Study on the Relationship between Different Cognitive Styles and Perceived Social Support Assessment Results

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Abstract

Objective: To examine the relationship between different cognitive styles and perceived social support. Methods: 75 adults were randomly sampled in Hebei province and 60 valid questionnaires were collected. Results: (1) independent and interdependent group was no significant difference on the perception of social support score (2) independent (dependent) group of participants trait and sociality into component percentages did not fall there dependent (independent) formula into a component within the percentage of confidence interval. Conclusion: There were no significant differences between traits and social factors across cognitive styles.

Keywords

Relationship Regulation Theory; Perception Social Support; Cognitive Style; Variance Component.

1. Introduction

Social support refers to the system of spiritual or material help and support from all aspects of society, including parents, relatives, friends, etc. to individuals [1]. Different people have different feelings about the help and support given by others. Some people do not feel the warmth even though they are helped, while others feel the warmth without the help. Why do different people feel differently about the help and support of others[2]? Studies have shown that this is not only related to the actual support provided by the provider, i.e., social influencing factors, but also to the individual characteristics of the recipient, i.e., trait influencing factors, and the proportions of the two in the results of perceived social support assessment also play an important role[3].

The traditional measurement method of social support is to use a rating scale to calculate the individual's score. The total score represents all the components of perceived social support, and does not distinguish the factors that affect the difference in perceived social support between individuals and others[4]. Relational adjustment theory solves problems that cannot be clearly solved by traditional methods, and can completely distinguish the influence of the receiver's trait characteristics and the actual amount of support provided by the provider, that is, in the evaluation research of perceived social support, it can be very good. Distinguish between the social influences of actual support and the idiosyncratic influences of individual characteristics on the ratings of perceived social support. Based on the relational moderation theory, it can be seen that a certain characteristic of the recipient may be an important factor affecting the results of social support assessment. However, the related research on relational moderation theory has not conducted a specific study on the influence of different individual characteristics on the evaluation of perceived social support.

Cognitive style is the habitual behavior pattern manifested by an individual in the cognitive process. It is an individual's characteristic and is mostly cultivated since childhood. It is the attitude and expression in the process of perception, memory and problem solving. Field

independence and field dependence in cognitive style, as individual characteristics, have a certain impact on social perception[5]. The independence of the field and the dependence of the field are mainly manifested in the different reference points of people's perception of the external environment . Field-independent people are often guided by the internal environment when processing information, and have a high level of psychological differentiation. Field dependents tend to rely more on external references in information processing. They often rely on external perceptual cues to process information, are more sensitive to the external environment, and are more able to consider other people's feelings when interacting with others, and have a lower degree of psychological differentiation [6]. Therefore, cognitive style and perceived social support assessment results may have a certain relationship, and the combination of the two may be of great significance.

2. Research Method

2.1. Research Object

This study took adults in a province of China as the target population, and adopted random sampling method to select 75 adults for testing. After recovery, invalid questionnaires were excluded. Finally, 60 valid questionnaires were obtained, with an effective rate of 80%, of which 25 were male (41.7%), 35 women (58.3%), 39 (65%) in the 30-45 age group, and 21 (35%) in the 20-30 age group. The mosaic test scores of 60 subjects are the limit of the average value, those higher than the average value are field-independent individuals, and those lower than the average value are field-dependent individuals. Among them, 28 individuals were field independent, accounting for 46.7%; 32 individuals were field dependent, accounting for 53.3%.

2.2. Research Tools

2.2.1. Cognitive Style Mosaic Test

This study applied the "Mosaic Graphics Test" revised by the Department of Psychology of Beijing Normal University to measure the field independence and field dependence of individuals. The test requires subjects to identify and describe a simple, established figure hidden in a more complex figure, and the test scores reflect the individual's field independence or field dependence. Field-independent individuals can quickly and correctly separate simple graphs, while field-dependent individuals take a long time and are relatively difficult to separate simple graphs quickly and correctly. The reliability of the Mosaic Graphics Test is 0.90, which is extremely significant ($p < 0.01$)[7].

2.2.2. Social Support Perception Scale

The study used the social support subscale of the Relationship Quality Questionnaire to measure the subjects' perceived social support[8]. The subscale consists of 7 items, and subjects are asked to rate the level of support of different social support providers (father, mother and friends) on a four-point scale from 1 (none at all) to 4 (a lot) on each item. This subscale was also used to measure perceived social support in the existing study by Lakey et al. The internal consistency reliability of the scale in this study was 0.91; the internal consistency reliability of father support was 0.75, mother support was 0.81, and friend support was 0.79.

2.3. Research Procedures

The subjects understood the requirements of the questions according to the instructions of the mosaic graphics test, and completed the first and second parts as required. After completing the second part of the Mosaic Graphics Test, complete questionnaire one of the Social Support Perception Scale. Then complete the third part of the mosaic graph test, the second part of the social support perception scale, the calculation questions, and the third part of the social support perception scale. Among them, the third part of the mosaic graphics test and the

calculation questions are used as distraction tests. Finally, the scores of cognitive style test and social support perception test were collected.

2.4. Data Processing and Analysis

The variance component analysis process developed by Lakey et al. was used to analyze the social and idiosyncratic components of perceived social support in the field-independent and field-dependent groups. The process decomposed the variance component into receivers (trait components), item , provider (social component), receiver-item interaction, and random error component. According to the practice of Lakey et al., only the variance components of the receiver and the provider are extracted for subsequent operations. The collected test questionnaires and scores were classified, sorted and screened. Questionnaires with missing items, obvious regularity in answer content, and those that were not answered as required were eliminated. The data of valid questionnaires were entered into the computer, and spss22.0 was used for data analysis.

3. Findings

3.1. Differential Analysis of Cognitive Style in Each Variable of Perceived Social Support

The subjects were divided into high group (field-independent group) and low group (field-dependent group) according to the scores of the mosaic graph test, and the independent sample T test was used to examine the differences in various variables in perceived social support between the two groups. The results are shown in the table. 1. The results showed that there was no significant difference in the scores of perceived social support between the two groups.

Table 1. Differences of subjects in the field-independent and field-dependent groups in each variable (M±SD)

	Field independent group (n=28)	Field dependent group(n=32)	t
Paternal suppor	5.55 ±1.36	5.24 ± 1.15	-0.38
Maternal support	5.73 ±1.31	5.55 ± 1.39	-0.82
Friends Support	5.71 ± 1.46	5.29 ± 1.18	-1.24

3.2. Variance Component Analysis of Cognitive Style and Perceived Social Support Assessment Results

The variance component analysis method was used to examine the differences between the idiosyncratic and social components in the assessment results of perceived social support between the two groups. The results are shown in Table 2. The total variance component of the field independent group was 0.511, and the sum of the idiosyncratic and social components was 0.32, accounting for 62.7% of the total. The total variance component of the field-dependent group was 0.467, and the sum of the idiosyncratic and social components was 0.22, accounting for 47.1% of the total.

On the idiosyncratic component, the variance component value of the field-independent group was 0.22 (43.1%) and that of the field-dependent group was 0.16 (34.5%). Since the total amount of variance components is inconsistent, the idiosyncratic components of the field-independent and field-dependent groups of subjects are firstly normalized, that is, the variance components and the upper and lower bounds of the 95% confidence interval are converted into percentages. Secondly, it is checked whether the percentage of the trait component of the subjects in the field independent group falls within the percentage range of the confidence interval of the variance component of the field dependent group. The results showed that the

percentage of variance components of the field independent group fell within the confidence interval, indicating that there was no significant difference between the two groups in the trait component. It was tested whether the percentage of the trait component of the subjects in the field-dependent group fell within the percentage range of the confidence interval of the variance component of the field-independent group. The results also showed that there was no significant difference in the trait component between the two groups of subjects. The idiosyncratic component of the field independent group was not significantly different from that of the field dependent group. On the social component, the variance component value of the field independent group was 0.22 (43.1%) and that of the field dependent group was 0.16 (34.5%). The variance components were inconsistent, and the same method was used. The results showed that the social components of the field independent group were not significantly different from the field dependent group. Individuals with on-the-spot independence and dependence are not greatly influenced by social support providers and individual trait factors when they perceive social support assessment. The specific results are shown in Table 2.

Table 2. Results of variance component analysis of independent group and dependent group

	Variance component value	Variance amount (%)	SE	95%CI	95%CI (%)
Field Independent Group					
Idiosyncratic ingredients	0.22	43.1%	0.077	[0.07,0.37]	[13.65%,73.00%]
Social component	0.16	31.4%	0.041	[0.08, 0.24]	[15.64%,47.24%]
Field Dependency Group					
Idiosyncratic ingredients	0.16	34.5%	0.065	[0.03,0.30]	[7.05%, 61.90%]
Social component	0.11	24.6%	0.043	[0.03, 0.20]	[6.36%, 42.77%]

4. Analysis and Discussion

4.1. Analysis and Discussion of Differences in Cognitive Style in Each Variable of Perceived Social Support

The independent sample t-test results showed that the field independent and field dependent groups had no significant differences in the various components of the perceived social support assessment results, that is, the two groups had no significant differences in the mosaic graph test, and the grouping was not clear. At present, the three commonly used methods for measuring field independence and field dependence are the mosaic graph test, the frame line test and the cognitive bias task. The reasons that may lead to the insignificant difference between the two groups in cognitive tests are as follows: (1) Some studies have shown that individuals with a field-independent style have higher "cognitive reconstruction" than those with a field-dependent style. "level. Individuals with a field-dependent style have higher levels of communicative competence than individuals with a field-independent style. In this regard, the researchers hypothesized that field independence is related to the acquisition of language skills, while field dependence is related to the acquisition of communicative skills[9] . (2) The cultural education level and maturity level of the subjects will have an impact on the score of the mosaic graph test. Field independence increases with grade. For example, students in the second grade who have completed the basic plane geometry will naturally have an advantage over the students in the first grade, and students in the third grade who have completed the solid geometry will definitely have an advantage over the students in the second grade[10] .

4.2. Discussion on Variance Component Analysis of Cognitive Style and Perceived Social Support Assessment Results

The variance component analysis of cognitive style and perceived social support results showed that there was no significant difference between the field independent group and the field dependent group in the trait component and social component of the perceived social support evaluation results. Theoretically, subjects in the field-independent group are more likely to evaluate the extent to which others have provided support for them based on their own cognition and judgment, that is, the idiosyncratic components in the evaluation results should be significantly more than those in the field-dependent group; The subjects in the dependent group should have a significantly higher social component in the total score of perceived social support than in the field independent group, but the results did not meet the hypothesized expectations.

There may be two reasons for this result: First, the data analysis results show that the error of variance is higher than the general level, indicating that the measurement error is large. First of all, due to the new crown pneumonia epidemic, people are isolated at home, and the sample of the subjects is small, the degree of representation is low, and there may be large errors. Second, asymptomatic patients with new coronary pneumonia appear and are highly infectious, and the uncertainty of the subjects about the subject's physical condition may lead to inattentiveness in filling out the questionnaire. Second, social and cultural differences and other issues are also irresistible factors for this result, such as individualism and collectivism. China is a representative country of collectivism and has a strong field dependence, but the investigation and research on the collectivist values and value orientation of college students shows that the collectivism consciousness of college students has declined, and the sense of dependence on traditional collective consciousness has weakened [11]. Secondly, individualism will also have an impact on individual values. Some college students have an unbalanced personal orientation and strong utilitarian concept, which makes some college students focus on the personal interests in front of them. Most of their thinking and behaviors are based on "self". center, towards the individual direction[12]. The existence of these differences and problems suggest that the hypothesis of this study needs to be further explored.

References

[1] Goyne, J.C. :Stress social support and the coping process,Annu Rev Psychol.Vol.42(1991),401-407.

[2] Zhaiping He:Research Review of Foreign social Support Network,Foreign social sciences,Vol. 01 (2001), p.89-92.

[3] Lakey, B. and Orehek, E. Relational regulation theory: A new approach to explain the link between perceived social support and mental health, Psychological Review, 2011,118(3): 482-495.

[4] Suiyuan Zhang and Desen Yang: The impact of social support on physical and mental health, The Chinese Journal of Mental Health,Vol. 1 (1987) No.4, p.184-187.

[5] Souxin Li and Guangwen Song:Test research on cognitive methods in high school students, Psychology newspaper, Vol. 26 (1994) No.4, p.378-384.

[6] Danling Peng: General Psychology (Beijing Normal University Press, China 2004).

[7] Xiaoxia Huang: The influence of cognitive experimental paradigm- -field dependence characteristics on computer-aided teaching and conventional teaching effect(MS., Tianjin Normal University, China 2002).

[8] Xinqiao Jing: Study on the influence of Field field cognition on Grical ference(MS., Guizhou Normal University, China 2008).

[9] Zhongdu Zhu: Effect of field independence and field-dependent style on foreign language learning, Foreign Language and Foreign Language Teaching, Vol. 04 (2002) .

[10] Mingzhen Li: Cognitive Mode and its relationship with the flexibility of students' mathematical thinking, Psychological Development and Education, Vol. 03 (1994).

[11] Shaohong Ding:Research on collectivist Education in College Students(MS., Northeast Normal University, China 2014).

[12] Huanqin Ye : The Influence and Countermeasures of individualism on College Students' Practice of Socialist Core Values , Journal of Huaibei Vocational and Technical College, Vol. 02 (2020).