

# 基調講演 1

## Lessons Learned from Cross-National Research on Health Inequalities

### 健康格差に関する国際比較研究から得られた教訓

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2008年に米国で起こった資産バブル崩壊を受け、1990年代の日本のバブル崩壊との比較が盛んに行われるようになってきている。両国が直面した経済危機は、多くの点で共通点を持っている。すなわち、両国とも銀行の危機、失業の増大が発生し、政府が大型の景気刺激策を講じたが、個人消費やコンフィデンスはほとんど上向かなかった。日本の場合、資産バブル崩壊後に長期不況が続き、「失われた20年間」という言葉が生まれた。米国では、景気後退の開始3年後には、失業率が10%近くまでに達している。しかし、共通点はここまでである。セーフティ・ネットのおかげで、日本人のほうが多くの点で経済危機にうまく対処できている。例えば、日本の勤労者の場合、米国とは異なり、医療保険へのアクセスは雇用にリンクしていない。また、日本の貯蓄率は危機前に高い水準にあったが、米国ではゼロ（またはマイナス）であり、改革後によりややくプラスに転じたところである。米国では、2008年の危機前にすでに所得格差が拡大し、1920年代の水準を上回っていた。しかし、日本における格差拡大は、バブル崩壊後の20年間に起こっている。

国民全体の健康という観点から言えば、経済状況がもたらすコストや帰結をめぐる日米両国の比較からいくつかの教訓を得ることができる。ここでは、ハーバード大学の社会学者、メアリー・ブリントン教授の *Lost in Transition, Youth, Education, and Work in Postindustrial Japan* (『失われ

た場を探して：ロストジェネレーションの社会学』、2008年10月)を取り上げてみよう。同書では、景気後退後の失業のパターンが日米間で大きく異なっていることを指摘している。米国では、深刻な経済危機の下でどの年齢階層も同じような雇用の損失を経験した。これとは対照的に、日本では既存の労働者の雇用を守るため、(新卒の)新規採用の抑制、非正規雇用の拡大という対応を見せている。その結果、新卒若年層の就業率が急上昇し、非正規雇用者の比率が大幅に高まった。こうした傾向は、戦後の日本においてこれまで長期間続いてきた「終身雇用」制という社会契約の崩壊を意味する。

日本における2つの潮流(若年失業率の上昇と非正規労働者の増加)は、日本の健康問題の将来に大きな問題を投げかけている。若年失業率の上昇は、フリーターやパラサイト・シングルを増加を伴っている。雇用機会の喪失は非婚率の上昇を招き、それが出生率の低下につながっている。出生率の低下は人口の高齢化と相俟って、高齢層の介護の将来を危うくしている。

こうした状況の中で、注目すべき研究がいくつか進められている。例えば、私や同僚の研究によれば、介護の負担には男女差があることが分かった。JPHCのコーホート研究によると、三世代世帯に住みながら働いている妻は、夫とのみ同居している女性に比べて、親の介護の結果、冠動脈性心疾患(CHD)に陥るリスクが2~3倍高い(Ikeda et

al., 2009)。対照的に、三世代世帯に住む夫ほど同リスクが高くなるという傾向は見られない。一方、血縁者の介護を受けている高齢者の場合、介護を受けている者の性によって生存パターンが大きく異なることも分かっている (Nishi et al., 2010)。義理の娘に介護されている男性高齢者は、妻の介護を受けている者より長生きする。対照的に、介護を受けている女性高齢者の場合は、男性とは異なる特徴が見られる。つまり、長生きする順に並べると、実の娘、夫、義理の娘、となっている。こうした研究からも分かるように、血縁関係に基礎を置く日本の高齢者介護は、公的部門による不十分なサービスと伝統的な男女間分業との緊張関係に直面している。

日本が戦後経験してきた平均寿命の伸長は、それ自体誇るべきものである。そして、日本社会には、社会的結束の強さ、伝統的価値観に基づく安定的な家庭など、健全な社会を支える源泉が数多くある。しかし、「失われた 20 年間」と呼ばれる最近の景気低迷の中で、雇用保障の不安定化、出生率の低下、介護をめぐる危機の発生など、健康に対する深刻な脅威が生まれている。

**キーワード：**学際研究、健康の社会的決定要因、  
コーホート研究、健康・社会研究

#### 参考文献

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# Transcript

## Lessons Learned from Cross-National Research on Health Inequalities

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Thank you very much Professor Oshio. It's a pleasure to be here. I'd like to present some thoughts about cross-national comparisons between health inequalities in Japan versus the United States. My starting point of the comparison between the two countries is their experience with economic bubbles and collapses. Some commentators have recently remarked on the parallel between the Japanese experience with the asset bubble collapse in 1991 and the real estate collapse of in the United States.

Briefly, a recap; Japan had a collapse at the real estate level in 1991, followed by a banking crisis, a sharp rise in unemployment. The Reserve Bank of Japan dropped interest rates to practically zero and then they fell into a liquidity trap. There was downward spiral of consumer spending and deflation. The government attempted to provide massive economic stimulus through public works schemes. Despite these attempts, Japan experienced a prolonged recession, now referred to as the "Lost Two Decades".

What can the U.S. learn from the Japanese experience? Some commentators have raised the specter of the U.S. going down the same path as the Japanese. However, I think there are some instructive differences between the Japanese experience and the U.S. experience.

In Japan, income inequality increased *after* the bubble collapsed Japan has always maintained a higher rate of consumer savings. Although the national debt is one of the highest among industrialized countries, it is financed largely by domestic borrowing (as opposed to selling Treasury bonds to foreign countries, as is the case in the U.S.). Health insurance in Japan is not linked to employment, and even during the worst stages of the post bubble collapse, the unemployment rate did not reach higher than about 5.5%.

In contrast to these set of conditions, the U.S. situation is considerably worse. For example, income inequality in America was already the highest in the OECD, even prior to the 2008 collapse and it is continuing to increase sharply (particularly, the difference between the top 1% and the bottom 99%) in the aftermath. America had zero to negative consumer savings prior to crisis and people only started to save after the collapse, which of course exacerbated the ensuing recession due to shrinkage of aggregate demand. Workers in the U.S. can lose their

health insurance if they lose their jobs because that's the way that the health insurance is provided to working age Americans. Unemployment is almost double that of Japan and remains stuck at around 9%.

In many ways, I think, Japan has a set of circumstances which enabled the country to survive a two-decade long recessionary environment, but the U.S. faces many more challenges economically. That said, what I want to talk about is the kind of invisible impact of the "Lost Two Decades" on the social situation in Japan.

For this part I am relying on material from a recently published work of Professor Mary Brinton, sociologist at Harvard University. The book she wrote – actually she published it first in Japanese and afterwards in English – is titled "Lost in Translation." An important idea of Professor Brinton's book is that Japanese society is characterized by what she calls the "normative life course" (*atarimae no jinshei*). What she described about the pattern of Japanese life-course is so normative that it appears totally obvious to the Japanese person. The thesis is that in Japan many people's lives are very orderly as if you are riding on an escalator of life.

For instance, Japanese people usually complete their schooling and only after they have completed their schooling do they usually find work, and it is only when they have the stability of a good job that they even entertain marriage, and it's only after people become married that they then start a family. There is a very orderly, linear sequence of events in the life course.

This is starkly different from the pattern in the U.S. and in other western countries where there is no such orderly sequence. Someone might still be in graduate school in the U.S. when they decide to start a family or find a job. In the middle of a career, some people decide to go back to school. After having babies, a couple might later decide to get married, and so on. The point is that in the U.S. there is no shame or stigma attached to being out of sequence.

These contrasting patterns have a very important implication, which is that in the U.S. during periods of recession the unemployment rate tends to rise *across the board* in different age groups. In American society, it is not as consequential if a worker loses her job at age 40, and they start looking for another job. By contrast, the

Japanese pattern is very different. Dr. Brinton has called the Japanese pattern the “displacement effect,” which is that in Japan during recessions, the main victims are young people, particularly school-leavers. Japanese companies tend to protect the job security of older workers, partly reflecting the seniority system, but also because in Japanese society, the consequences are far more dire if someone is laid off work in middle-age, and “falls off the escalator” of life.

In the U.S. when a worker loses his job in midlife, it is possible to start all over again by going back to school and retraining, but in Japan, the cultural pattern is that re-employment is very difficult if you lose your job in middle age. I think this has important consequences for stress and health. One consequence of stress is the well-known rise in the suicide rate in U.S., which is very high in Japan, and particularly so during the post-collapse recession.

What are the consequences of falling off that escalator when you leave school and you cannot find a job? According to Professor Brinton, it is this group of school-leavers who cannot find work are at highest risk of become “freeters”, “parasite singles”, and “hikikomori”. Professor Brinton’s “diagnosis” of these social problems is thus very different from the way that they are portrayed in the mass media, which tends to ascribe the origins of “freeters” to a lack of will power among the younger generation. The reality is that the structural opportunities in the labor market has steadily shrunk during the post-bubble Japanese economy.

A second significant trend that I would like to draw attention to is the massive rise in non-regular employees in the Japanese workforce. The response of Japanese businesses has been to increase labor flexibility. During the comparatively brief period of time, from the end of the Second World War until 1990, Japan was justly famous for the lifetime employment guarantee, but in the years following the bubble collapse, Japan has joined the rest of the world in terms of rising job insecurity, at least as measured by the proportion of precarious (or non-standard) workers.

As Professor Tachibanaki’s analysis shows, in 1995, about one in five Japanese workers were considered to be precarious or non-regular workers, whereas that proportion had increased to one in three workers by 2000. The proportion of non-standard workers in Japan is thus comparable now to that in the United States labor force. Many people don’t realize this, but the Japanese promise of lifetime employment has essentially ended. The social contract regarding lifetime employment has been broken.

The rise in non-standard work has wrought a number of consequences in Japanese society. First, the trend has contributed to rising wage inequality, leading to a bifurcation of the economy. We are seeing an increasingly divided workplace has resulted in a loss of cohesion, causing a generational rift between secure older workers

who are protected by the seniority system versus younger workers for whom the post-war social contract has been broken, namely, the end of the promise of lifetime employment guarantee.

In social epidemiology, we have been very interested in examining these kinds of generational differences. I would like to draw your attention to a recent a study that Suzuki Etsuji led, published in *Journal of Epidemiology and Community Health*. This is a cross-sectional survey of workplaces in Okayama City involving 46 companies where we sought to examine the relationship between the different kinds of social networks in relation to workers’ self-rated health. We asked the workers what is the extent of your social connections to people at your workplace compared to those people who are outside the workplace as in your home. We examined the cross-section association of different types of social networks to health outcomes.

According to this study, there is an association between an association between stronger work-based social networks and the health of older workers, but little relationship between social networks based outside the home. In contrast, the opposite pattern is observed among younger workers. For them, home-based social networks are more important for their health, whereas work-based social connections do not seem to matters.

Additional consequences of the rise in job insecurity is the declining marriage rate and declining fertility rate in Japan. The declining fertility rate has troubled the Japanese government to the extent that they have tried providing financial incentives to encourage couples to bear children. So far, the incentives have not been met with a lot of success. One of the reasons is that if young couples are insecure in their job prospects, they are less likely to get married and have children. As Professor Brinton noted, Japanese people are unlikely to marry unless they are able to provide a secure financial base for the household, and they are unlikely to have children before they marry. The chain of events is all connected.

A third consequence of rising job insecurity is that informal care-giving for aging parents is likely to become a problem because of the scarcity of daughters-in-law. As you know, the Japanese system of old age care has relied primarily on the informal care system. Combined with the fact that Japanese society shows the fastest rate of population aging in the world, we have a looming elder care crisis.

The characteristic of long-term care in Japan is that the family has been the mainstay of long-term care, especially by daughters-in-law. We can see this in the proportion of older adults living with their own children. Compared to other industrialized countries, Japan has one of the highest proportion of elders living in multi-generational families. Although the proportion has been declining steadily, nonetheless, currently about 14% of Japanese people over the age of 65 co-reside with their

married adult children, which is a high number relative to a country like United States where the corresponding proportion is less than 10%.

Social epidemiologists have speculated whether this system of inter-generational transfer of care represents one of the secret ingredients of Japanese longevity. We tend to assume that the inter-generational transfer of care is good for the health of the recipient, but there is considerable evidence that it the stress of care-giving may be detrimental to the health of the care-giver. Professor Elizabeth Blackburn received the Nobel Prize for discovering the role of telomerase in cellular longevity. In one of her studies, she showed that women involved in care-giving for sick relatives have shorter telomere length, which may put them at risk of adverse health outcomes such as cardiovascular disease.

In a longitudinal analysis of the JPHC Cohort Study led by Dr. Ai Ikeda, we showed that Japanese women living in multi-generational household are at increased risk of cardiovascular disease. In this panel study of 90,000 Japanese women and men, women who live with their parents or who are sandwiched between parents and their own children are at double or three times the risk of having heart attack themselves with a 10-year follow up.

Of course, even in a longitudinal study, we cannot completely exclude reverse causation, i.e., the possibility that there is differential selection of adult children into multi-generational household arrangements. Nonetheless, if reverse causation is entirely the cause of increased heart disease among women living in multi-generational households, it cannot explain why there is no association between type of living arrangement and risk of heart disease among Japanese males in the same study.

How about the health of care recipients in the Japanese informal care system? Much has been written about the stressful relationship between daughters and mothers-in-law in Japanese literature – for instance in the powerful novellas of Niwa Fumio (“The Hateful Age”).

To address this question, one of our students Nishi Akihiro and Dr. Nanako Tamiya conducted a prospective study of informal care-giving arrangements in relation to the survival of elder care recipients, based on their kin relationship to the care-giver. The study, published in *BMC Geriatrics* in 2010, was a prospective study of 200 community-dwelling care recipients who were eligible to receive long-term care insurance and followed up for an average of 51 months during which 73 care recipients died. The study examined the relative risk of dying according to the kinship relationship of the caregiver adjusting for the variables such as gender, age, baseline level of care needs, and other confounding factors.

The study showed that among male elder care recipients, survival was best when men were care for by their daughter-in-law, followed by spousal care. However, there is a dramatic difference among female care recipients. Among women, the best results were obtained for

care-giving received by their own spouses. The next best group in terms of survival was the women looked after by their own daughters. By far the worst survival rates were observed among women looked after by their daughters-in-law. We have labeled this pattern the “daughter-in-law penalty.”

In summary, Japanese data suggest that the inter-generational transfer of care is NOT the secret of Japanese women’s longevity! The informal care-giving arrangement appears to be toxic for both the care recipient as well as the care-giver.

The patterns I have described may be one reason why in terms of the future of long-term care in Japan, this country has invested so much in robots. Given the trends I have outlined, Japanese society is likely to have a shortage of daughter-in-law caregivers in the next generation. Given the current rate of population decline, fertility decline, and marital decline and rapid population aging, I think, the Japanese strategy must consider the alternative needs of care provisions such as investing in robots, and robotics research.

In the last part of my presentation, I would like to draw attention to the strong social cohesion and “social capital” in Japanese society. In many ways, I believe Japanese society is an ideal “natural laboratory” for studying social capital. There are several historical sources of strong cohesion in Japan, including, for example, the fact that the country experienced two centuries of enforced seclusion from outside influences due to the *Sakoku* policy imposed by the Tokugawa shogunate. And even though *Sakoku* policy has been long lifted, Japanese society even today remains quite homogeneous and restrictive in its immigration policies. Additionally, Japan is a rice paddy farming culture (“*inasaku bunka*”) that tends to foster cooperation because of farmers having to figure out how to irrigate their neighbors’ paddies before they irrigate their own. They also have to work together in order harvest the crops.

Of course, there are many undesirable aspects of enforced cohesion as well. Cohesion by diktat (as happened during the long years of shogun rule) is exemplified by norms such as *Mukō sangen ryō-donari*, which is a system that the shoguns introduced in order to make each family responsible for the welfare of their neighbors (as well as spying on them in case they plotted against the ruling class). This system survives to this day in vestigial form, such as the traditional greetings that neighbors conduct when moving into a new apartment, or on special occasions (such as New Year’s Day). After the horrific events of March 11, 2011, many outside observers commented on the apparent orderliness with which the Japanese conducted their disaster recovery efforts. I believe these are all manifestations of the social cohesion in Japanese society.

Investigating the association between social cohesion and health has become a burgeoning research field in

public health. Social cohesion is assessed by indicators such as the perceived trust between members of a group, as well as norms of reciprocity.

Let me give you couple of examples of how we think about trust and reciprocity. In this example, here suppose that Norito lends Ichiro ¥10,000. He does so because he trusts that Ichiro will be repaying the debt later. But why should Norito trust Ichiro to do that? What warrants that trust? One answer is maybe because they are both friends with a third person, Hideki. If Ichiro defaults on his loan, he will risk damaging his reputation among friends and will be threatened with the sanction of social ostracism. In other words, network closure (A knows B, and both A and B know C) results in higher levels of trust as well as the norm of reciprocity. It follows that groups with more dense inter-connections between its members will tend to have higher “social capital.”

In social epidemiology, we have tended to assess the level of social cohesion in a group through the use of questionnaires including items such as: Do you agree that people here are willing to help their neighbors? Do you think that this is a close-knit neighborhood? Do people in this neighborhood generally get along with each other? Another concept in social cohesion and social capitalism is informal control. This is the idea that community adults (as opposed to the child’s own parents or the police) can intervene to stop bad behavior by the community children, whether that’s smoking by underage kids, drug abuse, drinking, and so forth.

Now, the most obvious result from over a decade of social capital research in public health is that it is not a panacea for health promotion. There are many “dark sides” or disadvantages of social cohesion. Thus, the flip side of frequent reciprocity exchanges is excessive obligations imposed on network members. The flip side of a strong sense of solidarity is an intolerance of diversity. The flip side of informal control is excessive pressure to conform to community norms, and so on. As my foregoing examples illustrate, the many downsides of social capital sound a little bit like a description of Japanese society – that it can be overly conformist and stifling in its attitudes. For example the pressure to conform is captured by a common Japanese saying such as *Deru kui wa utareru*, the peg that sticks out gets hammered down. I think these are all reflections of cohesion.

That brings me to my last point, which is I think it is important to distinguish between different kinds of social capital, which either promote or hinder help. One canonical distinction that has emerged in the literature is between bonding capital and bridging capital. Bonding capital refers to connections between people who are similar to each other and bridging is connections between people who are diverse with respect to status.

We have some preliminary evidence of the importance of this distinction even in Japanese society. Iwase Toshihide at Okayama University published a study in

the Journal of Epidemiology and Community Health examining the distinction between bridging versus bonding capital. We asked people to tell us what kind of civic associations they are participating in, whether it’s the PTA, sports clubs, alumni associations, community groups, and so forth. For the groups that people said they belonged to, we asked a follow-up question inquiring whether these groups were homogeneous or heterogeneous with respect to age, gender, and occupation. In multivariable analysis, we found that bonding social capital was not related to the self-rated health of participants. By contrast, there was a strong association between higher bridging social capital and health status, especially among women in the sample.

In conclusion, I think the Japanese society has many sources of resilience, including strong cohesion and family stability rooted in our traditional values. However, the pattern of economic recovery during the last 20 years has posed a number of challenges, including job insecurity, declining fertility, and a looming long-term care crisis. These trends threaten the long-term health achievement of the nation. I look forward to the insights that Professor Kawakami’s project will bring to the social determinants of health inequalities in Japan. Thank you.

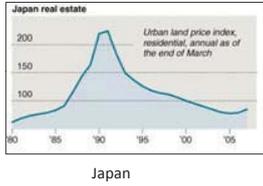
Lessons from cross-national comparative research on social inequalities



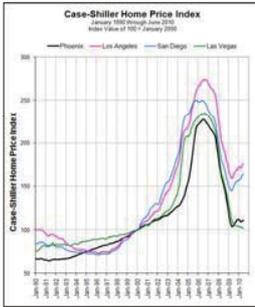
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1

Contrast between two asset bubble collapses



Japan real estate



USA

2

What can the USA learn from Japan's "Lost Two Decades"?

- Collapse of real estate bubble in 1989.
- Banking crisis.
- Sharp rise in unemployment.
- Liquidity trap, after Reserve Bank dropped interest rate to zero.
- Downward spiral of consumer spending and deflation.
- Massive economic stimulus through public works schemes – but little impact on economic growth.

3

Contrasts between Japan and USA

JAPAN	USA
<ul style="list-style-type: none"> <li>• Income inequality increased <u>after</u> the bubble collapse.</li> <li>• High rate of consumer saving prior to economic crisis.</li> <li>• Health insurance not linked to employment.</li> <li>• Unemployment reached 5.5% at peak of recession.</li> </ul>	<ul style="list-style-type: none"> <li>• Income inequality highest in OECD <u>prior</u> to bubble collapse. Continues to rise in aftermath.</li> <li>• Zero consumer saving prior to crisis. Positive afterwards.</li> <li>• Workers can lose health insurance if they lose jobs.</li> <li>• Unemployment remains stuck near 9%.</li> </ul>

4

Lost in Transition  
*Youth, Education, and Work in Postindustrial Japan.*



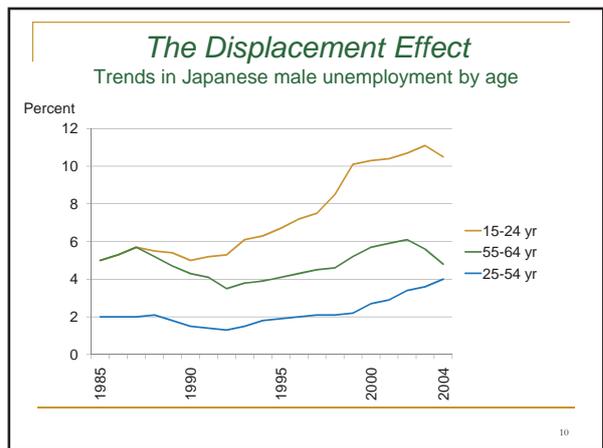
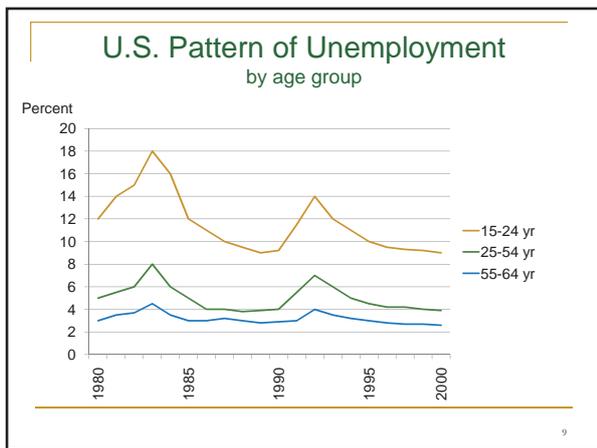
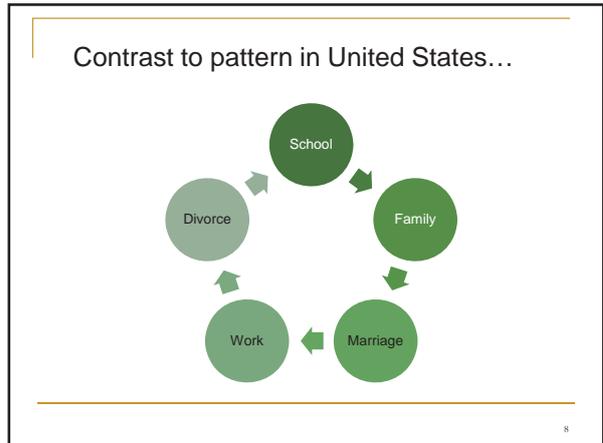
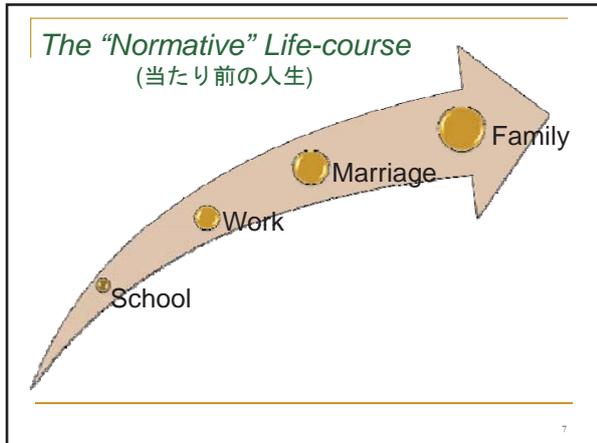

October 2010

5

Japanese "Normative" Life-course  
(当たり前的人生)

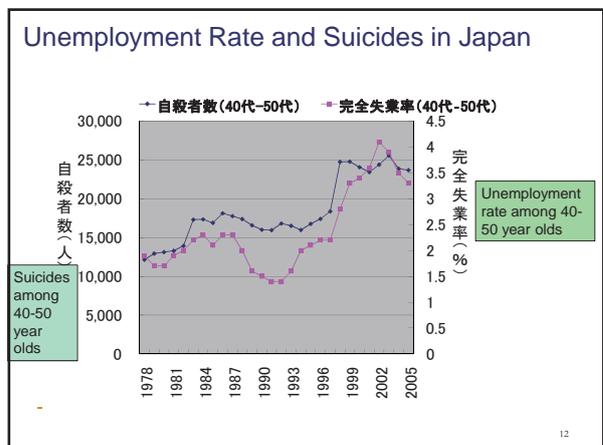


6



### Implications

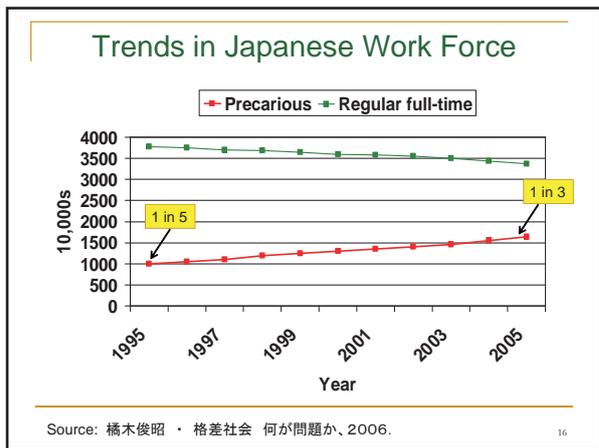
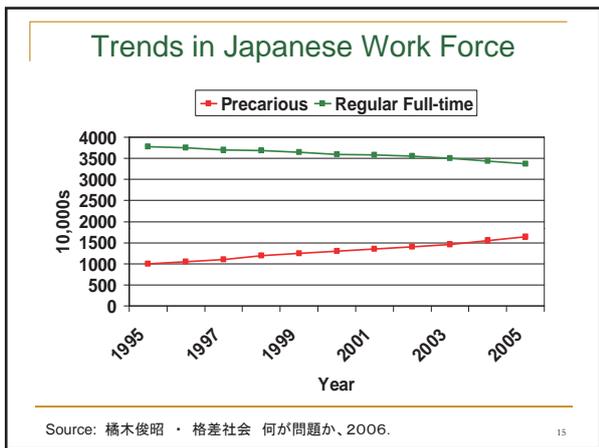
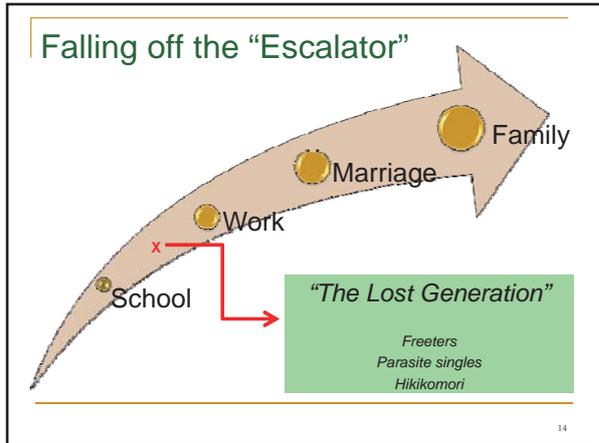
- In the U.S. when a worker loses job in mid-life, it is possible to "start over" by going back to school & retraining.
- In Japan, re-employment is very difficult if you lose your job in middle age.



### Implications

- In the U.S. if a person cannot get hired as soon as he/she leaves school, there is less stigma compared to Japan.
- In Japan, if a person cannot get hired as soon as he/she leaves school, they risk falling off the "escalator".

13



### Consequences of rise in non-standard workers in Japan

- Rising income inequality (bifurcated economy).
- Increasingly divided workplace → *generational difference* between secure older workers protected by seniority system vs. younger workers for whom post-War social contract has been broken (end of lifetime employment guarantee).

17

### Work-based social networks and health in Japan

E. Suzuki, S. Takao, S.V. Subramanian, H. Doi & I. Kawachi, *J. Epidemiol Comm Health* 2009; 63(9):692-6.

- Okayama Workplace Social Capital Survey.
- 1,147 employees nested in 46 companies.
- Outcome: Poor self-rated health.
- Exposures: Work-based vs. home-based social networks.

18

### Odds ratios of poor health by age-group

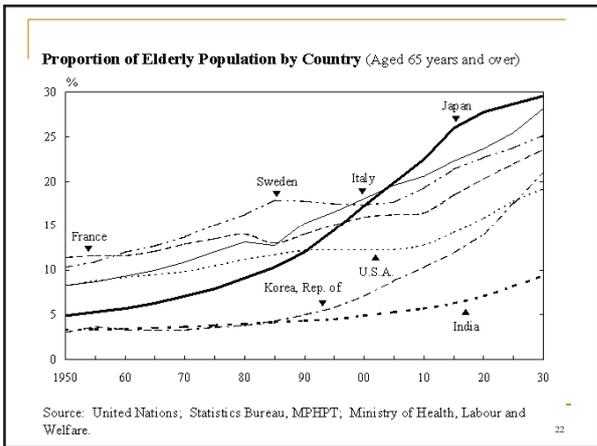
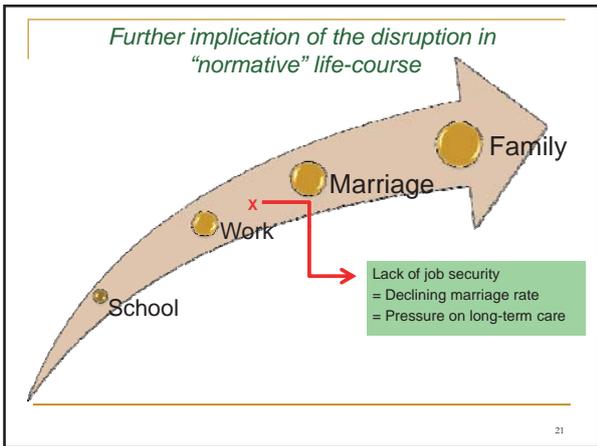
Source of Social Network	< 50 years	50 years or older
<b>Work-based:</b>		
High	1.00	1.00
Medium	1.13 (0.72 – 1.77)	<b>2.57 (1.23 – 5.40)</b>
None	1.00 (0.52 – 1.91)	<b>1.61 (0.65 – 4.02)</b>

19

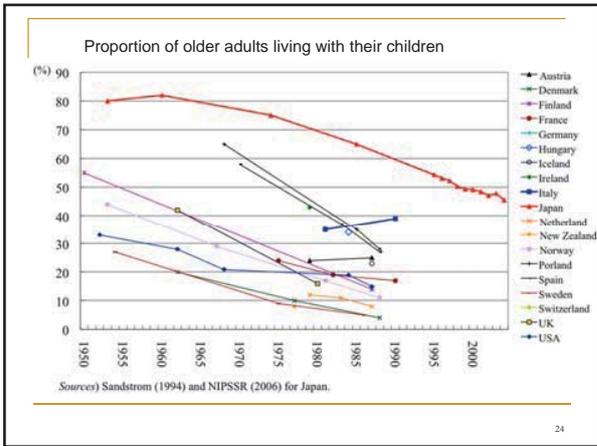
### Odds ratios of poor health by age-group

Source of Social Network	< 50 years	50 years or older
<b>Work-based:</b>		
High	1.00	1.00
Medium	1.13 (0.72 – 1.77)	2.57 (1.23 – 5.40)
None	1.00 (0.52 – 1.91)	1.61 (0.65 – 4.02)
<b>Home-based:</b>		
High	<b>1.00</b>	1.00
Medium	<b>1.36 (0.91 – 2.04)</b>	0.91 (0.49 – 1.70)
None	<b>3.85 (1.56 – 9.48)</b>	1.18 (0.43 – 3.23)

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- ### Long-term care of the elderly in Japan
- The family has been the mainstay of long-term care in Japan.
  - Especially daughters-in-law.
  - Long-term care insurance (LTCI) system was introduced in 2000.
  - But unmet demand for care outstrips supply.
- 23



### Elder Care in Japan

- ≈ 40% of Japanese people > 65 years co-reside with their married adult children
- ...compared to < 10% of Americans.
- Is this inter-generational transfer of care the secret to Japanese longevity?
- ...or is it a detriment to the health of caregivers?

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### Perceived Stress and Telomere Length

Young Women (20-45),  $r = -.31, p < .01$

Older Women (50-80),  $r = -.38, p < .01$

Elissa Epel, Elizabeth Blackburn et al. *PNAS*, December 7, 2004:17312-15. "Accelerated telomere shortening in response to life stress".

26

**Living arrangement and coronary heart disease: the JPHC study**  
A Ikeda, H Iso, I Kawachi, K Yamagishi, M Inoue, S Tsugane and for the JPHC Study Group.  
*Heart* 2008;95:577-583; originally published online 9 Dec 2008; doi:10.1136/hrt.2008.149575

- JPHC cohort (Japan Public Health Centre-based Prospective Study).
- Panel study of 90,987 Japanese women and men aged 40-69 years.
- **Exposure** = multi-generational household living arrangement.
- **Endpoint**: N=671 newly diagnosed cases of coronary heart disease observed during 10 years' follow-up.

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### Multivariable-adjusted relative risks of CHD incidence, by living arrangement

Women			
Alone	Spouse	Spouse + parent	Spouse + parent + child
1.77 (0.92-3.39)	1.00	3.03 (1.36-6.75)	2.00 (1.01-3.94)

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1.77 (0.92-3.39)	1.00	3.03 (1.36-6.75)	2.00 (1.01-3.94)

\*could be **reverse causation** – i.e. sick adult children continue to live with their parents – although analyses excluded all individuals with pre-existing CVD and cancer at baseline.

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### Multivariable-adjusted relative risks of CHD incidence, by living arrangement

Men			
Alone	Spouse	Spouse + parent	Spouse + parent + child
1.23 (0.74-2.02)	1.00	0.90 (0.54-1.50)	1.04 (0.76-1.41)

... if it's all reverse causation, it's unclear why the same pattern is not observed among men.

30

### How about care recipients?




厭がらせの年齢  
母の目  
妻  
思慕と  
愛情と  
非情な眼

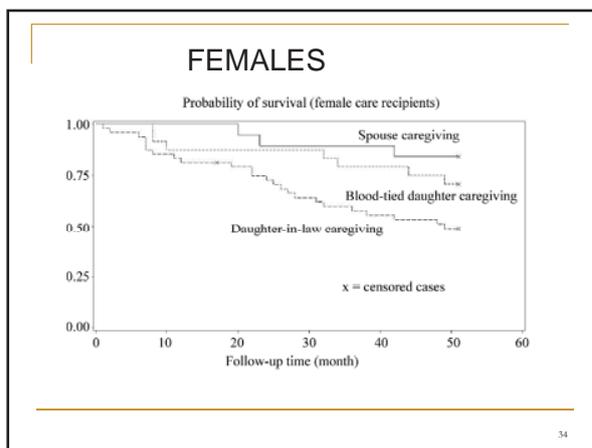
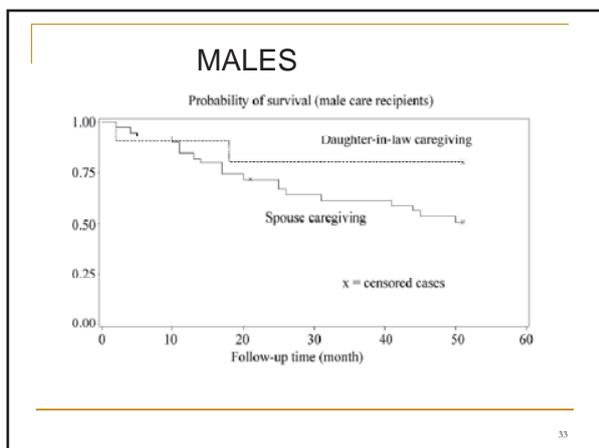
Niwa Fumio, "The Hateful Age"  
丹羽文雄 (1904-2005)

### Mothers and daughters-in-law: A prospective study of informal care-giving arrangements and survival in Japan.

Akihiro Nishi, Nanako Tamiya, Masayo Kashiwagi, Hideto Takahashi, Mikiya Sato & Ichiro Kawachi (*BMC Geriatrics* 2010)



- Prospective study of 206 community-dwelling care recipients eligible to receive long-term care insurance (LTCI) community-based services.
- During an average 51 months of follow-up, 73 care recipients died.
- Cox regression to estimate relative risk of mortality according to kinship of caregiver, adjusting for the care recipient's age-group, gender, level of baseline care needs, as well as other possible confounding factors.

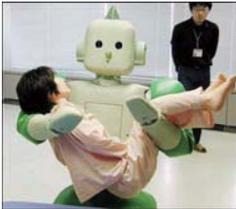


### Future of Long-Term Care in Japan?

- Adult women caregivers living with older parents → triple risk of heart attack.
- Older women receiving care from daughters-in-law → shorter life expectancy.

### Future of Long-Term Care in Japan?

- Adult women caregivers living with older parents → triple risk of heart attack.
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### Japan as a “natural laboratory” for social capital?

Historical sources of social cohesion:

1. *Sakoku* (鎖国) policy (1633-1853).
2. Rice paddy farming as cooperative activity.
3. Enforced cohesion by Tokugawa *bakufu* – origin of “*Mukō sangen ryō-donari*” 「向こう三軒両隣」 (“3 houses opposite, and one on each side” as the basis for neighborly gift exchange, greetings on New Year’s Day, weddings/funerals).

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### Definitions of “social capital”

- *Depends on discipline* – sociology, anthropology, public health, political science.
- Resources derived from an individual’s membership in social networks.
- Sounds exactly like *social support*!



Pierre Bourdieu, 1930-2002



Alejandro Portes

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### Definitions of “social capital”

- Characteristics of *social structure* (such as enforceable trust) which facilitate the actions of members belonging to that group.
- Features of *social organization* such as norms and social trust that facilitate coordination and cooperation for mutual benefit.



James S. Coleman, 1926-1995



Robert D. Putnam

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### Definition of Social Capital for my lecture

Characteristics of **social groups** (e.g. neighborhoods, workplaces) that facilitate the actions of members -

- Trust between members.
- Norms of reciprocity, enforceable by sanctions.
- Informal social control.
- Collective efficacy.

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### Definition of Social Capital for my lecture

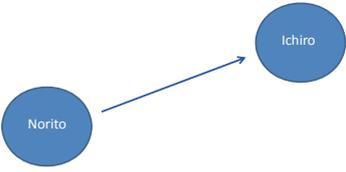
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} Social cohesion

42

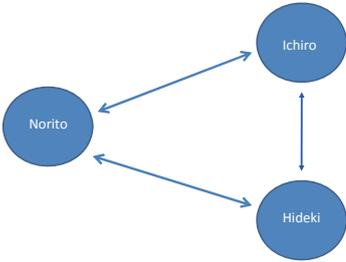
### Trust and reciprocity



Norito lends Ichiro ¥10,000, because he trusts that he will be repaid later. *What warrants this trust?*

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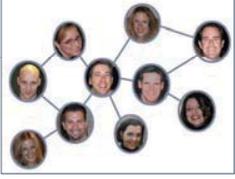
Because they are both friends with Hideki. If Ichiro defaults on his loan, it risks damaging his reputation among friends.



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### Network density tends to increase trust

- More connections between members of a group increases the cost to reputation from **free-riding** (i.e. receiving favors without reciprocating).



= *Norm of reciprocity.*

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### Measurement of Social Cohesion in Social Epidemiology

- “People in this neighborhood can be trusted.”  
o Strongly agree ... o Strongly disagree (5-point scale)
- “People around here are willing to help their neighbors.”
- “This is a close-knit neighborhood.”
- “People in this neighborhood generally don’t get along with each other.” (reverse-coded)

Project on Human Development in Chicago Neighborhoods 46

### Informal Social Control

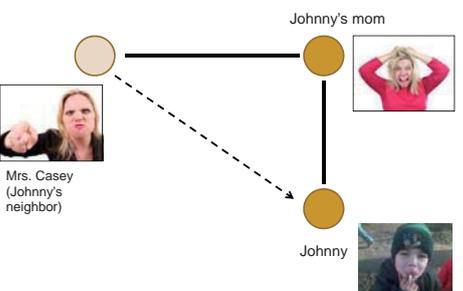
The role of community adults (as opposed to parents or the police) in intervening to stop smoking, drinking, drug use by children.




*When is this more likely to happen?*

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### ...when there is network closure



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**Social Capital not a Panacea for Health Promotion!**

*The “Dark Side” of Social Capital*

Upside	Downside
Exchange of favors	Excessive obligations on network members.

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**Downsides of Social Capital**

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Exchange of favors	Excessive obligations on network members.
Sense of solidarity	Intolerance of diversity.

50

**Downsides of Social Capital**

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Exchange of favors	Excessive obligations on network members.
Sense of solidarity	Intolerance of diversity.
Informal social control	Pressure to conform.

51

**Sounds like a description of Japanese society?**

Upside	Downside
Exchange of reciprocity	Excessive obligations on network members. <i>恩、義理 (on, giri)</i>
Social cohesion	Intolerance of diversity. <i>帰国子女 (kikoku-shijo)</i> <i>Ijime (bullying)</i>
Informal social control	Pressure to conform. <i>「出る杭は打たれる」 (the peg that sticks out gets hammered down).</i>

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**Bonding vs. Bridging Social Capital**

- **Bonding social capital**  
– social connections between people who are similar to each other in terms of status (race, social class, gender).
- **Bridging social capital**  
– connections between people who are diverse with respect to status (cf. network heterogeneity).

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**“Do bonding and bridging social capital have differential effects on self-rated health? A community based study in Japan.”**

**T. Iwase, E. Suzuki, T. Fujiwara, S. Takao, Doi H, Kawachi I.**  
JECH, December 16 (2010).

- Community sample of 2,260 Okayama City residents, 20-80 years old.
- Inquired about participation in a variety of civic associations (PTA, sports clubs, alumni associations, political campaign clubs, citizen's groups, and community associations).
- Distinguished bonding vs. bridging social capital (diversity by occupation, age group, gender).



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**Multivariable-adjusted\* odds ratios of poor self-rated health.**

Type of social capital	OR (95% CI)
<b>Bonding capital</b>	
None	1.00
Low	0.82 (0.59-1.13)
Middle	0.81 (0.49-1.34)
High	0.68 (0.32-1.44)

\*adjusted for sex, age, living arrangement, education, smoking, overweight, and other type of social capital.

55

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High	0.68 (0.32-1.44)
<b>Bridging capital</b>	
None	1.00
Low	0.72 (0.53-0.98)
Middle	0.61 (0.41-0.91)
High	0.33 (0.19-0.58)

\*adjusted for sex, age, living arrangement, education, smoking, overweight, and other type of social capital.

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**Conclusions**

- Japan has many sources of resilience – including strong social cohesion & family stability rooted in traditional values.
- However, the pattern of economic recovery during the past twenty years (“*the Lost Two Decades*”) pose several threats – including job insecurity, declining fertility, and a looming long-term care crisis.
- These trends pose a challenge to the long-term health achievement of the nation.

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