

Negative Mood, Hope for the Future and Social Capital among Young Japanese: A Secondary Analysis of Individual Data

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Background: In recent years, many young Japanese people have suffered from mental health problems leading to suicide. Social capital is considered to be an important factor affecting mental health and well-being.

Objective: We aimed to clarify how social capital is related to negative mood and hope for the future among Japanese youth.

Methods: A secondary analysis of individual data from a web-based survey (13–29 years old, 1175 Japanese respondents) was conducted. The data for this secondary analysis, “International Survey of Youth Attitude, 2013” (Office for Policy Planning on Youth Affairs, Cabinet Office, Government of Japan) was provided by the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo.

Results: Female respondents had a higher proportion of negative mood than males did. However, male respondents had a lower proportion of hope for the future than females did. Logistic regression analysis showed that negative mood was inversely correlated with trust in both males and females. Hope for the future was positively correlated with trust, reciprocity, the number of close friends, and the number of people with whom the individual wanted to consult.

Conclusion: The present study suggests that the attempt to enhance social capital would improve mental health and hope for the future among Japanese youth.

Keywords: Mental health, Social capital, Youth

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I. Introduction

In recent years, Japanese youth have suffered from mental health problems leading to suicide. According to the 2015 White Paper on Suicide Prevention in Japan, the most common cause of death among Japanese aged 15–39 was suicide, and the suicide rate in Japan was the highest among the seven developed countries¹⁾.

Hope for the future and negative mood are thought to affect psychological stress among Japanese youth. Various factors cause psychological stress, personality disorder, and mental disorder, which may result in suicide²⁾. Students feel greater anxiety and psychological stress from “academic achievement,” “career and employment,” and “economic problem,” than they do

from “human relations,” “health,” and “personality.”³⁾ Furthermore, only 30% of college students believed that Japan’s future was bright⁴⁾. Faced with a bleak employment outlook, Japanese youth suffered from anxiety relating to career and employment in the future. The Oxford English dictionary defines hope as “to entertain a expectation of something desired and to look (mentally) with expectation”⁵⁾. At the Institute of Social Science, University of Tokyo, which has engaged in hope science research, hope is defined as “a wish for something to come true by action”⁶⁾. Previous studies reported that hope enhances the level of life-satisfaction. An association between hope and well-being among university students has also been reported⁷⁾⁸⁾.

Social capital is considered to be an important factor

affecting mental health and well-being⁹⁾¹⁰⁾. Social capital is defined as “resources that are accessed by individuals as a result of their membership of a network or a group”¹¹⁾. According to Putnam RD, social capital is defined as “features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions”¹²⁾. Social capital can be categorized into cognitive social capital (such as value and recognition) and structural social capital (ties of relationship, network, etc.)¹¹⁾¹³⁾. Social capital can also be classified into bridging social capital and bonding social capital. Bonding social capital is a resource that can be accessed by members with similar social background. On the other hand, bridging social capital refers to a resource accessible to individuals and groups through a human network of contacts beyond the boundaries of social identity¹⁴⁾. The bridging social capital enables people to obtain resources and information from outside networks¹⁵⁾. Furthermore, social capital is classified into individual and neighborhood levels¹⁴⁾. When researchers conceptualize social capital as a resource that individuals access through their networks, the relevant mechanism involved in the production of health includes social influence, social engagement, and the exchange of social support¹⁴⁾.

Among the younger generations, social capital is thought to play an important role on the attenuation of problems related to educational and economic circumstances. Social capital in family, neighborhood, and school provide health and well-being for children and youth¹⁶⁻¹⁹⁾. In a survey of Japanese university students, social capital was related to health and well-being. Furthermore, it was suggested that differences in health status and well-being could be plausibly attributed to processes associated with socio-environmental circumstances²⁰⁾²¹⁾. However, although a large number of previous studies have examined the association between social capital and mental health, no studies have focused on negative mood and hope for the future. Additionally, although some studies on social capital and health have been carried out in Japan, the majority of studies have been conducted in Western countries²²⁾. Because social capital relates to cultural context, a study on different cultural backgrounds is needed to deepen our understanding of the effect of social capital on health. In addition, gender-related differences have been noted with respect to mental health and well-being, interpersonal relationships, and social behavior⁹⁾²³⁾²⁴⁾. Therefore, we conducted analyses separated by gender. It has been reported that females are more prone to depression than

males are²³⁾²⁴⁾. However, the youth suicide rate among Japanese males is higher than that among Japanese females¹⁾.

In this study, therefore, we examined the association between social capital and negative mood as well as hope for the future among Japanese youth. We hypothesized that social capital among Japanese youth was associated with negative mood and hope for the future.

II. Methods

1. Data

We conducted secondary data analysis for the present study. Data from the “International Survey of Youth Attitude, 2013” (Office for Policy Planning on Youth Affairs, Cabinet Office, Government of Japan) were obtained from the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo. These data were used only for academic purposes in the analysis.

Data were collected by web-based surveys. Youth (age 13–29 years) from seven countries (Japan, South Korea, the United States, the United Kingdom, Germany, France, and Sweden) were surveyed (at least 1000 samples in each country). The analyzed participants in our study were only Japanese, which included 1175 respondents [614 males (52.3%) and 561 females (47.7%)].

2. Variables

In this study we examined mental health problems experienced by young people in Japan from the perspective of negative mood and hope for the future. The Center for Epidemiologic Studies Depression Scale (CES-D), The General Health Questionnaire (GHQ), and K6 were used to measure mental health. These instruments included questions related to the feelings of melancholy, loneliness, and sadness as well as motivation and hope for the future²⁵⁻²⁷⁾. In this study, mental health was measured using question items similar to those used in the above-mentioned studies. The items of trust, reciprocity, and network were used to measure the level of social capital, based on Putnam’s definition. Measurement of social capital included personal cognition (trust of others, etc.), network of size, and diversity¹¹⁾²⁸⁾. There was no information on neighborhood and school in individual data because this research was based on secondary analysis. Therefore, the individual level of social capital was used for analysis.

(1) Basic attributes

Basic attributes of sex, age, living condition, and parent/guardian educational background were analyzed. Age was split into three age groups: 13–17 years, 18–22 years, and 23–29 years. Living condition was determined from the question “Please indicate how many people live in your household. Choose all that applies” (multiple answer [MA]). The results were converted to a binary number: living alone = 1 and living with others = 0. Parent/guardian educational background was determined from the question “Please indicate which school your father/mother or male/female guardians last graduated from” (single answer [SA]). Response choices included “Elementary school,” “Junior high school,” “High school,” “Junior college, vocational junior college,” “Vocational school (specialized courses),” “University,” “Graduate school,” “Other school,” “Do not know,” and “Do not have.” The results were converted to a binary number: university and graduate school = 1 and other responses = 0.

(2) Negative mood

Evaluation of negative mood was based on the following question: “This is a question about your state of mind over this previous week. Please choose one that best describes your feelings for each of the following” (SA for each). “I felt sad,” “I felt depressed,” “I felt totally alone and lonely,” and “I felt bored and unmotivated” and rating it on a 4-point scale: I did = 1, I kind of did = 2, I did not really = 3, and I did not = 4. The results were converted to a binary number: “I did” or “I kind of did” in all four items = 1, and the same response only in some items = 0.

(3) Hope for the future

Hope for the future was evaluated by the question “Do you have bright hopes for your future? Please choose one that is most applicable” (SA). Answers were rated on a 4-point scale: I have hope = 1, I have some hope = 2, I do not have much hope = 3, and I do not have hope = 4. The results were converted to a binary number: “I have hope” or “I have some hope” = 1 and “I do not have much hope” or “I do not have hope” = 0.

(4) Social capital

Trust

General trust was evaluated by the question “How much do each of the following descriptions apply to you? Please give the one answer that applies for each of

the following” (SA for each). “I do not think that people can be trusted.” Answers were rated on a 4-point scale: I agree = 1, I kind of agree = 2, I do not really agree = 3, and I do not agree = 4. The results were converted to a binary number: “I do not really agree” or “I do not agree” = 1 and “I agree” or “I kind of agree” = 0.

Reciprocity

General reciprocity was evaluated by the question “Please indicate how much each of the following statements/opinions apply to you” (SA for each). “One should help people in need of help regardless of whether requested to do so.” The answers were rated on a 5-point scale: I agree = 1, I kind of agree = 2, I do not really agree = 3, I do not agree = 4, and Do not know = 5. The results were converted to a binary number: “I agree” or “I kind of agree” = 1 and “I do not really agree” “I do not agree” or “Do not know” = 0.

Network

Network was based on two questions. First, the number of close friends was evaluated by the question “How many close friends do you have at present? Please give the one answer that applies” (SA). The responses were “None,” “1–5,” “6–10,” “11–20,” “21–30,” or “31 or more.” The numbers were divided into four categories: “None,” “1–5,” “6–10,” and “11 or more.”

Second, the source from which one can obtain social support when having concerns and worries was evaluated by the question “When you have concerns and worries, who do you like to consult with? Please choose all that applies from the following” (MA). “My father,” “My mother,” “Sibling(s),” “My grandparent(s), relative(s),” “Spouse,” “Teacher(s),” “Neighbor(s) and school friend(s),” “Workplace colleague(s),” “Peer(s) from organization(s), group(s), etc.” “Older student(s) at school,” “Workplace superior(s) or older colleagues,” “Boyfriend/Girlfriend,” “Counselor(s),” “Person/people known through religion,” “TV program(s), Radio program(s),” “Website(s),” “Magazine(s),” “Other,” “Do not consult with anybody,” and “Do not know.” The number of groups consulted were summed for a maximum score of 18 (“Do not consult with anybody” and “Do not know” were not included in the score).

3. Methods of analysis

To investigate the characteristics of differences by gender among Japanese youth, variables were tested using the χ^2 test. The Mann–Whitney u test was applied

to test the number of people with whom the youth would like to consult. Second, associations of social capital with negative mood or hope for the future were determined through logistic regression analyses. Age, living conditions and parent/guardian educational background were adjusted. To compare the effect of social capital by each gender, analyses were stratified by gender. In the first model, age, living conditions and parent/guardian educational background were included. In models 2–5, one of the components of social capital was added separately. In model 6, all variables were simultaneously included. Data were analyzed using IBM SPSS Statistics (version 23).

III. Results

1. Descriptive analysis and comparison between male and female (Table 1)

Among the respondents, mean ± SD of age was 20.9 ± 5.1 years for males and 21.3 ± 5.0 years for females. In addition, 21.8% of males and 14.1% of females lived alone. Regarding education, 44.0% of males and 41.0% of females reported that their fathers or male guardians had undergraduate or graduate degrees; and 21.0% of males and 20.0% of females reported that their mothers

or female guardians had undergraduate or graduate degrees.

The proportion of respondents who reported all four items in the negative mood question was 40.9% in males and 54.0% in females. In addition, 56.5% of males and 67.2% of females responded that there was hope for the future. Negative state of mind ($p < 0.001$) and hope for the future ($p < 0.001$) were significantly different between male and female.

In relation to social capital, regarding trust, 52.4% of males and 49.6% of females responded that people could be trusted. Trust was not significantly different between males and females. Regarding reciprocity, 70.0% of males and 78.4% of females responded that there was reciprocity. Reciprocity differed significantly between males and females ($p = 0.001$). The number of close friends among males was “None” in 10.1%, “1–5” in 40.6%, “6–10” in 28.0%, and “11 or more” in 21.3%. Among females, the number was “None” in 4.5%, “1–5” in 45.5%, “6–10” in 31.6%, and “11 or more” in 18.5%. The number of close friends differed significantly between males and females ($p = 0.001$). For the number of people with whom respondents wanted to consult, males reported a mean of 1.7 ± 1.6 people and females reported a mean of 2.2 ± 1.6 . The number of people with whom respondents wanted to consult differed

Table 1 Descriptive statistics

	n(%) or Mean ± SD		p-value
	Male (n=614)	Female (n=561)	
Basic attributes			
Age			
13–17	178 (29.0)	140 (25.0)	
18–22	190 (30.9)	178 (31.7)	0.277
23–29	246 (40.1)	243 (43.3)	
Living condition			
Living alone	134 (21.8)	79 (14.1)	0.001
Living with others	480 (78.2)	482 (85.9)	
Father/male guardian's educational background			
University/graduate school	270 (44.0)	230 (41.0)	0.303
Other	344 (56.0)	331 (59.0)	
Mother/female guardian's educational background			
University/graduate school	129 (21.0)	112 (20.0)	0.658
Other	485 (79.0)	449 (80.0)	
Negative mood			
All of them	251 (40.9)	303 (54.0)	<0.001
Some or none of them	363 (59.1)	258 (46.0)	
Hope for the future			
Have	347 (56.5)	377 (67.2)	<0.001
Not have	267 (43.5)	184 (32.8)	
Social capital			
Trust			
Have	322 (52.4)	278 (49.6)	0.322
Not have	292 (47.6)	283 (50.4)	
Reciprocity			
Have	430 (70.0)	440 (78.4)	0.001
Not have	184 (30.0)	121 (21.6)	
Network			
The number of close friends			
None	62 (10.1)	25 (4.5)	0.001
1–5	249 (40.6)	255 (45.5)	
6–10	172 (28.0)	177 (31.6)	
11 or more	131 (21.3)	104 (18.5)	
The number of persons with whom respondent wanted to consult	1.7 ± 1.6	2.2 ± 1.6	<0.001

The number of persons with whom you want to consult: Mann-Whitney u test, other variables: χ^2 test.

significantly between males and females ($p < 0.001$).

2. Logistic regression analysis of negative mood (Tables 2 and 3)

Negative mood was significantly associated with living alone [Model 1, odds ratio (OR): 2.00, 95% confidence interval (CI): 1.18–3.37] in females. Negative mood was significantly associated with social capital (trust) in both males (Model 2, OR: 0.57, 95% CI: 0.41–0.79) and females (OR: 0.58, 95% CI: 0.41–0.82). Model 6 (full model) revealed a significant statistical association between negative mood and trust, in both males (OR:

0.54, 95% CI: 0.38–0.76) and females (OR: 0.60, 95% CI: 0.42–0.85).

3. Logistic regression analysis of hope for the future (Tables 4 and 5)

Model 1 revealed that hope for the future was significantly associated with the 23–29 age group (OR: 0.47, 95% CI: 0.31–0.73) and father/male guardian's educational background (university and graduate school) in males (OR: 2.02, 95% CI: 1.41–2.90), and the 18–22 age group (OR: 0.47, 95% CI: 0.28–0.81) and the 23–29 age group (OR: 0.38, 95% CI: 0.23–0.63) in females.

Table 2 Logistic regression analysis of negative mood (Male)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI
(n=614)												
Basic attributes												
Age												
13–17	1.00		1.00		1.00		1.00		1.00		1.00	
18–22	0.95 (0.61–1.47)	n.s.	0.84 (0.53–1.31)	n.s.	1.00 (0.64–1.55)	n.s.	0.95 (0.61–1.47)	n.s.	0.95 (0.62–1.48)	n.s.	0.87 (0.55–1.37)	n.s.
23–29	0.89 (0.59–1.35)	n.s.	0.78 (0.51–1.19)	n.s.	0.94 (0.62–1.44)	n.s.	0.86 (0.57–1.32)	n.s.	0.91 (0.60–1.38)	n.s.	0.81 (0.52–1.25)	n.s.
Living condition												
Living with others												
Living alone	1.00		1.00		1.00		1.00		1.00		1.00	
Father/male guardian's educational background												
Other												
University/graduate school	1.28 (0.90–1.81)	n.s.	1.32 (0.93–1.87)	n.s.	1.26 (0.89–1.79)	n.s.	1.28 (0.90–1.82)	n.s.	1.23 (0.87–1.75)	n.s.	1.24 (0.87–1.78)	n.s.
Mother/female guardian's educational background												
Other												
University/graduate school	1.01 (0.66–1.54)	n.s.	1.03 (0.67–1.57)	n.s.	1.01 (0.66–1.54)	n.s.	1.02 (0.67–1.56)	n.s.	1.02 (0.67–1.56)	n.s.	1.06 (0.69–1.64)	n.s.
Social capital												
Trust												
Not have												
Have			1.00								1.00	
Reciprocity												
Not have												
Have					1.00						1.00	
Network												
The number of close friends												
11 or more												
None							1.00				1.00	
1–5							1.32 (0.70–2.49)	n.s.			1.42 (0.73–2.78)	n.s.
6–10							1.31 (0.84–2.04)	n.s.			1.35 (0.85–2.14)	n.s.
The number of persons with whom respondent wanted to consult												
									1.08 (0.98–1.20)	n.s.	1.11 (1.00–1.24)	n.s.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; n.s.: not significant

Table 3 Logistic regression analysis of negative mood (Female)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI
(n=561)												
Basic attributes												
Age												
13–17	1.00		1.00		1.00		1.00		1.00		1.00	
18–22	1.28 (0.80–2.03)	n.s.	1.13 (0.71–1.82)	n.s.	1.27 (0.80–2.02)	n.s.	1.29 (0.81–2.06)	n.s.	1.28 (0.80–2.03)	n.s.	1.14 (0.71–1.84)	n.s.
23–29	0.93 (0.61–1.43)	n.s.	0.87 (0.56–1.34)	n.s.	0.93 (0.60–1.42)	n.s.	0.90 (0.59–1.39)	n.s.	0.93 (0.61–1.43)	n.s.	0.85 (0.54–1.31)	n.s.
Living condition												
Living with others												
Living alone	1.00		1.00		1.00		1.00		1.00		1.00	
Father/male guardian's educational background												
Other												
University/graduate school	0.89 (0.61–1.29)	n.s.	0.91 (0.62–1.33)	n.s.	0.88 (0.6–1.28)	n.s.	0.91 (0.62–1.33)	n.s.	0.89 (0.61–1.29)	n.s.	0.92 (0.62–1.35)	n.s.
Mother/female guardian's educational background												
Other												
University/graduate school	0.66 (0.42–1.06)	n.s.	0.69 (0.43–1.10)	n.s.	0.68 (0.42–1.08)	n.s.	0.66 (0.41–1.06)	n.s.	0.66 (0.42–1.06)	n.s.	0.68 (0.42–1.09)	n.s.
Social capital												
Trust												
Not have												
Have			1.00								1.00	
Reciprocity												
Not have												
Have					1.00						1.00	
Network												
The number of close friends												
11 or more												
None							1.00				1.00	
1–5							1.62 (0.63–4.18)	n.s.			1.36 (0.52–3.57)	n.s.
6–10							0.94 (0.58–1.51)	n.s.			0.87 (0.53–1.42)	n.s.
The number of persons with whom respondent wanted to consult												
									1.00 (0.90–1.12)	n.s.	1.06 (0.95–1.20)	n.s.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; n.s.: not significant

Table 4 Logistic regression analysis of hope for the future (Male)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI
(n=614)												
Basic attributes												
Age												
13-17	1.00		1.00		1.00		1.00		1.00		1.00	
18-22	0.71 (0.45-1.13)	n.s.	0.85 (0.53-1.36)	n.s.	0.77 (0.49-1.23)	n.s.	0.74 (0.46-1.18)	n.s.	0.74 (0.46-1.18)	n.s.	0.90 (0.55-1.48)	n.s.
23-29	0.47 (0.31-0.73)	**	0.55 (0.36-0.86)	**	0.52 (0.34-0.80)	**	0.58 (0.37-0.90)	*	0.51 (0.33-0.79)	**	0.69 (0.43-1.10)	n.s.
Living condition												
Living with others												
Living alone	1.00		1.00		1.00		1.00		1.00		1.00	
	0.73 (0.48-1.11)	n.s.	0.69 (0.45-1.06)	n.s.	0.73 (0.48-1.11)	n.s.	0.68 (0.44-1.04)	n.s.	0.78 (0.51-1.20)	n.s.	0.69 (0.44-1.08)	n.s.
Father/male guardian's educational background												
Other												
University/graduate school	1.00		1.00		1.00		1.00		1.00		1.00	
	2.02 (1.41-2.90)	***	2.00 (1.39-2.89)	***	1.99 (1.39-2.86)	***	2.01 (1.39-2.91)	***	1.79 (1.24-2.59)	**	1.81 (1.23-2.65)	**
Mother/female guardian's educational background												
Other												
University/graduate school	1.00		1.00		1.00		1.00		1.00		1.00	
	1.22 (0.78-1.92)	n.s.	1.20 (0.76-1.89)	n.s.	1.22 (0.78-1.93)	n.s.	1.13 (0.71-1.79)	n.s.	1.29 (0.82-2.05)	n.s.	1.18 (0.73-1.89)	n.s.
Social capital												
Trust												
Not have												
Have			1.00								1.00	
			2.17 (1.54-3.05)	***							1.83 (1.28-2.62)	**
Reciprocity												
Not have												
Have					1.00						1.00	
					1.78 (1.24-2.56)	**					1.50 (1.02-2.21)	*
Network												
The number of close friends												
11 or more												
None							1.00				1.00	
							0.20 (0.10-0.41)	***			0.32 (0.16-0.67)	**
1-5												
							0.56 (0.35-0.88)	*			0.69 (0.43-1.11)	n.s.
6-10												
							1.04 (0.63-1.72)	n.s.			1.10 (0.65-1.84)	n.s.
The number of persons with whom respondent wanted to consult												
									1.40 (1.24-1.57)	***	1.28 (1.14-1.45)	***

*p<0.05; **p<0.01; ***p<0.001; n.s.: not significant

Table 5 Logistic regression analysis of hope for the future (Female)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI	Odds ratio	95%CI
(n=561)												
Basic attributes												
Age												
13-17	1.00		1.00		1.00		1.00		1.00		1.00	
18-22	0.47 (0.28-0.81)	**	0.57 (0.33-0.99)	*	0.48 (0.28-0.83)	**	0.46 (0.26-0.80)	**	0.46 (0.26-0.80)	**	0.53 (0.30-0.95)	*
23-29	0.38 (0.23-0.63)	***	0.41 (0.25-0.69)	**	0.38 (0.23-0.63)	***	0.43 (0.26-0.72)	**	0.34 (0.20-0.57)	***	0.40 (0.23-0.68)	**
Living condition												
Living with others												
Living alone	1.00		1.00		1.00		1.00		1.00		1.00	
	0.87 (0.52-1.45)	n.s.	0.87 (0.51-1.46)	n.s.	0.84 (0.50-1.40)	n.s.	0.86 (0.51-1.46)	n.s.	0.80 (0.47-1.37)	n.s.	0.77 (0.44-1.35)	n.s.
Father/male guardian's educational background												
Other												
University/graduate school	1.00		1.00		1.00		1.00		1.00		1.00	
	1.35 (0.90-2.04)	n.s.	1.30 (0.86-1.98)	n.s.	1.41 (0.93-2.14)	n.s.	1.33 (0.87-2.03)	n.s.	1.38 (0.90-2.11)	n.s.	1.38 (0.88-2.14)	n.s.
Mother/female guardian's educational background												
Other												
University/graduate school	1.00		1.00		1.00		1.00		1.00		1.00	
	1.26 (0.75-2.11)	n.s.	1.21 (0.71-2.05)	n.s.	1.18 (0.70-1.99)	n.s.	1.13 (0.66-1.94)	n.s.	1.16 (0.68-1.98)	n.s.	1.03 (0.59-1.81)	n.s.
Social capital												
Trust												
Not have												
Have			1.00								1.00	
			2.66 (1.82-3.89)	***							1.94 (1.29-2.91)	**
Reciprocity												
Not have												
Have					1.00						1.00	
					1.98 (1.29-3.03)	**					1.49 (0.94-2.37)	n.s.
Network												
The number of close friends												
11 or more												
None							1.00				1.00	
							0.09 (0.03-0.26)	***			0.15 (0.05-0.45)	**
1-5												
							0.42 (0.24-0.73)	**			0.57 (0.32-1.03)	n.s.
6-10												
							0.82 (0.45-1.50)	n.s.			0.88 (0.47-1.64)	n.s.
The number of persons with whom respondent wanted to consult												
									1.55 (1.35-1.78)	***	1.40 (1.21-1.61)	***

*p<0.05; **p<0.01; ***p<0.001; n.s.: not significant

Models 2, 3, 4 and 5 revealed that hope for the future was significantly associated with trust (OR: 2.17, 95% CI: 1.54-3.05), reciprocity (OR: 1.78, 95% CI: 1.24-2.56), the "None" category of close friends (OR: 0.20, 95% CI: 0.10-0.41) or "1-5" (OR: 0.56, 95% CI: 0.35-0.88), and the number of people with whom respondents wanted to consult (OR: 1.40, 95% CI: 1.24-1.57) in males, and trust (OR: 2.66, 95% CI: 1.82-3.89), reciprocity (OR: 1.98, 95% CI: 1.29-3.03), the "None" category of close friends (OR: 0.09, 95% CI: 0.03-0.26) or "1-5" (OR: 0.42, 95% CI: 0.24-0.73), and the number of people with whom respondents wanted to consult (OR: 1.55, 95% CI: 1.35-1.78) in females. Model 6 (full model) revealed

that hope for the future was significantly associated with trust (OR: 1.83, 95% CI: 1.28-2.62), reciprocity (OR: 1.50, 95% CI: 1.02-2.21), the "None" category of close friends (OR: 0.32, 95% CI: 0.16-0.67), and the number of people with whom respondents wanted to consult (OR: 1.28, 95% CI: 1.14-1.45) in males, and trust (OR: 1.94, 95% CI: 1.29-2.91), and the "None" category of close friends (OR: 0.15, 95% CI: 0.05-0.45), and the number of people with whom respondents wanted to consult (OR: 1.40, 95% CI: 1.21-1.61) in females.

IV. Discussion

This study clarified the association between social capital, negative mood, and hope for the future among Japanese youth. Therefore, future intervention to improve social capital may improve mental health and hope for the future among them.

Previous studies report similar results. Females had lower negative mood than males. This is consistent with previous findings that females are more prone to depression than males are^{23,24}). However, males had lower hope for the future than females did. The suicide rate was higher among males than it was among females¹). It is necessary to concretely grasp the differences between males and females, including differences in their social roles.

Negative mood was inversely correlated with trust in both male and female respondents in Japan. An association has been reported between cognitive social capital, and common mental disorders¹⁰). A negative association between cognitive social capital and depressive symptoms was reported in the survey of Japanese high school students²⁹). In the present study, the trust variable of social capital was associated with decreased negative mood in Japanese youth. These results suggest the importance of social capital in reducing negative mood among youth Japanese.

Hope for the future was associated with trust, reciprocity, the number of close friends, and the number of people with whom respondents wanted to consult among both male and female Japanese respondents. In addition to the cognitive social capital variable, our results suggest that structural social capital, which is related to social network, is also important in hope for the future. In our study, close friends in the category of “1–5” or “None” was inversely correlated with hope for the future. This implies that having a wide network of friends, which is related to diversity of network, improves hope for the future. In addition, not only the size of the network but consulting with someone or seeking help is also important. The number of people with whom respondents wanted to consult is positively associated with the level of access to social capital. If the people with whom individuals want to consult are diverse, a variety of information and resources can be accessed. In the survey on suicide conducted by the Japanese Cabinet Office, 45.6% of respondents aged 20–29 years indicated “I think so” in the following question: “When you feel troubled and stressed, do you feel hesitant to consult with someone or seek help?”³⁰). Therefore, it is necessary

for Japanese youth to construct a network of individuals with whom they can consult when they feel anxious or troubled.

Other factors also showed significant association. Living alone was significantly associated with negative mood in female. Father/male guardian’s higher educational background was significantly associated with hope for the future in males. It is necessary to take into account these perspectives in future studies.

Future issues and limitations of this study

Because this study is cross-sectional, it could not clarify the causal relationship between negative mood, hope for the future, and social capital. The possibility of reverse causation cannot be eliminated. Longitudinal studies are needed to clarify the causal relationship between social capital, negative mood and hope for the future. In addition, measurements used were not validated although we used survey data from the Cabinet Office. In addition, generalizability may be limited because social capital can differ according to the social and cultural background of societies.

V. Conclusions

In this study, we examined the association between negative mood, hope for the future, and social capital among Japanese youth. The analysis showed that female respondents had a higher proportion of negative mood than male subjects did. Male respondents had a lower proportion of hope for the future than female subjects did. In both males and females, a negative association was observed between trust and negative mood. On the other hand, hope for the future was associated with trust, reciprocity, the number of close friends, and the number of people with whom respondents wanted to consult. As this study shows, social capital is useful in reducing a variety of problems that Japanese youth are facing.

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