# Conference Schedule

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Welcome to The International Conference on Social Stratification and Health 2013

Norito Kawakami, MD
Principal investigator for the Project “Social Stratification and Health”

On behalf of the organizing committee and the whole project, I would like to express my warm welcome to everyone for joining the “International Conference on Social Stratification and Health 2013: Interdisciplinary Research and Action for Equity” in Tokyo, Japan, from August 31 through September 1, 2013 (ICSSH2013). The conference was organized by the research project “Elucidation of social stratification mechanism and control over health inequality in contemporary Japan: New interdisciplinary area of social and health sciences” (abbreviated as the Project “Social Stratification and Health”), a five-year interdisciplinary research project (2009–2013) funded by the Grant-in-Aid for Scientific Research on Innovative Areas from the Ministry of Education, Science, Sports, and Culture, Japan. This interdisciplinary project aims to develop and expand research to elucidate mechanisms underlying the social disparity in health and establishment of measures to control over it. Also the project intends to form a new interdisciplinary academic field integrating social sciences (sociology, psychology & behavioral science, economics, political science, etc.) and health sciences (public health, health science, brain sciences, etc.).

This conference is our second international conference following the first one in 2011, which was planned as a milestone in the middle of the research project. This particular conference rather aims to review what we have achieved in the five-year interdisciplinary effort, and to discuss how we can connect the achievements to actions for equity in health. For the last five years, the project has conducted several large-scale interdisciplinary panel surveys on social stratification and health, such as J-SHINE in the community and J-HOPE at the workplace. Other studies have focused on the interrelationship among social class, brain functions, and health and relevant human behaviors. Accumulated knowledge from these cutting edge studies contributes to the development of an integrated model or image of social stratification and health in this country. In this conference, these achievements will be integrated with other contributions from four outstanding researchers outside Japan and also from colleagues in this country to form a consensus view on how to translate the scientific evidence into a real world.

The other, but also important aim of the conference is to develop a future research network. Researchers who come from different fields, such as public health, sociology, economics, and psychology, but share a same interest in social stratification and health, both within and outside the project are expected to interact and discuss an opportunity for a future collaboration. We will also discuss establishing a new society or network on this topic during the conference. I encourage those who are interested in it to join the luncheon meeting on August 31 (Sat.).

I sincerely do hope that the conference will clarify what we have achieved and how we can contribute to equity in health in the society as another landmark conference.
Organizing Committee

Norito Kawakami
Akihito Shimazu
Masaya Shimmei
Kazuo Katase
Haruhiko Inada
Keiko Nikami

Hideki Hashimoto
Takashi Oshio
Yasuki Kobayashi
Yasuko Nakanishi
Chie Kaneto
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General Information:
Dates: August 31 (Sat) & September 1 (Sun), 2013
Venue: Tetsumon Memorial Hall (14th Floor) and Seminar Rooms 5 & 6 (13th Floor),
Faculty of Medicine Experimental Research Building (医学部教育研究棟)
Hongo Campus, The University of Tokyo
Registration Fee: 1,000 JPY
Official Language: English

Policies:
• Pre-registration is required to attend the conference.
• Smoking, eating and drinking are prohibited at the venue.
• Cellular phones must be turned off or put in silent mode during sessions.
• Stairs, not elevators, must be used in case of earthquake.

Reception Desk:
• The reception desk is open at 8:30 on both days.
• The desk is located in front of Tetsumon Memorial Hall on the 14th Floor.
• An abstract book and a name tag (with voting cards for Poster Award) will be provided upon check-in.
• Banquet fee needs to be paid upon check-in on August 31. On-site registrations for the banquet are also welcomed.
  Banquet fee for student: 5,000 JPY
  Banquet fee for others: 7,000 JPY

Banquet:
• The banquet is held on August 31 (starting at 18:30) at Event Space, Ito International Research Center, located near Akamon Gate.

Coffee Break
• During Poster Sessions, drinks are served on the 13.5th Floor.

Lunch Break
• A “Where to Eat” map showing nearby restaurants, cafes and convenience stores will be provided at the reception desk.
• Preparatory meeting for the establishment of an academy on August 31 is free for all WITH box lunch.
Information for Chairs and Speakers

- All chairs and speakers are asked to check in on the 14th Floor at least one hour before their scheduled sessions, except for Keynote Lectures 1 & 3 (30 minutes before the sessions).
- After check-in, speakers are asked to preview their presentation data at the PC Center on the 14th floor. Morning session speakers are encouraged to register their presentation data by the day before the session.
- Presentation data need to be prepared using Microsoft PowerPoint 2007/2010 and saved as “<Presentation number> <Speaker’s name>” (e.g., “1–5 Yamada”) in a blank USB memory stick. All presentation files will be deleted at the end of the conference unless permission has been granted.
- Chairs and speakers are allowed to have pre-session meetings in Seminar Room 8.
- Chairs and speakers are expected to be seated in the “Next Chair” or “Next Speaker” seat at least five minutes before their scheduled sessions.
- During presentations, speakers themselves are responsible for operating a PC.
- In all sessions, chairs are responsible for time keeping.

Information for Poster Presenters

- Poster presenters of the day are asked to put up their posters by 9:00 in the Elevator Hall on the 14th Floor. Posting magnets will be provided at the site.
- A poster board (180 cm x 90 cm) with a poster number (20 cm x 20 cm) at the top left corner will be allocated to each presentation. Presenters are responsible for preparing a poster and a title banner (20 cm x 70 cm) including the name(s) and affiliation(s) of author(s).
- During Poster Sessions, presenters are expected to be available to discuss their posters with conference attendees.
- Presenters are required to remove their own posters after 17:00, September 1.

Poster Award

- Every conference attendee will be provided with two voting cards. Each day, attendees can vote for their favorite poster of the day.
- A ballot box will be placed in the Elevator Hall on the 14th Floor until 17:00 on the first day (August 31) and until 16:00 on the second day (September 1).
- In the Closing ceremony, the “Best Poster Award” will be given to two poster presenters who receive a largest number of votes.
Nearest Stations
Hongo-sanchome 8 minutes walk
(Subway Marunouchi Line)
Hongo-sanchome 6 minutes walk
(Subway Oedo Line)

From Haneda Airport to the University
Airport → Hamamatsu-cho 22 minutes
(Tokyo Monorail)
Hamamatsu-cho → Tokyo 8 minutes
(JR Yamanote Line)
Tokyo → Hongo-sanchome 8 minutes
(Subway Marunouchi Line)

From Narita Airport to Central Tokyo
Airport → Tokyo 1 hour
(JR Narita Express)
or
Airport → Keisei-Ueno 45 minutes
(Keisei Skyliner)
or
Airport → Various destinations
(Airport Limousine)
## CONFERENCE SCHEDULE

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PROGRAM (Saturday, August 31)

09:00–09:15  **Opening**  
Tetsumon Memorial Hall (14th Floor)

09:15–10:15  **Keynote Lecture 1** – Ichiro Kawachi  
Chair: Katsunori Kondo  
Tetsumon Memorial Hall (14th Hall)  
*The Cost of Income Inequality*

10:15–10:45  **Poster Session A**  
Elevator Hall (14th Floor)  
Drinks are served on the 13.5th Floor.

10:45–12:15  **Symposium 1** – Chair: Norito Kawakami  
Tetsumon Memorial Hall (14th Floor)  
*The interdisciplinary understanding of social stratification and health in Japan: Progress of the Research*

12:15–13:45  **Lunch Break**

13:45–14:45  **Keynote Lecture 2** – Christina Lee  
Chair: Akihito Shimazu  
Tetsumon Memorial Hall (14th Floor)  
*Social Stratification and Women’s Health in Australia*
14:45–16:15  **Symposium 2** – Chair: Akizumi Tsutsumi  
Tetsumon Memorial Hall (14th Floor)  
*Work, social class and health: what are the Japanese characteristics?*

**Symposium 3** – Chair: Akiko Oishi  
Seminar Room 5 (13th Floor)  
*Gender and Health*

**Symposium 4** – Chair: Hidehiro Sugisawa  
Seminar Room 6 (13th Floor)  
*Why does social capital have an impact on health?*

16:30–18:00  **Oral Session 1** – Chair: Kazuhito Rokutan  
Tetsumon Memorial Hall (14th Floor)

**Oral Session 2** – Chair: Yoko Sugihara  
Seminar Room 5 (13th Floor)

18:30–  **Banquet**  
Event Space, Ito Inter National Research Center
09:00–10:00  **Keynote Lecture 3**  – Richard Carpiano
Chair: Hidehiro Sugisawa
Tetsumon Memorial Hall (14th Floor)

*A Network Perspective of Social Capital and Health: Theoretical and Methodological Considerations for a Multi-level Approach*

10:00–10:30  **Poster Session B**
Elevator Hall (14th Floor)
Drinks are served on the 13.5th Floor.

10:30–12:00  **Symposium 5**  – Chair: Hideki Hashimoto
Tetsumon Memorial Hall (14th Floor)

*Current use and potentials of biomarker measurement to address social gradients of health*

**Symposium 6**  – Chair: Takeo Fujiwara
Seminar Room 5 (13th Floor)

*Social determinants of child health*

**Symposium 7**  – Chair: Takashi Oshio
Seminar Room 6 (13th Floor)

*Poverty and Health*

12:00–13:30  **Lunch Break**
PROGRAM (Sunday, September 1)

13:30–15:00  **Symposium 8** – Chair: Kazuo Katase  
Tetsumon Memorial Hall (14th Floor)  
*Employment status and health*

**Symposium 9** – Chair: Haruhiko Inada  
Seminar Room 5 (13th Floor)  
*Education and Training in Social Determinants of Health*

**Symposium 10** – Chair: Hideki Ohira  
Seminar Room 6 (13th Floor)  
*Psychological basis of social inequality in health*

15:15–17:00  **Symposium 11** – Chair: Yasuki Kobayashi, Naoki Kondo  
Tetsumon Memorial Hall (14th Floor)  
*Social stratification and health research: what are policy implications?*

17:00–  **Closing**  
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KEYNOTE LECTURES

Keynote Lecture 1  – Ichiro Kawachi  
Chair: Katsunori Kondo  
09:15–10:15, August 31 (Sat)  
Tetsumon Memorial Hall (14th Hall)  
*The Cost of Income Inequality*

Keynote Lecture 2  – Christina Lee  
Chair: Akihito Shimazu  
13:45–14:45, August 31 (Sat)  
Tetsumon Memorial Hall (14th Floor)  
*Social Stratification and Women’s Health in Australia*

Keynote Lecture 3  – Richard Carpiano  
Chair: Hidehiro Sugisawa  
09:00–10:00, September 1 (Sun)  
Tetsumon Memorial Hall (14th Floor)  
*A Network Perspective of Social Capital and Health: Theoretical and Methodological Considerations for a Multi-level Approach*
Keynote Lecture 1

The Cost of Income Inequality

Ichiro Kawachi
Professor, Harvard University, USA

The distribution of income in a society has been theorized (and empirically demonstrated) to be associated with population health (Wilkinson and Pickett, 2008). In this presentation, I will summarize the three current theories about how growing inequality can be damaging to population health. First, societies with higher levels of income inequality tend to have a greater number of people in poverty that lack access to resources (e.g. health services). Hence, in a purely “mechanical” sense, one would expect that income inequality correlates with worse health outcomes. However, this cannot be the sole explanation for the association between income inequality and poor health, since there appears to be a residual association between inequality and worse individual health outcomes even after carefully controlling for individual socioeconomic status.

A second hypothesized reason for the relationship between income inequality and health is that when the gap between the rich and poor widens, it tends to give rise to social comparisons, i.e. a growing sense of relative deprivation (Adjaye-Gbewonyo & Kawachi, 2012). These invidious social comparisons produce stress, especially when those at the bottom strive to “keep up with the Joneses” but eventually realize that upward mobility is constrained (Kawachi & Kennedy, The Health of Nations, 2003). For example, recent economic data in the USA reveal that median incomes have stagnated during the past three decades, and that social mobility has become rigidified to an extent that is far worse than most other western countries (Stiglitz, The Price of Inequality, 2013). As Stiglitz has argued, there is a mismatch between American public perceptions about social mobility (the Horatio Alger myth) and the economic reality. Social theory suggests that when individuals strive under an illusion of equal opportunity and subsequently fail (because the playing field was never level to begin with), then they will tend to blame themselves for their failure, and consequently be at increased risk of depression and other maladaptive coping behaviors (e.g. smoking, drug abuse). The theory of relative deprivation has been put to the test by examining the association between individual-level measures of deprivation (e.g. the Yitzhaki index) and health outcomes. However, the theory is also consistent with an observed association between area-level income inequality and individual health outcomes (e.g. depression).

The third theory linking income inequality to health posits broad “pollution effects” of inequality for society. As articulated by Kawachi & Kennedy (2003), Wilkinson & Pickett (2008), Stiglitz (2013), and others, when income and wealth becomes concentrated on the top 1% (as has happened in American society during the past three decades), their rent-seeking behavior imposes a host of negative externalities on the rest of society. Social cohesion is eroded, while politics become distorted and legislation becomes captured to disproportionately serve the interests of the wealthy. The most visible aspect of this dynamic is the strong push to lower taxes for the wealthy whilst imposing austerity on public spending (e.g. education, public health, infrastructure). The result is lowered quality of life for the bottom 99%, which will manifest as an apparent “contextual” effect of income inequality in lowering the health of the average resident – i.e. even middle class residents -- of unequal societies. I will address the empirical evidence and current areas of debate concerning each of these three theories linking income distribution to population health.

KEYWORDS: Income inequality, relative deprivation, social comparison, social cohesion.
Social Stratification and Women’s Health in Australia

Christina Lee
Professor, University of Queensland, Australia

Social gradients in physical and mental health are observed in all countries. Much of the basic research has been conducted with men, and often with those of working age. In this presentation, I present evidence relating to social gradients amongst women across several age groups in Australia, drawing on data from the Australian Longitudinal Study on Women’s Health (ALSWH; Lee et al., 2005).

Cultural and historical factors mean that defining a woman’s socioeconomic position is not straightforward. A woman’s own level of education, income, or employment type may be an appropriate marker, but only for some women, in some birth cohorts, and at some periods of her life. Indicators derived from husbands or parents are similarly appropriate only for some women at some life stages. Area-level indicators (based on home address) also have some problems but may be more appropriate in some contexts.

Relationships between socioeconomic position and indicators of physical and mental health vary between women and men, and across age groups and countries among women. After describing the ALSWH project as a whole, I present results of a series of analyses by various members of the ALSWH team.

The ALSWH was established in 1995 to inform government policy on women’s health. This multidisciplinary project, with an initial sample of over 42,000 women, has been collecting self-report and administrative data from three large, nationally representative cohorts of Australian women since 1996.

The first example is a cross-sectional comparison of three cohorts, using multiple logistic regressions to demonstrate differences between age cohorts in socioeconomic gradients in women’s cardiovascular risk factors (Lawlor, Tooth, Lee & Dobson, 2005). This compared gradients for three indicators of socioeconomic position: education, occupation (or husband’s occupation), and perceived ability to manage on income. Generally, the patterns of results showed consistent social gradients in the expected directions, but there were exceptions. In particular, current or former cigarette smoking was most common amongst those with the highest educational and occupational levels amongst the oldest cohort of women (born 1921-1926), the reverse of the pattern found amongst the middle-aged (born 1946-1951) and younger (born 1973-1978) cohorts. Further, physical activity showed a strong social gradient (for education) amongst the oldest, but little gradient at all amongst middle-aged and younger women, while obesity showed the expected gradient in all cohorts. These results can be interpreted by considering the historical and life-stage contexts of the women’s lives.

The second example is a longitudinal study of our middle-aged cohort (Williams, Cunich & Byles, 2013). This shows that socioeconomic differences in both physical and mental health tend to increase over a 15-year period. It uses a composite index of socioeconomic position encompassing years of education, highest qualification, and occupation, and SF-36 summary scores as outcomes. Multilevel modelling across six surveys compared three groups defined by socioeconomic position. As expected, there were main effects for socioeconomic position; overall, the highest tertile reported the best physical and mental health. Physical health scores decreased over time for the entire sample, but the decrease was significantly less for those women in the highest tertile. Mental health scores increased slightly but not significantly over time for the entire sample, but there was an interaction, with those in the highest tertile showing a significant increase. These results show that socioeconomic differences in Australian women’s health become greater during later middle age, perhaps as a long-term outcome of differences in access to health services and health promotion opportunities throughout adult life.

Finally, research in progress examines the role of perceived life control in mediating the relationships between socioeconomic position and a range of indicators of physical and mental health (Lee & Holden, in preparation). This analysis uses a measure of socioeconomic position based on the relative deprivation of areas of residence, rather than any individual characteristics. Focusing on a cross-sectional analysis of the middle-aged cohort,
this project starts by demonstrating social gradients on fourteen out of fifteen indicators of physical and mental health, before examining the extent to which scores of the Life Control Scale (Bobak, Pikhart, Hertaman, Rose, & Marmot, 1998) might mediate this effect. Significant mediation is found, suggesting that one of the reasons why more advantaged socioeconomic position is associated with better health amongst women may be lifetime exposure to environments in which women are able to exercise control and choice.

These three sets of analyses all use different measures of socioeconomic position, but demonstrate consistently that there is social stratification of physical health, mental health, and health-related behavior amongst Australian women throughout the lifespan. The research indicates a need for policies that increase access and opportunities for women who fall into the lower socioeconomic categories, whether these are defined by educational level, income, type of employment, or place of residence.

These examples of work from the ALSWH demonstrate how we have been able to combine academic work with outcomes that have been influential in shaping government health policy, including the Australian National Women’s Health Policy 2010. This policy emphasises prevention, addressing health inequalities and looking at the social determinants of those inequalities.

REFERENCES


KEYWORDS: Australia, longitudinal, women
Social capital has been credited by Ichiro Kawachi and others as one of the most popular social science imports into public health research and practice. Over the past two decades, two theoretical perspectives on social capital have emerged in health research—both of which reflect its sociological traditions. The first and most commonly used approach is termed the social cohesion perspective. Inspired by the scholarship of James Coleman, this perspective conceptualizes social capital as the presence of trust, norms of reciprocity, information channels, sanctions, and organizations available to members of a group that influence their health. By contrast, the network perspective, influenced by the scholarship of Pierre Bourdieu, emphasizes the actual or potential material, informational, and psychosocial resources that people can access via their social networks—resources that can either improve or undermine health. To date, the latter approach has traditionally been used more commonly in non-health social science research (particularly in community sociology). Recent years, however, have shown an increase in the number of health studies utilizing the network perspective.

This network perspective constitutes the focus of my presentation. Drawing from my own research experiences over the past decade, as well as studies conducted by other researchers, I will discuss the theoretical utility and methodological possibilities of using a network perspective for advancing knowledge on social capital and health at multiple levels of analysis (e.g., person-level, neighborhood-level, and so forth). As such, my discussion will cover several related theoretical, methodological, and substantive topics.

My first objective will be to provide a brief overview of the sociological foundations of the network perspective of social capital. I will focus specifically on Bourdieu’s social capital theory, and his concern with unequal access to resources among individuals and groups and its consequences for socioeconomic inequality. Guided by this discussion, I will then specify what a network approach can add to understanding social capital and its relationship to health.

Second, I will review and describe my own development and application of a Bourdieu-inspired conceptual model of neighborhood-based social capital that I formulated for studying how neighborhood or local community environments can influence health. This conceptual model is informed by non-health related scholarship and has shown utility for identifying and testing hypotheses regarding how neighborhood social capital might promote, as well as undermine, health. I will then briefly discuss findings from these empirical studies, which focus on a range of health-related outcomes.

Third, turning attention from neighbors to organizations, I will consider how a network perspective can be used to understand how service organizations may function as additional sources of social capital for individuals and their communities. My discussion will be informed by findings from my own qualitative study of neighborhood life and community organizations in a Midwestern city in the United States. As I will detail, these findings necessitate consideration of new conceptual developments in community sociology, which offer promise for understanding linkages between micro-, meso-, and macro-level social and political processes—especially in terms of studying how resources are unequally distributed from government to local communities and their residents.

Fourth, I will focus on the application of a network perspective for studying social capital rooted in general social networks—that is, social capital that is not bound to a specific neighborhood or geographic location. Here, I will present some examples of potentially useful instruments for measuring general network social capital—some of which offer great flexibility for studying specific populations and health issues.

Finally, I will identify some key theoretical and methodological issues for facilitating future work that incorporates network perspectives in the study of social capital. To this end, I will expound upon the importance of theoretical and methodological insights from non-health research on social capital (and related topics) for formulating and empirically testing specific hypotheses in health research.

**KEYWORDS:** Social capital, networks, theory, measurement
Symposium 1 – Chair: Norito Kawakami
10:45–12:15, August 31 (Sat)
Tetsumon Memorial Hall (14th Floor)

*The interdisciprinary understanding of social stratification and health in Japan: Progress of the Research*

Symposium 2 – Chair: Akizumi Tsutsumi
14:45–16:15, August 31 (Sat)
Tetsumon Memorial Hall (14th Floor)

*Work, social class and health: what are the Japanese characteristics?*

Symposium 3 – Chair: Akiko Oishi
14:45–16:15, August 31 (Sat)
Seminar Room 5 (13th Floor)

*Gender and Health*

Symposium 4 – Chair: Hidehiro Sugisawa
14:45–16:15, August 31 (Sat)
Seminar Room 6 (13th Floor)

*Why does social capital have an impact on health?*

Symposium 5 – Chair: Hideki Hashimoto
10:30–12:00, September 1 (Sun)
Tetsumon Memorial Hall (14th Floor)

*Current use and potentials of biomarker measurement to address social gradients of health*
Symposium 6 – Chair: Takeo Fujiwara
10:30–12:00, September 1 (Sun)
Seminar Room 5 (13th Floor)

*Social determinants of child health*

Symposium 7 – Chair: Takashi Oshio
10:30–12:00, September 1 (Sun)
Seminar Room 6 (13th Floor)

*Poverty and Health*

Symposium 8 – Chair: Kazuo Katase
13:30–15:00, September 1 (Sun)
Tetsumon Memorial Hall (14th Floor)

*Employment status and health*

Symposium 9 – Chair: Haruhiko Inada
13:30–15:00, September 1 (Sun)
Seminar Room 5 (13th Floor)

*Education and Training in Social Determinants of Health*

Symposium 10 – Chair: Hideki Ohira
13:30–15:00, September 1 (Sun)
Seminar Room 6 (13th Floor)

*Psychological basis of social inequality in health*

Symposium 11 – Chair: Yasuki Kobayashi, Naoki Kondo
15:15–17:00, September 1 (Sun)
Tetsumon Memorial Hall (14th Floor)

*Social stratification and health research: what are policy implications?*
Symposium 1

The Interdisciplinary Understanding of Social Stratification and Health in Japan: Progress of the Research

Chair: Norito Kawakami
Principal investigator, the Project “Social Stratification and Health” and Professor of Mental Health, School of Public Health, The University of Tokyo, Japan

1–1 J-SHINE and J-HOPE; comprehensive panel survey to address the mechanism of social gradient of health  Hideki Hashimoto
1–2 Japanese study of Health, Occupation and Psychosocial factors related Equity (J-HOPE): outline and products  Akizumi Tsutsumi
1–3 Social status, social capital and health: Survey of resident in 30 municipalities in Tokyo metropolitan area  Ken Harada
1–4 Association between job stress and prefrontal cortex function using near-infrared spectroscopy.  Tsuyoshi Araki

The research project “Elucidation of social stratification mechanism and control over health inequality in contemporary Japan: New interdisciplinary area of social and health sciences” (abbreviated as the Project “Social Stratification and Health”), a five-year interdisciplinary research project (2009–2013) funded by the Grant-in-Aid for Scientific Research on Innovative Areas from the Ministry of Education, Science, Sports, and Culture, Japan. This interdisciplinary project aims to develop and expand research to elucidate mechanisms underlying the social disparity in health and establishment of measures to control over it. There have been a number of research efforts within the project to contribute to this goal. This symposium will provide an opportunity for audiences to learn what was achieved by such interdisciplinary efforts, focusing on four major surveys in the project, among many others. These include (1) the Japanese Study of Stratification, Health, Income, and Neighborhood (J-SHINE), a large-scale interdisciplinary panel survey on social stratification and health in four municipalities in and around the Tokyo metropolitan area; (2) the Japanese study of Health, Occupation and Psychosocial factors related Equity (J-HOPE), a panel survey specifically targeting on the working population; (3) “the Tokyo 30 Municipalities Survey”, a cross-sectional, multi-level survey focusing on social capital and health; and (4) “the Near-Infrared Spectroscopy (NIRS) Survey”, a cross-sectional survey of participants of the J-SHINE using multi-modal neuro-biology indicators including prefrontal brain function. A number of publications already came out form these surveys; however, there are some on-going analyses as well. In this symposium, principal investigator of these surveys will introduce the surveys and their scientific outcomes, followed by extensive discussions with the audience.
J-SHINE and J-HOPE; comprehensive panel survey to address the mechanism of social gradient of health

Hideki Hashimoto

The University of Tokyo School of Public Health

The social gradient of health has become a common policy agenda for any government to tackle to achieve fair and efficient social systems. To issue effective policy in publicly open and transparent manner, science-based evidence is a key to success. Classic epidemiological and/or social surveys were limited in their efficacy to address complicated causal mechanism of how social structure and processes affect people’s health, and vice versa due to survey design and narrow measurement, which calls for a large panel data with comprehensive measurement covering health, economic, social, and environmental conditions of people in community settings. Japanese study of Stratification, Health, Income, and Neighborhood (J-SHINE) and Japanese study of Health and Occupational Environment (J-HOPE) were launched since 2009 by an interdisciplinary team to specifically meet this challenge. We will report their achievement in the first four years, strength and weakness, and potentials for further research.

KEYWORDS: social determinants of health, panel data, interdisciplinary team, theory integration
Japanese study of Health, Occupation and Psychosocial factors related Equinity (J-HOPE): outline and products

Akizumi Tsutsumi
Kitasato University, School of Medicine

We are going to establish four waves of data from a panel study of 10,000 workers to explore the social determinant of health in Japanese workers. Beside of the relevant SES indices (occupation, education, and household income), we measured socio-demographic profile, health behaviors, and psychosocial job characteristics using the opportunity of annual health check-up of the companies. Psychosocial job characteristics were covered by a wide range of validated questionnaires. Biological data include conventional cardiovascular risk factors (blood pressure, height, body weight, abdominal girth, blood sugar, HbA1c, serum lipids) and stress-related biomarkers, such as IL-6, high-sensitivity CRP, DHEA, cortisol, sleep/awake pattern, and 5HTTLPR, where available.

SES and health outcomes

Miyaki intensively investigated the associations between SES, dietary behavior, and health outcomes. Education and income were significantly associated with dietary salt intake and blood pressure (Miyaki et al, Int J Environ Res Public Health 2013) and with the dietary intakes of folate and depression (Miyaki et al, Nutrients 2013), and folate intake appeared mediate between SES and depression (Miyaki et al, Nutrients. 2013; Miyaki et al, BMC Psychiatry 2012).

Shimazu (under review) revealed that education was related to psychological distress but the direction was bilateral. That is, education was positively related to psychological distress through job demands on one hand, and negatively related to psychological distress through job resources on the other.

Inoue (in preparation) scrutinized the association between occupational class and serious mental illness and examined how job stress explained the association. He found an occupational class gradient of serious mental illness which was partly explained by job stress, in particular low job resources, among men. Women showed no occupational class gradient of mental illness. Inoue pointed out the importance of further investigating of occupational category as well as gender difference.

Ohio (in preparation) revealed high job demands, high effort and low interactional justice, which are closely related to occupational class, were also associated with psychological distress and the effects were buffered by workplace social capital.

Risk factors which draws growing attention

Eguchi (under review) examined psychosocial work characteristics and high-sensitivity CRP. Interestingly workplace social support and work engagement appeared to be associated with high-sensitivity CRP favorably (i.e., protective associations).

Takahashi (in preparation) measured objective parameters of sleep by using a wristwatch-type accelerometer and the participants’ sleep log and investigated the associations with several working conditions. The analyses revealed that a greater level of workplace social capital, which is positively associated with higher occupational class, was associated with better quality and quantity of sleep.

Other findings from J-HOPE

Suzuki (J Affect Disord 2013) found Japanese dietary pattern related to low depressive symptoms and the association was modified by psychosocial job characteristics, implying a hint to reduce depression by approaching workers’ dietary habits as well as organizational environment (psychosocial job characteristics).

Validation study is also undergoing. Kurioka (JOH, in press) calibrated the cut-off value of the short version of effort-reward imbalance questionnaire, adopted as a new occupational stress questionnaire, against the cut-off value of the prevailing original version.

J-HOPE has just begun to produce its cross-sectional findings. The associations between SES, psychosocial job characteristics and health outcomes will be followed prospectively. The repeated measures for the data, collected through multiple waves would provide useful materials for better understanding of social determinants of workers’ health.

KEYWORDS: J-HOPE, working population, panel data, psychosocial job characteristics
Social status, social capital and health: Survey of resident in 30 municipalities in Tokyo metropolitan area

Ken Harada
Jissen Women’s University, Faculty of Humanities and Social Sciences

OBJECTIVES: The purpose of this study was to investigate the effects of individual and community-level social capital on health. Moderating effects of social capital on health disparities resulting from social status were also investigated. Specifically, we investigated (1) the effects of individual-level social capital on self-rated health, (2) the effects of community-level social capital on mental health, and (3) the effects of community-level social capital on loneliness.

METHODS: Data were obtained from a probability sample survey of 4,676 men and women aged 25 years and older living in 30 municipalities of Tokyo, Chiba, Kanagawa and Saitama prefectures of Japan. The dependent variables in the study were self-rated health, mental health, and loneliness and independent variables were individual and community-level social capital. Individual-level social capital was assessed by the bonding and bridging type, by asking respondents whether each of their neighbors, friends, and affiliated groups were similar to them in sex, social status and age. Community-level social capital was assessed by structural components, which were measured through social networks and group participation, as well as by cognitive components, which were measured through social support and social cohesion.

RESULTS: (1) Respondents over 65 years having strong bridging social capital with familiar neighbors showed significantly higher self-rated health than those having strong bridging social capital. (2) High community level participation in volunteer groups was associated with lower levels of psychological distress. A model that included interactions between community level group participation and social status indicated a significant interaction between community level participation in volunteer groups and education, suggesting that disparities in psychological distress caused by education were reduced in communities with higher participation in volunteer groups. (3) High community level social cohesion was associated with lower levels of loneliness in respondents over 65 years of age, suggesting that older adults may be more dependent on community social capital.

CONCLUSION: After adjusting for individual demographic and socioeconomic status, individual and community-level social capital showed significant positive association with health and a significant negative association with loneliness. Results also indicated that community level social capital moderated the effects of individual level social status on health. However, health and loneliness showed little variation at community levels, suggesting a stronger individual determination.

KEYWORDS: social capital self-rated health, mental health, loneliness
Association between job stress and prefrontal cortex function using near-infrared spectroscopy.

Tsuyoshi Araki 1, Yukika Nishimura 2, Kiyoto Kasai 2

1 Department of Youth Mental Health, Graduate School of Medicine, University of Tokyo
2 Department of Neuropsychiatry, Graduate School of Medicine, University of Tokyo

Psychological stress has an influence on the prefrontal function. Recent studies have shown the gender difference in the relationship between the stress and prefrontal function. In this study, we measured the prefrontal cortex function using near infra-red spectroscopy (NIRS) during verbal fluency task (VFT) and investigated the correlation between prefrontal cortex function and job stress. We also assessed the effect of gender difference on those relationships. 79 Japanese employees participated in this study. The gender-specific difference was observed in the brain activation associated with job stress during the VFT task using NIRS.

KEYWORDS: job stress, prefrontal cortex, near-infrared spectroscopy, cognitive function
Symposium 2

Work, social class and health: what are the Japanese characteristics?

Chair: Akizumi Tsutsumi
Kitasato University School of Medicine

2–1 Association of occupational class with serious mental illness of Japanese employees: explanation from job stressors (J-HOPE)  Akiomi Inoue

2–2 Occupational Class Inequalities in Behavioral and Biological Risk Factors for Cardiovascular Disease  Yuko Morikawa

2–3 Differences in occupational conditions and actigraphically measured sleep  Masaya Takahashi

INTERNATIONALLY COMPARATIVE STUDIES have indicated that occupational class gradients of ill-health exist among Japanese working populations, while the magnitude of the associations between socioeconomic position and health outcomes appear weak and patterns of inequalities are inconsistent in some health issues. This symposium aimed to further explore the associations by shedding light on relevant health outcomes based on recent databases both of large-sized and small- and medium-sized enterprises.

Dr Inoue scrutinized the association between occupational class and serious mental illness using a recently developed comprehensive database of Japanese workers and examined how job stress explained the associations separately for women and men. He found an occupational class gradient of serious mental illness which was partly explained by job stress, in particular low job resources, among men. On the other hand, women showed a different picture; no occupational class gradient of mental illness. His discussion includes gender difference in way of working and perception/meaning of occupational class.

Despite that more than 90 percent of Japanese workers are employed in small- and medium-sized enterprises, the pattern of socioeconomic inequalities in health among employees of small- and medium-sized enterprises have not been extensively investigated. Prof. Morikawa has tried to fill the knowledge gap by conducting a large-scale epidemiological study of the employees in small- and medium-sized enterprises. The findings indicate that smoking and high blood pressure are clearly associated with occupational class and the behavioral and biological risk factors are considered important targets to reduce health inequalities among majority of Japanese workers.

Sleep is a potential key behavior but with limited evidence in the context of health inequality of working population. Several studies on sleep are criticized as they often used self-report of sleep as the outcome. Dr Takahashi measured objective parameters of sleep by using a wristwatch-type accelerometer and the participants’ sleep log and investigated the associations with several working conditions which are associated with occupational class. The analyses revealed that a greater level of workplace social capital, which is positively associated with higher occupational class, was associated with better quality and quantity of sleep.

There are much to be done to explore the association between work, social class and health among Japanese working population. Investigations of health indices including biological markers in wide range of occupations would provide clues for the next step or research, which we expect to discuss in this symposium.

KEYWORDS: occupational class, serious mental illness, sleep disturbance, small- and medium-sized enterprises
Association of occupational class with serious mental illness of Japanese employees: explanation from job stressors (J-HOPE)

Akiomi Inoue1, Norito Kawakami2, Akizumi Tsutsumi3
1 Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan
2 Department of Mental Health, Graduate School of Medicine, The University of Tokyo
3 Department of Public Health, Kitasato University School of Medicine

OBJECTIVE: Evidence on the association of occupational class with mental health is inconclusive, and detailed mechanisms underlying the association have not yet been fully examined. The purpose of the present study was twofold. The first purpose was to investigate the association of occupational class with serious mental illness (SMI). The second purpose was to examine how much the association of occupational class with SMI is explained by job stressors based on the demand-control-support and effort-reward imbalance models (i.e., job demands, job control, social support at work, and extrinsic reward).

METHODS: During October 2010 and December 2011, a total of 7,713 employees (6,084 men and 1,629 women) from 12 companies in Japan were surveyed using a self-administered questionnaire assessing occupational class, SMI, job stressors, and demographic characteristics. Occupational class was assessed using a single choice question adopted from the International Standardized Classification of Occupations, which classifies and ranks occupations according to the levels of skills required and education needed to perform a particular occupation. Mental health was assessed using the K6 scale. We defined SMI as scoring 13 or more on the K6 scale. Job stressors were assessed using the 22-item version of the Job Content Questionnaire and 10-item short version of the Effort-Reward Imbalance Questionnaire. Multiple logistic regression analyses were conducted separately for men and women.

RESULTS: After adjusting for demographic characteristics, with the exception of craft and related trade workers, a clear occupational class gradient in SMI with a higher prevalence of SMI in lower class occupations was observed among men. After additionally adjusting for job stressors, the occupational class gradient in SMI was no longer observed. Among women, the occupational class gradient in SMI was not observed before or after adjusting for job stressors while only craft and related trade workers had a significantly higher prevalence of SMI.

CONCLUSION: The present study suggests an occupational class gradient in SMI only for male employees in Japan. Job stressors may explain this result to some extent. Because the present study showed that employees with lower class occupation tended to have lower levels of job resources (i.e., job control, social support at work, and extrinsic reward), occupational class gradient in SMI may be explained especially by lower levels of job resources rather than by higher levels of job demands. For Japanese female employees, occupational class may be a less important factor for SMI. Although a more detailed examination is needed, gender differences in the way of working and perception of occupational class may explain gender differences in occupational class gradient in SMI. Exceptional pattern in craft and related trade workers was observed for both genders. Although craft and related trade workers are considered a lower-middle class occupation, they represent the highest-class occupation among manual (or blue-collar) workers, which may play a preventive role against SMI among men. For women, some unexamined factors, such as work-family conflict, may have influenced the present finding. In the future, a more detailed examination is needed, gender differences in occupational class gradient in SMI, and occupational class gradient in SMI among different employees.

KEYWORDS: cross-sectional studies, demand-control-support model, effort-reward imbalance model, serious mental illness, socioeconomic status
Population based a-ten year health promotion program called Health Japan 21(2nd) started in 2013. Diminishing the health inequalities is one of the main goals of this program. Occupational class, social class and work environments have been found as determinants of health for workers. Several studies have evaluated the effects of occupational class on cardiovascular risk factors in Japan. A comparative study between Japan and England, which consisted of employees of large scale companies and civil servants, showed that smoking and heavy drinking were more prevalent among the lower occupational social classes than the higher occupational social classes in both populations. However, for biological cardiovascular risk factors such as obesity, inequalities have not been found or rather appeared in an opposite pattern. However, generalization of these results from the study of the employees of large-scale companies or civil servants should be careful, since ninety percent of the workers in Japan are employed in small- or medium-sized enterprises. In general, work environment are worse in smaller enterprises compare to those in lager organizations. Therefore, tendencies of occupational class inequalities in smaller-scale enterprises might be more apparent than those in large-scale enterprises. Scale of enterprises must be another determinant of health inequalities.

We compared the prevalence of behavioral and biological risk factors for cardiovascular disease by a cross sectional study using 12,625 employees in medium- and small-scale enterprises in Ishikawa prefecture in Japan. We found occupational class inequalities in behavioral risks among men. Regarding biological factors, we found occupational inequalities in blood pressure among men. Transportation workers and laborers showed higher rates of smoking, heavy drinking and blood pressure. Among women, we found occupational class inequalities in smoking and blood pressure. However, the influences of occupational class on obesity and indices of lipid and glucose metabolism were inconsistent. Moreover, this study revealed that scale of enterprises is also a determinant of inequalities in behavioral risks.

Although health inequalities in different occupational classes and different scale of enterprises were present in medium- and small-scale enterprises, it was also shown that the level of occupational health affected the health behaviors of their employees. Attitude toward smoking in workplace might prove the position of occupational health of the enterprises. The employees in an enterprise having control policy for smoking in workplace tend to smoke less and drink appropriately independently with occupational class and scale of enterprises.

Smoking, hypertension and excessive drinking attributed to major part of mortality from non-communicable diseases and injury in Japan. Intervention to smaller scale enterprises or disadvantaged occupational class would be effective to diminish the health inequalities.

References


KEYWORDS: occupational class, cardiovascular disease, risk factor, health behavior, small-scale enterprises
INTRODUCTION: Adequate sleep is vital in maintaining and promoting health. Low socioeconomic status (SES) is shown to be associated with health disadvantage, and sleep may play an important role in this link. The majority of the previous work depends on self-reported data of sleep, not objectively measured sleep, raising concerns that the findings reported are influenced by several sources of bias. Occupational conditions, together with SES, can also modulate sleep in a working population, yet the evidence available is limited. The present study conducted to examine the association between differences in occupational conditions and objective parameters of sleep in a sample of Japanese workers.

Methods: Among 9,867 participants in the first wave of the Japanese study of Health, Occupation and Psychosocial factors related Equity (J-HOPE), a sub-sample of 55 employees (40±12 years, 16 men/39 women) were asked to wear a wristwatch-type accelerometer on the wrist of the non-dominant arm to record body movement every one minute during sleep for seven consecutive nights. They were also instructed to complete a sleep log. We derived objective sleep variables from the actigraphic data using a standard scoring algorithm and the sleep log, such as total sleep time (TST), sleep efficiency (SE=TST/Time in Bed×100%), mean activity during sleep (MACT), sleep onset latency (SOL), and wake after sleep onset (WASO). The seven-night average of each variable was subject to the analysis. The questionnaire data collected simultaneously provided a broad range of indicators of SES and occupational conditions: household income (divided by the square root of household size), occupational class (managers, professionals, technicians/other), work schedule (day/shift), weekly work hours, job demand, job control, worksite social support, effort-reward imbalance, organizational justice, and workplace social capital (WSC). Multiple linear regression models were used to determine the association of SES and occupational indicators with each of the sleep variables, adjusted for age and gender.

Results: High WSC was associated consistently with longer TST (β=0.70, P<0.01), higher SE (β=0.57, P<0.05), and lower MACT (β=-0.47, P<0.07). Low occupational class (β=-0.46, P<0.01), high job demand (β=0.43, P<0.05), and low job control (β=-0.40, P<0.05) were significantly associated with longer TST. No significant associations were found for SOL or WASO.

Conclusion: This study reveals a novel finding on the key role of WSC in workers’ sleep, suggesting that a greater level of WSC is associated with better quality and quantity of sleep as assessed by wrist actigraphy. Our current data, though small sample size, show that WSC can be focused on when pursuing strategies to improve sleep and health at work.

KEYWORDS: Psychosocial work characteristics, Sleep disturbance, Health disparities
Symposium 3

Gender and Health

Chair: Akiko Oishi
Chiba University Faculty of Law and Economics

3–1 Health Inequalities and Gender in Japan  Kaori Honjo


3–3 Maternal Employment and Child Health in Japan  Xinxin Ma
Health inequalities and gender in Japan

Kaori Honjo
Osaka University Global Collaboration Center

The challenges surrounding socioeconomic and health disparities have received growing attention over the past few decades. While individual-level socioeconomic differences have been shown to influence rates of morbidity and mortality, and modify exposure to a range of known risk factors, results from Japanese studies may not always be consistent with those from Europe or the United States. The current evidence suggests that gender may play a uniquely powerful role in mediating social and health inequalities in Japan.

Gender is itself a major determinant of health and influences health in a variety of ways, whether directly or in concert with other factors. In this presentation, I propose to explore the possible explanations for the differences in the effect of socioeconomic status on health outcomes in men and women observed in Japanese studies, which in turn may bring about different patterns of health inequality. First, I will consider how gender interacts with other social determinants of health to shape outcomes. While these gender differences in health may result from biological and behavioral differences between men and women, it is crucial to consider differences in social environment. It is well-known that Japanese society continues to be strongly influenced by traditional gender norms, which have a significant impact on work and family life and could play a role in reinforcing these observed health differences between men and women.

Gender bias in measurement of socioeconomic status could be another possible explanation. Measuring women’s socioeconomic status remains one of the major challenges in social epidemiology. The majority of epidemiological studies have traditionally used individuals’ level of education, occupational grade, and income as measures of socioeconomic status. However, classifying women’s socioeconomic status using these individual level measures may cause the extent of health inequalities to be underestimated.

KEYWORDS: Gender, socioeconomic status (SES), disparities, Japan
Impacts of Household Economic Resources on Female Psychological Health Status - Some Evidence from “Japanese Panel Survey of Consumers”

Haruko Noguchi
School of Political Science and Economics, Waseda University

The object of this study is to evaluate effects of socioeconomic status on psychological health in Japanese females in 20s-40s, using “Japanese Panel Survey of Consumers” conducted by the Institute for Research on Household Economics. The dynamic panel data estimation shows that (1) family assets have no impacts on female psychological health status; (2) household annual income has a significant positive effect on female health, however the size of effect is very negligible; (3) non-economic events and status such as retirement, birth, living with spouse's parents, and spouse's educational attainment have more significant impacts on female psychological health condition than do family assets or income.

KEYWORDS: Gender, health, Japan
Maternal Employment and Child Health in Japan

Xinxin Ma
Graduate School of Pharmaceutical Science, Kyoto University

It is well known that, compared with other developed countries, the labor participation rate of married women in Japan is low. With the decrease of labor force due to an aging population, promoting maternal employment has become an important issue for the Japanese government. Although the maternal employment environment has improved since the 1980s, the concept that “women stay at home, men work” remains deep rooted in society. In addition, Japanese firms’ work conditions such as long work hours and job rotation are unfavorable for female regular employees. Many people believe that working mothers spend relatively less time on housework and childcare than nonworking mothers. There may exist a dilemma in encouraging women’s employment and child health status. This study investigates whether maternal employment negatively affects child health.

Using survey data (“Survey on Employment and Lifestyle of Households with Children”) produced by the Japanese Institute of Labor Policy and Training (JILPT) in 2011, this study empirically assesses the effect of maternal employment on the health of children under the age of 18. It also assesses the difference of such effects between single and married mothers. Two indexes, child’s subjective health status and school refusal behavior, are the dependent variables. To indicate maternal employment status, five indexes are used: work/nonwork decision; employment status (regular, temporary, self-employed, and nonworker); lagged effect of employment (employment status in the past two and three years); regularity of working hours; and the difference between ideal and actual employment patterns. The empirical analysis uses an ordered logistic regression model and a probit regression model. To corresponding to the endogeneity problem between child health and maternal employment status, we use two-stage estimation methods.

The main findings are as follows. First, regarding the child health status, the probability of children being in good health is higher in case of working mothers than nonworking mothers. Single mothers’ work/nonwork decision more strongly affects the child health than married mothers’. For both single and married mothers, compared with temporary workers’ children, regular workers’ children have a higher probability of good health. In case of married mothers, children of those who continue to work in the same firm have a higher probability of good health than those whose mothers return to work after retirement. However, in case of single mothers, these employment career types exhibit no statistical difference. Second, regarding children’s school refusal behavior, children of working mothers have a lower probability of refusal than those of nonworking mothers. In addition, compared with married mothers, single mothers’ work/nonwork decision has a greater effect on the children’s school refusal behavior. For both single and married mothers, compared with nonworking mothers, the probability of children’s school refusal behavior is lower for regular working mothers. In addition, in case of single mothers, compared with nonworking mothers, the probability of children’s school refusal behavior is lower for temporary working mothers. In case of married mothers, compared with mothers continuing to work in the same firm, the probability of children’s school refusal behavior is lower for the employment interruption mothers. However, for single mothers, these employment career types exhibit no statistical difference.

KEYWORDS: Maternal Employment, Child Health, Child’s subjective health status, Single and married mothers
Symposium 4

Why does social capital have an impact on health?

Chair: Hidehiro Sugisawa
Graduate School of Gerontology, J.F. Oberlin University,
Tokyo Metropolitan Institute of Gerontology


4–2 The relationship between Social Capital and Health at Japanese neighborhoods level Yoshikazu Fujisawa

4–3 Review of empirical studies about mechanisms of the effects of social capital on health Hidehiro Sugisawa

A number of studies conducted both in Japan and elsewhere suggests positive relationships between social capital and health. Social capital has been measured both at community and at individual levels. However, the mechanism of this effect remains unclear and thus one of the objectives of this symposium is to clarify how these mechanisms function.

We invite three distinguished researchers as speakers to the event. Dr. Carpiano will examine a validity of a trust indicator at the individual level in order to constructively assess the meaning of trust in public health. Dr. Fugisawa will present about a new indicator of geodemographics to figure out social capital as a networking element at the community level. Dr. Sugisawa will provide a brief review about the studies, which explore the mechanisms of the effects of social capital on health.
Personal Trust in Health Research on Social Capital: What Aspects of Personal Network Social Capital Does It Measure?

Richard M. Carpiano and Lisa M. Fitterer
University of British Columbia

Since gaining popularity in health research over a decade ago, the application of social capital theory to studying health has resulted in the emergence of two theoretical perspectives. The social cohesion perspective conceptualizes social capital as the presence of trust, norms of reciprocity, and sanctions available to members of a group for influencing health. By contrast, the network perspective emphasizes the health implications of actual or potential material, informational, and psychosocial resources possessed by a person’s network ties.

Reflecting these conceptual distinctions, some health scholars studying personal (individual-level) social capital have aimed to be comprehensive in health surveys and, in doing so, included measures often classified into two categories. Cognitive social capital refers to one’s subjective values and perceptions regarding personal social relationships, and is often assessed using attitudinal measures, such as perceived trust of others. Structural social capital refers to the amount and types of one’s social connections, and is assessed using measures of a person’s social ties and group/organization participation. Even when studies are not explicitly aiming to assess cognitive social capital, however, personal trust measures—that is, generalized trust of others and particularized trust of specific persons, such as neighbors—are the most commonly-utilized measures of social capital in health research, with many studies reporting associations with various health outcomes.

But is personal trust really personal social capital? This question, though rarely discussed in health research, has important implications for understanding how social relationships matter for personal health.

The present study explores this conceptual and methodological question by evaluating the construct validity of two perceived trust measures used commonly in health research on social capital: generalized trust and trust of neighbors. Analyzing national data from the 2008 Canadian General Social Survey, we examine the extent to which these two trust measures are associated with (a) measures of several domains of actual personal social capital (specifically, general network-, group membership-, family-, friend-, and neighborhood-based social capital) and (b) self-rated general and mental health (once the social capital measures are included in the same models). We discuss our findings in terms of their implications for informing the design of rigorous, theoretically-grounded research on social capital and health with an eye towards advancing our knowledge about how socioeconomic conditions impact health.

KEYWORDS: Social capital, trust, networks, theory, measurement
The relationship between Social Capital and Health at Japanese neighborhoods level.

Yoshikazu Fujisawa  
Division of Public Policy, Graduate School of Management, Information and Innovation. University of Shizuoka

THERE HAVE BEEN many definitions and measures about the concept of social capital even in research areas related to health. However, the most influential definition and indicators in health areas have been from lines of Putnam-Kawachi’s studies. Many researchers and critics have criticized this type of definitions and indicators, but it might be impossible for everyone to be able to accept definitions and indicators. Moreover, these activities, that is to compete for legitimacy of definitions and indicators of social capital might not be productive. What we need has been to show our own concept of social capital including definitions and indicators clearly. If we could define social capital as “a specific network”, we would capture its specific characteristics subjectively through TURST and RECIPROCITY as indicators and through PARTICIPATION to a variety of activities practically.

There has been so many ways to figure out social capital as the network at neighborhood level. Among them we have tried to take it in with geodemographics which is a kind of area typology system. The basic concept of geodemographics was that the analysis of socio-economic and behavioral data about people, to investigate the geographical patterns that structure and are structured by the forms and functions of settlements. And its assumption was that places with the same characteristics and behaviors attract people of the same type and that these characteristics, in the turn, reinforce neighborhood characteristics.

The advantage of geodemographics adapting to social capital research, especially its neighborhood level research has been to develop some type of pattern of social capital in a specific area typology into the same type of typology. We used this geodemographic as a segmentation system in our research sampling frame. The segmentation system classifies households in Japan by allocating them to one of 212 segment types at the small-area unit level (a cho-cho or aza unit level). In our study, we defined a cho-cho or aza unit as a neighborhood; and each neighborhood was randomly selected from each segment types. The research projects eventually targeted 81,974 households on the basis of the National Census, and a postal questionnaire was sent out to all the heads of households and their spouses (a total of 120,846 individuals). A total of 8221 subjects (3937 males (47.9%), 4148 females (50.5%), and 136 subjects (1.7%) did not answer the gender question) were responded.

This segmentation system has been used in several health-related researches and in recent years has been adapted even for social capital research. One reason for utilizing this system was that it captures well-defined units in a small area. Although there have been many studies on social capital and health, their evidence was dependent on the targeted areas. This study therefore focuses on social capital in geographically defined neighborhoods.

As consequences of adapting geodemographics to social capital research, it would not only lead a way to find mechanisms of effect of social capital on health, but also to adapt to several types of policy evaluation controlling for variables attached to small area including social capital.

KEYWORDS: Social Capital, Health, Geodemographics Area typology, Policy Evaluation
Recentlly, there have been many empirical studies which focused social capital at both individual and community levels as one of social determinants of health. At the both level, the impact of social capital has been measured from several dimensions. Typically, “cognitive or structural” and “bonding or bridging” are the dimensions often referred to for these purposes. One of the foci of epidemiological studies regarding social capital is to specify which dimensions of social capital have the most influential impact on health. However, these dimensions of social capital have been developed mainly through the researches of social sciences rather than in those in public health. They were some examinations of an association between several dimensions of social capital and health, but they were only descriptive and lacked clear hypothesis. Therefore, they did not give a clear theoretical explanation about why one dimension of social capital has a strong impact on health. So far, there have been few studies on this subject.

The aim of the present study is to provide a brief review about the studies, which explore the mechanisms of the effects of social capital on health. According to my review, there are two approaches to analyze the mechanisms. One approach is to clarify the definition of social capital and measure its effects. Researchers who pursue this approach see the mechanisms from the viewpoint of effects of social capital on health. In the public health field, Putnam’s definition of social capital is being widely used. However, this definition may not be fully adequate for two reasons: firstly, this is a definition developed by a scholar of political science, not a specialist of public health. Secondly, the definition refers to elements that have little relevance to public health, such as trust, reciprocity and social networks. From sociological point of view, some researchers provide definitions of resource-based social capital and their measurements. Such approach also gives attentions to the elements like trust, reciprocity, and social networks. In addition, using specific resources of social capital, which would be relevant for meeting people’s specific need, some studies examine whether the social capital indicator could really meet people’s specific needs. Other approach is to examine factors which link social capital and health. It sets out four mechanisms that link social capital and health; making information available to community members, impacting social norms, enhancing the health care services and their accessibility in the community, and offering psychosocial support networks. There are, however, few empirical studies have examined the mechanisms. For example, several studies have found that health behavior mediate effects of social capital on health.

More detail will provide in the symposium of the day.

KEYWORDS: Mechanism, measurements, social capital, health
Symposium 5

Current use and potentials of biomarker measurement to address social gradients of health

Chair: Hideki Hashimoto
the University of Tokyo School of Public Health

5–1 Social gradients of health as seen from the National Health and Nutrition Survey, Japan  Nobuo Nishi

5–2 Socioeconomic status and biomarkers for the JPHC study  Hiroyasu Iso

5–3 Work engagement, social support at work and the high-sensitivity C-reactive protein levels among Japanese employees: A prospective cohort study  Hisashi Eguchi

This session focuses on the measurement of biomarkers in population-based social/epidemiological survey, and its potential to reveal the biological mechanism of social gradients of health. Social epidemiological and/or psychosocial studies have already adopted several biomarkers to pin-point how social stress gets to under-the-skin; e.g. fibrinogen and blood viscosity, chronic over-activation of hypothalamic-pituitary-adrenocortical system, disregulated activation of autonomous nervous systems, lowered functions of natural killer cells, etc. More recent experimental lab research further indicates genetic polymorphisms/alleles regulating intracellular signal transition, epigenomics, and inflammatory cascade as a common basis for organ failures, atherosclerosis, insulin insensitivities, and other pathological processes of non-communicative diseases. The advancement of cellular/molecular level understanding of patho-physiology will open a promising window to reveal a biological basis of bio-psycho-social interaction of health, of which expectation accelerates the recent adoption of biomarker measurement in field setting with collection of socio-demographic, economic, and psychological measures. Widening potentials of biomarker measurement in field setting, however, faces technical and ethical problems to be conducted because of confidentiality and safety concerns. Japan further took far behind in this area due to less availability of research nurses and phlebotomists, and collection of biomarkers remains largely limited to health check-up and clinical settings. In this session, we invited several research teams that innovatively conduct biomarker measurement in field settings in this country, to share experiences, potentials, and challenges. Dr. Nishi in the National Institute of Health and Nutrition will present biomarker measurement in the National Health and Nutrition Survey, in which socio-economic conditions began to be measured since 2010. Dr. Ikeda in the National Cancer Center will share her experiences with Japanese large cohort studies such as the Japanese Public Health Center-based Prospective (JPHC) Study. Dr. Eguchi at KYOCERA corp. and Prof. Tsutsumi at Kitazato Medical School will report his recent achievement with Japanese study of Health and Occupational Environment (J-HOPE), a work-place based panel survey and biomarker measurement. Finally Prof. Hashimoto will present Japanese study of Stratification, Health, Income, and Neighborhood (J-SHINE), a population-based panel survey and biomarker measurement using self-administered phlebotomy kit. The session will be followed by discussion with the floor.

KEYWORDS: biomarker, social gradients of health, community setting, biological pathway
The National Health and Nutrition Survey is conducted every November by local governments under the auspices of the Ministry of Health, Labour and Welfare (MHLW). The survey consists of three parts: 1) physical examination including blood test, 2) dietary intake survey, and 3) lifestyle questionnaire. Subjects are approximately 15,000 members of about 5,700 households within 300 districts all over Japan. Survey districts are selected by stratified random sampling, based on districts selected for the Comprehensive Survey of Living Conditions. Using this sampling method, Fukuda, et al. (2013) combined data from the two surveys, 2003-2007, and analyzed sex-specific associations of household expenditure quartiles with cardiovascular risk factors including obesity, hypertension, dyslipidemia, and diabetes among 2,624 men and 3,662 women aged 40 to 64 years. They found that lower household expenditure was significantly associated with obesity, hypertension, diabetes, and presence of multiple risk factors in women, but no statistically significant associations between household expenditure and cardiovascular risk factors were observed for men. In 2010 and 2011, the survey adopted a question on household income in three categories (low, <2 million yen; middle, 2-6 million yen; and high, ≥6 million yen). The MHLW has published reports for the data in 2010 and 2011 on associations between household income and lifestyle behaviors. Numbers of the subjects (aged≥20) and the households in each household income category in 2011 were 404 men and 621 women in 716 households in the low category, 1,585 men and 1,789 women in 1,652 households in the middle category, and 719 men and 793 women in 653 households in the high category, respectively. Lifestyle data of the subjects with low and middle household income were compared with those of the subjects with high household income in adjusting for age and number of household members. Major findings were that the proportions of obese subjects (BMI≥25) were higher among those with lower household income only for women, and the proportions of the subjects without exercise habit and with current smoking habit were higher among those with lower household income both for men and women. Also, average intake of vegetables was lower among those with lower household income both for men and women. Although biomarkers by state-of-the-art blood tests are not available in the National Health and Nutrition Survey, the survey data from the representative Japanese population are important to address social gradients of health in Japan.

**KEYWORDS:** household income
Socioeconomic status and biomarkers for the JPHC study

Hiroyasu Iso
Department of Social and Environmental Medicine, Graduate School of Medicine, Osaka University

Poor physical health and psychological functioning often cluster in lower socioeconomic status (SES) groups. Numerous studies have suggested that SES-related health disparities aggregate and accumulate throughout life to influence well-being and disease risk. It has been postulated that growing up in lower SES environments may lead to impaired development of stress regulatory systems and also negatively bias the processing of psychological information both during childhood and in later adult life. This may in turn result in stress-related neuroendocrine activation leading to aggravated cytokine production, inflammation as well as endothelial dysfunction. Previous findings from VA Normative Aging Study (USA) have demonstrated the possible biological mechanisms linking SES and biomarkers of cardiovascular disease.

A few reports from the JPHC study have suggested that low SES was associated with increased risks of the onset and progression of cancer as well as cardiovascular disease in the Japanese population. However, much less has been documented about the possible biological pathways underlying these associations. Briefly, the JPHC study was initiated in 1990 (Cohort I) and in 1993 (Cohort-II) in 11 public health center areas throughout the country. The study population of the present study was defined as all residents (n=116,896) aged 40-59 years for Cohort I and 40-69 years for Cohort II at baseline. The baseline questionnaire covered personal and family medical history; psychosocial factors, such as perceived mental stress; household structure; educational background, occupation; behavioral patterns; and lifestyle factors, such as smoking and alcohol consumption, dietary habits, and physical activity. During the same year as the baseline survey, 49,011 study subjects (42%) donated 10 ml samples of venous blood which were divided into plasma and buffy layers and stored at -80 °C (until analysis). The blood samples have been used in various nested case-control studies in order to identify potential biomarkers of specific diseases (for example, stomach cancer, colorectal cancer, breast cancer, prostate cancer, pancreatic cancer, diabetes, and cardiovascular disease). In addition, the JPHC study has started to conduct studies to identify candidate single-nucleotide polymorphisms (SNPs), genome-wide association, and DNA methylation. Because the JPHC study provides detailed socio-demographic information as well as biological samples for a large study population, it is particularly well-suited to the identification of possible biological mechanisms underlying the association between SES and cancer or cardiovascular disease in the Japanese population.
Work engagement, social support at work and the high-sensitivity C-reactive protein levels among Japanese employees: A prospective cohort study

Hisashi Eguchi¹, Norito Kawakami², Akiomi Inoue³, Akihito Shimazu³, Akizumi Tsutsumi¹

1 Department of Public Health, Kitasato University School of Medicine, Japan
2 Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Japan
3 Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan

BACKGROUND: A role of inflammation has become well established in theories describing the atherosclerotic disease process. C-reactive protein (CRP) is an acute-phase protein that is part of the systemic response to inflammation. Previous studies show a dose-response relationship between the level of high-sensitivity CRP (hs-CRP) and risk of incident coronary disease. Specifically, the relationship between CRP and various psychological factors has been studied vigorously. In the past decade, research on mental health among employees has shifted its focus from psychological negative factors to psychological positive factors at work. The purpose of the present study was to investigate the prospective association between social support at work and work engagement, which is defined as “positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption, and the hs-CRP levels in a cohort of Japanese employees.

Methods: The participants included 2,263 males and 862 females 65 years of age and younger working at two manufacturing worksites in Japan. Social support at work and work engagement measured at baseline (between April and June 2011) and at a one-year follow-up (between April and June 2012) were assessed using the Job Content Questionnaire (JCQ) and the nine-item Utrecht Work Engagement Scale (UWES-9). The score for each work index was classified using tertiles into high, middle, and low levels. Blood samples were also obtained from the participants in order to measure the hs-CRP levels at baseline and follow-up. The participants were dichotomized into those with a high hs-CRP level (an hs-CRP level of 3.0 mg/L or higher), using a recommended cutoff point. The covariates included gender, age, education, occupation, family situation, working hour, smoking status, alcohol consumption, frequency of exercise and body mass index (BMI). Multiple logistic regression analyses were conducted to see the association between positive psychosocial factors at work and the hs-CRP levels.

Results: After adjusting for covariates, including the hs-CRP level at baseline, higher supervisor support was found to be significantly and negatively associated with the hs-CRP level at follow-up (p for trend=0.038). Compared to the low level of work engagement, the employees with middle level of work engagement at baseline had the lowest and significant odds ratio of having high hs-CRP at follow-up (0.48, 95%CI, 0.27-0.87), while the high level of work engagement at baseline had reduced but non-significant odds ratio of having high hs-CRP (0.72, 95%CI, 0.43-1.21).

Discussion and conclusions: Although the insignificant association between high work engagement and low hs-CRP might be explained by the potential dark side of high work engagement (i.e., too much work involvement which wears away personal resources), our findings suggest that work engagement and social support at work may relate to decreased levels of hs-CRP. More effort is needed to explore the psychoimmunologic basis of psychological positive factors in the workplace.

KEYWORDS: Japan, Longitudinal studies, Hs-CRP, Supervisor support, Work engagement
Symposium 6

Social determinants of child health

Chair: Takeo Fujiwara
Department of Social Medicine, National Research Institute for Child Health and Development

6–1  Pathways Linking Socioeconomic Status and Childhood Obesity: Findings from Taiwan Birth Cohort Study  Tung-liang Chiang
6–2  Do social capital protect child mental health?: a case of Great East Japan Earthquake  Rie Mizuki
6–3  Association between parental social support and problem behavior of the offspring  Manami Ochi
6–4  Socioeconomic status and the risk of suspected autism spectrum disorders among 18-month-old toddlers in Japan: A population-based study  Takeo Fujiwara
Pathways Linking Socioeconomic Status and Childhood Obesity: Findings from Taiwan Birth Cohort Study

Tung-liang Chiang, Yi-fan Li

Institute of Health Policy and Management, College of Public Health, National Taiwan University

Background

The prevalence of obesity at age 36 months by World Health Organization standard (BMI > +3SD) was 4.3% and 2.3% in boys and girls, respectively, in Taiwan in 2008. As adulthood obesity can be tracked back to early life, tackling childhood obesity should be placed at the top of global health agenda. The literature clearly indicates that childhood obesity is strongly associated with low family socioeconomic status in developed countries, but its mechanisms remain to be investigated. This study aims to examine three pathways linking family socioeconomic status and childhood obesity: biological susceptibility, food intakes, and sedentary lifestyle.

Methods

Data for analysis came from the Taiwan Birth Cohort Survey (TBCS), the first large scale longitudinal children’s study in Taiwan. By using two-stage stratified random sampling, a nationally representative cohort of 24,200 children born in 2005 was initially drawn from the National Birth Report Database, with a sampling rate approximating 12%. Before the study cohort approached school age, four waves of interview surveys were scheduled at 6 months, 18 months, 36 months and 5.5 years of age, respectively. Each survey was conducted by face-to-face interview with the mother or primary caregiver given their informed consent, to follow up each child’s growth, development and health conditions. The response rate was 88%, 83%, 83% and 81% for the four waves, respectively.

Operationally, we used father’s educational attainment to measure the socioeconomic status of children. On pathway variables, biological susceptibility was measured by using low birthweight and rapid weight gain in infancy; food intakes by using breastfeeding in infancy and fast foods eating behavior at age 5 as food intakes; and sedentary lifestyle by using physical activity and TV viewing behaviors at age 5.

We first estimated the prevalence of obesity at age 5.5 years by using TBCS reference with a cut-off of 95th percentile. We further used Mplus 7.0 to run latent growth curve modeling to estimate growth trajectory, including initial status (intercept) and velocity (slope), and elaborate the mediating effect of pathway variables on the relationship between family socioeconomic status and growth trajectory.

Results

The prevalence of obesity at age 66 months was 6.5% for boys and 6.1% for girls, respectively, in Taiwan. Among boys, the obesity rate decreased from 9.2% for those whose father received less than 10 years of education to 5.1% for those whose father received more than 12 years of education. Meanwhile among girls, the obesity rate decreased from 8.3% for those whose father received less than 10 years of education to 4.5% for those whose father received more than 12 years of education.

Results from latent growth curve modeling indicated that: (1) Father’s educational attainment was negatively associated with the incidence of low birthweight and early rapid weight gain, which were in turn significantly associated with the initial status and velocity of children’s BMI trajectory; and (2) Father’s educational attainment was also associated with food intakes and sedentary lifestyle. Children with highly educated father were more likely to be breastfed, eat less fast foods, do more physical activity, and watch less TV, leading to a slower velocity of BMI trajectory.

Conclusion

There clearly exists an inverse socioeconomic gradient in childhood obesity in Taiwan, and our findings support the proposition that the relationship between family socioeconomic status and childhood obesity could be mediated by biological susceptibility, food intakes, and sedentary lifestyle.

KEYWORDS: childhood obesity, socioeconomic status, biological susceptibility, food intakes, sedentary lifestyle, Taiwan Birth Cohort Study (TBCS)
Does social capital protect child mental health?: a case of Great East Japan Earthquake

Rie Mizuki¹,², Takeo Fujiwara¹, Junko Yagi², Hiroaki Homma³, Hirofumi Mashiko⁴, Keizo Nagao⁵, Makiko Okuyama⁶, Great East Japan Earthquake and Follow-up for Child mental health Study Group

¹ National Research Institute for Child Health and Development, Department of Social Medicine
² Iwate Medical University
³ Miyagi Prefectural Comprehensive Children’s Center
⁴ Fukushima Medical University
⁵ Nagao Mental Clinic
⁶ National Center for Child Health and Development, Department of Psychosocial Medicine

Objectives: Previous research indicated the impact of disaster on child’s mental health (Chemtob et al., 2008; Thienkrua et al., 2006). Among various protective factors, social capital is implicated to have association with mental health outcomes, particularly in its protective direction (Kawachi & Berkman, 2001). In this study we examine whether social capital help to protect deterioration of child’s mental health in the area affected by Great East Japan Earthquake.

Methods: Data from Great East Japan Earthquake and Follow-up for Child mental health (GEJE-FC) were used. Sample consisted of children aged 4-6 who had been living in Iwate, Miyagi, or Fukushima prefecture (exposed group, n=179) and in Mie prefecture (control group, n=70) on March 11, 2011. Outcome variables were Strength and Difficulty Questionnaire (SDQ) and Child mental health assessed with Child behavior Checklist (CBCL). Social capital was assessed with two dimensions: cognitive (i.e. trust and mutual aid) and structural (i.e. community participation) social capital via questionnaire.

Results: Social capital before the earthquake and child mental health was not associated in both exposed and control groups. However, high social trust after the earthquake showed significantly lower odds of CBCL externalizing behavior among exposed group. Similarly, high mutual aid after the earthquakes showed significantly lower odds of CBCL internalizing and externalizing behavior in exposed group. Community participation was not associated with any of mental health outcomes in exposed group. None of the interaction terms between exposed or control groups and social capital status resulted in significant.

Conclusion: High cognitive social capital had protective effect on internalizing and externalizing behaviors among children aged 4-6 at the time of earthquake, which was not true for structural social capital. Cognitive social capital might be effective to protect child mental health aftermath of disaster.

Keywords: Social capital, child mental health, disaster, trauma, child behavior
Association between parental social support and the problem behavior of the offspring

Manami Ochi\textsuperscript{1,2}, Takeo Fujiwara\textsuperscript{1,2}

1. Department of Social Medicine, National Research Institute for Child Health and Development
2. Department of Developmental Social Medicine, Mie University Graduate School of Medicine

**Background:** Social capital has been shown to have an impact on not only adult health, but also child health. However, the impact of parental social support, which is a key component of social capital at an individual level, on child health is not well investigated. We hypothesized that parental social support, including distinction of the two directions of social support, receiving and providing, is associated with mental health of the offspring, shown as problem behavior, such as difficult behavior or prosocial behavior.

**Methods:** We analyzed data of 982 households with 1538 children aged 4 to 16 years collected from a survey of the Japanese Study of Stratification, Health, Income, and Neighborhood (J-SHINE), which was conducted in 4 municipalities in the Greater Tokyo metropolitan area in Japan. Assessment of social support was based on both respondents’ and their spouse’s social support, including receiving or providing emotional or instrumental support with the spouse, other co-residing family members, non-co-residing family members or relatives, neighbors, and friends, using 5-Lickert scale. We summed up the score and divided into tertiles of high, middle, and low. Child’s behavior problem was assessed based on responses provided by parents on the Strengths and Difficulties Questionnaire (SDQ), and categorized into the normal, borderline, or clinical range for difficult and prosocial behavior. The associations between parental social support and behavior problems were assessed using ordered logistic regression analysis, adjusting for the clustering of the sibling’s correlation and covariates.

**Results:** We found that maternal social support significantly inversely associated with having offspring with more clinical range of difficult and prosocial behavior, while the same associations were not found for paternal social support. Further, we found that maternal providing social support showed independent positive association with offspring’s prosocial behavior, even adjusted for maternal receiving social support and paternal social support.

**Conclusion:** This study showed that maternal social support, but not paternal social support, may have protective effect on the offspring’s behavior problems. Specifically, maternal providing social support is associated with prosocial behavior of the offspring, suggesting the intergenerational continuity of prosocial behavior. Further study is needed to examine the mechanism of how maternal social support effects on the problem behaviors of the offspring.

**KEYWORDS:** Children, Difficult behavior, Prosocial behavior, Parental social support
Socioeconomic status and the risk of suspected autism spectrum disorders among 18-month-old toddlers in Japan: A population-based study

Takeo Fujiwara1,2
1. Department of Social Medicine, National Research Institute for Child Health and Development
2. Department of Developmental Social Medicine, Mie University Graduate School of Medicine

Background: The association between family socioeconomic status (SES) and the suspected autism spectrum disorder (ASD) status of 18-month-old toddlers was investigated using a population-based sample in Japan, which has a universal healthcare system and a mandatory health checkup system for toddlers.

Methods: Questionnaires including SES measurements and Modified Checklist for Autism in Toddlers were mailed to all families with 18-month-old toddlers in Chiba, a city near Tokyo (N = 6061; response rate: 64%).

Results: The results of logistic regression analysis (which were adjusted for potential confounders) indicated that low maternal education, but not paternal education or family income, were associated with having ASD offspring.

Conclusions: Lower maternal education was associated with an increased risk of ASD in Japan.

KEYWORDS: autism; autism spectrum disorders; epidemiology; health care system; socioeconomic status
Symposium 7

Poverty and Health

Chair: Takashi Oshio
Hitotsubashi University Institute of Economic Research

7–1 Socio-economic status and healthcare utilization: Evidence from the Japan Household Panel Survey. Kayoko Ishii

7–2 Income, Household Wealth and Child Health in Developing Countries. Mika Ueyama

7–3 The role of capability for work on subjective well-being: labor satisfaction, self-rated health and subjective poverty. Kunio Urakawa
Socio-economic status and healthcare utilization: Evidence from the Japan Household Panel Survey.

Kayoko Ishii

Project Assistant Professor, Graduate School of Business and Commerce, Keio University

As an outstanding feature of the medical system in Japan, we can point out that there exists the universal care system since 1961. Thanks to the system, people can receive medical service at a low cost when they need a doctor. This universal care system has contributed greatly to national health and social stability. In fact, Japan has achieved excellent performance regarding health-related indicators such as healthy life expectancy, infant mortality rate and stroke death rate.

However, entering the 2000s, several problems in the medical insurance system have become more perceptible despite those past high evaluations. Together with rising income inequality and poverty under the economic recession, the public health insurance premium rate is increasing among many associations and the sense of burden of the working generation has been increasing. Especially for National health insurance (NHI), the number of households who fail to pay the premium is increasing, swaying the pillar of the universal care system. Therefore, there is growing concern about the equity of healthcare utilization in Japan.

Based on the above problem consciousness, this study investigates the difference of healthcare utilization among income class from the standpoint of efficiency and fairness, by checking the frequencies of access to healthcare of each income class. We used large-sized micro-data, named the Japan Household Panel Survey (JHPS), which has been carried out by Keio University since 2009. We conducted a panel data analysis in order to confirm whether there is the difference of the frequency of access to healthcare by each income class, even when controlling other important variables such as health conditions.

As a result, we confirmed that the low income persons whose income levels are below a relative poverty line are less likely to access healthcare service than high income ones even after controlling health related statuses. In addition, regarding younger generation, persons who participate in national health insurance system are less likely to use healthcare service than persons participating in employees’ health insurance. This trend consistently has been continuing since 2009, and the analysis tells us the existence of the disparity of access to healthcare by income class.

However, in the case that people has already accessed to healthcare services, there is no statistically significant difference about the frequency among income class. This might be because the decision making of whether they access to healthcare or not mainly depends on a patient himself, but on the other hand, how much he pays to healthcare services basically depends on providers.

As a conclusion, it can be thought that the government needs to mitigate the extension of the disparity of healthcare utilization through the several policy changes. For example, the revision of the part of fixed amount burden such as “Oeki-wari,” in National health insurance system which is heavily levied on low-income households is one of the functional policy instruments. In addition, it might be effective to decrease the differences in the burdens of medical expenses among municipalities against the extension of the health disparity.

KEYWORDS: SES, healthcare, poverty, JHPS
Using aggregated and disaggregated data, this study describes regional trends in the health conditions of children, especially child mortality and malnutrition, in the developing world. Mainly the following features are found. The health conditions in Sub-Saharan Africa, measured by basic macro (aggregated) indicators such as infant mortality and life expectancy, remain the worst in the world. Sub-Saharan Africa ranks as the last in health performance of children, such as mortality and morbidity. Progress towards the achievement of the health-related MDGs in Sub-Saharan Africa is very slow. The reduction rate of the mortality rate of children under five is slow, compared to a steady improvement in other regions. Other indicators, such as maternal mortality, immunization coverage, and access to safe water show similar trends. Maternal mortality rates in Sub-Saharan Africa are higher than anywhere else in the world, due to unsanitary living condition, malnutrition, substandard prenatal and postnatal care, and adolescent pregnancy. Moreover, health conditions in Sub-Saharan African countries are much lower than what their income level would suggest.

However, individual’s anthropometric indicators suggest completely different picture of the prevalence of malnutrition. Children in Sub-Saharan Africa are much healthier than children in South Asia, according to anthropometric outcomes such as weight-for-age and height-for-age. An important point is the fact that the prevalence of undernourished children in Sub-Saharan Africa is lower than that in South Asia, even though the economic conditions is bleak and various macro health indicators are the worst in the world.

Interestingly, in Sub-Saharan Africa, child health is much less likely to be associated with income growth, although health performance more or less correlates with the economic situation in general. There is a clear negative correlation between changes in malnutrition rates and GNI per capita growth for each country. However, such relationship does not hold consistently for countries in Sub-Saharan Africa. For instance, while the increase in GNI per capita leads to the reduction in the rates of malnutrition in Uganda, there are a number of countries such as Mali and Nigeria for which increase in GNI per capita does not translate to decrease in malnutrition rates.

The disparity in child health outcome between the rich and the poor varies greatly among different regions. The degree of changes in the prevalence of underweight children by the quintile groups in South Asia is much larger than that of other regions. In South Asia, approximately 25 percent of children are classified as severely underweight in the poorest quintile, whereas 7 percent are so classified in the richest quintile. In contrast, in Sub-Saharan Africa, difference in the prevalence of underweight children among quintiles is smaller. There is not a strong association between health status and household wealth in Sub-Saharan Africa. In other words, there are narrow differences in health performance (especially malnutrition among children) between the rich and the poor.

**KEYWORDS:** poverty, child health, malnutrition, developing countries
This paper investigates the role of capability for work on subjective well-being such as labor satisfaction, self-rated health and subjective poverty. The Capability Approach (CA), developed by Amartya Sen, pointed to a new model for a person's well-being based on the concepts of the functionings and capability. Capability represents to what extent a person has freedom to choose among different combinations of the beings and doings (the functionings) that he achieves (Lehmann and Bonvin 2011). The improvement of persons' capabilities is very essential to poverty reduction throughout the country and the health and education policy would be able to have great roles for the progress of capability (Sen 1980).

Interestingly, Suppa (2012) points out that the evaluation of people's “Capability for work” is significantly important for the consideration of a laborer's subjective well-being and public welfare. Capability for work is the concept representing the level of opportunity for conducting the valuable work and this level is mainly affected by socio-economic backgrounds in the early life (Robeyns 2000).

In recent years, the number of the analyses examining the role of subjective well-being has been increasing, and some researchers have begun to revalue the role of labor on well-being (Frey and Stutzer 2001 2002; Bruni and Porta 2005; Bernard et al. 2008; Graham 2011).

The works offering high level of labor satisfaction cause the positive impact on labors’ health statuses and their productivity. Therefore, the examination of factors affecting satisfaction level has become important in order to exactly evaluate company’s human resources management and government labor policies (Justina et al., 2009).

Based on the problem consciousness, this paper investigates the relationships between the level of labor's capability for work, his socio-economic statuses and his subjective well-being, using a large-sized micro-data (N=11,556).

In this paper, the author used the following answer results for the measurement of capability: (1) the level of discretion for work, (2) the level of opportunity where laborer exerts his strong point and (3) the level of variety of work, with consideration for the previous research (Okunishi 2008; Suppa 2012).

The main results based on the discrete choice models are as follows. First, from the econometric model where high capability dummy is applied as a dependent variable, the childhood socio-economic environment such as social class as of fifteen years old had a significant impact on the level of capability as well as the current SES. In addition, non-regular employees report lower level of capability in the both cases of male and female, and this tendency seems to have a negative impact on the opportunity of capacity building.

Second, according to the estimated results where labor satisfaction dummy is applied as a dependent variable, especially in the case of male, high level of academic background and parents' social class had a positive correlation with high level of labor satisfaction. However, adding to the capability dummy as an explaining variable, high social class dummy is not statistically significant. Therefore, socio-economic condition in childhood seems to indirectly affect labor satisfaction through the improvement of capability.

In some previous research, it is pointed out that the SESs of parents are highly correlated to SESs of children. Whether we can enrich policies for the improvement of labors’ capacities seems to become a key point for mitigating the inequality in opportunity. Sen's capability approach offers an important perspective for the evaluation of public policies.

KEYWORDS: capability, poverty, health, subjective well-being, labor satisfaction
Symposium 8

Employment status and health

Chair: Kazuo Katase
Tohoku Gakuin University

8–1 Non-regular employment and health outcomes: The case of Japan  Hiroshi Kanbayashi
8–2 Who becomes a non-regular employee?: The influence of health problems during one’s occupational career on current socio-economic status in Japan.  Hiroshi Kanbayashi
8–3 Work conditions and oral health: J-SHINE (Japanese study of Stratification, Health, Income, and Neighborhood) study  Toru Tsuboya
Non-regular employment and health outcomes: The case of Japan

Hiroshi Kanbayashi
Tohoku Gakuin University

1. Aim
Studies on the relationship between non-regular employment (such as temporary or precarious employment) and health have been increasing since the 2000s. In general, non-regular employees are disadvantaged in the modern labor market, with low wages, employment instability, and poor social welfare service, for example. Most of the studies have reported that non-regular employment has a negative effect on health outcomes. However, in the case of Japan, the literature on this problem is insufficient.

The purpose of this study is to investigate the relationship between non-regular employment and health outcomes in Japan. To examine the impact of non-regular employment, we must consider the social and historical context of non-regular employment in Japan. The number of non-regular employees in Japan has been increasing since the 1970s, when most non-regular employees were married women who worked to financially assist their household under the male-breadwinner model. However, the number of male non-regular workers has been rising since the latter half of the 1990s. In the case of men, the disadvantages of being a non-regular employee cause a strong conflict between the male-breadwinner model and their socioeconomic status. Therefore, we can expect that the impact of non-regular employment on health outcomes is more serious for men than for women.

2. Data
The “Japanese Study of Stratification, Health, Income, and Neighborhood” (J-SHINE) survey data and the “Work and Health of Young Citizens” survey data are used. The former is a computer-assisted personal interview (CAPI) survey that was administered in Tokyo and four suburban cities in 2010 (N=4381, age range of 25 to 50 years). The second questionnaire is a mail survey of young workers (N=2694, age range of 25 to 39 years) in two local cities (Fukuoka and Sendai) in 2012.

3. Findings and Discussion
The results of preliminary analyses show that non-regular employment has a significant negative effect on health outcomes (such as self-rated health, depression, and QOL) after controlling for demographic variables, socioeconomic status, and working conditions. In addition, the interaction term of men and non-regular employment has negative effects on several health outcomes. However, the impact of non-regular employment on health is not strong and is not consistent between the two datasets. Further investigation of the causal mechanisms between non-regular employment and health outcomes are required.

KEYWORDS: non-regular employment, health, gender
Who becomes a non-regular employee?:
The influence of health problems during one’s occupational career
on current socio-economic status in Japan.

Hiroshi Kanbayashi
Tohoku Gakuin University

1. Aim
Prior studies of the relationship between social stratification and health have mainly investigated the influence of socio-economic status on health outcomes. However, the relationship between SES and health is reciprocal; health also influences socio-economic status. Yet, there are fewer studies of the impact of health on SES than of the effects of SES on health (especially, in the case of Japan). Illustrating how health problems affect socio-economic status is critical to understanding inequality in Japanese society. In this study, the impact of previous health problems on current socio-economic status in Japan is investigated.

2. Data
The Japanese Study of Stratification, Health, Income, and Neighborhood (J-SHINE) survey data are used. These data were collected using a computer-assisted personal interview (CAPI) in Tokyo and four suburban cities in 2010 (N=4381, aged 25 to 50 years). In the questionnaire of the J-SHINE survey, the reason a worker left their first job is measured by multiple-choice items and a health-related reason (“due to health problems (illness, injury, etc.)”) is included. Selecting a health-related reason indicates that the respondent experienced a serious health problem during their occupational career, and enables the examination of the influence of a respondent’s past health status on their current socioeconomic status.

Three aspects of socio-economic status attainment (current employment status, current wage, and intra-generational occupational mobility) are examined in this study. Moreover, the determinants of turnover due to health reasons are also investigated.

3. Findings and Discussion
Preliminary analyses yield two findings. First, turnover due to health problems increases the probability of being a non-regular employee and has negative effects on both upward occupational mobility and current wage after controlling for covariates. Second, several familial background variables (standard of living at 15 years old and experience of neglect from parents) affect turnover due to health problems (in the case of women).

These findings suggest that health contributes to socio-economic inequality in contemporary Japan; social support for workers who have serious health problems is required to reduce their disadvantage.

KEYWORDS: reasons for turnover, non-regular employment, health
Work conditions oral health: J-SHINE (Japanese study of Stratification, Health, Income, and Neighborhood) study

Toru Tsuboya, Jun Aida, Ken Osaka
Department of International and Community Oral Health, Tohoku University Graduate School of Dentistry

Background: A lot of studies have revealed that there is a clear social gradient of health status. Not only chronic medical illness, such as hypertension, diabetes, and obesity, but also oral health has been reported to be associated social status. However, little is known about the relationship between job status and oral health in Japan.

Objective: To reveal the association between work conditions and oral health in Japan.

Design: Cross-sectional study

Methods: Using data form J-SHINE, which was conducted from Oct 2010 to Feb 2011 in four cities around the Tokyo metropolitan area, we examined associations between job categories and self-rated oral health (SROH) among 3,436 men and women aged 25 to 50 years. Job categories were divided to nine categories based on both whether participants are specialist/white/blue/self-employed, and whether their companies have more than 1,000 employees or not (big firms / small-and-mid- firms). SROH was assessed as follows: “Overall, how would you rate the health of your teeth and gums - excellent, good, fair, not so good or poor?”, and the responses were divided into two groups (excellent, good, and fair / so good and poor). Poisson regression was used to estimate the associations. Potential confounders, such as sex, age, smoking status, working hours, job stress and educational attainment, were adjusted in the multivariate model.

Results: Percentage of having poor SROH varied from 33.26% in blue collar workers at small-and-mid- firms (Bsm) to 21.47% at white collar workers at big firms (Wb). Men, older age, current smoking, working more than 60 hours, high job stress and low educational attainment were significantly associated with poor SROH, while neither marital status nor income was associated with SROH in univariate model. Compared with Wb, Bsm had significant high prevalence rate ratio (PRR) of having poor SROH, 1.62 (95% Confidence Interval (C.I.) 1.31-2.01, p<0.01) in univariate model and 1.33 (1.07-1.66, p<0.01) in the multivariate model. Similarly, white collar workers at small-and-mid- firms (Wsm) also had significant high PRR of having poor SROH, 1.29 (1.07-1.54, p<0.01) in univariate model and 1.24 (1.03-1.48, p<0.01) in the multivariate model.

Conclusion: Our findings suggested that both blue and white employees at small-and-mid- firms had significantly poor SROH after adjusting for potential confounders in Japan. Improving oral health among workers at small-and mid- firms is important to reduce oral health inequalities.

Keywords: oral health, self-rated oral health (SROH), tooth loss, work conditions, health inequalities
This symposium is targeted at students and young researchers of social determinants of health (SDH), and will focus on education, training, and career path for them. Fascinating research domain is SDH, with its comprehensiveness to elucidate the multilevel mechanisms by which health is affected, potential development of highly effective interventions based on its findings, and the public’s growing interest in the stratification of the Japanese society, however, reflecting the fact that it is an emerging and multidisciplinary field in Japan, education and training for students have been proven to be especially challenging tasks. The four domestic and international speakers, from the viewpoints of both experienced and young researchers, will give the audience important insights and exchange with the floor to share their thoughts.

Dr Inada will begin with an introduction to the issue and the activities of the Japanese association for young researchers in SDH. The association was established in 2009 and it has attracted over 170 students and researchers throughout the country in the last four years. As a reflection of multidisciplinary nature of SDH research, the members’ diversified backgrounds include economics, medicine, public health, psychology, sociology, and other related disciplines. The association has succeeded in offering its members opportunities to attend seminars and workshops and nurture networks.

Dr Lee, as an experienced educator and researcher, will present education, early career path, and research of SDH in Australia. She will also mention the role of research and academics in forming policies based on her experience as national coordinator for the Australian Longitudinal Study on Women’s Health.

Dr Fujiwara will follow as one of the leading young researchers in life course epidemiology. He will overview his experience as a graduate student in Tokyo and Boston and a post-doctoral researcher in Vancouver, and share tips to decide research topics, start publishing papers, and advance your career.

Finally, Dr Sugiyama will report his experience in the current public health educational programs at two leading schools of public health in Japan and the United States: University of Tokyo and University of California, Los Angeles, with focus on education on social determinants of health. After the presentations, discussion among speakers will be followed by open discussion with the floor.

**KEYWORDS:** Education; Training; Career path
As in Japan, research in the social determinants of health in Australia is strongly multidisciplinary. Many researchers begin with undergraduate degrees in the health and allied professions – medicine, nursing, nutrition, physiotherapy, psychology – but realize that they are frustrated by treating individual patients with established diseases, when it is clear that social disadvantage and systemic inequalities have far greater effects on health. Others have statistical backgrounds, and are drawn to the work because of its capacity to make a difference to people’s lives. Pathways into this area are variable. Increasing numbers of graduates complete a 1.5- or 2-year Master of Public Health, which is available at most Australian universities. The University of Queensland program includes advanced training in multivariate statistics, epidemiology, social factors, health systems, and environmental health, together with the opportunity to specialize in an area of strong policy relevance: indigenous health; alcohol, tobacco and other drugs; health promotion; or nutrition. Alternatively (or, increasingly, in addition), graduates may complete a 4-year research-only PhD, involving working as part of a research team.

There are two main Australian societies: the Australian Epidemiological Association and the Public Health Association of Australia. The first has a strong emphasis on methods and statistical training; the second on policy-relevant research and outcomes. Both have annual conferences (sometimes together) and promote early-career and student participation through training workshops, mentoring and special events.

Social determinants are regarded as very important by the Australian Government Department of Health. Two large government-funded institutes – The Australian Institute of Health and Welfare, and the Australian Institute of Family Studies – employ researchers to examine social determinants of health and to evaluate the effects of government policy in this area. In addition, there are several large-scale government-funded projects with this focus, which are run by university academics. The Australian Longitudinal Study on Women’s Health (ALSWH) is one of the oldest, having been funded continuously since 1995 and to date having received around $30,000,000 Australian dollars (approx. 2.7 billion yen). I have been privileged to work on this project since it began, including 6 years as national coordinator. If the audience is interested, I can talk about the logistic and research issues involved in managing this multi-institution, multi-disciplinary project, and the opportunities that I have had to learn and to contribute. I am also happy to talk about building your international profile, through English-language publication and through attending conferences of international academic and professional societies.

KEYWORDS: Education; Training; Career path; Australia
To advance career in research field sounds simple, write and publish your work. But the reality is not so simple. It can be a challenge to realize or visualize what you want to investigate. Even if you can, it might be difficult to implement what you want to do. Further, there is no guarantee that your research will be published, regardless of time and cost you spend.

I have started public health research right after medical school education, although I didn’t realize what I really want to investigate. However, once I decided (not found, actually) my research topic, I could move ahead in some way. Further, studying Master of Public Health course at Harvard School of Public Health and post-doc experience at University of British Columbia helps literature access and development of advanced statistical skills, which is crucial to write paper. In addition, there were lots of available data, which is population-based, longitudinal, large data, and including questionnaire related to my research topic. Then, I have simply jumped into the data and enjoyed paper writing, get consultation with mentors, submitted them, learn from reviewers, and published them.

In this session, I would like to share my experience and how to write papers, which you may call as tips, hoping they would help to advance your career.

**KEYWORDS:** Career path; Training; Publication; Japan
I have studied health services research at UCLA for two years and I will resume my Ph.D. program at University of Tokyo. My research interest is chronic diseases management, especially in self-management of diabetes, obesity, and hyperlipidemia. I am also interested in ethical problems regarding chronic diseases management (e.g., patient’s responsibility).

Health services research aims for reducing evidence-practice gap by improving access to care, quality of care, and cost of care. Through my study experience at UCLA, I repeatedly found that significant fraction of the gap comes from low socioeconomic status (SES) although social determinants of health (SDH) was not the main focus of my research. I noticed that most publicly available data contain some kinds of SES variables, which allow researchers to investigate SDH analyzing publicly available data. I also found that many research funds are restricted to research on SDH because many foundations recognize that evidence for bridging the SDH gap is needed.

In this speech, I will report my experience as a graduate student at School of Public Health and a visiting researcher at School of Medicine at UCLA. I will report education and training in both programs in general, and specifically about SDH. I will also present my studies at UCLA and will explain how SDH was related to my studies.

KEYWORDS: studying abroad, education, training, and health services research
Symposium 10

Psychological basis of social inequality in health

Chair: Hideki Ohira
Department of Psychology, Nagoya University

10–1 Influences of socioeconomic status on functional brain-body association related to decision-making  Hideki Ohira

10–2 Japanese well-being and its change under globalization  Yukiko Uchida
Influences of socioeconomic status on functional brain-body association related to decision-making

Hideki Ohira
Department of Psychology, Nagoya University

Previous studies have clarified that socioeconomic status (SES) can be linked with alterations in structures and functions of the prefrontal cortex, anterior insula cortex, and striatum of the brain. Because these brain regions are typical neural bases of decision-making, we infer that SES can affect economic decision-making, especially in uncertain situations, though activities of the above brain sites. Indeed, characteristics of decision-making might mediate the linkage between SES and health/disease by determining individuals’ health-related behaviors. In addition, as decision-making leads to motor behaviors, appropriate coupling between activities of the brain and physiological systems should be critical for adaptation. If lower SES impairs such brain-body coupling, it might also be a mediator of association between SES and health.

Motivated by such hypotheses, we conducted a series of experimental studies where brain and physiological responses were simultaneously measured during some economic decision-making tasks. In the first study, participants with high and low chronic job stress, which is characterized by job demand and job control, and is one of major dimension of SES, were recruited. They performed a stochastic reversal learning task where they were required to learn the contingency between options and probabilistic monetary gains and losses and to do appropriate decisions. Participants with lower SES showed easy habit action in decision-making, activation in the lateral striatum involved in habit action, and dampened physiological responses. In the second study, participants with high and low subjective rating of SES performed a risk choice task where a sure option and a probabilistic gamble option were presented and they chose a preferable option in gain and loss domains. Participants with lower SES avoided risk when they can gain money but preferred risk when they must pay money. These tendencies of decision-making were paralleled with activation in the striatum and anterior insula, and anterior cingulate cortex.

These findings suggest that individuals with lower SES, probably by prolonged exposure to chronic stress, might experience alteration of functions in front-striatum neural circuits, and thus might show more impulsive and non-deliberate decision-making styles based on habit action. Such styles of decision-making in them might increase probabilities of unhealthy behaviors and risks of diseases.

KEYWORDS: Socioeconomic status, decision-making, brain, body, neuroeconomics
Japanese well-being and its change under globalization

Yukiko Uchida
Kokoro Research Center, Kyoto University

It has shown that in Japan, raw scores of happiness are relatively lower than in other industrialized societies. Based on this simple mean comparison, Japan is defined as a “miserable country.” But we have to consider the cultural construal of happiness across cultures. For example, Japanese ideal happiness is 7.2 (on a 10-point scale), indicating that Japanese do not seek 100% happiness in the first place. In European and American cultural contexts, happiness and subjective well-being are defined as a positive emotional state that is seen as contingent on both personal achievement and maximized positivity of personal attributes. On the other hand, people in East Asian cultural contexts evaluate their current state of happiness by taking ups and downs in life as a whole into account, and by “balancing” social relationships.

Despite these cultural differences, “individualism” as a Western import has spread in Japan owing to globalization. As a consequence, people in Japan are increasingly faced with achievement-oriented situations that have a negative effect, especially on younger generations, such as NEET and Hikikomori. Current trends in Japan toward an achievement-orientation under the pressure of globalization may decrease well-being and exacerbate socio-mental problems especially for younger Japanese because they run headlong into traditional Japanese cultural values of interdependence that still exist. The discrepancy between explicit norms (global standards) and implicit norms (traditional standards) might erode overall happiness among Japanese individuals.

KEYWORDS: Well-being, culture, globalization.
Symposium 11

Social stratification and health research: what are policy implications?

Chair: Yasuki Kobayashi1 and Naoki Kondo2

School of Public Health, The University of Tokyo

This symposium aims to discuss about policy implications of the research findings of the five project groups (A02-A06). One panelist is invited from each project group and the panelists are expected to address the key findings of their projects in the last five years briefly and provide their policy implications. The session will be followed by a panel discussion. Chair persons are expecting to have some conclusions that are useful for actual policies in public health and other sectors. Any comments from the participants on the floors are welcome, and the inputs from previous ten symposia would be particularly welcome. The panelists are:

#1 Yoshiharu FUKUDA, Professor, Yamaguchi University, from A02
#2 Aya ABE, Director, National Institute of Population and Social Security Research, from A03
#3 Masaya SHIMMEI, Researcher, Tokyo Metropolitan Institute of Gerontology, from A04
#4 Yasuki KOBAYASHI, Professor, The University of Tokyo, from A05
#5 Kazuo SEIYAMA, Professor, Kwansei Gakuin University, from A06

Discussants: Katsunori KONDO, Professor, Nihon Fukushi University.
Hideki HASHIMOTO, Professor, The University of Tokyo

KEYWORDS: health policy
ORAL SESSIONS

Oral Session 1 – Chair: Kazuhito Rokutan

16:30–18:00, August 31 (Sat)
Testumon Memorial Hall (14th Floor)

1–1 Chronic academic stress increases a group of microRNAs in peripheral blood in healthy Japanese students  Yuki Kuwano

1–2 Socioeconomic status-related gene expression profiles in peripheral leucocytes from medical staffs  Kinuyo Fujita

1–3 Penetration of management philosophy, psychological distress and work engagement of Japanese employees: a prospective cohort study, the Japanese study of Health, Occupation, and Psychosocial factors related Equity (J-HOPE)  Hisashi Eguchi

1–4 Gender and marital status difference in the association between non-permanent employment and psychological distress  Emiko Ando

Oral Session 2 – Chair: Yoko Sugihara

16:30–18:00, August 31 (Sat)
Seminar room 5 (13th Floor)

2–1 The synergy effect of economic and social capital on health: A multilevel analysis in rural areas of northern Kyoto prefecture  Shintaro Fukushima

2–2 High and low diet quality by areas in mediating the relationship between socioeconomic status and healthy life expectancy among Japanese  Sayuri Kodama

2–3 Development of the JAGES HEART(Health Equity Assessment and Response Tool)  Katsunori Kondo

2–4 Economic factors on access to assisted reproductive technology (ART) treatment in Japan  Eri Maeda
Chronic academic stress increases a group of microRNAs in peripheral blood in healthy Japanese students

Yuki Kuwano, Manami Honda, Kinuyo Fujita, Yoko Akaike, Shizuka Kano, Yuzuru Satake, Kensei Nishida, Kazuhito Rokutan

Departments of Stress Science, Institute of Health Biosciences, The University of Tokushima Graduate School

OBJECTIVE: MicroRNAs (miRNAs) are a class of small non-coding RNAs and suppress expression of target mRNAs. miRNAs play key roles in regulation of cellular processes in response to stress to cope with sudden environmental changes. In this study, we examined whether psychological stressor-responsive miRNAs were detectable in human peripheral blood.

METHODS: Blood and saliva were collected between 16:00 and 17:00 from 25 healthy medical students (males; aged 25.5 ± 0.4 years, mean ± SD) two months and two days before the National Examination for Medical Practitioners. Samples obtained one month after the examination were used as baseline controls. We confirmed that state anxiety and salivary cortisol levels were elevated during the pre-examination period.

RESULTS: Using microarray, levels of seven miRNAs (miR-16, -20b, -26b, -29a, -126, -144 and -144*) showed a significant increase under the examination stress in association with down-regulation of their target mRNAs (WNT4, CCM2, MAK, and FGFR1 mRNAs). State anxiety assessed during pre-examination period was positively correlated with miR-16 levels (r=0.490, p=0.015). Fold changes in miR-16 levels from two days before to one month after the examination were inversely correlated with those in WNT4 mRNA levels over the same time points.

CONCLUSION: Taken together, a distinct group of circulating miRNAs may participate in the integrated response to the academic stress in healthy young students. Especially miR-16 levels in peripheral blood may be useful to assess chronic psychological stress response.

KEYWORDS: Psychological stress; peripheral blood; Anxiety; microRNA

Socioeconomic status-related gene expression profiles in peripheral leucocytes from medical staffs

Kinuyo Fujita1, Yuki Kuwano1, Yoko Akaike1, Shizuka Kano1, Yuzuru Satake1, Kensei Nishida1, Sakiko Sakamaki2, Yoshiko Yasuhara2, Tetsuya Tanioka2, Kazuhito Rokutan1

1Department of Stress Science, Institute of Health Biosciences, The University of Tokushima Graduate School
2Department of Nursing Management, Institute of Health Biosciences, The University of Tokushima Graduate School

OBJECTIVE: The several lines of evidence have suggested the relationship between socioeconomic status (SES) and mental problem. However, the molecular mechanisms underlying depression mood and anxiety induced by low SES are unclear.

METHODS: We assessed SES (objective social status, education, income), lifestyle factors (smoking, alcohol use, body mass index, medical history), anxiety (Spielberger state-trait anxiety inventory), depressive mood (Zung self-rating depression scale), and gene expression profiles in peripheral blood in 222 subjects working in private hospitals (43 males and 179 females, aged 41.9 ± 12.5 years).

RESULTS: After determining Pearson correlation coefficients, we demonstrated that depression mood, state-, and trait-anxiety scores were significantly correlated with objective social status (r = -0.256, r = -0.174, and r = -0.225, respectively). Multiple logistic regression analysis showed that trait anxiety scores and retrospective assessment of SES at 5 years old were associated with objective social status. Comparing with a group with higher SES scores (≥6), 319 genes were found to be significantly changed in peripheral blood leukocytes from subjects with lower SES scores (≤5). These genes were mainly involved in host defense and infection.

CONCLUSION: Our results suggest that negative perception of social status affects the expression profiles of immune related genes, which might be associated with health problem.

KEYWORDS: Socioeconomic status; Depression; Anxiety; Gene expression
Penetration of management philosophy, psychological distress and work engagement of Japanese employees: a prospective cohort study, the Japanese study of Health, Occupation, and Psychosocial factors related Equity (J-HOPE)

Hisashi Eguchi1, Akiomi Inoue2, Akihito Shimazu3, Norito Kawakami3, Akizumi Tsutsumi1
1 Department of Public Health, Kitasato University School of Medicine, Japan
2 Department of Mental Health, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan
3 Department of Mental Health, Graduate School of Medicine, The University of Tokyo, Japan

PURPOSE: There is limited evidence of the prospective association of penetration of management philosophy with psychological distress and work engagement. The purpose of this study was to explore the association between penetration of management philosophy and psychological distress and work engagement in a one-year follow-up study of Japanese employees.

METHODS: All employees aged 65 and younger in two manufacturing worksites in Japan were invited to participate in the baseline survey at from April to June 2011. A total of 1,985 males and 697 females participated in the follow-up survey at one year later. Self-administered questionnaires, including the Job Content Questionnaire (JCQ), the nine-item Utrecht Work Engagement Scale (UWES-9), K6, penetration of management philosophy and demographic characteristics, were administered at baseline and follow-up. Penetration of management philosophy was assessed by three original items such as “I understand my company management philosophy”, “My company management philosophy has much effect on my attitudes towards my work” and “My company management philosophy fits my sense of value”. Hierarchical multiple regression analyses of psychological distress and work engagement on penetration of management philosophy were conducted.

RESULTS: Penetration of management philosophy was significantly and positively associated with work engagement at follow up ($\beta=0.085$, $p<0.001$), after adjusting for gender, age, education, family situation, occupation, smoking, alcohol consumption, exercise, job demands, decision latitude, and work engagement at baseline. Penetration of management philosophy was not significantly associated with psychological distress at follow-up.

CONCLUSIONS: Penetration of management philosophy may be associated with an increase in work engagement among Japanese employees.

KEYWORDS: Management philosophy, Psychological distress, Work engagement, Psychosocial work environment, Longitudinal studies

Gender and marital status difference in the association between non-permanent employment and psychological distress

Emiko Ando1, Norito Kawakami2
1 Department of Mental Health, School of Public Health, Graduate School of Medicine, the University of Tokyo.
2 Department of Mental Health, Graduate School of Medicine, the University of Tokyo.

OBJECTIVE: The purpose of this study is to examine the cross-sectional association between non-permanent employees and psychological distress among groups stratified by gender and marital status.

METHODS: The first-wave data of Japanese Study of Stratification of Health, Income, and Neighborhood (J-SHINE) was used to analysis. Among randomly selected 13,920 residents aged 25-50 years from four cities in the Kanto region, 4,381 respondents completed a questionnaire administered by the Computer Assisted Personal Interview. Taking permanent employment as reference, the odds ratio (95% confidential intervals) of having psychological distress (5+ on K6) were calculated for non-permanent employment by using logistic regression adjusted for age, education, and income in each of four group classified based on sex and marital status(having spouse/partner or not). All statistical analyses were conducted by IBM SPSS Statistics 21.

RESULTS: Among unmarried females, non-permanent employment was significantly associated with psychological distress (OR, 1.45; 95%CI:1.00-2.08); the odds ratio was still marginally statistically significant after adjusting for covariates (1.30; 95%CI, 0.93-2.01). Non-permanent employment was not significantly associated with psychological distress in any other group.

CONCLUSION: The association between non-permanent employment status and psychological distress may vary depending on sex and marital status. Unmarried women working with non-permanent contact may be psychologically affected more by low income and other social disadvantage caused by non-permanent employment, such as social isolation.

KEYWORDS: Mental health, non-permanent employment, gender, marital status
The synergy effect of economic and social capital on health: A multilevel analysis in rural areas of northern Kyoto prefecture.

Shintaro Fukushima¹, Yukiko Uchida¹, Izuru Saizen²
¹ Kokoro Research Center, Kyoto University
² Graduate School of Global Environmental Studies, Kyoto University

OBJECTIVE:
Economic capital and social capital can serve to improve health both at individual level and collective level. These capitals, however, are not always associated positively with health in every person and every social context. The purpose of this study is to determine not only compositional and contextual effects but also the interaction effects of economic capital and social capital on health.

METHODS:
The questionnaire survey in rural areas of three cities in northern Kyoto prefecture was conducted. The questionnaires were distributed to every 9,913 households which are composed of 441 communities. We employed the items of subjective economic affluence, trust in community members (community trust), and self-rated health (SRH) as the indicators of economic capital, social capital, and health, respectively. Collective level (community level) variables were generated by aggregating individual level variables. Multilevel logistic regression analysis was conducted on 8,615 samples with no missing value in every answer item including five control demographic variables.

RESULTS:
It was shown that 1) collective level economic affluence and individual level community trust were positively related to SRH, and 2) while individual level economic affluence and collective level community trust were not independently related to SRH, they were synergistically associated with SRH at cross level.

CONCLUSION:
This study revealed that 1) economic capital was collectively and social capital was individually associated with the improvement of health, and 2) collective level social capital function as a necessary social context for personal economic capital to improve health.

KEYWORDS: MULTILEVEL analysis, economic capital, social capital, synergy effect

High and low diet quality by areas in mediating the relationship between socioeconomic status and healthy life expectancy among Japanese

Sayuri Kodama, Tadashi Furuhata
Health and Nutrition division, Graduate School of Human Ecology, Wayo Women’s University

OBJECTIVE: Although we had statistically shown that diet quality might indirectly mediate the relationship between socioeconomic status (SES) and healthy life expectancy (HLE), the pathways involving diet quality that would show high- and low-quality separately have not been systematically examined as of yet. Thus, we aimed to explore direct and indirect inter-relationships among these factors.

METHODS: Existing data from the National Survey of Family Income and Expenditure including monthly food expenditures, which were adjusted by average prices, per two-or-more-person household (50,836 households) in Japan’s 47 prefectures was used. SES household’s indicators were taken from the National Census or other government statistics. Factor analysis and structural equation modeling were applied.

RESULTS: The latent variable of Low-SES households (divorce rate, single-mother household rate, complete unemployment rate, number of households receiving livelihood assistance (LA)) was shown to be negative and significant (p<0.05) indirect effects on low-HLE (persons with normal life difficulties rate, persons with subjective symptoms rate) by the pathway through traditional diet (fresh vegetables, dried vegetables & seaweeds, fresh fish and shellfish), i.e. high-quality diet. Moreover, the low-HLE exhibited a feedback to the number of households receiving LA positively. Another indirect pathway through sugar & fat-rich foods (carbonated beverages, oils and fats), i.e. low-quality diet, and direct one from Low-SES households to low-HLE were shown but insignificant.

CONCLUSION: The areas characterized by Low-SES households may become low-HLE and back to Low-SES as a result if they have difficulties for consuming high-quality diet rather than easiness for low-quality diet consumption.

KEYWORDS: diet quality, socioeconomic status (SES), healthy life expectancy structural equation modeling, prefectures
Development of the JAGES HEART (Health Equity Assessment and Response Tool)

Katsunori Kondo¹, Toshiyuki Ojima², Naoki Kondo³, Jun Akda⁴, Kayo Suzuki⁵, Hiroyuki Hikichi⁶, Eisaku Okada⁷
¹ Center for Well-being and Society, Nihon Fukushi University
² Hamamatsu University School of Medicine
³ The University of Tokyo
⁴ Tohoku University

OBJECTIVE: We are developing JAGES HEART with the WHO Kobe Center (WKC), which is based on the idea of the Urban HEART (Urban Health Equity Assessment and Response Tool) developed by WKC. The purpose of this report is to describe development process and outline of JAGES HEART.

METHODS: We developed an indicator framework comprised of 5 elements and 2 dimensions, and used 6 criteria to select 71 benchmark indicators from 238 possibilities. To harmonize with Urban HEART, we divided those indicators into health outcomes and determinants of health indicators. To examine the feasibility of data collection and validity of indicators, we administered the JAGES (Japan Gerontological Evaluation Study) survey to approximately 170,000 older people (response rate: 66.3%) living in 31 municipalities across Japan, and analyzed correlations among indicators.

RESULTS: We narrowed down 21 core indicators that included health outcomes such as all-cause mortality and proportion eligible for long-term care insurance, and determinants of health indicators, such as proportion of people with a park or road nearby suitable for walking, participation in sports clubs, and average taxable income. There were some significant differences between school districts, such as the percentage of people who fell down, ranging from 11.8-33.9% for 65-74 year olds, which correlated with the rate of sports organization participation.

CONCLUSION: Though many challenges remain, development of JAGES HEART is progressing and the validity has been partially examined for Japanese older people.

KEYWORDS: Benchmark inequality in health, municipality, Urban HEART WHO

Economic factors on access to assisted reproductive technology (ART) treatment in Japan

Eri Maeda¹, Satoshi Toyokawa¹, Yasuki Kobayashi¹
¹ Department of Public Health, Graduate School of Medicine, The University of Tokyo

OBJECTIVE: To calculate the number of assisted reproductive technology (ART) users in Japan in 2011 and assess the economic factors affecting the regional differences in access to ART treatments.

METHODS: Our ecologic study used prefectures and designated or core cities as the units of analysis. We obtained data on the number of women who applied for the government subsidies for ART in 2011 and calculated the number of ART users per 1000 women aged 15 – 44 years. We corrected the influence of eligibility criteria with income limits, using data on the distribution of household income in 2008 'Housing and Land Survey'.

RESULTS: The nationwide number of ART users (per 1000 women aged 15 – 44 years) was estimated as 2.78, ranging from 1.88 in a rural area to 7.01 in a metropolis. In designated or core cities, the number of ART users was negatively correlated with the proportion of low-income households whose annual incomes were below ¥4,000,000 (r = -0.65, p < 0.001), and multiple regression analyses showed that 0.6 users increase resulted if local governments add subsidy (P=.08) after adjusting for the proportion of the low-income households.

THE number of ART centers per million in the population was large in most areas when compared internationally, and an apparent relation with the access to ART treatments was not found.

CONCLUSION: The access to ART treatments may be associated with household income or subsidies, although these findings were inconclusive because of the ecologic study design.

KEYWORDS: ART utilization, subsidy, household income, population, disparity
Poster Session A

10:15–10:45, August 31 (Sat)
Elevator Hall (14th Floor)

A–1 Social capital and health: Shimane COHRE Study  Tsuyoshi Hamano et al.
A–2 Vulnerability and Characteristics of Great East Japan Earthquake Victims: Focus on Kirikiri, Otsuchi, Iwate  Tetsu Mugikura
A–3 Global Health Security under Challenge of Equity: Sustainability of Pathogen Surveillance  Tomohiko Makino
A–4 A nationwide survey of SRH and Socio-economic positioning for HIV/AIDS patients in Japan.  Toshiya Kuchii et al.

Poster Session B

10:00–10:30, September 1 (Sun)
Elevator Hall (14th Floor)

B–1 The relation between self-rated health, social capital, and subjective socioeconomic status  Shinichi Tanihara
B–2 Descriptive epidemiology of homeless people in Tokyo using medical examination  Satoshi Toyokawa et al.
B–3 Effect of participation in group activities on social support: Analysis of older people’s panel data.  Hiroyuki Hikichi et al.
B–4 Relative deprivation, poverty, and subjective health: JAGES cross-sectional study  Masashige Saito et al.
B–5 Obesity Prevention Program at the Los Angeles Unified School District (LAUSD)’s School-Based Wellness Centers  Masako Horino
Social capital and health: Shimane COHRE Study
Tsuyoshi Hamano1, Kristina Sundquist2,3, Jan Sundquist2,3, Toru Nabika1,4, Kuninori Shiwaku1,5,6
1 Center for Community-based Health Research and Education (COHRE), Organization for the Promotion of Project Research, Shimane University
2 Center for Primary Health Care Research, Lund University
3 Stanford Prevention Research Center, Stanford University School of Medicine
4 Department of Functional Pathology, Shimane University School of Medicine
5 Department of Environmental and Preventive Medicine, Shimane University School of Medicine
6 Shimane University

OBJECTIVE: During the past decades, there has been growing interest in social capital and health. Although previous studies have highlighted the association between social capital and health, mechanisms by which social capital could exert its effect on health are remain unclear. The aim of this study is to examine plausible pathway according to stress model.

METHODS: We analyzed data from the Shimane COHRE study conducted since 2006 in rural mountainous regions of Japan. This study includes mainly elderly data around 70 years.

RESULTS: Our result showed that there was marginally significant interaction effect of social capital and psychological distress on smoking behavior. This result means social capital may buffer against stress via psychological process by getting mutual respect among their neighbours.

CONCLUSION: This study suggests that it is important to pay attention to a feature of neighborhood to which we belong as well as common individual risk factors to support health-related behavior. The mechanisms underlying the association between social capital and health are most likely of a complex nature and any causal inferences remain to be established. A more challenging task is to identify the mechanisms by longitudinal research.

KEYWORDS: social capital, health, mechanism

Vulnerability and Characteristics of Great East Japan Earthquake Victims: Focus on Kirikiri, Otsuchi, Iwate
Tetsu Mugikura
Iwate University

OBJECTIVE: To make clear the characteristics of Great East Japan Earthquake victims, especially focusing on pre-disaster demographic attributes and vulnerability.

METHODS: The study was a case study/statistical analysis combination, with geographic software also used during analysis. Information was gathered through interviews of persons involved with the deceased: their estimated place and cause of death and primary attributes.

RESULTS: The very high rate of elderly victims in this aging regional community was reaffirmed. Victimization of people in their 70s and 80s and above was high. The study found multiple examples of victimization in seniors in nursing care, handicapped people, and their respective families. Pre-disaster vulnerability can be said to have affected victimization. In contrast, there were few child victims. The survey also showed residents contributed to life saving efforts.

CONCLUSION: From the case studies of those victimized—the elderly, the elderly under nursing care, the disabled, and their respective families—we can reaffirm that those at risk to disasters and their families are vulnerable in this kind of large scale natural disaster. One outstanding characteristic of Tohoku disaster areas is found in the examples of firefighters and district welfare officers who had to undergo sacrifices in the course of lifesaving and evacuation assistance. As well as the rebuilding of the public sphere through cooperation between government and the public, and the development of “regional power” to rebuild local community, the completion of concrete plans to ensure the safety of those vulnerable to disasters is a very important factor in disaster recovery.

KEYWORDS: Vulnerability, demographic attribute, disaster victim, Great East Japan Earthquake, tsunami
Global Health Security under Challenge of Equity: Sustainability of Pathogen Surveillance

Tomohiko Makino  
*Infectious Disease Surveillance Center, National Institute of Infectious Diseases*

**OBJECTIVE:** After SARS in 2003, global health community has committed the transparent sharing of any emerging outbreaks. This momentum crystallized the revision of International Health Regulations (IHR) in 2005, which now binds member states to notify any potential public health emergencies within 24 hours to World Health Organization (WHO). In the extension of this global disease surveillance mechanism, pathogen surveillance and genome information sharing play key roles for both risk assessment and development of medical countermeasures. However, question still lies in whether benefits of surveillance are equitably shared by the member states. This research aims to analyze the intersection of different values and norms regarding the pathogen sharing and benefit sharing.

**METHODS:** WHO’s Influenza A(H5N1) sample sharing dispute was chosen for the stakeholder analysis. The contrast was made clear between developed and developing nations on the viewpoints of various ethical concepts, including security and equity.

**RESULTS:** Different ethical values justified each side. Developed nations were for sample sharing because of security concern. They recognized the benefit of sample sharing as the preparedness and prompt response to be beneficial to the global community. Developing nations, in contrast, were hesitant to share pathogens unless equitable attribution of benefit to the originating nations was guaranteed. They challenged the sample sharing as the biopiracy, claiming the revenues of diagnostics and vaccines were monopolized by pharmaceutical industries mostly located in developed nations.

**CONCLUSION:** Equitable sharing of benefit should be ensured for global health security by practical operation of disease surveillance.

**KEYWORDS:** International Health Regulations (IHR), surveillance, Convention of Biological Diversity (CBD), Benefit Sharing, Biosecurity

A nationwide survey of SRH and Socio-economic positioning for HIV/AIDS patients in Japan

Toshiya Kuchii1, Akiko Kakinuma1, Tomosato Iwano2, Katsumi Ohira1  
1 Social Welfare Corporation Hatabaki, Welfare Project, Tokyo, Japan.  
2 Japan Foundation for AIDS Prevention

**OBJECTIVE:** In Japan, over 20,000 of people are living with HIV. But the proportion of patients living with HIV has been increasing in the last 10 years. Health inequalities are key of the epidemic in several ways: treatment, social security benefits, and QOL for HIV/AIDS patients. This article examines SRH (Self-rated Health) positioning among socio-economic status (SES), Karasek’s job content questionnaire (JCQ), as well as general measures of social backgrounds.

**METHODS:** Self-report questionnaire at the Regional AIDS Center (15 hospitals) in Japan from August of 2008 to January of 2009. Respondents: HIV/AIDS Patients n=1194 (men n=1122, women n=69, unknown n=3; response rate 59.7%). Measures: SRH (4-point scale (1=very good to 4=very poor)), sex, age, education, income(household). JCQ (3 scale, 22 items)

**RESULTS:**
1) mean Scores of SRH1.88(S.D.0.83). 2) age characteristics of SRH(mean); age<19; 1.50(S.D. 0.58), age20-29; 1.86(S.D. 0.80), age30-39; 1.89(S.D.0.84), age40-49;1.83 (S.D.0.85), age50-59;1.95 (S.D.0.86), age60-64; 1.88 (S.D.0.70), age>65 ; 1.91(S.D.0.63) . 3) income(household) characteristics of SRH(mean) : income(household) <200 (million yen) 2.10 (n=314,26.8%) , 200-299 ; 1.93 (n=314,16.9%), 300-499 ;1.75 (n=299,25.6%) , 500-699 ;1.80 (n=162, 13.8%), >700 ;1.60(n=168, 14.4%) , other; 2.21 (n=29, 2.5%) .
4) After adjusting for sex and age by GLM (generalized linear model), strong effects of education and income (household) were observed for SRH.

**CONCLUSION:** Socioeconomic health inequalities were observed among HIV/AIDS patients in Japan.

**KEYWORDS:** SRH, Social economic status, health, HIV/ AIDS, Japan
B-1

The relation between self-rated health, social capital, and subjective socioeconomic status
Shinichi Tanihara
Department of Preventive Medicine and Public Health, Faculty of Medicine, Fukuoka University

OBJECTIVE: To evaluate the associations between social capital as measured by the Resource Generator (an individual-level assessment of access to social capital), self-rated health, and socioeconomic status.

METHODS: A questionnaire survey including assessments of social capital (SC), self-rated health, and subjective socioeconomic status was administered to all residents aged 40 years and over in Chikuzen Town, Fukuoka Prefecture. The study period was throughout November 2011. According to their overall scores on the Resource Generator Japan scale, respondents were divided into low SC (scores of 0–9) and high SC (10–27) groups. We then conducted a multivariate analysis, calculating odds ratios (ORs) and 95% confidence intervals (CIs) for poor self-rated health using logistic regression analysis, with adjustments for sex, age, and subjective socioeconomic status.

RESULTS: The response rate was 77.2% and the total number of respondents without missing values was 9,988 (61.7%). Individuals with low SC had significantly higher odds of poor self-rated health than the high SC group after covariate adjustment (OR: 1.44, 95% CI: 1.32–1.58). Respondents with high subjective socioeconomic status had significantly lower odds of poor self-rated health than respondents with normal subjective socioeconomic status after covariate adjustment (OR: 0.61, 95% CI: 0.52–0.72), while individuals with poor subjective socioeconomic status had significantly higher odds (OR: 1.91, 95% CI: 1.70–2.14).

CONCLUSION: Although we cannot exclude reverse causation due to the cross-sectional nature of our study, social capital as measured by the Resource Generator appears to be related to self-rated health after adjusting for age, sex, and subjective socioeconomic status.

KEYWORDS: self-rated health, social capital, subjective socioeconomic status, Resource Generator

B-2

Descriptive epidemiology of homeless people in Tokyo using medical examination
Satoshi Toyokawa¹, Akiko Mukasa², Mika Kigawa¹, Mamiko Yamashita²
¹ Department of Public Health, Graduate School of Medicine, The University of Tokyo
² Cosmos Home-Visit Nursing Station
³ Department of Public Health, Faculty of Medicine, University of Toyama

OBJECTIVE: Since 2004, a transition support program was implemented to provide homeless people with apartments. Using the records of the medical examination of the program applicants, we compare health condition of the homeless people and those reported in the National Health and Nutrition Examination Survey (NHNES).

METHODS: We selected data from male and aged 30 and older and less than aged 80 in order to secure the statistical consideration (N=1,146). We used data of body mass index (BMI), systolic and diastolic blood pressure (SBP and DBP), hemoglobin (HB), total cholesterol (TC), high density lipoprotein cholesterol, (HDL-C), triglyceride (TG), and blood glucose (BG) that are comparable with NHNES. Since the condition of medication and its compliance was uncertain according to the applicant’s treatment of SBP, DBP, TC, HDL-C, TG and BG, we use the NHNES reports including those on medication. We compared averages using Welch’s t-test with statistical package R-3.0.1.

RESULTS: Homeless people showed significantly lean in 40’s, 50’s, and 60’s; high SBP in 40’s, 50’s, and 60’s; high DBP in 40’s and 50’s; low HB in 40’s, and 50’s; low TC in 40’s; high HDL-C in 40’s 50’s, 60’s, and 70’s; low TG in 40’s and 60’s, and low BG in 70’s.

CONCLUSION: The results showed that homeless people were leaner but had higher blood pressure, with a significantly increased risk for high blood pressure as they age. This health disparity might reflect their health eating behavior that they have high salt intake and limited food.

KEYWORDS: Homeless, Medical examination, Health Policy, Health Disparity
Effect of participation in group activities on social support: Analysis of older people’s panel data

Hiroyuki Hikichi1, Katsunori Kondo1, Kayo Suzuki1, Eisaku Okada1, JAGES Project2

1Center for Well-being and Society, Nihon Fukushi University
2Japan Gerontological Evaluation Study Project

OBJECTIVE: This study examined effect of participation in local group activities on a number of relationships for social support.

METHODS: JAGES (Japan Gerontological Evaluation Study) project conducted questionnaire survey for older people at 2006 and 2010, which asked participation in local activities and, reception and provision of social support. The panel data is consisted of 8659 respondents excluding ADL non-self support people. We assessment respondents’ social support focused on a number of relationships for support that those are spouse, child living together, child or relative living be separated, neighborhood, friend, and other.

RESULTS: We conducted ANCOVA to examine effects of continuous participation since 2006 on social support at 2010, controlling gender, age and equivalent income. The results showed that “2006 & 2010 participants” have higher reception and provision social support (instrumental and emotional support) compared with “only 2010 participants” and “non-participants” (all p < .01). Additionally, we examined relationship between respondents’ difference of social support from 2006 to 2010 and their participation/non-participation, controlling gender, age, equivalent income (ANCOVA). As results, difference of respondents’ emotional provision and reception support are larger for “2006 non-participants & 2010 participants” and “2006 participants & 2010 non-participants” compared to “2006& 2010 participants” and “2006 & 2010 non-participants”. That is, changing participation status has linkage with a number of relationships for reception and provision social support, regardless gender, age, equivalent income.

CONCLUSION: These results suggest that older people’s participation contribute to maintain their health status through increasing a number of persons for support.

KEYWORDS: group activity, social support, older people

Relative deprivation, poverty, and subjective health: JAGES cross-sectional study

Masashige Saito1, Katsunori Kondo1-2, Naoki Kondo3, Kayo Suzuki2, Toshiyuki Ojima4

1 Department of Social Welfare, Nihon Fukushi University, Japan.
2 Center for Well-being and Society, Nihon Fukushi University, Japan
3 Department of Health and Social Behavior, The University of Tokyo, Japan
4 Department of Community Health and Preventive Medicine, Hamamatsu University School of Medicine, Japan

OBJECTIVE: To evaluate association between relative deprivation (lack of daily resources) and subjective health among older Japanese adults, we performed a cross sectional data analysis using the data of the Japan Gerontological Evaluation Study (JAGES).

METHODS: We surveyed functionally independent residents aged 65 years or older who lived in 24 municipalities in Japan as a part of JAGES (n=23,511). We evaluated relative deprivation in 15 items of four dimensions. Respondents who didn’t have two or over items were considered as relatively deprived.

RESULTS: Approximately 2-6% of Japanese older people were experienced lack of daily necessities due to economic reasons. Multi-level Poisson regression analysis revealed that relative deprivation was associated with negative self-rated health (IRR=1.4 to 1.5) and depressive symptom (IRR=1.7 to 1.8) among both men and women, and these relationships were stronger than that of relative poverty. The interactive effect between relative deprivation and poverty was not statically significant. Older people who had any social supports reduced the negative effect of relative deprivation, however, they had also more disadvantage in health than the non-deprived people.

CONCLUSION: Our results suggested that the relationship between relative deprivation and health differs from monetary poverty. It is important to grasp the concept of poverty from multi-dimensional living condition in health and social policy.

KEYWORDS: Relative deprivation, poverty, subjective health, cross-sectional study, older adult
Obesity Prevention Program at the Los Angeles Unified School District (LAUSD)’s School-Based Wellness Centers

Masako Horino
RD, MPH Candidate, UCLA Fielding School of Public Health

OBJECTIVE: To develop a universal obesity prevention plan for a large urban school district and its 14 Wellness Centers (WCs). WCs were built in underserved geographic areas with high degrees of health and educational outcome disparities based on race and income. WCs provide primary care and mental health services and focus on linkages of community-based resources to students, families and community members.

METHODS: The theoretical basis of approach included the ecological perspective and Theory of Planned Behavior model. The needs assessment was completed by fitness gram data review, assessment of current models of obesity prevention at LAUSD, a literature review, site visits, key informant interviews and holding a focus group.

RESULTS: Three major strategies were identified as promising: 1) Establishing the best practice guidelines for WCs, which includes BMI assessments, motivational interviewing and training clinicians on social and cultural context of communication specific to target population. 2) Identifying internal and external resources, then creating asset maps that strengthen the referral systems from school to community. 3) Supporting families to establish healthy practices by conducting a focus group and use information to create family-centered activities at WCs, such as health fairs, walking clubs, exercise and nutrition classes, that are open to both parents and students.

CONCLUSION: By developing obesity prevention strategies and programs that are based on the context of student’s lives within their family and community, we believe we can improve Fitness Gram test scores, reduce health disparity obesity and improve population health.

KEYWORDS: Obesity Prevention, Nutrition, Physical Activity, Social Disparity, Health
# Conference Schedule

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**The International Conference on Social Stratification and Health 2013**

Social Stratification and Health: Interdisciplinary Research and Action for Equity

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