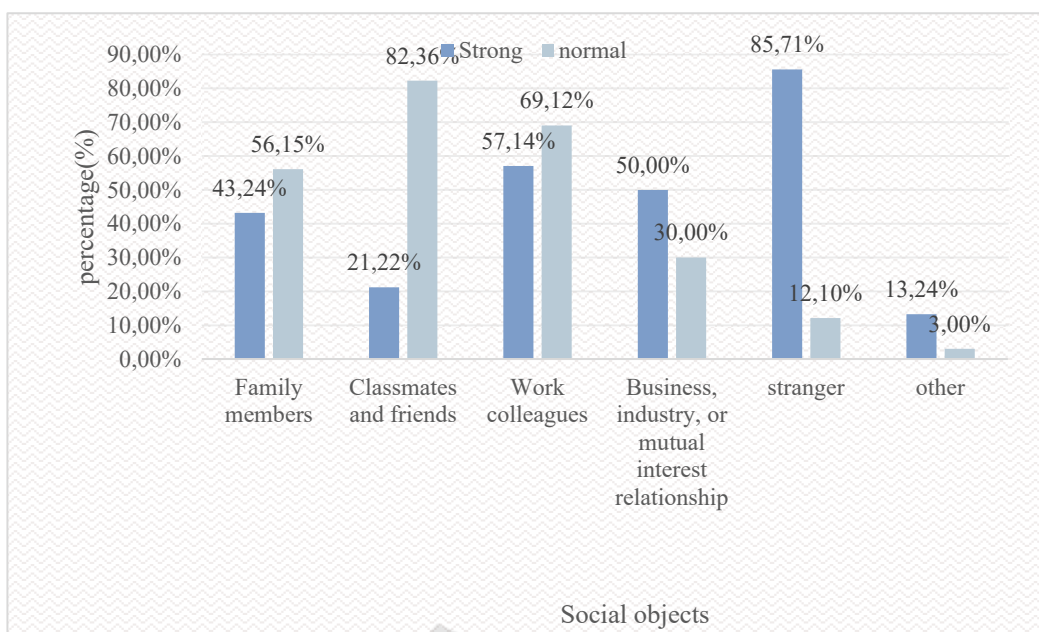


Figure 2: Distribution of main social objects of self-esteem and loneliness.

5 CONCLUSION

By understanding the status quo of adolescents' Internet use, self-esteem, and loneliness, I found that Internet use has a strong correlation with self-esteem and loneliness. The Internet is an almost comprehensive display of real life, it reflects the real social relationships on the Internet, and meets some of people psychological and social needs. Many people do not have specific guidance and clear restrictions on the use of the Internet, and they tend to abuse the Internet and use it uncontrollably. Guiding everyone to use the Internet reasonably is conducive to the development of healthy personality. Especially adolescent children are psychologically sensitive, which can easily lead to problems such as psychological disorders, and poor social interactions can easily lead to emotional anxiety. And it is in the critical period of peer communication and the formation period of interpersonal relationship. It is necessary to correctly guide them to establish a healthy view of communication and shape a healthy personality. Taking measures from the parents, students themselves and the school to help young people alleviate their loneliness, it will help them develop a good attitude and face life with a positive attitude.

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