[Original Paper]

Stress management of normal adults :

Standardization of self-control schedule and egogram study

Manabu Ashikaga*

* Aino Gakuin College

Abstract

Two studies were conducted to investigate stress management of normal Japanese adults. Study 1 examined the effects of the Self-Control Schedule (SCS) on 332 Japanese adults. We evaluated factor structures and the reliability of the SCS. Exploratory factor analysis of the SCS items identified three subscales : passive coping behavior, mood control coping behavior and practical coping behavior. While standardization of this questionnaire requires further study of other phases, it should be useful for examining stress coping behaviors in Japan.

Study 2 examined the egograms of 299 normal Japanese adults with reference to their stress coping behaviors. We also describe how to attain a better stress coping behavior from the viewpoint of stress management. Our analyses of stress coping and egograms offer new insights into stress management in psychosomatic medicine.

Key words : stress coping behaviors, egogram, stress management, normal adults

Introduction

Daily habits can have a detrimental effect on health, such as, or a positive effect, such as exercise, nutrition, self management of chronic disease and stress management. We have been studying stress management from the viewpoint of clinical psychology (Ashikaga et al., 2001).

Recently, significant advances have been made in our understanding of the importance of coping strategies in the face of difficult and problematic situations (e. g., Hoshigoe et al., 1998 ; Fukao et al., 2000 ; Sakaguchi et al., 2001). Stress coping behaviors may be viewed as cognitive and behavioral efforts in response to stressful conditions (e. g., Lazarus & Folkman, 1984). Rosenbaum (1980) developed a self-report measure, the Self-Control Schedule (SCS), for assessing self-regulatory behaviors, which has been used in Japan. However, some difficulties have arisen due to cultural and societal differences. One of the primary factors for diminishing stress is stress coping behavior. Thus, it is important to develop the ability to cope with stress to prevent or treat psychosomatic disease. Until now, there has been no work focused on preparing a practical program for promoting a better stress coping behaviors based on the theory of Transactional Analysis which is used in psychosomatic medicine.

Here we report on two studies examining stress management by normal Japanese adults. In Study 1, we evaluated factor structures and the reliability of the SCS for normal Japanese adults. In Study 2, we examined the

egograms of Japanese adults with reference to their stress coping behaviors. We also describe how to elicit a better stress coping behavior from the viewpoint of stress management. Our analyses of stress coping and egograms suggest new insights into stress management in psychosomatic medicine.

Methods

Study 1

1. Subjects

The sample population consists of 332 normal Japanese adults, 127 males (average age : 29.4 ± 10.2 years old) and 205 females (average age : 25.5 ± 9.3 years old) who worked in hospitals and pharmaceutical companies.

2. Questionnaire and statistical analysis

The subjects completed the following questionnaire.

Self-Control Schedule (Rosenbaum). The 36 items of the SCS were translated into Japanese by two professional clinical psychologists and modified using easier expressions. Exploratory factor analysis of the 35 items led to selection of 20 items were selected for the present study. These were related to three basic factors considered to be necessary to cope with difficulties, i. e. passive coping behavior, mood control coping behavior and practical coping behavior.

Responses were obtained on a 4-point Likert scale ranging from Descriptive (3) to Not descriptive at all (0). Factor analysis was conducted using squared multiple correlation, and three factors were extracted. Promax rotation was applied to obtain more interpretable results. The items which had low factor loadings on two factors or more were eliminated.

Study 2

1. Subjects

The subjects were 299 normal adults, 110 males (average age : 28.5 ± 9.5 years old) and 189 females (average age : 25.2 ± 9.1 years old) working in hospitals and pharmaceutical companies.

2. Questionnaires

Stress coping behaviors were measured by our SCS. Ego states were measured with TEG (Tokyo University Egogram, second edition, 1995).

3. TEG

Egograms show ego states as a bar or line graph, and a number of logical egogram questionnaires have been developed in Japan. Among them, TEG has been considered to be a parameter with a relatively high reliability. Its validity is supported by multivariate analysis. It is widely used for clinical purposes, as it can be used to assess not only patients but also healthy individuals. We therefore selected the TEG as an objective measurement of ego states. The TEG-derived ego states, based on Transactional Analysis (Berne, E., 1964), is comprised of five scales : CP (Critical Parent), NP (Nurturing Parent), A (Adult), FC (Free Child), and AC (Adapted Child).

The TEG consists of 60 items and uses a 3-point Likert scale, ranging from a low ego state (0 point) to a high ego state (20 points).

4. Statistical analysis

In order to identify the mean difference in the five TEG scales and three coping scales for males and females, respectively. We also performed multiple regression analysis to evaluate the coping behavior subscales of the SCS to

Table 1   Items and factor loadings of passive, mood control and practical coping behaviors

No	Item / Factor	I	II	III
I. Passive coping behavior				
20.	Quite often I cannot overcome unpleasant thoughts that bother me.	.72	.28	.12
4.	I cannot avoid thinking about mistakes I have made in the past.	.60	.08	.12
2.	I often find it difficult to overcome my feelings of nervousness and tension without any outside help.	.58	.13	.06
13.	Although it makes me feel bad, I cannot avoid thinking about all kinds of possible catastrophes in the future.	.56	.17	−.09
10.	If I had the pills with me, I would take a tranquilizer whenever I felt tense and nervous.	.54	.14	.02
6.	When I am faced with a difficult decision, I prefer to postpone making a decision even if all the facts are at my disposal.	.43	.02	.19
12.	I need outside help to get rid of some of my bad habits.	.41	−.01	.22
11.	I tend to postpone unpleasant duties even if I could perform them immediately.	.37	−.03	.27
II. Mood control coping behavior				
9.	When an unpleasant thought is bothering me, I try to think about something pleasant.	.13	.78	.24
3.	When I am feeling depressed I try to think about pleasant events.	.11	.73	.24
1.	Often by changing my way of thinking I am able to change my feelings about almost everything.	.48	.55	.30
15.	In order to overcome bad feelings that accompany failure, I often tell myself that it is not so catastrophic and that I can do something about it.	.08	.42	.18
17.	When I feel pain in my body, I try to divert my thought from it.	.07	.38	.12
III. Practical coping behavior				
18.	I usually plan my work when faced with a number of things to do.	.10	.12	.63
8.	When I try to get rid of a bad habit, I first try to find out all the factors that maintain this habit.	.09	.35	.54
5.	When I am faced with a difficult problem, I try to approach its solution in a systematic way.	.21	.15	.53
14.	First of all I prefer to finish a job that I have to do and then start doing the things I really like.	.34	.30	.51
16.	Facing the need to make a decision, I usually find out all the possible alternatives instead of deciding quickly and spontaneously.	−.17	.15	.39
19.	When I am short money, I decided to record all my expenses in order to plan more carefully for the future.	.18	.17	.38
7.	When I find that I have difficulties in concentrating on my reading, I look for ways to increase my concentration.	−.11	.20	.34
	Eigenvalues	3.27	1.93	1.15

predict the involvement of the five TEG scales.

Results

Study 1

After factor analysis of 35 original SCS items, 20 items remained, with an alpha coefficient of .76. The factor loadings are shown in Table 1. Three factors were extracted, consisting of eight items that measured passive coping behavior, five items that measured mood control coping behavior, and seven items that measured practical coping behavior. Passive coping behavior assesses the tendency to use a strategy to escape difficulties. Mood control coping behavior assesses the tendency to change the individual's mood in stressful situations to aim for larger and more meaningful rewards in the future. Practical coping behavior assesses the tendency to use a strategy to achieve into action according to plan. Cronbach's alpha coefficients of these factors were .75, .70, and .67, respectively.

The distribution of scores in the three subscales are shown in Figure 1. The correlation coefficients among the three subscale scores were .20 between passive coping behavior and mood control coping behavior, .13 between passive coping behavior and mood control coping behavior, and .34 between mood control coping behavior and practical coping behavior.

Study 2

1. Means and standard deviations (males and females)

Table 2 shows the means and standard deviations of variables for males and Table 3 shows those for females.
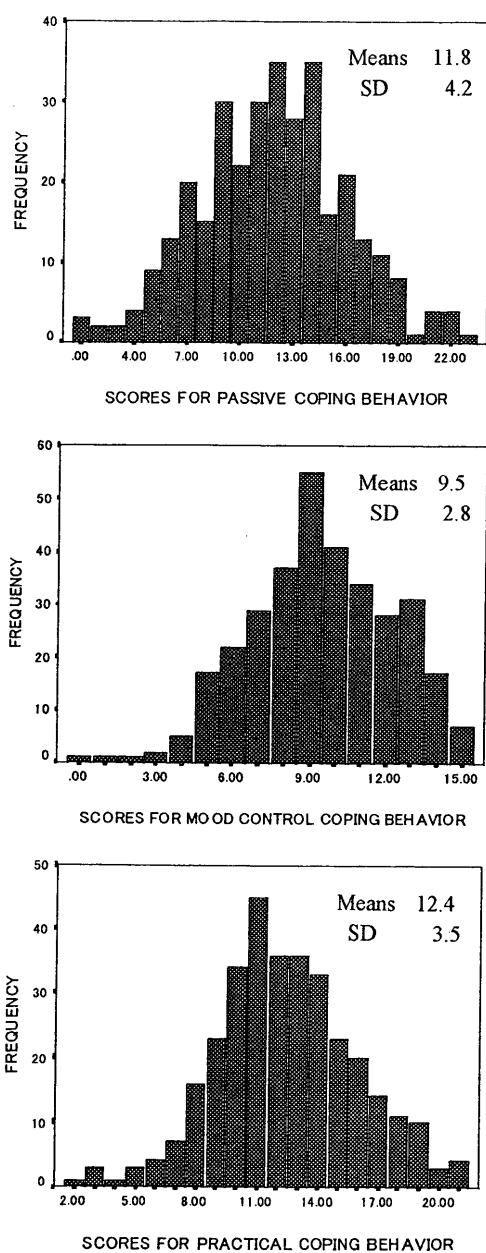
SCORES FOR PASSIVE COPING BEHAVIOR

Means 11.8
SD 4.2

SCORES FOR MOOD CONTROL COPING BEHAVIOR

Means 9.5
SD 2.8

SCORES FOR PRACTICAL COPING BEHAVIOR

Means 12.4
SD 3.5

Figure 1 Distribution of scores in the three subscales (n=327)

Table 2 Means, standard deviation of variables (males)

variable	Means	SD
CP	8.3	4.3
NP	14.2	3.4
A	13.0	4.3
AC	13.0	4.1
FC	9.0	4.9
Passive coping behavior	12.8	4.2
Mood control coping behavior	9.4	2.9
Practical coping behavior	12.7	3.5

Table 3 Means, standard deviation of variables (females)

variable	Means	SD
CP	7.5	4.5
NP	14.0	3.9
A	11.1	4.7
AC	13.0	4.0
FC	9.5	5.0
Passive coping behavior	11.4	4.2
Mood control coping behavior	9.6	2.9
Practical coping behavior	12.4	3.5

Table 4 Stepwise regression of 5 TEG scales on passive, mood control and practical coping behavior (males)

TEG scale	Passive	Mood control	Practical
	Beta	Beta	Beta
CP	−.19*	.04	−.02
NP	.48	.18	.27**
A	.14	−.17	.26*
FC	.04	.11	−.19
AC	−.14	−.18	−.14
R	.73	.29	.41
R^2	.53	.09	.17

* p < .05   ** p < .01

Table 5 Stepwise regression of 5 TEG scales on passive, mood control and practical coping behavior (females)

TEG scale	Passive	Mood control	Practical
	Beta	Beta	Beta
CP	−.19*	.03	.07
NP	.03	.27**	.31**
A	.09	−.13	.29**
FC	−.09	.20*	−.12
AC	−.12	−.25**	−.06
R	.64	.47	.47
R^2	.41	.23	.22

* p < .05   ** p < .01

2. Multiple regression analysis

Table 4 shows the results of stepwise multiple regression analyses of five TEG scales on passive, mood control and practical coping behavior for males and Table 5 shows those for females.

Passive coping behavior correlated negatively in the CP score for both males and females (beta= −.19 and beta = −.19). Although no significant correlation was found between the variability of mood control coping behavior and the five TEG scores for males, females showed correlation in the FC and NP scores (beta=.27 and beta=.20), and negatively in the AC score (beta= −.25). Practical coping behavior was correlated in the NP (beta= −.27 and beta =.31) and A scores for both males and females (beta= −.26 and beta=.29, respectively).

Discussion

Study 1

The results of this study show that our SCS can be used to measure stress coping behaviors of normal Japanese adults. The three subscales, passive coping behavior, mood control coping behavior and practical coping behavior, are basic stress coping strategies.

The high reliability of this questionnaire was clearly demonstrated. Though the three subscales were moderately related to each other, they were useful for delineating the three respective characteristics. The three subscales were similar to those reported by Rosenbaum (1980) and Sugiwaka (1995). Although some other phases must be investigated to achieve complete standardization, this questionnaire may be useful for research in studies on stress coping behaviors in Japan.

Study 2

In this study, we obtained egograms of normal Japanese adults with reference to their stress coping behaviors. Based on our findings, we propose a strategy for obtaining better stress coping behaviors from the viewpoint of stress management.

1. Passive coping behavior

Passive coping behavior refers to the tendency to use a strategy to escape difficulties. Individuals who reported use of passive coping behavior are less likely to cope with difficulties positively. In this paper, passive coping behavior was correlated negatively with the CP score for both males and females. In order to obtain a better coping style, having assertion training in psychotherapy can lead to a higher CP score.

2. Mood control coping behavior

Mood control coping behavior is the tendency of the individual to effectively change his or her mood in a stressful situations with the aim of attaining larger and more meaningful rewards in the future. In this study, females showed correlation with the FC and NP scores and negatively with the AC score. To attain a better coping style, females should learn to relax for a higher FC score or undergo sensitivity training for a higher NP score.

3. Practical coping behavior

Practical coping behavior is the tendency to achieve action according to plan. This behavior correlated with the NP and A scores for both males and females. For a better coping style, both males and females relax to achieve a higher FC score, or undergo sensitivity training for a higher NP score. Our findings also indicate that males and females with low practical coping behavior score should be encouraged to take a more logical thinking approach for stress management.

In conclusion, our findings indicate the importance of studying these three coping behaviors of normal Japanese adults and of taking into consideration gender differences when planning make a program for stress management.

References

Ashikaga, M., Yoshida, A. et al. : Ego states of nursing students assessed by egograms : with special reference to the level of anxiety during a nursing practice course. Bulletin Aino Gakuin 14 : 25–31, 2001

Berne, E. : Games People Play. Grove Press, New York, 1964

Department of Psychosomatic Medicine, Faculty of Medicine, University of Tokyo : Egogram pattern (second edition). Kaneko Shobou, 1995

Fukao, A., Kitaoka, H. et al. : Differing effect of coping style and personality traits on glycemic control between and within male and female Japanese NIDDM patients. Jpn. J. Psychosom. Med. 40(6) : 429–437, 2000

Hoshigoe, K., Hayabara, T. et al. : The psychological properties of SMON patients : studied by means of two questionnaires : the profile of mood states and the stress coping scale. Jpn. J. Psychosom. Med. 38(6) : 433–441, 1998

Lazarus, R. S., Folkman, S. : Coping and adaptation. In D. Gentry (Ed.), Handbook of behavioral medicine. pp. 282–325, New York, 1984

Rosenbaum, M. : A schedule for assessing self–control behaviors : Preliminary research. Behavior Therapy 11 : 109–121, 1980

Sakaguchi, Y., Kashiwagi, T. et al. : The relationship between coping patterns and mental health after spousal loss. Jpn. J. Psychosom. Med. 41(6) : 439–446, 2001

Sugiwaka, H. : The assessment of individual differences in self–control in daily life. Jpn. J. Psychol. 66(3) : 169–175, 1995

〔原　著〕

健常成人のストレス・マネジメント

—— セルフ・コントロールスケジュールの標準化とエゴグラムの研究 ——

足　利　　　学*

【要　旨】　本研究は健常成人のストレス・マネジメントに関する 2 つの研究から成り立っている。第 1 研究では，セルフ・コントロールスケジュール（Rosenbaum）を 332 名の健常成人に実施し，本検査の因子構造を明らかにした。因子分析の結果，本尺度は 3 因子 20 項目，すなわち消極的対処行動，気分転換対処行動，および実践的対処行動の 3 つの対処行動を抽出した。本検査の標準化に関しては，さらに妥当性の検証などの詳細な検討が必要であると考えられるが，わが国においてストレス対処行動を測定する尺度の一つとして有用であると考えられる。

第 2 研究では，第 1 研究で得られたストレス対処行動尺度およびエゴグラム（TEG）を 299 名の健常成人に実施し，ストレス・マネジメントの観点から，対処行動別にストレスへの対処方法について考察を加えた。

キーワード：ストレス対処行動，エゴグラム，ストレス・マネジメント，健常成人

* 藍野学院短期大学