College Students' Personality Traits and Network Communication -- The Mediating Role of Loneliness

Yuanhe Su[1,2], Xiaxia Jiang[1,2, *]

[1]Rural Education and Cultural Development Research Center, Key Research Base of Humanities and Social Sciences in Universities of Hubei Province, Xianning 437100, China

[2]College of education, Hubei University of science and technology, Xianning 437100, China

Abstract

This study investigates the relationship between personality traits, loneliness and network communication of college students, and explores the mediating role of loneliness in it. Methods: 245 college students from the freshmen to seniors of Xianning University were randomly selected for questionnaire survey. Results: (1) in terms of personality traits, college students with high neuroticism and low extrovert and open are more likely to communicate online. (2) There are significant positive correlation among loneliness, college students' network communication and personality traits.(3) Loneliness plays a part of the intermediary role between College Students' personality traits and network communication. Conclusion: the status and problems of College Students' network communication are worth long-term attention. Loneliness plays a part of intermediary role between personality traits and network communication.

Keywords

Network Communication; Personality Traits; Aloneness; College Student.

1. Introduction

With the emergence and development of the Internet, network communication has gradually become a new way for college students to choose communication in their daily lives. Under this general environment, it is particularly important to understand the influencing factors of college students' online communication. This study examines the relationship between personality traits, loneliness and online communication, and examines whether loneliness plays a mediating role among them.

1.1. Basic Concepts of Network Communication, Loneliness and Personality Traits

Network communication refers to the communication between people through social network software [1]. Currently popular network software is represented by QQ, Weibo, WeChat, etc. According to the survey, 16.1% of college students regularly choose to go online, and 72% of them directly choose to make friends online. Although 46% of college students go online infrequently, their purpose of going online is to communicate online [2]. Therefore, understanding the influencing factors of college students' online communication provides a reliable basis for regulating college students' online communication [3].

Loneliness usually refers to a subjective psychological feeling or experience caused by the individual's lack of social relationships and social desires that make them feel satisfied, as well as a large gap with the actual level of social desires [4]. Its appearance is often accompanied by bad emotional reactions, such as depression and intolerable mental emptiness.

Personality trait is the basic element of personality constitution, which makes people's behavior tendency show a lasting, stable and consistent psychological structure [5]. This research intends to start from the five personality traits of college students and examine their relationship with college students' network communication.

1.2.   Research Status of the Relationship between Personality Traits, Loneliness and Internet Communication

In recent studies, Qiuzhu Chen believes that personality, as a long-term and stable trait, can predict network communication [6], that is, introverted and shy people are more likely to choose network communication than real communication. Loneliness has long troubled the daily life of college students. The research shows that personality traits are closely related to loneliness. Stokes' research found that people with high neuroticism are often sensitive to real interpersonal relationship, and often use self-defense behavior, that is, self-protection mechanism to make friends. They will be overly worried about their interpersonal relationship and sadness [3]. The research shows that the students with weak interpersonal relationship are more likely to have loneliness than those with strong interpersonal relationship, and tend to network communication in the use of the network. The study found that loneliness and network communication have a significant correlation. Kraut's research found that users who overuse the Internet are closely related to their loneliness experience [7].

Among all kinds of influence ways, neuroticism has the greatest influence on loneliness through entertainment and communication services [8]. It may be that neuroticism personality is introverted and unstable, and is often too afraid of being rejected in social occasions. Therefore, people who avoid communication and have a higher sense of loneliness may shift their desire to meet the needs of social relations from reality to the Internet. Therefore, these three are interactive, which makes it practical to study the relationship between network communication and personality traits when loneliness is used as an intermediary.

1.3.   Limitations and Deficiencies of Previous Studies

Looking up previous studies, we found that there is no unified conclusion about the influence of personality characteristics on network communication. Some researchers believe that personality traits can be used to predict network communication behavior, that is, people with certain personality traits, such as introverted and lonely people, are more inclined to network communication than real communication [9], because network communication is an effective way for them to solve problems. Other scholars believe that network communication leads to the variation of personality traits [10], even people who are not high loneliness have higher loneliness than before due to the excessive frequency of network communication. Other researchers have come to the conclusion that there is actually no relationship between network communication and personality traits [8]. Therefore, whether the loneliness of high network communication college students is higher than that of low network communication college students needs further research. At the same time, the time limit of some researches on College Students' Internet communication has passed for many years. For example, Ying Li studied college students' Internet use behavior and personality traits [11] in 2003. At present, college students have changed to the post-95s generation or even a very large number of post-00s generation, and the Internet function has changed with each passing day.

2.   Subjects

A total of 245 questionnaires were sent out and 240 valid questionnaires (98.0%) were returned. There were 43 boys (17.9%) and 197 girls (82.1%); There were 49 freshmen (20.4%), 72 sophomores (30.0%), 103 juniors (42.9%) and 16 seniors (6.7%); There were 108 (45%) students majoring in literature and history, 99 (41.3%) students majoring in science and

engineering, and 33 (13. 8%). There were 36 (15.0%) aged 17-18, 104 (43.3%) aged 19-20, 77 (32.1%) aged 20-21 and 23 (9.6%) aged over 22.

2.1. Tool

Jianxin Zhang's "Big Five" personality test [12] divides personality into five dimensions: Neuroticism, Extroversion, Openness, Congeniality and Preciseness. The alpha coefficient in this study is 0.481. Among the subscales, the reliability of the neurological quality scale is 0.759, the reliability of the extroversion scale is 0.693, the reliability of the openness scale is 0.152, and the reliability of the homosexuality scale is 0.535. The reliability of the rigorous scale is 0.696.

Qiuzhu Chen's College Students' Internet Communication Questionnaire [13] was used to measure the degree of College Students' Internet communication. Among them, 16 and 24 questions should be scored in reverse order. The scale adopts five points. The scale has good reliability and validity. In this study alpha the coefficient is 0.823.

Refer to the UCLA Loneliness Scale in the "Mental Health Rating Scale Manual (Updated Edition)" by Xiangdong Wang and others to measure loneliness [14], and score items (1, 5, 6, 9, 10, 15, 16, 19)., 20) The score is in reverse order, and a high score indicates a high degree of loneliness. Achieving 44 points and above is regarded as a high degree of loneliness, and a score below 28 points is regarded as a low degree of loneliness. The scale has good reliability and validity, and the alpha coefficient in this study is 0.796.

3. Results

3.1. The Current Situation of College Students' Network Communication

The survey method is random sampling method, 245 questionnaires are issued to undergraduates of Hubei University of science and technology, of which 240 valid questionnaires are recovered. The distribution of demographic variables of basic samples is shown in Table 1.

Table 1. Descriptive statistics of demographic variables

	Category	Number of people	Percentage%
Gender	Male	43	17.9
	Female	197	82.1
Grade	Freshman	49	20.4
	Sophomore	72	30.0
	Junior	103	42.9
	Senior	16	6.7
Major	Liberal arts	108	45.0
	Science	99	41.3
	Science	33	13.8
Age	17-18years old	36	15.0
	19-20years old	104	43.3
	20-21years old	77	32.1
	Over 22 years old	23	9.6

The effective questionnaire is shown in Table 2. The most important way of College Students' online communication is instant chat, namely QQ, wechat, etc. 81.2% of the students choose this item. In addition, most of them chose QQ space or blog (78%), social network (37.5%) and multiplayer online games (48.8%), among which email was the least (only 0.09%).

Table 2. Proportion of communication methods used

		Frequency	Percentage of total population
Effective	QQ space or blog	189	78.0%
	Social networks	90	37.5%
	BBS	49	20.4%
	Chat room	39	16.3%
	E-mail	21	0.09%
	Multiplayer online games	117	48.8%
	Instant chat	214	81.2%
Total		240	100.0

3.2. The Relationship among Personality Traits, Loneliness and Internet Communication

As shown in Table 3, it can be found that the scores of College Students' network communication are significantly positively correlated with the scores of loneliness and neuroticism (r=0.208, P<0.01; P<0.01); r=0.241, P<0.01), and there was a significant negative correlation with congruence (r=-0.262, P <0. 01). the score of loneliness was also significantly correlated with neuroticism, extraversion, congruence and preciseness (r=0. 528, P<0; r=-0.466 ,P <0. 01; r=-0.218, P<0.01; r=-0.269, P<0.01). Obviously, the relationship between the three is inseparable.

Table 3. The relationship among loneliness, network communication and personality traits

	1	2	3	4	5	6	7
1.Network communication	1						
2.Aloneness	0.208*	1					
3.Neuroticism	0.241*	0.528*	1				
4.Extraversion	-0.051	-0.466*	-0.567	1			
5.Openness	0.004	-0.002	-0.067	-0.020	1		
6.Agreeableness	-0.262*	-0.218*	-0.286	0.153	0.127	1	
7.Conscientiousness	-0.067	-0.269*	-0.322	0.301	0.281	0.235	1

Note: * means P<0.05

3.3. The Mediating Role of Loneliness

Based on the significant correlation of correlation analysis, we further study the relationship among personality traits, loneliness and network communication, and make linear regression analysis of the three models. The results are shown in Table 4 and Figure 1.

Based on the significant correlation of correlation analysis, we further study the relationship between personality traits, loneliness, and online communication. The result found that neuroticism is not significant in predicting online communication when used as an independent variable. In the end, only homosexuality has a significant impact on online communication. Therefore, the main research is to study the mediating effect of loneliness and homosexuality on the influence of online communication;

Table 4. Regression analysis of Variable Relations

Outcome variables	Predictive variables	R	Fitting index		t	β
			R^2	F		
Network communication	Congruence	0.262	0.064	17.478***	-4.181***	-0.262*
Aloneness	Congruence	0.218	0.048	11.888***	-3.448	-0.218*
Network communication	Aloneness	0.304	0.085	12.068***	-3.579***	-0.227*
	Congruence	0.304	0.085	12.068***	2.504*	0.159

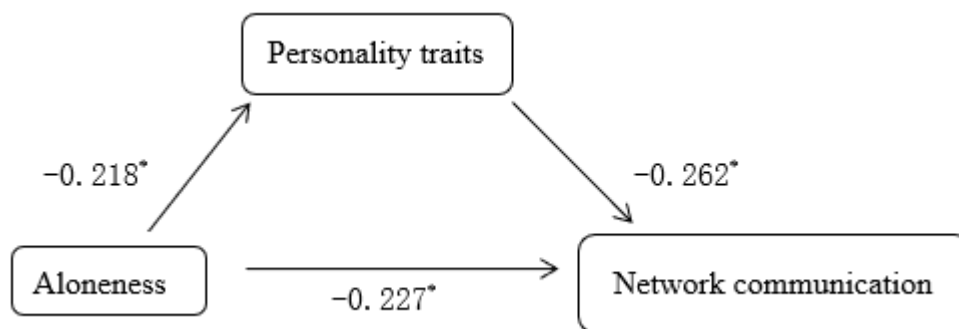Note: * means P<0.05, ***P<0.001

Figure 1. The relationship among the three variables

Note: * means P<0.05

Model A: The regression equation of independent variable homogeneity to dependent variable network communication.

Model B: The regression equation of independent variable homogeneity to the intermediary variable loneliness.

Model C: The regression equation of independent variable homogeneity and mediation variable loneliness on the dependent variable network communication.

In model A, the adjusted R-square is 0.064, that is, the regression equation can explain 6.4% of the total variation, and the corresponding analysis of variance F value is 17.478, reaching a significant level (P<0.05), and homogeneity is significant for online communication Impact (P<0.05), the corresponding standard regression coefficient is -0.262; in model B, the R-square is 0.048, which means that the regression equation can explain 4.8% of the total variation, and the corresponding analysis of variance F value is 11.888, which is significant The level of homosexuality (P<0.05), homosexuality has a significant effect on loneliness (P<0.05), and its corresponding standard regression coefficient is -0.218; after adding the intermediary variables (model C), homosexuality and loneliness have a significant effect on online communication Both have significant effects (P<0.05), but the coefficient of homosexuality on online communication has decreased, indicating that loneliness in the personality traits is part of the mediating effect of homosexuality on online communication.

4. Results

4.1. Analysis on the Current Situation of College Students' Social Networking

From Table 2, we can see that contemporary college students prefer to use instant chat tools and current trendy QQ space and blogs. Instant chat refers to chatting with netizens through designated online chat software. Commonly used instant chat software includes QQ and WeChat. Compared with previous studies, college students used more BBS and chat rooms in previous studies [6]. It is probably because in recent years, more college students have chosen

and came into contact with simple and convenient chat tools on mobile phones, instead of relying on computers to make friends when the Internet was not developed.

The current research often shows that the loneliness of college students is high, and the research also draws a consistent conclusion. College students with high loneliness tend to communicate with each other more and use the network to solve their own problems. However, the negative impact of network communication on college students is increasingly prominent. In the network communication, college students tend to escape reality, which leads to the threat of their mental health [15]. The emergence of network communication media is pursued by the majority of college students, and it may be because with the busy and tired modern life, it is difficult to find a place to release their real feelings, and it is bound to be physically and mentally tired [16]. Through online social activities, college students can not only be confined to their friends, but can also get to know netizens who are thousands of miles apart through online social tools. This not only expands the social circle of college students, but also caters to them, but also allows college students to improve their own communication. The learning process of emotional intelligence [17].

4.2. Discussion on the Relationship among Personality Traits, Loneliness and Network Communication

When analyzing the correlation of Internet communication, loneliness and personality traits, it is found that Internet communication is significantly positively correlated with loneliness and neuroticism, but negatively correlated with extroversion, homosexuality, and rigor. Loneliness is also positively correlated with neuroticism and online communication, while other personality traits are not positively correlated with loneliness, that is, people with high loneliness have a high degree of online communication. The significant negative correlation between homosexuality, online communication and loneliness can indicate that college students with high online communication not only have a high sense of loneliness, but also have traits such as distrust of others and anxiety. The results of this study show that there is a certain correlation between online communication and personality traits [18], which is consistent with the research results of Yanling Xue and others. In particular, the correlation with neuroticism and homosexuality has reached a significant level, and loneliness has shown a mediating trend in online communication, which is consistent with the research results of Ruosong Chang and others.

This study uses the independent variable as the homosexuality in the personality traits, and the dependent variable network communication and loneliness as the mediating variable. In previous studies, loneliness is usually analyzed as a mediating variable [19]. The results of the mediation effect test in this study can show that loneliness plays a part of mediating role in homosexuality and network communication. Homosexuality can not only directly affect college students' online communication behavior, but also may affect online communication through the mediating effect of loneliness. The reason why the influence of loneliness is part of the mediating effect is that there are many reasons that affect online communication, such as family parenting styles, social well-being, and so on.

4.3. The Enlightenment of College Students' Network Communication

There is nothing wrong with network communication. When the Internet came into being, it was destined to be a double-edged sword. Water can carry a boat and overturn it. In this study, congruence has a significant negative correlation with network communication, which shows that students with high network communication often have the characteristics of distrust of others and external things, poor empathy and so on. For college students who like network communication, it is harmful to rely too much on network communication to affect the communication with people around them in real life. This suggests that when we face students

with high network communication, we can remind them to participate in extracurricular activities, integrate into the class, improve empathy ability and cultivate social communication ability.

It is found that loneliness has a positive predictive effect on network communication. College students with high loneliness show high network communication, which shows that their social focus is on the network rather than in real life, which is worthy of our reflection. Universities, families and society should pay more attention to the mental health development of college students and their needs, rather than blindly asking them to grow up as soon as possible and ignoring their inner needs.

It is undeniable that the network has a profound impact on people, so no matter what the purpose of College Students' network communication is, it must be carried out under the premise of abiding by the law and protecting themselves, and make rational use of the Internet media. According to the results of this study, there are the following suggestions for the education and guidance of College Students' network communication. First, we can carry out the lectures on moral education of College Students' network communication, establish the correct ideas of College Students' network communication, and avoid them going astray. Moreover, teachers and student cadres should set good examples and play a positive role in the network. Finally, college students should pay attention to their own quality and sense of security, abide by the law and protect themselves in network communication. Because the current Internet tools are convenient and spread fast, so that college students more and more reduce the real social life, will more easily make college students' interpersonal communication become cold, more and more closed self. The Internet is always virtual and hard to touch, which is definitely different from real life. Excessive addiction to social networking will affect the social level of college students in real society.

5. Lack of Research

Although this study verified that there is a significant correlation between College Students' network communication, personality traits and loneliness, and loneliness plays a partial mediating role before personality traits and network communication, there are also some deficiencies in the study.

The specific deficiencies are as follows: first, the sample size of this study is limited. Due to the limitations of the real environment, only 240 valid samples were collected in this study, the number is limited, and the sample representativeness is not strong, which also leads to the low reliability of the big five personality scale. Second, this study only investigated whether there is a correlation between personality traits, loneliness and network communication, and whether loneliness plays a mediating role, but did not further explore the influence of personality traits and loneliness on network communication. Thirdly, this study did not discuss the differences among the three demographic variables.

In view of the shortcomings of the above research results, some inspirations for the next step of research are to further expand the number of samples and the regional differences of samples, so as to improve the representativeness and popularization of the samples, and try to deepen the degree of research, to explore how loneliness plays a partial mediating role and its influence, and to explore the demographic differences.

Acknowledgments

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