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Stress Responses among Overseas Graduate Students at Osaka University

Reflecting upon Three Years' Survey Results

Lin, Shiu Mei*

Summary

Students from foreign countries to Japanese universities and graduate schools generally have faced a number of stressors regarding their study, research, living expenses, relationship among family members, friendship, and so on. As an increasing number of such students come and stay at Japanese universities and graduate schools, the need to recognize their mental health status, including the determinants of their stress response (stressors), is now an urgent matter. The author has executed questionnaire surveys three times to measure the level of each variable and verify the relationships among them three times. In this research note, the author reflects these three survey's results focusing on depression (CES-D) and neurotic states (GHQ-12) among overseas' students at graduate school.

【Keywords】 depression; neurotic states; CES-D; GHQ-12; Cohort Comparison

1 Introduction

Since the author of this research note had a professional appointment at the Graduate School of Engineering, Osaka University, she has continuously conducted a series of quantitative surveys to measure overseas students' stress responses, especially in terms of depression and neurotic tendency, and the determinants of such states in 2001, 2002, and 2004. Each of these survey results were published or presented elsewhere (Lin, 2002a, 2004) and gathered comprehensive attentions about establishing university policies for the improvement of overseas students' mental health status and lessening depression that resiliently influence their academic achievements and earning higher degree. In this research note, the author summarizes overall results of the three-year cohort survey using the same questionnaire continuously for each year's respondents.

2 Reflection of the past survey

2-1 Commencement of the survey and questionnaire development

In April, 2001, when the author took up the post, assistant professor, mainly as a counselor and advisory staff, she immediately noticed that overseas graduate students had been annoyed by both adaptation to the coursework and human relations with Japanese classmates and advisory professor at the graduate school and socialization to Japanese language, culture, society, including financial status, which totally had made their mental health situations worse. Apparent evidence was definitely identified which showed their depression and neurotic states of notable risk through counseling with the author and them. Then the urge to resolve the "mental health problem" among them were found clear so that the author commenced quantitative survey relevant to their mental health status and their

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determinants.

Before questionnaire used in the survey was developed (Title: "Survey on Study and Research of Graduate Students Abroad"), the author conducted a pilot survey to spotlight the foreign students' problems related to their graduate coursework research, study, and personal life by non-structured interview method (Fairclough, 2003; Flick, 1995) in early May, 2001. Primary questions or orientations in the interview were general adaptation to Japanese society, specific adaptation to study and research, dealings with private matters, and human relations with their advisory professor, family members living together in Japan, friends, and classmates. Judging from the content and context in interviews, each response to the questions reflected on the respondents' emotional reaction, especially negative rather than positive one, which totally yielded how they had suffered from living in Japanese society and pursuing higher degree at the Graduate School of Engineering, Osaka University (Lin, 2002a, 2002b, 2004).¹

2-2 Results of questionnaire surveys, 2001-2004

2-2-1 Descriptive statistics of CES-D and GHQ

Each of three-time questionnaire survey was

¹ A typical response in the set of interviews obtained from Chinese graduate students is as follows: "Just getting into Japanese society has been a tough business for me... I have noticed here at graduate school in Japan, especially good and challenging one like this, the most important rope for us to learn is 'to keep good human relations with others.' I should have learned it before I came here to Japan. In addition to this one, my situation can't be worse than now if I didn't come to Japan, say, it's really better to call the 'everything-is-too-expensive' country...", whereas one corresponding comment from an advisory professor was also obtained: "Actually, how to get along with Chinese graduate students is such a difficult business... especially, how to motivate them always annoys me. Not a small number of them concentrate more on part-time jobs than studying here. I do understand their financial situations, but this kind of wrong involvement may make the end never met consistent with their needs... obtaining higher degree. In a word, our value sets show significant mismatches"(See Lin, 2004 for more detailed qualitative analysis of these discourses).

conducted during May to July each year (Lin, 2002, 2004)². Among each cohort, the result represented consistent results on depression and neurotic states at an item score level.³

Table 1 shows the descriptive statistics (Mean and Standard Deviation) of each item of CES-D (Center for Epidemiologic Studies Depression; Radloff, 1977), 20-item version. The CES-D scale is one of the most frequently used self-report depression scale. In answering questions, respondents were asked to determine how frequently each of 20 symptoms was experienced during the past week based by 4-point Likert scale (0 to 3). Therefore, the score point ranges from 0 to 60. Because the CES-D reflects emotional and cognitive tendency that composes psychological symptoms of "major depression" (cf. DSM-IV), the respondents who score higher points in this scale may lead to depression if the point is equal to or higher than 16, as time goes on. Primary items include depressive mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance, which is unidimensional (Lin, 2002a).

The results of descriptive statistics of CES-D items yield that there are slight time-difference among three cohorts: Year 2001, 2002, and 2004. This result may harness fundamental stress response (strain) level among graduate students from foreign countries at the graduate school in terms of depression. However, through 2001 to 2004 survey, the results also showed that the respondents' depression level was higher than that of general population (Lin, 2004).

As to neurotic tendency, in the other aspect of

² The author would like to send her deepest gratitude again to those graduate students of Engineering, Osaka University, for kindly and voluntarily participated in interview and questionnaire survey.

³ For more details on various stress models, stressor-strain relationships and strain-symptom causality (especially psychological and/or psychiatric), interested readers should refer to House (1981) for example.

strain level among them, Table 2 also shows the descriptive statistics of GHQ items, 12-item version (General Health Questionnaire, 12-item Version: GHQ-12; Pan & Goldberg, 1990). The GHQ-12 was employed for assessing recent neurotic tendency of respondents. To answer each question, respondents were asked to evaluate how much they had felt positively and negatively with 12 symptoms over the last few weeks by 4-point Likert scale (1 to 4), which means, after score conversion by deleting 12 from raw score for each respondent, the point ranges from 0 to 36. Threshold point to judge the respondent as in neurotic state is

11/12, thus the one whose point is higher than 12 is simply diagnosed as being in neurotic status. Major items embrace somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression. Original instruction of GHQ-12 recommends that all the items be summed up.

The results of descriptive statistics of GHQ-12 items yield that there are slight between-time-differences among three cohorts, consistent with the CES-D results and higher level of neurotic states are promised among respondents belonging to each cohort.

Table 1 CES-D Items and Statistics

Items	Year 2001 Mean (SD)	Year 2002 Mean (SD)	Year 2004 Mean (SD)
(1) I was bothered by things that usually don't bother me.	.63 (.77)	.09 (.28)	.37 (.67)
(2) I did not feel like eating; my appetite was poor.	.39 (.67)	.26 (.64)	.37 (.70)
(3) I felt that I could not shake off the blues even with help from my family and friends	.74 (.90)	.12 (.46)	.45 (.80)
(4) I felt that I was just as good as other people. (R)	1.09 (1.23)	2.16 (.78)	1.69 (1.14)
(5) I had trouble keeping my mind on what I was doing.	.56 (.82)	.12 (.43)	.37 (.71)
(6) I felt depressed.	.53 (.75)	.22 (.52)	.39 (.65)
(7) I felt that everything I did was an effort.	.63 (.88)	.41 (.59)	.53 (.77)
(8) I felt hopeful about the future. (R)	1.13 (1.23)	.62 (.87)	.92 (1.14)
(9) I thought my life had been a failure.	.37 (.65)	.12 (.45)	.29 (.63)
(10) I felt fearful.	.27 (.60)	.19 (.53)	.24 (.56)
(11) My sleep was restless.	.39 (.75)	.81 (.88)	.60 (.80)
(12) I was happy. (R)	.78 (1.00)	1.36 (.87)	1.08 (.98)
(13) I talked less than usual.	.61 (.83)	.38 (.65)	.54 (.78)
(14) I felt lonely.	1.06 (1.05)	1.24 (1.04)	1.16 (1.03)
(15) People were unfriendly.	.55 (.73)	.23 (.59)	.37 (.65)
(16) I enjoyed life. (R)	.90 (1.05)	1.14 (.79)	1.03 (.93)
(17) I had crying spells.	.20 (.46)	.06 (.27)	.14 (.38)
(18) I felt sad.	.42 (.59)	.19 (.48)	.32 (.55)
(19) I felt that people disliked me.	.14 (.39)	.09 (.38)	.10 (.38)
(20) I could not get "going."	.45 (.80)	.17 (.42)	.31 (.59)

R: Reverse-Scored Item

Likert Scaling: 0=Rarely or none of the time (Less than 1 day); 1=Some or a little of the time (1-2 days); 2=Occasionally or a moderate amount of time (3-4 days); 3=All the time (5-7 days)

Table 2 GHQ-12 Items and Statistics

Items	Year 2001	Year 2002	Year 2004
	Mean (SD)	Mean (SD)	Mean (SD)
Have you recently ...			
(1) been able to concentrate on whatever you're doing	2.08 (.52)	2.04 (.19)	2.05 (.39)
(2) lost much sleep about worry?	2.71 (.63)	2.77 (.77)	2.47 (.71)
(3) felt that you're playing a useful part in things?	2.76 (.73)	2.38 (.49)	2.56 (.67)
(4) felt capable of making decisions about things?	2.02 (.45)	1.99 (.44)	2.10 (.45)
(5) felt constantly under strain (stress response)?	2.79 (.72)	2.58 (.65)	2.07 (.66)
(6) felt you couldn't overcome your difficulties?	2.58 (.69)	2.33 (.64)	2.47 (.65)
(7) been able to enjoy your normal day-to-day activities?	2.12 (.56)	2.29 (.55)	2.22 (.58)
(8) been able to face up to problems?	2.01 (.65)	2.06 (.54)	2.04 (.57)
(9) been feeling unhappy or depressed?	2.79 (.64)	2.44 (.67)	2.59 (.63)
(10) been losing confidence in yourself?	2.63 (.77)	2.09 (.81)	2.37 (.83)
(11) been thinking of yourself as a worthless person?	2.60 (.65)	1.75 (.85)	2.18 (.87)
(12) been feeling reasonably happy, all things considered?	2.13 (.62)	2.42 (.70)	2.28 (.71)

Likert Scaling: 1='Better than usual' (for positive content) or 'Much less than usual' (for negative content); 2='Same as usual' (for positive content) or 'Less than usual' (for negative content); 3='Less than usual' (for positive content) or 'Same as usual' (for negative content); 4='Much less than usual' (for positive content) or 'Better than usual' (for negative content)

Table 3 ONEWAY ANOVAs' Results for CES-D and GHQ-12 Scores

CES-D	Year 2001	Year 2002	Year 2004
Mean	15.98	9.84	12.86
SD	6.27	5.12	6.30
<i>F</i> (<i>df</i>)	33.66 (2/402) **		
GHQ-12	Year 2001	Year 2002	Year 2004
Mean	17.23	27.10	22.30
SD	4.07	4.08	6.37
<i>F</i> (<i>df</i>)	119.84 (2/400) **		

** $p < .01$

Mean figures in boldface show the biggest score among subgroups.

2-2-2 One-Way Analysis of Variance (ONEWAY ANOVAs) for the CES-D and GHQ-12 scale scores

To briefly but noticeably show the overall

results of sequences of depression and neurotic states status amongst year cohorts, the author conducted one-way analysis of variance (ONEWAY ANOVAs) for each set of scale scores. Table 3 represents the result.

There found statistically significant differences among three groups (Year 2001, 2002, and 2004) on mean score of CES-D and GHQ-12, and post-test comparison using Tukey's standard were conducted to separately identify difference group.

The results showed that there detected the mean score differences amongst year cohort subgroups on both CES-D and GHQ-12 scores and significant difference was also found between each possible pair of subgroups consistently (Year 2001 and 2002, 2001 and 2004, and 2002 and 2004, $p < .01$). Eye-catching results are (1) CES-D, 2001 > 2002 (15.98 vs. 9.84), and GHQ-12, 2001 < 2002 (17.23 vs. 27.10). Currently it is difficult to assume the reason why these differences occurred among cohorts, but it should be noted that summed-up scale scores of CES-D (depression) and GHQ-12 (neurotic states) deserve to explore how stressful situations influence overseas graduate students at the Graduate School of Engineering and how we can help them adapt to the situations.

3 Conclusion

Reflecting upon three years' questionnaire survey to measure stress responses amongst overseas graduate students, the author implies two points that should be dealt to make their mental health status better. One is that overseas graduate students of Engineering at Osaka University have still been in more stressful situations than general population which lead to depression and/or neurotic states. What lessens their stress response levels is still unclear so that future research is required to gain specific insights about this continuous trend found during 2001 to 2004.

The other point is that comparative quantitative survey on foreign graduate students and Japanese ones should be conducted. This is requisite for the benchmarking to evaluate minimum and maximum stressors at the graduate school and how much they

impact both types of graduate students despite of their nationalities.

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