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Original Article

Influence of the Youth's Psychological Capital on Social Anxiety during the COVID-19 Pandemic Outbreak: The Mediating Role of Coping Style

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Abstract

Background: The Coronavirus disease 2019 (COVID-19) pandemic outbreak has led to travel bans and restricted social contact. Sudden decrease of social activities can easily trigger social anxiety, especially for community youths. Existing studies have inconclusive results regarding whether the development of youths' social anxiety can be predicted by psychological capital. This study aims to clarify the influence mechanisms of psychological capital and coping style on social anxiety during the COVID-19 pandemic outbreak.

Methods: Overall 600 community youths with ages of 18–22 yr in Northeast China were randomly selected and voluntarily answered the online questionnaire survey in Mar 2020. General information questionnaire form, positive psychological capital questionnaire, social interaction anxiety scale, and simple coping style questionnaire were used to obtain the participants' information.

Results: Psychological capital has a medium negative correlation with social anxiety, low positive correlation with positive coping ($r = -0.42$, 0.38), and low negative correlation with negative coping ($r = -0.19$). Social anxiety is negatively correlated with positive coping to a small degree and positively correlated with negative coping at a medium level ($r = -0.16$, 0.43). Positive coping has a low positive correlation with negative coping ($r = 0.13$). Positive coping and negative coping play partial mediating roles between psychological capital and social anxiety, with mediating effect values of −0.03 and 0.01, respectively.

Conclusion: Youth's psychological capital is closely associated with coping style and social anxiety. In addition to its direct bearing on social anxiety, psychological capital influences social anxiety through the mediating effect of coping style.

Keywords: COVID-19; Social anxiety; Psychological capital; Coping style; Youth

Introduction

The Coronavirus disease 2019 (COVID-19) pandemic outbreak has negative effects on the public's psychological well-being, national economic state, and social development. Sudden decrease of social activities can easily trigger social anxiety and unhealthy emotions, especially for those youth who continued their education at their homes. Social interaction is a psychological need peculiar to human beings. People can obtain others' recognition and respect by actively engaging in interpersonal communication. In this way, people also obtain a sense of safety, which guarantees their psychological health. Social interaction plays an extremely significant role in human activities (1).

Social anxiety is becoming an increasingly common phenomenon among the youth due to the current severe social employment and other internal and external pressures; moreover, their mental health levels are heavily influenced by the current pandemic (2). Although youths mainly stay and study in campuses with pure interpersonal environment, the social roles they play will gradually transform and increase with the growth of age, especially for those who are about to graduate; given that their interpersonal environment becomes increasingly complicated, they can be anxious more easily when faced with interpersonal problems (3). Different factors can trigger the development of social anxiety, especially on young people. Thus, investigating the factors related to social anxiety is significant to address and facilitate the psychological health of the youth, especially during the COVID-19 pandemic.

Psychological capital is a positive psychological state, which is observed during individual growth process and mainly manifested by various dimensionalities: hope, optimism, self-efficacy, and resilience (4-5). Existing studies on psychological capital have focused on discussing its internal structure and relationship with other fields, such as psychological health, individual well-being, and individual behaviors. Among them, the relationship between psychological capital and psychological health is the most investigated. Data showed that psychological capital is closely related to individual mental health level, that is, elevating psychological capital will help to improve individual psychological quality and cultivate good mentality; thus, psychological capital can be regarded as an internal protective factor for individual psychological well-being (6). According to relevant research findings regarding the secondary concept of psychological capital, tenacity factor in individual psychological capital has positive predicting effect on both sensitivities to interpersonal relationship and depression, whereas optimistic factor has negative predicting effect. All dimensions of psychological capital are found remarkably correlated with positive and negative emotions, depression, sensitivity, and stubbornness and negative correlated with anxiety. Moreover, self-efficacy, optimism, and hope can negatively predict the development of social anxiety. It can be inferred that psychological capital may be the antecedent of social anxiety.

Coping style is the cognitive and behavioral patterns adopted by individuals facing pressure and setback to acquire balance under pressure and an important factor used to adapt to new environment and keep a positive mental health (7). Coping style is divided into two groups, namely, positive coping and negative coping; the former means that individuals adopt optimistic and positive attitudes to cope with stressful events and they believe that they have abilities to solve problems and can take actual actions to solve the problems, whereas the latter means that individuals relieve their negative emotions related to stressful events through evasion and resistance (8). Related researches have shown that both coping behaviors are closely associated with individual social anxiety (9-10). Therefore, the influence of the youth's psychological capital on social anxiety is not certainly direct, and coping style may play a mediating role in this relationship (11). However, the concrete influence mechanism in this relationship remains unclear. Especially under the COVID-19 pandemic outbreak, this influence mechanism needs to be further explored.

To address this research gap, we investigated the relationship between psychological capital and social anxiety and how coping style mediates this relationship. A total of 600 community youths in Northeast China during the COVID-19 pandemic outbreak have participated in this study.

Materials and Methods

Research Participants

This study adopted simple random sampling method and conducted online questionnaire survey in Mar 2020. The participants were composed of randomly selected community youths in Northeast China, with ages ranging from 18–22 yr.

The participants' general information is listed in Table 1.

Table 1: Participants' gender and age distribution

General information		*Number of participants*	*Constituent ratio (%)*
Gender	Male	324	54.00
	Female	276	46.00
Age (yr)	18	121	20.17
	19	126	21.00
	20	140	23.33
	21	110	18.33
	22	103	17.17

Methods

1) Survey methods

Questionnaires were used to ask the participants' general information and measure their psychological capital, coping style, and social anxiety levels. The investigator provided uniform instructions and detailed research information, ensuring that the participants were well informed before answering the questionnaire. The participants took an average of 10–20 min answering the online questionnaire survey. Out of 616 questionnaires, 600 were considered valid, with effective recovery rate of 97.40%.

2) Survey tools

General information

This questionnaire was designed by the investigator. The survey included the participants' gender, age, family status, and whether or not an only child.

Psychological capital

Positive psychological capital questionnaire was adopted from previous study (12). The Cronbach's α coefficient of this scale was 0.89, and it exhibited good internal consistency reliability and construct validity after verification. This scale was consisted of 26 items of four dimensionalities—self-efficacy, resilience, optimism, and hope. A seven-point scoring method was adopted for all items: 1 = "complete inconformity," 2 = "relative inconformity," 3 = "slight inconformity," 4 = "unclear," 5 = "slight conformity," 6 = "relative conformity," and 7 = "complete conformity." The higher the total score, the higher the participants' positive psychological capital level.

Social anxiety

Social interaction anxiety scale was adopted (13). This scale was translated and revised by local experts and scholars, and its Cronbach's α coefficient was 0.901. This scale was consisted of 20 items used to evaluate individual cognitive, behavioral, and emotional levels in different social interaction processes and scenarios. A five-point scoring method was adopted: 0 = "complete inconformity," 1 = "slight conformity," 2 = "medium conformity," 3 = "very conformity," and 4 = "extreme conformity." The higher the total score is, the more serious the participants' social anxiety.

Coping style

Simple coping style questionnaire was adopted from previous study (14). This 20-item scale was used to measure the participants' positive coping and negative coping behaviors. A four-point scoring method was used: 0 = "not adopt," 1 = "occasionally adopt," 2 = "sometimes adopt," and 3 = "usually adopt." The Cronbach's α coefficients of positive coping and negative coping subscales were 0.835 and 0.817, respectively.

3) Quality control

The participants answered the online questionnaires anonymously and voluntarily to protect their identity and privacy. With every two typed-in data, 10% typed-in questionnaires were extracted and checked with original ones to ensure accuracy of data type-in.

This study passed ethical review of the community where the participants live and acquired informed consent from all participants. Moreover, all methods were executed in accordance with relevant guidelines and stipulations.

4) Statistical processing

The survey data were first typed in Excel software for organization. Then, the data were processed statistically by using SPSS 21.0 (Chicago, IL, USA) software. Measurement data conforming to normal distribution were expressed by mean ± standard deviation ($\bar{x} \pm s$). ANOVA was adopted for multi-group comparison, *t*-test was used for inter-group comparison, and Pearson test was conducted for variable correlation. Multiple mediating effects were verified using Bootstrap method of offset correction, and $P < 0.05$ indicated that the difference was statistically significant.

Results

Participants' scores of social anxiety, psychological capital, and coping style

The participants' scores of social anxiety, psychological capital, positive coping, and negative coping were 23.64 ± 4.06, 4.91 ± 1.54, 1.78 ± 0.18, and 1.18 ± 0.42, respectively (Table 2).

Table 2: Participants' scores of social anxiety, psychological capital, and coping style

Item	*Lowest score*	*Highest score*	*Average score ($\bar{x} \pm s$)*
Psychological capital	2	6.5	4.91 ± 1.54
Social anxiety	10.2	27.70	23.64 ± 4.06
Positive coping	0.48	1.96	1.78 ± 0.18
Negative coping	0.61	1.60	1.18 ± 0.42

Variable difference

Psychological capital scores of males were significantly higher than those of females ($P<0.05$). However, comparative differences between the two genders in terms of social anxiety, positive coping, and negative coping scores were found statistically insignificant. Comparative differences between the participants who were an only child and those who were not in terms of psychological capital, social anxiety, positive coping, and negative coping scores were also found statistically insignificant (Table 3).

Table 3: Comparative differences among the participants' backgrounds ($\bar{x} \pm s$, score)

Item	*Number*	*Statistical value*	*Psychological capital*	*Social anxiety*	*Positive coping*	*Negative coping*
Gender						
Male	162		4.97 ± 1.46	23.52 ± 4.17	1.70 ± 0.20	1.15 ± 0.43
Female	138		4.81 ± 1.35	23.68 ± 4.33	1.80 ± 0.19	1.17 ± 0.36
		t	2.979	0.325	1.416	0.432
		P	0.015	0.745	0.347	0.667
Only child						
Yes	201		4.78 ± 1.33	23.66 ± 4.36	1.75 ± 0.19	1.20 ± 0.35
No	99		4.92 ± 1.69	23.30 ± 4.27	1.82 ± 0.21	1.16 ± 0.41
		t	0.802	0.720	1.054	0.652
		P	0.423	0.472	0.098	0.541

Correlation analysis

The Pearson correlation analysis results are shown in Table 4. Psychological capital had medium negative correlation with social anxiety, low positive correlation with positive coping, and low negative correlation with negative coping. Social anxiety had a low negative correlation with positive coping and medium positive correlation with negative coping. Positive coping had a low positive correlation with negative coping.

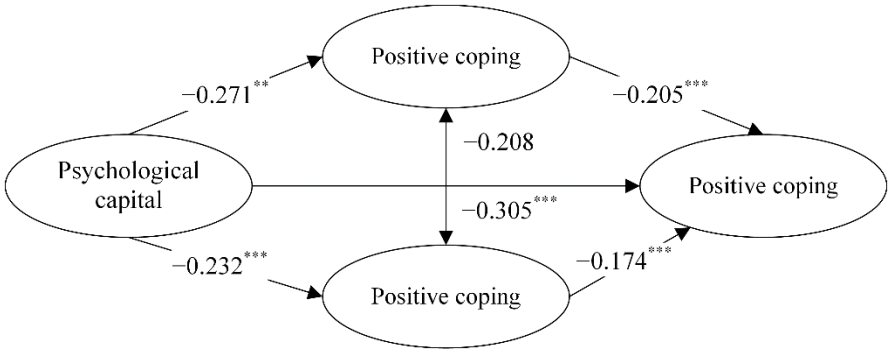
Table 4: Correlation analysis results

Variable	*Psychological capital*	*Social anxiety*	*Positive coping*	*Negative coping*
Psychological capital	1.00			
Social anxiety	−0.42*	1.00		
Positive coping	0.38*	−0.16*	1.00	
Negative coping	−0.19*	0.43*	0.13*	1.00

Note: * denotes $P < 0.05$

Mediating effect analysis

As shown in Fig. 1, a structural equation model (SEM) was constructed by taking psychological capital as independent variable, social anxiety as independent variable, and negative coping and positive coping as mediating variables. The results showed that the model was of satisfactory goodness of fit, with $2/df$ (ratio of degree of freedom) = 3.014 and a mean square root of approximation error = 0.042. The goodness of fit index, goodness of fit index after adjustment, standard fit index, added value fit index, and comparative index were 0.937, 0.907, 0.912, 0.924, and 0.915, respectively. These values were all greater than 0.9, indicating that the equation's goodness of fit was extremely good. Moreover, the model showed that psychological capital influenced social anxiety through three paths: "psychological capital → social anxiety," "psychological capital → negative coping → social anxiety," and "psychological capital → positive coping → social anxiety." Table 5 shows the significance test results of multiple mediating effects. Positive coping played a partial mediating role between psychological capital and social anxiety, and 95% CI (Confidence Interval) was obtained after repeated sampling did not contain 0. Thus, the mediating effect of positive coping was found significant. Negative coping played a partial mediating role between psychological capital and social anxiety, and 95% CI did not contain 0. Thus, the mediating effect of negative coping was found remarkable.



Note: *, **, and *** denote $P < 0.05$, $P < 0.01$, and $P < 0.001$, respectively

Fig. 1: Path coefficients of SEM of multiple mediating effects (standardized regression coefficients)

Table 5: Significance test results of multiple mediating effects

Path	*Standardized indirect effect*	*95% CI*		*Relative mediating effect*
		Upper limit	*Lower limit*	
Psychological capital → social anxiety	−0.305	−0.402	−0.301	16.28%
Psychological capital → negative coping → social anxiety	−0.040	−0.024	−0.051	6.92%
Psychological capital → positive coping → social anxiety	−0.055	−0.041	−0.074	22.35%
Total indirect effect	−0.400	−0.467	−0.426	45.55%

Discussion

Table 2 shows that the participants' overall social anxiety score was at a medium level during COVID-19. This finding was slightly higher than those reported in related literatures. These varied results were possibly caused by the difference in settings. The participants in this study could not go out freely and their social activities were suddenly reduced because of the pandemic. The term social anxiety was used to refer to individual intense emotional reactions and avoidance behaviors, such as fear, anxiety, and worry, when faced with one or multiple interpersonal communication. If social anxiety was not immediately addressed and allowed to develop arbitrarily, it could generate serious harms to youths' mental health and cause adverse effects on their schoolwork and life (15).

Young people with social anxiety present high mental dispositions (16), such as anxiety, depression, instability, fear, and introversion, in interpersonal communication. Social anxiety was commonly observed during puberty. Thus, this phenomenon was considered mainly related to individual physical and mental characteristics during puberty. With the growth of age, the academic burden and pressure of Chinese youth are reduced, which could lead to increased interpersonal communication activities and problems. Thus, overwhelming social environment is a common psychological problem among contemporary young people. In line with the findings of related research (17), this study showed that the participants' positive coping and negative coping were at medium levels during the COVID-19 pandemic outbreak. Comparative differences among youths of different genders and majors in terms of positive coping and negative coping scores were found statistically insignificant. However, the positive coping scores of the participants with science and engineering background was slightly higher than those with liberal arts background, whereas the negative coping scores of youths with liberal arts background was slightly higher than those of youths with science and engineering background. This result was consistent with the findings of another study (18). Youths with science and engineering background were possibly more rational and more likely to adopt positive coping styles to solve their problems. By contrast, those with liberal arts background were more meticulous and more inclined to emotional coping style.

Table 3 shows that the participants, regardless of gender, major, and whether or not an only child, did not exhibit significant differences in terms of their social anxiety scores. Thus, these factors had no evident influences on social anxiety level. This result was in line with the findings of related literature (19). The development of social anxiety was associated to various factors, such as characteristics of individual personality, family education, and growth environment. Generally, social anxiety was negative correlated with individual self-acceptance and self-esteem degree. However, external factors, such as gender and major, had no obvious influences on social anxiety in this study. This result indicated that youths can develop social anxiety, regardless of gender, major, and whether or not an only child.

Moreover, the participants' psychological capital scores were at medium and partially upper level. The term psychological capital was used to refer to a kind of positive mental state, which is shown in individual growth and development process and manifested through optimism, self-efficacy, hope, and resilience (20). The results were according to the participants' individual confidence and optimistic images during their adolescence. Table 3 shows that psychological capital scores of males were evidently higher than those of females. This result was in line with the findings of another study (21). Psychological capital levels of males were generally higher than those of females. Males could possibly accept the challenges more positively, given that they would harvest great sense of achievement once they succeed. This situation could encourage them to have higher recognition degree of their own abilities. Therefore, male youths' psychological capital levels were relatively high during the COVID-19 pandemic outbreak.

According to the correlation analysis results in Table 4, close associations were observed among psychological capital, social anxiety, positive coping, and negative coping. The mediating effect analysis results in Table 5 showed that positive coping and negative coping play partial mediating roles in the relationship between psychological capital and social anxiety. The above results indicated that youths with high psychological capital have stronger mental adaptive abilities in the COVID-19 pandemic and are capable of forming positive follow-up influences when experiencing uncertain social settings. For uncertain social settings, individuals with high psychological capital would usually choose to actively acquire information. Thus, they would show better endurance when the social settings are out of their control. They would also exhibit lower possibilities of developing social anxiety. Young people with high psychological capital level were likely to select positive coping style instead of negative coping style when faced with stressful events. These individuals were likely to recognize fully their own abilities and believe that they can always solve problems and get rid of plights through their own efforts. If individuals would adopt positive coping style when faced with problems and handle these situations with practical measures, then their social performance could exhibit evident improvements and social anxiety would be effectively mitigated. Individuals with high psychological capital were likely to change uncomfortable situations and weaken their social anxiety by adapting positive and effective countermeasures.

Table 5 also shows that negative coping played a more remarkable mediating role between psychological capital and social anxiety than positive coping. According to self-regulatory executive function model proposed already (22), individuals would adopt self-regulation behaviors to relieve their social anxiety. However, self-regulation could only succeed with correct and inherent self-knowledge and suitable cyclic process (23). Poor psychological capital level would possibly result in negative individual attentive circulatory function (24). Consequently, the negative disturbance caused by individual cognitive pattern to attentive circulation process would be aggravated, and the prognosis of negative expectation could be easily generated. Afterwards, false coping strategies would be developed. Therefore, the poorer the psychological capital, the more easily individuals would adopt negative coping strategies, and the more serious the social anxiety they would experience. Individuals could change their current situations by adopting positive coping style rather than negative coping style. The effect could be generated only under specific circumstances, but social settings were extremely complex that individuals could not simply distinguish social settings. Thus, the mediating effect exerted by positive coping between psychological capital and social anxiety was not usually as good as that of negative coping style.

Conclusion

Young people's social anxiety and coping style are at medium levels, whereas their psychological

capital is at medium and upper level during the COVID-19 pandemic outbreak. Psychological capital is negatively correlated with social anxiety, and social anxiety is negatively correlated with positive coping. Moreover, psychological capital is negatively correlated with negative coping but positively correlated with positive coping. Finally, positive coping and negative coping partially mediates the relationship between psychological capital and social anxiety.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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Conflict of interest

The authors declare that there is no conflict of interest.

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