
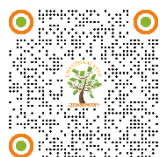


CORRELATION OF PSYCHOLOGICAL MALADJUSTMENT, SOCIAL SUPPORT AND PSYCHOSOMATIC HEALTH IN FRESHMAN AMONG COLLEGE STUDENTS

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ABSTRACT

To investigate the relationship between psychosomatic health and psychological maladjustment, social support in freshman. By random cluster sampling, 2790 freshmen garrisoned on islands (study group) and 2790 sophomore and junior college students as control group were recruited in Changzhou and administered by Chinese Psychosomatic Health Scale (CPHS), Maladjustment Self-Assessment Scale (MSAS) and Chinese Social Support Scale (CSSS). The results were analyzed with t test analysis, Pearson correlation and stepwise regression analysis by SPSS statistic 17.0. Compared with the controls, freshmen had higher scores of psychological disorder (anxiety depression, psychoticism) and of somatic disorder (respiratory apparatus, cardiovascular system, alimentary system, skeletal and musculature, integument, regenerative and endocrine, nervous system) except the factor of eye and ear; all factors of CPHS had positive correlation with most factors of MSAS, CSSS; regression analysis showed that behavioral problem, interpersonal relationship, environmental adaptation, subjective support, support degree of use entered into the regression equation. In conclusion, the psychosomatic health in freshman among college students is generally worse than those of the controls. Behavioral problem, interpersonal relationship, environmental adaptation, subjective support, support degree of use are associative factors predictive factors.

Keywords: Soldiers on Islands, Psychosomatic Health, Social Support, Psychological Maladjustment

1. INTRODUCTION

With the introduction of the biological-psychological-social medical model, when considering individuals' health, we should take account of the perfect combined condition of body, mental and society. Now, [Zhang et al. \(2021\)](#). And [Li et al. \(2021\)](#) argued that the current research is mainly on the correlation between mental health and social support in college students, but few research have been reported on psychosomatic health and associated factors.

Psychosomatic disorder generally refers to a medical disorder (including conversion disorder, somatization disorder, and hypochondriasis) that is caused by

psychological factors, The fundamental commonality of all these somatoform disorders is the experience of physical symptoms that are not fully explained by a medical condition or by another mental disorder and cause significant functional impairment in life realms such as family, career, and social activity. Studies have showed that psychosomatic health was associated with a variety of factors, in which social support and maladjustment are important factors. Social support could reduce the body's response to social stress so that it can improve psychosomatic health. Studies have shown that social support can reduce cardiovascular complications and neuroendocrine responses caused by stress so as to benefit the psychosomatic health. Eisenberger et al. (2007) and Lee et al. (2012) have shown that high levels of social support could reduce cortisol responses caused by the stress through the mediation of dorsal anterior cingulate and Brodmann 8 (BA8) area, decrease the body damage caused by too strong stressed neuroendocrine response, improve the level of the psychosomatic health, and give solid evidence of neurobiological mechanism for the mediation role of social support. In one study, Nyarko et al. (2020) also suggested that social support played buffering role between stressful life-events and depressive and psychological distress symptoms.

Adaptability is an important element of mental diathesis for keeping health under life stress. Martin and Lysaker (2021), Chen et al. (2022), Carey and Richards (2014) reported that academic stress, economic burden, interpersonal problems, maladjustment of daily life habit and other environmental stress stimuli in freshmen increased the chance of depression, anxiety, distress, which results into the problems of their emotional disturbance, behaviour manner and environmental adaptation. Besides, some studies found out the individual adaptability was related to its cultural orientation and personal characteristics. Under stressed condition, Szabó et al. (2020), Zou et al. (2013) and Sherry et al. (2013) found that armed police soldiers holding a horizontal collectivism culture orientation may be difficult to adapt to the forces' cultural environment. Chang et al. (2015), Marco and Alonso (2019), Ooi et al. (2017) and McGarrigle et al. (2020) confirmed maladjustment can make us face psychological and physical symptoms such as depression, anxiety, chronic pain. These factors are not only jeopardizing psychosomatic health, but also resulting into the decline of academic performance, which can easily lead to attrition.

On one hand, freshmen among college students need to cope with the psychological and physical discomfort in adaptive process of new life; On the other hand, almost all of them firstly leave home, often experience a lack of emotional support from family what can increase the individual's feelings of loneliness and alienation. That often induces mood disorders such as anxiety and depression. In this complex situation, psychosomatic health of freshmen is more vulnerable to be damaged, can furtherly cause all kinds of psychosomatic disorders.

This paper analyses freshmen's psychosomatic health status and its association of social support, maladjustment, and relevant factors in comprehensive way. By this, we try to build a psychosomatic health and medical support system for health maintenance and disease prevention in freshman among college students.

2. MATERIALS AND METHODS

2.1. PARTICIPANTS

Using random cluster sampling method, to answer in a continuous, random, random response way. If the answer tablet is not complete, it will be deleted. Study

group: 2790 freshmen (male: 1431, female: 1539) from 4 universities in Changzhou with average age of 18.91 ± 3.39 were recruited. Control group : 2790 sophomore, junior college students (male: 1342, female: 1448) as control group were recruited at the same time in the same area.

On the age, gender, there is no significant difference ($P > 0.05$) . Exclude the ones with a history of mental illness, substance abuse.

2.2. ASSESSMENT INSTRUMENTS

Chinese Psychosomatic Health Scale (CPHS) includes 134 items, is composed of 2 dimensions, 11 factors, including somatic disorder (eye & ear, respiratory system, cardiovascular system, digestive system, skeletal muscle, skin, reproductive & endocrine, nervous system) and psychological disorder (anxiety, depression, psychoticism). Cronbach' α coefficient of CPHS and factors in this study is 0.63~0.81.

Maladjustment Self-Assessment Scale (MSAS) had 4 factors, respectively Behaviour Problems (BP), Emotional Adjustment (EA), Interpersonal relationship (IR), Environmental adaptation (ED). The Scale contains 40 items. The higher the score indicates worse maladjustment degree. Cronbach' α coefficient of MSAS and factors in this study is 0.71~0.92.

Chinese Social Support Scale (CSSS) with 18 entries, including three factors— Subjective Support (SS), Objective Support (OS), Support Degree of Use (SDU), The higher the score indicated lower degree of social support. Cronbach' α coefficient of CSSS and factors in this study is 0.62~0.87.

2.3. STATISTICAL ANALYSIS

Excel 2013 was used to set up a database. t test, Pearson correlation analysis and multiple stepwise regression analysis on SPSS17.0 were carried out.

3. RESULTS

3.1. COMPARISON OF THE PSYCHOSOMATIC HEALTH BETWEEN STUDY GROUP AND CONTROL GROUP

The scores of respiratory systems, cardiovascular system, digestive system, skeletal muscle, skin, reproductive and endocrine, nervous system, anxiety, depression, psychoticism except eye & ear are higher than control group [Table 1](#).

Table 1

Table 1 Comparison for Factors of CPHS Between Study Group and Control Group($\pm s$)				
Factors	Study Group(n=2790)	Control Group(n=2790)	t	P
Eye & Ear	1.56 \pm 1.45	1.55 \pm 1.09	-0.897	0.231
Respiratory System	0.88 \pm 1.39	0.76 \pm 1.13	3.500	0.000
Cardiovascular System	0.99 \pm 1.49	0.50 \pm 1.07	13.470	0.000
Digestive System	1.52 \pm 2.01	1.39 \pm 1.12	2.694	0.007
Skeletal Muscle	0.87 \pm 1.24	0.67 \pm 1.11	6.734	0.000
Skin	1.09 \pm 1.47	0.67 \pm 1.15	11.837	0.000
Reproductive & Endocrine	1.26 \pm 1.45	1.05 \pm 1.26	5.827	0.000

Nervous System	1.51±1.17	1.43±1.76	1.909	0.006
Anxiety	2.58±2.61	2.13±2.41	7.066	0.000
Depression	2.10±2.40	1.40±2.02	11.891	0.000
Psychoticism	4.10±3.99	3.11±3.43	10.152	0.000

3.2. CORRELATION ANALYSIS OF ALL FACTORS OF PSYCHOSOMATIC HEALTH AND MALADJUSTMENT AND SOCIAL SUPPORT IN STUDY GROUP

Pearson's correlation analysis show that factors of psychosomatic health positively correlated with most factors of MSAS, CSSS [Table 2](#).

Table 2

Factors	SS	OS	SDU	BP	EA	IR	ED
Eye & Ear	0.271*	0.334**	0.350**	0.295**	0.228*	0.296**	0.263*
Respiratory System	0.413**	0.425**	0.369**	0.329**	0.253*	0.336**	0.295**
Cardiovascular System	0.563**	0.682**	0.350**	0.292**	0.238*	0.320**	0.262*
Digestive System	0.619**	0.335**	0.277*	0.212*	0.251*	0.220*	0.212*
Skeletal Muscle	0.360**	0.393**	0.325**	0.271*	0.232*	0.263*	0.264*
Skin	0.290**	0.227*	0.322**	0.275*	0.238**	0.273*	0.256*
Reproductive & Endocrine	0.131	0.043	0.336**	0.326**	0.286**	0.335**	0.307**
Nervous System	0.202*	0.316**	0.365**	0.323**	0.240*	0.301**	0.268*
Anxiety	0.427**	0.411**	0.469**	0.411**	0.368**	0.455**	0.348**
Depression	0.450**	0.02	0.500**	0.464**	0.414**	0.496**	0.409**
Psychoticism	0.354**	0.255*	0.488**	0.380**	0.349**	0.423**	0.348**

Notes: * $P < 0.05$, ** $P < 0.01$

3.3. MULTIVARIATE STEPWISE REGRESSION ANALYSIS FOR INFLUENCING FACTORS OF PSYCHOSOMATIC HEALTH IN STUDY GROUP

With total of CPHS as dependent variable, with each factor of MSAS (BP, EA, IR, ED), CSSS (SS, OS, SDU) as variable, to carry on multivariate regression analysis. The result shows that BP, IR, ED, SS, SDU, age, etc. enter into the regression equation. The regression parameter equation is the total score of psychosomatic health = $-6.646 + 0.562x_1 + 0.709x_2 + 0.511x_3 + 0.633x_4 + 0.474x_5$ ($F = 218.980$, $P < 0.01$). In them, $x_1 \sim x_6$ represent respectively: IR, BP, ED, SS, SDU [Table 3](#).

Table 3

Variable	B value	Standardization Regression Coefficient	t value	P value
BP	0.562	0.150	5.936	0.000
IR	0.709	0.166	6.250	0.000
ED	0.511	0.112	4.712	0.000
SS	0.633	0.155	6.045	0.000
SDU	0.474	0.219	4.355	0.004

4. DISCUSSION

[Bortes et al. \(2021\)](#) and [McGarrigle et al. \(2020\)](#) have identified that psychosomatic health is often associated with academic performance and psychosocial function, how to keep psychosomatic health is an important issue for all freshmen. The mental health problem of college students is a prominent problem. The causes of mental health problem and somatic symptom of college students are closely related to psychological characteristic of specific age group and environment changes, among them, Freshman are most susceptible to psychosomatic disorder. This study confirmed that scores of psychological disorders (anxiety, depression, psychoticism etc.) and of somatic disorder (respiratory system, cardiovascular system, digestive system, skeletal muscle, skin, reproductive and endocrine, nervous system) are higher than control group. All factors of CPHS had positive correlation with most factors of MSAS, CSSS; the stepwise regression analysis showed that behavioural problem, interpersonal relationship, environmental adaptation, subjective support, support degree of use entered into the regression equation. These results indicate that there is more psychosomatic disorder which associated with maladjustment and social support in freshman.

New learning model, lack or unstable of interpersonal relation, life habit or climate adaption, self-management failure are likely to be stressors for the freshman, The more the stressors, the more difficult for psychological-physical system to adapt, including behaviour problem, emotional disorder, sleep disorder, which finally result into psychosomatic health problem. [Aghamohammadi et al. \(2021\)](#) reported Heat stress significantly affect psychosomatic pain, psychological anxiety, and somatization related symptoms; [Knight et al. \(2021\)](#) argued mechanism of effects of stress on psychosomatic health that stress alterations in diurnal cortisol are associated with heightened systemic inflammation. In particular, higher levels of perceived stress and traumatic life events were associated with flatter diurnal cortisol slopes, which in turn were associated with increased levels of inflammatory biomarkers. And furtherly proposes the hypothesis that the wear and tear of the body caused by repeated exposure to stress is regulated by an interconnected network of mediators, including stress hormones and immune markers.

[Dangelmaier et al. \(2006\)](#) proposed that the most important factor is social support among the social psychological stimulating pathogenic. [Liu et al. \(2022\)](#) noted social support is defined that when an individual is in stress, he can get material support and spiritual resources from family, friends, or colleagues. In previous study of [Kunst et al. \(2021\)](#), [Tas et al. \(2018\)](#) and [Wen et al. \(2000\)](#), have verified that social support is an intervening variable affecting the stress response result, in common, it reduces stress reaction, including heart rate variability, cortisol response. It is negative correlative with the stress caused by the reaction of body and mind. So, the social support higher, the stress responded less, the psychosomatic health got improvement furtherly. Social support network is helpful for an individual before a stressed event occurred. He can obtain and develop the foresight and ability to cope with life event. [Zhang et al. \(2007\)](#) found effective social support can enhance the ability of tolerance and get rid of the tense situation. Mental ability to adapt is a comprehensive response of a person's physical power, mentality to then and character qualities etc. It shows an individual's psychological activity ability.

5. CONCLUSION

The psychosomatic health in freshman among college students is generally worse than those of the controls. Behavioural problem, interpersonal relationship, environmental adaptation, subjective support, support degree of use are associative factors predictive factors.

CONFLICT OF INTERESTS

None.

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