

Preface

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“Studies of Human Development from Birth to Death” at
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Our society today is in a constant state of flux: the advancement in science and technology, the rapid globalization of the world, and the aging society combined with a low birth rate. Such major societal changes confront individuals with a variety of transitional crises in various developmental stages and/or transitional phases. Problems related to parenting, child-rearing, and child education have continued to escalate. The incidences of child abuse, child-rearing uncertainties, and classroom disruption have rapidly increased in recent years. It has been also reported that school children these days spend much less time studying than before and their levels of academic achievement have lowered. These trends have raised concerns about the healthy development and education of the children who will bear the future of Japan. In addition, the staggering rates of adolescent crime and crimes targeting children have evoked public paranoia, which threatens the sense of safety within the society. As the period of adolescence prolongs, the increased number of young adults who lack full-time employment or are unemployed, has become a serious social issue. Such discrepancies between the diversified developmental stages and the developmental achievement are likely to result in a broader range of problems in later half of ones' lives. The ramification of an aging society are accompanied by the lengthening of the period of seniority, thus rendering the hitherto life course model ineffective in solving a wide range of lifestyle problems. The problems of our modern society confront developmental sciences with a challenge: How do we go about insuring the lifelong well-being — from birth until death — of those born into a society of low birth rate and a rapidly aging population?

In order to address the above issues, we were convinced that there is an urgent need to examine the entire course of human development from a long-term perspective, rather than focus on specific developmental stages out of the context of the entire life span. We place our emphasis on the examination of the various stages and transitions throughout the entire life course, which enables us to better understand mechanisms behind generational transitions and to analyze the voice of each generation as they move through various life stages. Specifically, it is considered important to focus on the later stage of life, which has not been given much attention thus far. By focusing on these particular developmental phases, we hope to gain better understanding of the actual conditions, meanings, and values attributed to adulthood and old age. In order to achieve these goals, we will draw on sources from psychology, education, sociology, and human developmental sciences, combining them with clinical knowledge and training drawn from both naturalistic and experimental sources. We take this as social obligations for the developmental sciences because each discipline directly pertains to how humans live. Today, it is imperative to bridge basic scientific knowledge with clinical observations and to translate clinical knowledge into tangible and real-life solutions.

“The Studies of Human Development from Birth to Death” was accepted as a part of the 21st century COE Program in October 2002 with an aim of finding innovative solutions to these current societal problems. The Graduate School of Humanities and Sciences at Ochanomizu University has assembled leading scholars who have expertise in various aspects of human development. The COE program members at Ochanomizu have identified critical problems related to transitions among development stages, proposed new policies, and integrated the four pertinent fields of study. Project I pertains to domains of psychology that seek to expand scientific understandings by integrating a behavioral approach and neuroscience. Project II, Clinical Human Development, seeks to identify problems related to the developmental crises within different settings such as family, school, and community. Project III,

Educational Sciences, has proposed a large-scale panel study in order to investigate the effects of children-adult communication on society and culture. Project IV, Social Welfare, seeks to examine factors of social welfare based on longitudinal findings on middle-aged and elderly individuals as they make the transition between developmental stages.

In 2006, our program has entered into the final phase. We believe that our findings accumulated to date, will help the society to diagnose factors contributing to the problems that plague our modern society, and to provide prescriptions for these problems in order for citizens to lead fulfilling and vigorous lives. Our findings have been presented through multiple channels: seminars for early career scholars, university lecture series, international symposiums, and education seminars. In order to further disseminate our findings, we decided to put forth "The Research Monograph: Studies of Human Development" to bring the summaries of the findings from each project together. We hope this monograph stimulates readers into thinking more critically about a wide array of human development and continuing further discussion.

The 21 st Century COE Program *Studies of Human Development from Birth to Death*
Research Monograph: Studies of Human Development

Contents

Preface
Contents
Program Overview

Project I

Evaluation of Word-Learning Constraints: Japanese and American Preschoolers' Sensitivity to Speaker Certainty and Uncertainty in Word-Learning	9
Nobuko Uchida, Yohoko Murakami and Anne Fernald	
Types of Internet Use to Promote International Understanding	21
Kanae Suzuki, Akira Sakamoto, Nireka Adachi, Fumika Kimura, Megumi Kashibuchi, Kumiko Kobayashi, Mieko Takahira, Katsura Sakamoto and Tsutako Mori	
The Effects of Viewing Educational Programs on Children's Cognitive Skills: Comparison of the Effects of Educational Focuses of the Programs	29
Rei Omi, Sachi Tajima, Nobuo Isshiki, Hiroshi Hattori and Akira Sakamoto	
Gender Differences in the Effects of Internet Use on the Skill of Practical use of Information: The Results of Analyses with a Multi-Group Comparison Technique	37
Reiko Ando and Akira Sakamoto	
A Longitudinal Study of Relationships between Maternal Employment and Child Problem Behaviours	45
Masumi Sugawara, Satoko Matsumoto, Kyoko Ito and Atsushi Sakai	

Project II

A School-Based Primary Prevention Program for Eating Disorders in Japan: The Effects of Socio-Culturally Focused Intervention in High School Girls	53
Misuzu Nagai and Kikuyo Aoki	
Re-Experiencing Adolescence: Issues and Problems Faced by International Students in Japan	59
Satomi Funaki	
Father's Involvement in Child Care and Support for Those Who Have Young Children in Japan	65
Yuka Fukumaru, Miyuki Nakayama, Tomoe Koizumi and Takashi Muto	
Media Factors Influencing Older Children's Social Problem Behaviors and Depression	73
Shiori Sumiya and Takashi Muto	

Adaptation of University Hopefuls: The Relationships among Exam Preparation Stress, Negative Rumination, Control Strategies, and Depression	87
Yuka Nakajima and Takashi Muto	

Project III

What is Happening to Japanese Families Today: Recent Family Changes in Japan	99
Katsuko Makino	

Effects of Parent's Academic Background and Children's Gender on Educational Resources in the Family: in Relation to Child's Perception of Family Atmosphere and Self-Esteem	105
Noriko Kanie, Kaori Iwasaki and Katsuko Makino	

Rethinking Hannah Arendt in the Context of Politics in 1990's Japan: Focusing on Arendt's Critique on Karl Marx	109
Shigeo Kodama	

Family Environment and Children's Sense of Self-Reliance.....	117
Satomi Terasaki	

The Instability of the School Function and the Transition from School to the Workforce: Changes in the Education System and Jobless High School Graduates	123
Hiroaki Mimizuka	

Project IV

Adult Learning Theory in Japan.....	133
Kenji Miwa	

The Reform of the Long-Term Care Insurance Scheme in Japan	139
Koichi Hiraoka	

Program Overview

The Center of Excellence (COE) Program, “The Studies of Human Development from Birth to Death,” strives to gain better understandings of life-span development. This COE Program is organized into four independent projects: Projects I and II concern the examination of psychological development of childhood and the construction of support systems for developmental crises; Projects III and IV seek to examine sociocultural factors impacting on developmental transitions and the development in later life. These four projects have maintained collaborative relationships, with each project working in concert to translate scientific research into sustainable improvements in educational practices and public policies.

Project I: Scientific Analyses of Psychological Development

The Project I seeks to expand scientific knowledge on various aspects of child development such as cognitive, social, and personality development. Current research focuses on the development of interpersonal communication, the impacts of media on children’s brain activities, and the examination of cognitive bases of developmental processes.

Members

Name	Specialization
UCHIDA, Nobuko	Developmental Psychology
SAKAMOTO, Akira	Social Psychology
SUGAWARA, Masumi	Developmental Psychology
ISHIGUCHI, Akira	Cognitive Psychology

Project II: Identification of Developmental Problems and Development of Clinical Interventions

The Project II is oriented toward the investigation of psychological/behavioral problems and the development of clinical assessment and interventions. This project employs multiple research methods involving both qualitative and quantitative data collections. More specifically, surveys, observations, interviews, and action research have been conducted in order to bridge empirical findings with clinical support and interventions in the real world.

Members

Name	Specialization
MUTO, Takashi	Lifespan Development
ITO, Minako	Developmental Psychology
IHARA, Nario	Developmental Clinical Psychology
AOKI, Kikuyo	Clinical Psychology
SAKAI, Akira	Sociology of Education

Project III: Sociocultural Approach to Transitions from Childhood through Adulthood

The Project III investigates children's academic achievement, career development, outcomes of various educational opportunities provided by both formal and informal school settings. Particular focuses are placed on such issues as transitions from one school level to another, lowering academic achievement, unemployment of young adults, relationships between academic achievement and family background, and outcomes of the new education initiative known as Yutori education.

Members

Name	Specialization
MAKINO, Katsuko	Family Sociology
MIMIZUKA, Hiroaki	Sociology of Education
YONEDA, Toshihiko	History of Education in Japan

Project IV: Long-Term Studies of Adult Development

Project IV is characterized by a life span perspective. The studies of adults and elderly concentrate on prominent contextual factors of life-long socialization, such as intergenerational communications, medical care for individuals in terminal periods, policy evaluation for elderly care, and crises related to transitions of adult development.

Members

Name	Specialization
FUJISAKI, Hiroko	Social Welfare
HIRAOKA, Koichi	Sociology
SODEI, Takako	Gerontology
MIWA, Kenji	Adult Education, Continuing Education

Evaluation of Word-Learning Constraints: Japanese and American Preschoolers’ Sensitivity to Speaker Certainty and Uncertainty in Word-Learning.

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Abstract

The current study investigated the implications of American and Japanese preschoolers’ theory of mind development on their ability to learn new words. A critical question about children’s early word learning is whether attention to cues indicating the speaker’s expertise regarding a new word and object fosters the language acquisition process. One hundred and eight Japanese and American 3- and 4-year-olds were taught two novel words by a speaker who expressed either uncertainty or certainty about the words’ referents. Clues of uncertainty and certainty were restricted to language. Uncertainty was expressed by *maybe* (Japanese: *kana*) and certainty was expressed by *sure* (Japanese: *dayo*). Japanese children showed better word learning when the speaker was certain, suggesting that they were attending to the speaker’s mental states when learning the new words. American children, however, learned words equally well from both uncertain and certain speakers. These findings suggest that cultural variation in Japanese and American mothers’ expressions of uncertainty may affect the children’s understanding of the concept of uncertainty. The results are discussed regarding their implications for cross-cultural and cross-linguistic variability in theory of mind development, methodologies in cross-cultural research, and in the larger framework of the Whorfian debate on language and thought.

1. INTRODUCTION

While a wealth of cross-cultural research documents extensive differences in self-concept and social cognition in Japanese and American individuals (Doi, 1971; Kitayama & Markus, 1995; Markus & Kitayama, 1994; Markus, Mullally, & Kitayama, 1997; Nisbett, Peng, Choi, & Norenzayan, 2001), the more interesting question is how this process of shaping the self according to cultural norms unfolds and results in these differences. Culture is an incredibly complicated matrix of language, traditions, religions, values, and social rituals that inevitably influence each individual’s subjective views of the world (Kitayama & Markus, 1995). The results of this cultural shaping process are clearly evident in adult individuals who have had extensive experience with various cultural institutions in their lifetimes. But at what point does this process begin? In order to solve this question, one must first look to early cognitive and linguistic development in children, who are the youngest and perhaps most impressionable members of our cultures.

A feasible approach in studying the development of cultural differences lies in the examination of the

emergence of a “theory of mind” in children, which is an important milestone in their cognitive development. Theory of mind is the ability to understand and attribute emotions, intentions, desires, and beliefs to others (Siegler, 1998). This understanding allows a child to predict and explain the behaviors of those around him, and is believed to develop in English-speaking children between the ages of three and four (Wellman, Cross, & Watson, 2001). Because theory of mind development has major implications for a child’s self-concept and social cognition (Wellman, 1992), the development of this understanding in children seems an appropriate area in which to examine the effects of the cultural shaping process.

Recent research suggests that a sophisticated theory of mind may benefit children’s language acquisition by guiding their word-learning (Sabbagh & Baldwin, 2001; Sabbagh, Wdowiak, & Ottaway, 2003). While research examining the development of theory of mind in children learning languages other than English is limited, some experimental work suggests that Japanese children may be slower than their American counterparts in understanding epistemic mental states such as beliefs (Naito, Komatsu, & Fuke, 1994). There are reports of even 5- and 6-year-olds having difficulty

Table 1 Coding schemes for mother’s mental state utterances

category name	Lexical examples	Sample Japanese utterance
1. Knowledge	think, know, believe <i>omou, shitteiru, shinjiru</i>	<i>Ii to omou ?</i> Do you think it’s okay ?
2. Desire	want, kike, hope <i>hoshii, suki, negau</i>	<i>Doko ikitai ?</i> Where do you want to go ?
3. Emotion	happy, sad, angry <i>ureshii, kanashii, okotteru</i>	<i>Sabisiso da ne.</i> [He] looks sad.
4. Modulation	might, perhaps, looks like <i>kamoshirenai, tabun, mitai</i>	<i>Tsumiki no oshiro mitai da ne.</i> It looks like a blick castke.
5. Sharing uncertainty	maybe, wonder <i>kana, daroka</i>	<i>Kenda shita no kana ?</i> I wonder if [they] had a fight.
6. Seeking confirmation	right, isn’t it <i>ne, deshoo</i>	<i>Iin da yo ne.</i> It’s okay, isn’t it ?
7. Intentionality	mean to, try to <i>tsumori, (shy) ou-tosuru</i>	<i>Iku tsumori datta kedo...</i> I meant to go, but...
8. Attributed speech	say, ask <i>To/tte iu, to/tte tanomu</i>	<i>Gomennasai tte.</i> [He] said “sorry.”
9. Causal talk	why, because, since <i>doshite, kara, node</i>	<i>Waruikoto shita kara.</i> Because I did something bad.
10. Orienting utteranced	Oh, look, see, wow <i>are, hora, nee, ara</i>	<i>Nee, dare to iku ?</i> Say, who are you going with ?

with the task, and failing.

This work, however, tests Japanese children’s theory of mind understanding with American tasks that are based in English—thus largely disregarding extensive cultural differences between America and Japan that have been regularly documented in the cultural psychology literature (Markus et al., 1997; Nisbett et al., 2001). In a standard American test of theory of mind, children are placed in a pre-mediated situation and asked what they *think and know*. For example, in the Smarties task, a child is asked: “When you first saw the box... what did you *think* was inside it ?” The choice of these mental state terms as indicators of theory of mind development for English-speaking children is justified by the repeated occurrence of mental state terms in children’s spontaneous speech as well as in mothers’ speech to children in American, middle-class culture (Furrow, Moore, Davidge, & Chiasson, 1992; Ruffman, Slade, & Crowe, 2002; Shatz, Wellman, & Silber, 1983). As reviewed in an earlier section, a vast literature exists confirming the validity of these terms as a measure of theory of mind development (Wellman et al., 2001).

In Japanese, however, such mental state terms are rarely used in children’s speech and in mothers’ speech to children. The use of the verb *omou*, the Japanese equivalent for *think*, is extremely rare in both children’s and mothers’ speech (Matsui, McCagg, Yamamoto, & Murakami, 2004; Wakabayashi, Murakami, Matsui, & Fernald, in progress). Thus the assumption that a direct translation of an English false belief test script would provide for a comparable level of analysis of theory of mind understanding in Japanese children is misguided and could lead to ambiguous results.

Work by Matsui, McCagg, Yamamoto & Murakami (2004) points to a new approach. In a naturalistic study, Japanese and American mothers were recorded telling stories to their 3-5-year-old children during home observations in Tokyo and Kyoto (n=20) and in San Francisco (n=20) (Matsui et al., 2004; Wakabayashi & Fernald, in progress; Wakabayashi et al., in progress). Stories were based on three pictures depicting emotionally ambiguous situations, such as a group of children playing together while another child is off to the side alone (see Appendix for an example of these picture prompts). For the first objective of investigating conversational themes and styles characteristic of Japanese language and culture, the transcripts were analyzed for differences in mothers’ use of various linguistic categories ranging from talk regarding emotions to conflicts and resolutions

The results of the multiple-category analyses revealed two separate trends: first, it confirmed the significantly less frequent use of mental state terms of belief and uncertainty by Japanese mothers; second, it showed that Japanese mothers used modal uncertainty markers significantly more often (54%) than American mothers (22%) in their narratives to preschoolers ($p < 0.01$). For example, American mothers might say “He could be building a castle” to elicit the child’s opinion, while Japanese mothers used uncertainty markers such as *kana* (glossed as ‘maybe’ or ‘I wonder’):

Mother: *Hitori ga ii no kana.*

Child: *Un.*

Mother: *Samishiku nai no kana.*

Child: *Un.*

Kana is a sentence-final particle (SFP) that modifies and augments the meaning of a sentence. SFPs are not content words, but convey pragmatic and

communicative meaning (Shirai, Shirai, & Furuta, 1999). Its function is most similar to that of English adverbs. As shown in (12) and (13), the addition of the SFP *kana* at the end of a sentence conveys the speaker's uncertainty or doubt about the content of the sentence.

- (1) *Kyou wa ame-ga furu.*
- (2) *Kyou wa ame-ga furu no kana.*

On the other hand, by adding the SFPs *da* and *yo* at the end of a sentence, the speaker emphasizes his certainty regarding the truth of the assertion:

- (3) *Kyou wa ame-ga furu no dayo.*

This pattern of early SFP acquisition in Japanese children is similar to that of Korean children's early acquisition of SE modal forms (Akatsuka, 1998; Choi, 1995). Unlike Papafragou and Li (2002), however, who examined Korean children's theory of mind development and their understanding of SE modals, studies examining Japanese children's understanding of SFPs in conjunction with their theory of mind development have yet to be conducted. These findings qualify the use of the SFP *kana* as a possible indicator of theory of mind development in Japanese children for several reasons. First, the particle conveys the epistemic mental state of uncertainty. This is an important characteristic of the mental state terms that indicate theory of mind development in English-speaking children (e.g. *think*, *know*). Many studies have documented the close relation between children's understanding of uncertainty and their theory of mind development (Hirst & Weil, 1982; Moore, Pure, & Furrow, 1990; Papafragou & Li, 2002). Second, the particle *kana* is used frequently in Japanese mothers' speech to their children, and is also produced in Japanese children's spontaneous speech. This indicates that this particle is not a foreign marker for Japanese children (unlike the Japanese equivalents of the mental state terms, *think* and *know*), and can thus be used as a culturally sensitive measure of theory of mind development in Japanese-learning children.

The clashing trends of Japanese and American mothers' expressions of uncertainty—American mothers preferentially used the mental state term *think*, while the Japanese mothers opted for the SFP *kana*—in the previous studies of storytelling (Matsui et al., 2004; Wakabayashi & Fernald, in progress; Wakabayashi et al., in progress) add more complexity to the puzzle of cross-linguistic, cross-cultural studies. What characteristic factors in the two languages and cultures could account for these differences? And more importantly, do these differences in maternal speech manifest themselves in the children's understanding of the mental concept of uncertainty? In other words, does theory of mind understanding develop differently in these two groups of children as a function of the variability in linguistic inputs pertaining to

uncertainty? These were the questions that motivated the present study, which aimed to investigate Japanese and American preschoolers' understanding of uncertainty in an experimental word-learning paradigm pioneered by Sabbagh et al. (2001, 2003).

The present study investigated Japanese and American children's sensitivity to speaker uncertainty in a culturally sensitive manner through a word-learning task. Specifically, cultural differences in American and Japanese mothers' preferential expressions of uncertainty (Matsui et al., 2004; Wakabayashi & Fernald, in progress; Wakabayashi et al., in progress) were identified and applied in a previously unexplored area of developmental and cultural psychology research, examining children's understanding of uncertainty and the implications of theory of mind development in a cross-cultural realm.

2. METHODS

Participants

The participants in this study were 56 Japanese-speaking and 56 English-speaking children. Half the children in each language group were 3-year-olds ranging from 3;4 to 3;10 ($M=3;7$), and the other half were 4-year-olds, ranging from 4;4 to 4;9 ($M=4;6$). The mean ages of the participants were matched overall and across conditions. There were equal numbers of boys and girls at each age in each language group. Japanese participants were recruited from a middle-class population in the Tokyo and Yokohama areas. American participants were recruited from a primarily white, middle-class population in the San Francisco Bay Area. All children received a small art set, a picture book, or a colorful t-shirt for participating.

Written consent for these children to participate in the study was obtained from each child's parent or legal guardian (in both countries). Before the experimental task, the experimenter carefully explained the design of the study to each parent or legal guardian. It was explained that the study involved no risks to the child or the parent/legal guardian apart from the experience of participation. Each parent/legal guardian was then asked to sign a consent form on behalf of their child to give consent for his or her participation in the study. Following these explanations, each parent/legal guardian was welcomed to watch the details of the sessions from a corner of the room behind the child, with the stipulation that they were not to speak to their child during the actual procedure so as not to influence his or her responses. The presence of the parent/legal guardian was in order to ensure that the child was comfortable in the experimental situation.

Materials

Toys Two sets of three unfamiliar (i.e. novel and nameless) toys were used as stimuli. Included in toy set A was a colorful round plastic object with four grippers (the “crank”); a hard black ball that screwed in and out of a metal twister (the “screw”); a clear face massager from the Body Shop (the “face massager”); a wooden body massager from the Body Shop (the “body massager”); a clear shaker toy with small beads inside (the “shaker”); and a flexible metal toy that moved and rotated 360 degrees. The toys within each set were chosen to be distinctive from one another and were balanced for salience. The same set of toys were used in both the American and Japanese experiments.

Novel Words Children were introduced to two novel words. American children were introduced to the words *blicket* and *dawnoo*, and Japanese children were introduced to *mappi* and *tonka*. These nonsense words were selected because they were unfamiliar and followed the phonotactic constraints of their respective languages.

Experimental Props The American children were tested at a small table in a quiet room on a university campus. On the table was a miniature version of an American United States Postal Service mailbox and a covered CD player. The Japanese children were tested in one of two settings: in a quiet room in a preschool or kindergarten, or in a quiet room in their house. A small table was prepared in each setting, with a miniature version of a Japanese mailbox and a set of speakers connected to an iPod hidden under the table.

Data Collection Experimental sessions were video recorded using two camcorders that were run simultaneously during each session. One camcorder was mounted on a tripod unobtrusively placed in the corner of the room and had an unobstructed view of the experimental site and the child’s expressions, reactions, and vocalizations. A small microphone was attached to the camera and placed under the table. Children’s performance was coded offline from the videotape. The other camcorder was mounted on a tripod that had an unobstructed view of the experimenter’s facial expressions and reactions. The same female experimenter conducted the sessions with both the American and Japanese children.

Design

In a between-subjects design, children were randomly assigned to one of two experimental conditions: (1)Uncertain speaker, in which the word-referent link was provided by the experimenter, who claimed to be uncertain whether the link was correct and (2)Certain speaker, in which the word-referent link was provided by the experimenter, who claimed to be certain that the link was correct. Children participated in two trials. They heard the word *blicket* on the first trial and

dawnoo on the second trial. For each child, a pair of toys, one from set A and one from set B, served as target toys - one toy was the target in Trial 1 and the other was the target in Trial 2. Target toys were assigned randomly for each child, and across participants, all toys served as targets in both conditions equally often. All toys were targets in Trials 1 and 2 equally often. The position of the target at the time of labeling (left, center, or right) was counterbalanced across children with the constraint that the position differed across trials for any given participant. Finally, in a comprehension test that came at the end of the session, the child was always asked for the *blicket* or *mappi* first, and then the *dawnoo* or *tonka*.

Procedure

The experimental session consisted of two consecutive trials. Both experimental trials followed the same four-episode structure: (1)play session, (2)label introduction, (3)label training, and (4)elicited production test. At the end of the second trial, the experimenter carried out a comprehension test involving the novel words and objects from both trials combined. The experimental task started with an introduction to a Minnie Mouse hand puppet controlled by the experimenter. After a brief introduction and acquaintance session with the child, Minnie excused herself to go play at the playground with her friends. Before making her exit, however, Minnie asked the child to send a small picture book to her mother for her by placing it in the mailbox (and thus calling the child’s attention to it).

Trial 1 Following Minnie, the experimenter produced a Mickey Mouse hand puppet. Like Minnie, Mickey introduced himself to the child and decided to go play at the playground, but he offered the child his toys to play with while he was gone.

Play session. The experimenter took three novel objects out of a cloth bag, one after another, and encouraged the child to play with each of them. While the novel word was not yet introduced at this point of the procedure, the experimental manipulation for verbal certainty and uncertainty started in this portion. The experimenter first indicated how to play with the novel toy, expressing certainty or uncertainty, depending on the experimental condition. In the Certain condition, the experimenter remarked, *This sure is how you play with this* while she played with the novel object. In the Uncertain condition, the experimenter’s comment was, *This maybe is how you play with this*.

Label introduction. Upon completion of the play session with each of the three novel toys, the experimenter unobtrusively manipulated the CD player or iPod to start the sound of a ringing telephone. As the ringing caught the child’s attention, the experimenter suggested listening to the phone message that followed.

The experimenter then proceeded to play a prerecorded answering machine message from Mickey who explained that he was calling from the playground because he had forgotten his *blicket* (in English) or *mappi* (in Japanese) at home and that he would like the experimenter to send it to him (see Appendix for script). To ensure the children’s understanding of the message, the experimenter recapitulated the message and encouraged children’s production of the word (*Did you hear that? Mickey said he forgot his blicket. Can you say blicket?*).

Label training. The critical experimental manipulation followed the introduction of the novel word. The experimenter reached for the cloth bag of toys they had just looked at and placed the toys in a row on the table, out of the child’s reach, and labeled the target. In the Certain speaker condition, the experimenter said, *Well, I’d really like to send Mickey his blicket so he can play with it at the playground, and there sure is a blicket in this bag* [taking out the cloth bag of toys that they had just looked at]. *It sure is in this bag, here. Well, we should send Mickey his blicket so he can play with it at the playground. This sure is the blicket* [touching the target toy]. That sure is the blicket [touching the target toy]. *Could you put the blicket in the mailbox for Mickey?*

In the Uncertain speaker condition, the experimenter said, *Well, I’d really like to send Mickey his blicket so he can play with it at the playground, and there maybe is a blicket in this bag* [taking out the cloth bag of toys that they had just looked at]. *It maybe is in this bag, here. Well, we should send Mickey his blicket so he can play with it at the playground. This maybe is the blicket* [touching the target toy]. *That maybe is the blicket* [touching the target toy]. *Could you put the blicket in the mailbox for Mickey?* Therefore the only variable between the two conditions was the use of the word *sure* in the certain condition or *maybe* in the uncertain condition. As speaker enthusiasm and facial expressions were neutral and held constant in both conditions, these verbal cues were the only indicators of the speaker’s relative certainty in naming the target toys. In both conditions, when the child placed a toy in the mailbox, the experimenter closed the mailbox and thanked the child.

Finally, in order to ensure that the experimenter’s physical contact with the target toys was equal to her contact with the distracter toys, the experimenter touched each distracter toy and asked the child to put them in the mailbox. In both conditions, the experimenter said, *Well, Mickey probably forgot these toys too* [touching distracter toys]. *Could you put them in the mailbox and send them to Mickey?* [touching distracter toys]. In summary, children in both conditions heard the word *blicket* a total of ten times:

twice in the answering machine message, twice more when the experimenter reiterated the message, and six times in the label training. The single variable across the two experimental conditions was whether the speaker claimed to be certain or uncertain about the word’s referent, as evidenced only by the verbal cues of *sure* or *maybe*.

Elicited production test. Following the label training, the child was tested in an elicited production task. The experimenter explained to the child that Mickey had recently purchased a new camera and had put together an album of all his pictures. The experimenter suggested that they look through the pictures and play a naming game, but that some pictures were really tricky so that it was all right for them to answer *I don’t know* when they did not recognize a picture. All children viewed the same picture book. The picture book included two digitized pictures of the target toy, two digitized pictures of each distracter toy, and two digitized pictures of familiar objects and unfamiliar computer-graphically composed objects, for a total of ten pictures. The novel toy were interspersed randomly with the familiar and unfamiliar objects, with the following constraints: the whole set of three toys (target and two distracters) was presented before any novel object was repeated, and no more than two novel objects could appear consecutively.

The experimenter showed the child the pictures in sequence. For each picture the experimenter asked, *Do you know what this is? What is it?* and responded with an *okay* regardless of the answer the child provided. The second time each novel object was presented, if the child answered, *I don’t know* or provided a label other than *blicket*, the child was asked two follow-up questions. *Do you remember how to play with it?* (in order to assess their memory of the object) and *Does it have a special name?* (in order to further elicit the production of the novel label). These questions were not asked any time the child produced the novel label, even if the usage was incorrect.

Trial 2 Upon completion of Trial 1, the experimenter started Trial 2. Conditions for the second trial were identical to those of the first with the exception of a Donald Duck hand puppet replacing Mickey Mouse and new novel referent, *dawnoo* (in English) or *tonka* (in Japanese). The second trial proceeded exactly as the first, with its four component sessions of play session, label introduction, label training, and elicited production.

Comprehension Test Immediately after the second elicited production test, the child was given a comprehension test. All six toys used in both trials were taken out of the mailbox and arranged in a 3 (column) x 2 (row) array in random order, with Mickey’s toys in the row closer to the child and Donald’s toys in a row closer

to the experimenter. After the toys were arranged, the experimenter asked the child, “Could you point to the [blicket/dawnoo] for me?” once for each novel word. The experimenter then asked, “Could you put the [blicket/dawnoo] in the mailbox for me?” As the toy selected in response to the third question was not replaced in the array before the last question was asked, the first two questions serve as a control to maintain a constant number of novel objects for the child to select from.

Control Coding

One potential concern was that children would distinguish between the speaker’s degrees of certainty by observing the experimenter’s nonverbal cues, such as enthusiasm and facial expressions, instead of attending to the verbal cues of certainty and uncertainty. To address this possibility, two independent coders will rate the experimenter’s enthusiasm and facial expressions throughout the procedure on six dimensions: (1) prosody—the amount and range of variability in the pitch of her voice, (2) volume—how loud the experimenter spoke, (3) facial expressiveness—the level of expressiveness, interest, and certainty/uncertainty in the experimenter’s facial expressions, (4) gestures—the amount and level of physical gestures suggesting certainty/uncertainty, (5) rate of speech—how fast the experimenter spoke, and (6) proximity to the child—how close the speaker was to the child at the time of labeling. Each of these categories will be rated on a 3-point scale (1=lower-than-normal levels; 2=normal levels; 3=higher-than-normal levels). Ratings on all five dimensions will be taken during all three phases of both experimental trials, giving a total of six ratings on each dimension for every participant. Inter-rater reliability will be calculated based on 20% of the videotaped sessions.

Statistics

All data were graphed using Microsoft Excel. Using SPSS, all data were analyzed with one-way and univariate ANOVA tests. Statistical significance was set at $p < 0.05$. All data presented are means \pm standard error means (SEM).

3. RESULTS

For the elicited production data, children received a point each time they correctly labeled the picture of the target object with the target label. If children over-extended the target label to one of the distracter toys in the elicited production test, they received zero points for that trial. Children had two chances on both trials, for a possible maximum score of 4 points in the elicited production test. For the comprehension data, children were given a point each time they correctly selected the

appropriate target object in response to the novel word question. Children were asked two questions about each word (they were first asked to point to, then to place the target object in the mailbox) for a possible maximum score of 4 points. Inconsistencies between the two choices were also noted.

Preliminary Analyses

Gender Analyses

A2 (gender) \times 2 (condition) \times 2 (language) ANOVA found no significant main effects or interactions involving gender for either the elicited production data or the comprehension data. Thus, the data were collapsed across gender for both dependent measures of the children’s word-learning.

Age, Condition & Language Effects

Elicited Production Test

In the elicited production data, children showed near-perfect naming accuracy rates for the 6 familiar objects. Additionally, all children who did not provide labels for novel objects correctly answered the memory control question (*Do you know how you play with it?*), thereby suggesting that failure to label could not be attributed to entirely forgetting their experience with the object.

A2 (age group) \times 2 (condition) \times 2 (language) univariate ANOVA with children’s combined (across both trials) elicited production scores as the dependent

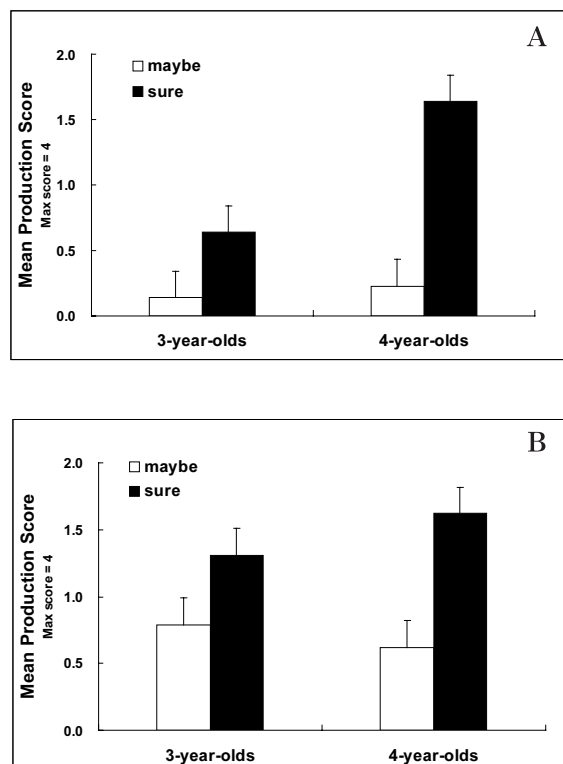


Figure 1 Mean performance (+SE) on the elicited production test for (A) Japanese children, and (B) American children

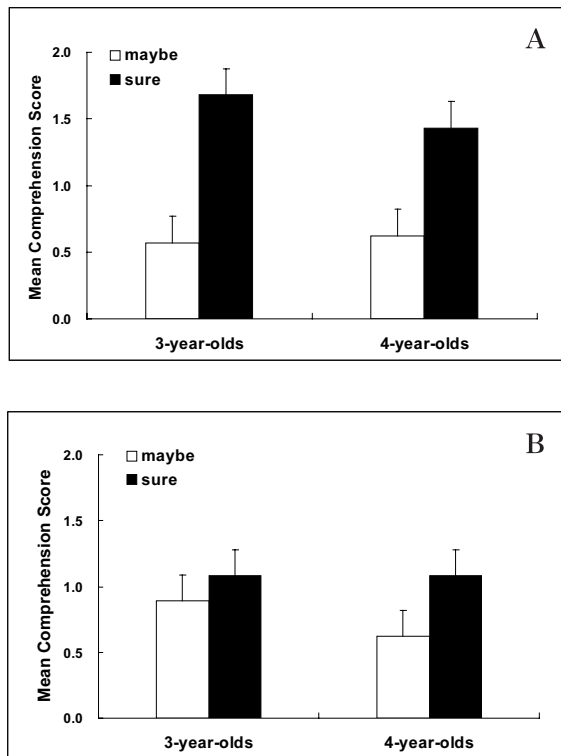


Figure 2 Mean performance (+SE) on the comprehension test for (A) Japanese children, and (B) American children

measure (maximum score=4) revealed a significant main effect for language; American children were more verbal overall than Japanese children, $p < 0.05$, who were shy and more reluctant to speak. There was also a significant main effect for condition; children in the certain speaker condition evidenced better word-learning than children in the uncertain speaker condition, $p < 0.001$. This analysis revealed no significant interactions (see Figure 1).

Table 2 shows the distribution of Japanese children's response patterns across conditions collapsed across age, and Table 3 shows the same distribution for American children's responses.

Comprehension Test

A2 (age group) \times 2 (condition) \times 2 (language) univariate ANOVA with children's comprehension scores as the dependent measure (maximum score=2) revealed a significant main effect for condition; again, children in the certain speaker condition evidenced better word-learning than children in the uncertain speaker condition, $p < 0.001$. This analysis revealed no other main effects. The ANOVA revealed a significant Language \times Condition interaction ($p < 0.05$); both age groups of Japanese children evidenced significant differences in word-learning according to Condition (3-year-olds: $p < 0.001$; 4-year-olds: $p < 0.01$), while neither American age group showed these effects.

Table 4 shows the distribution of Japanese children's

Table 2 Distribution of Japanese children's elicited production test scores.

Condition	# correct responses				
	0	1	2	3	4
Uncertainty (<i>kana</i>)	23	3	1	0	0
Certainty (<i>dayo</i>)	12	4	6	4	1

Table 3 Distribution of American children's elicited production test scores.

Condition	# correct responses				
	0	1	2	3	4
Uncertainty (<i>maybe</i>)	19	1	4	2	1
Certainty (<i>sure</i>)	9	2	14	0	2

Table 4 Distribution of Japanese children's comprehension test scores.

Condition	# correct responses		
	0	1	2
Uncertainty (<i>kana</i>)	13	12	2
Certainty (<i>dayo</i>)	1	8	18

Table 5 Distribution of American children's comprehension test scores.

Condition	# correct responses		
	0	1	2
Uncertainty (<i>maybe</i>)	10	12	5
Certainty (<i>sure</i>)	7	12	8

response patterns across conditions collapsed across age, and Table 5 shows the same distribution for American children's responses. Given the significant main effect for language in the elicited production test, the comprehension test may be a more sensitive measure of children's word-learning across the two language groups, as the Japanese children were less verbal overall compared to the American children.

4. DISCUSSION

This study revealed three main findings. First, American children were more verbal overall in the elicited production test compared to the Japanese children, who were oftentimes shy and hesitant to speak to an unfamiliar experimenter. Second, both Japanese and American children considered the speaker's degree of certainty when establishing initial word-referent links. Specifically, they tended to learn words taught by certain speakers, but as a group did not tend to learn words from uncertain speakers. In the elicited production test, 4-year-olds from both languages evidenced this difference in word-learning according to

the speaker’s degree of certainty. This suggests that the ability to distinguish between certain and uncertain speakers may improve with age, and specifically with the developing understanding of epistemic mental states between the ages of three and four. This trend was also evident in the results of the comprehension test, but demonstrated patterns different from those in the elicited production test. The comprehension data did not reflect a developmental progression. Neither American age group demonstrated better word-learning with a certain speaker, while both Japanese age groups did.

This leads to the third main finding of the present study: the interaction between language and condition in the comprehension test results. That is, both age groups of Japanese preschoolers attended to the speaker’s degree of certainty when establishing initial word-referent links, while neither age group of American preschoolers demonstrated this attention to the speaker’s subjective mental state regarding the novel word. There are two explanations for this absence of a developmental progression in both the Japanese and American children’s appreciations of certainty. We will consider each separately, examining the American children’s results first.

Neither American 3- nor 4-year-olds showed significant differences in word-learning according to the speaker’s degree of certainty when introducing the new word. While 4-year-olds demonstrated a greater difference in word-learning than 3-year-olds between the two conditions of certain speaker and uncertain speaker, this trend is not significant. This finding with American children is contrary to the expectations and findings of the studies by Sabbagh et al. (Sabbagh & Baldwin, 2001; Sabbagh et al., 2003). Sabbagh et al. reported that both 3- and 4-year-old American children were sensitive to a speaker’s knowledge states when learning new words (2001). Further, they claimed that both age groups were able to “ignore” ignorant speakers by replacing a word-referent link from an ignorant speaker (links that have a strong likelihood of being incorrect) with a new word-referent link from a subsequent neutral speaker (2003).

The present study, however, differs from the original studies by Sabbagh et al. in two critical respects. First, the present study examined children’s appreciation of a speaker’s degree of certainty—as opposed to a speaker’s knowledge state—regarding a novel word-referent link. Children’s understanding of the epistemic mental state of uncertainty (vs. certainty) is perhaps a more subtle distinction than that of knowledge and ignorance (Hirst & Weil, 1982; O’Neill & Atance, 2000). Moreover, modal terms of uncertainty such as *maybe* allow the examination of children’s understanding of epistemic mental states without the presence of sentential

complements necessary for the use of standard mental state verbs such as *think* and *know* (de Villiers & de Villiers, 2000; de Villiers & Pyers, 2002; Perner, Sprung, Zauner, & Haider, 2003).

Second, the present study carefully eliminated all nonverbal cues of certainty and uncertainty such as facial expressions and gestures, which were included in the original Sabbagh et al. (Sabbagh & Baldwin, 2001; Sabbagh et al., 2003) design. In the present study design, facial expressions and gestures were kept neutral and constant in both the certain and uncertain speaker conditions, ensuring that speaker’s degree of certainty regarding the word-referent link was conveyed only by the linguistic cues, namely *maybe* and *sure*. Furthermore, by designing the experimental prompts in a manner where only these particular words were varied according to the certainty/uncertainty condition, both sentence position and structure were held constant across conditions (e.g. *This sure is a blicket.* vs. *This maybe is a blicket.*)

Consequently, the lack of a significant difference in both American 3- and 4-year-olds’ word-learning patterns regarding the speaker’s degree of certainty can be attributed to the combination of the above design factors. Assuming that the distinction between speaker uncertainty and certainty is more subtle than that of speaker ignorance and knowledge, the task of the present study may have already been more challenging than that in the original design by Sabbagh et al. (Sabbagh & Baldwin, 2001; Sabbagh et al., 2003). To complicate this further, however, the present study eliminated all contextual, nonverbal cues of certainty and uncertainty, which increases the task demands for the American children. Thus it is reasonable to believe that American children may need the additional assistance of facial expressions and gestures to reinforce the verbal cues of certainty and uncertainty in the present task. This correlates with cultural differences in vocal affect and facial expressions among English and Japanese speakers (Ekman, 1972). Specifically, American individuals tend to exaggerate their vocal affect and physical movements during social interactions in comparison to the Japanese. The absence of such customary nonverbal cues of certainty and uncertainty in conjunction with the linguistic cues may have been puzzling for the American children.

This attenuation of affect typical of Japanese emotional expressions can also explain the Japanese children’s results. The Japanese children also did not demonstrate a significant age difference in their word-learning in their comprehension test results. Rather, there was no age advantage for the 4-year-olds because the 3-year-olds were already answering the questions correctly, and in fact with greater accuracy overall than the 4-year-olds. Given that Japanese individuals

are less expressive nonverbally in normal social interactions, the verbal cues of certainty and uncertainty alone may have been sufficient for both age groups of Japanese children to distinguish between the speaker's certainty and uncertainty.

Yet, perhaps the most convincing account of these condition effects in Japanese children lies in their experience with the particular term of uncertainty. Observational studies examining storytelling conversations between Japanese and American mothers and children based on identical picture prompts have highlighted the Japanese mothers' repeated use of the sentence-final particle *kana* to express uncertainty (Matsui et al., 2004; Wakabayashi et al., in progress). Notably, this frequent use of *kana* in Japanese mothers' speech was significantly higher than American mothers' use of its English equivalent, the modal *maybe*, regarding the identical storytelling picture prompts. American mothers instead preferentially used the mental state verb *think* to express their uncertainty. The analysis of the Japanese mothers' transcripts, however, reveals their incredibly limited use of *-to omou*, the Japanese equivalent of *think*, in their conversations.

It has long been noted that mothers affect their children's linguistic and cognitive development as a major source of linguistic input (Furrow et al., 1992; Ruffman, Perner, & Parkin, 1999; Ruffman et al., 2002). The findings of the present study suggest that these significant cultural differences in mothers' preferential use of the expressions of uncertainty affect the children's understanding of uncertainty. As a result of their significantly greater exposure to the uncertainty term *kana* (compared to American children's exposure to *maybe*) in conversations with their mothers, Japanese children evidenced an earlier sensitivity to this epistemic mental state as expressed by *kana*.

It is important to qualify these findings. The Japanese children's earlier sensitivity to speaker certainty and uncertainty pertains to two specific contexts: word-learning and uncertainty expressed by the sentence-final particle *kana* in Japanese and the modal *maybe* in English. At least at the ages of 3 and 4, American children are apparently not yet as attuned as Japanese children to speaker certainty and uncertainty when learning new words. It could very well be the case, however, that American children do attend to the degrees of speaker certainty in a paradigm different from word-learning. Moreover, a critical point is the way in which speaker certainty and uncertainty were expressed. Provided that Japanese children have extensive experience with speaker uncertainty expressed by *kana* while American children oftentimes do not hear the modal *maybe* in the expression of speaker certainty,

these trends are not surprising. An interesting direction for future investigations would implement the present design using the mental state verbs *think* and *know* in English and *-to omou* and *-to shitteiru* in Japanese to express different degrees of speaker certainty.

Implications for Word-Learning Trajectories with Theory of Mind Development

Much of the research characterizing the rate and trajectory of word-learning has focused on the dramatic changes that take place in 1- and 2-year-olds, who have yet to acquire a sophisticated understanding of theory of mind (Baldwin, 1991; Baldwin & Tomasello, 1998). This work has focused on the ways in which precursors to theory of mind—such as joint attention—facilitate the acquisition of new words in the late-infancy period. One of the potentially exciting implications of the present findings is that some facets of word-learning may take on a somewhat different character over the early preschool years. Specifically, a developing understanding of epistemic mental states such as uncertainty may be effective in avoiding errors in word-learning.

The ability to discern whether a particular speaker is a trustworthy source of information becomes a crucial step for these young language-learners, as it allows them to refrain from establishing an incorrect word-referent link (Sabbagh & Baldwin, 2001), and perhaps hold out for a more reliable speaker who would likely provide a correct link (Sabbagh et al., 2003). The implications of such an ability to avoid errors in word-learning becomes a greater imperative in light of evidence reported by Markman (1992; Markman, Wasow, & Hansen, 2003) for mutual exclusivity in word learning. That is, children often resist acquiring a second name for a category or referent for which they have already established a clear name. Exercising a bit of conservatism when establishing new word-referent links, then, may benefit the young child in the broader course of his language development by decreasing the demand for correcting and eliminating word-learning errors.

It is important to note that the current study did not make use of false belief tasks that test and assess children's theory of mind development. Rather, the present study aimed to propose possible approaches in rendering the standard American false belief task culturally sensitive for children being raised outside of the Western framework of society and culture. Because there is no formal assay of the children's theory of mind development, however, we do not argue that the children in the present study are making use of a sophisticated theory of mind when telling apart a speaker's epistemic mental states. It is believed instead that a more subtle component of theory of mind

understanding, such as the “mood” of the speaker (rather than the belief of the speaker), becomes salient to the child through the speaker’s verbal cues of uncertainty or certainty. The child may pick up on the speaker’s “mood” of uncertainty or certainty through this verbal information. Then, through a kind of emotional contagion, the child’s awareness of the speaker’s “mood” may put the child in a similar state of mind. This would subsequently affect the child’s confidence level when naming or choosing out the appropriate referents.

This interpretation complements observations from anthropology and cultural psychology when explaining the cultural differences in the children’s word-learning. The Japanese cultural emphasis on empathy, which is passed onto children through mothers’ communicative styles as well as through children’s social interactions with others (Azuma, Hess, Kashigawa, & Conroy, 1980; Clancy, 1986), may prove to be an advantage for Japanese children in the current study. Given the Japanese emphasis on indirection and avoidance of imposing on others, it is important to be able to anticipate the needs of, or “read the minds” of others. Japanese children are exposed to the importance of not imposing on others and anticipating their needs very early in their socialization, through a kind of “empathy training” apparent in their mothers’ communicative styles (Clancy, 1986).

This early and heavy emphasis on empathy, then, may have helped the Japanese children in the present study to recognize the speaker’s “mood” of uncertainty or certainty, solely from verbal cues. As members of a culture where one’s sensitivity to others’ needs is held in high esteem, the Japanese children may already have been sufficiently socialized at the ages of 3 and 4 to become “appropriately” Japanese. As a result of their socialization, the Japanese children may be well-prepared to tune into others’ needs, wishes, and feelings through minimal contextual cues. This helps to explain the Japanese 3- and 4-year-olds’ apparent ease in discriminating between the speaker’s “moods” of uncertainty and certainty in the current study, without the reinforcement of nonverbal gestures and expressions. On the other hand, in American culture, direct and assertive communicative styles are typical and expected of individuals (Clancy, 1986; Markus et al., 1997; Nisbett et al., 2001), in conjunction with a great deal of affect (Ekman, 1972). The absence of the nonverbal cues of uncertainty and certainty, then, may have further confused the American children and put them at a disadvantage to the Japanese children in the word-learning task.

Implications for Methodology

The findings of the present study demonstrate the

importance of grounding experimental procedures in the naturalistic observations of a particular culture and language when extending studies to a cross-cultural, cross-linguistic realm. By focusing on the use of Japanese in mother-child interactions, the present study revealed a new linguistic term that can be used effectively to tap Japanese children’s understanding of epistemic mental states. Previous studies examining Japanese children’s theory of mind development—severely limited in their numbers—have produced inconclusive results regarding their appreciation of belief states in others (Naito et al., 1994; Wellman et al., 2001). Some have reported that Japanese children cannot pass the standard false belief task until the ages of 5 and 6, suggesting that Japanese children’s understanding of beliefs may lag behind that of their American counterparts, who are able to pass this task at 4 years (Wellman et al., 2001). However, such studies are extremely limited in their scope and generalizability, as they replicate the American false belief task design in their entirety without consideration for the great cultural differences between Japan and America (Nisbett et al., 2001). Consequently, only scarce and shaky empirical evidence supported the field-wide claim that theory of mind development is universal and constant across cultures and languages.

The present study was the first of its kind to employ a non-English design cross-linguistically. In an attempt to depart from American-based assumptions of theory of mind development grounded observations of English use (e.g. children’s understanding of beliefs are solely and reliably measured by mental state verbs such as *think* and *know*), we built on the naturalistic findings of Japanese language use from Japanese mother-child interactions (Matsui et al., 2004; Wakabayashi et al., in progress). The result was an unprecedented trend of both American 3- and 4-year-olds failing to attend to epistemic mental states. At first glance, this suggests that their understanding of theory of mind is slower to develop than Japanese children’s, who evidenced high sensitivity to speaker certainty and uncertainty in both age groups. This counters a broad literature spanning the last several decades indicating that American children’s understanding of belief states develops between 3 and 4 years of age (Flavell, Flavell, Green, & Moses, 1990; Wellman et al., 2001).

Do the present results imply that this literature could be mistaken? No. Rather, they simply emphasize the importance of perspective in analyzing any type of empirical finding. In many ways, culture becomes a lens with which we view, segment, and evaluate the world and the events around us (Clancy, 1986; S. Kitayama & H. R. Markus, 1995; Markus & Kitayama, 1994; Nisbett et al., 2001). However, culture is a very subjective ruler in the sense that each retains unique

values and traditions that vary greatly across cultures. What is “right” in one, then, can be construed as “wrong” in another. Perhaps the inconsistencies regarding cross-linguistic and cross-cultural findings on theory of mind development, especially with regards to Japanese children, can be attributed to culturally-dependent, subjective measures.

Previous studies replicating an American false-belief task design to gauge theory of mind understanding in Japanese children (Naito et al., 1994; Wellman et al., 2001) are inappropriate, given the extensive differences in culture, language, and the construal of self in these two countries (Clancy, 1986; Doi, 1971; S. Kitayama & H. R. Markus, 1995; Markus & Kitayama, 1994; Markus et al., 1997). This English-based “standard” false belief task is ethnocentric in the sense that it is not and was not designed to be sensitive to these vast cultural differences between Japan and America. Therefore, the Japanese children are no more sensitive to speaker uncertainty than American children are better at discerning false beliefs. The Japanese children’s results, however, do demonstrate that they understand the epistemic mental state of uncertainty even at the early age of 3, thus ruling out the possibility suggested by previous studies that they lacked such an awareness altogether. By examining Japanese children’s understanding of epistemic mental states in both a different context (i.e. uncertainty as opposed to belief or knowledge states) and means of expression (i.e. sentence-final particle *kana* as opposed to mental state verbs), the present study aimed to and successfully accomplished the task of leveling the playing field for the Japanese children in measuring their theory of mind development.

5. CONCLUSION

This study has shown that both Japanese and American children adapt their word-learning processes to verbal information expressing epistemic mental states of the speaker. Specifically, preschoolers did not learn labels from a speaker expressing uncertainty about the word-referent link in question, despite the fact that the speaker provided a number of referential cues that typically lead to word-learning. In other words, children are determining whether a speaker is a trustworthy source of information by assessing the speaker’s mental states through their language. This finding supports the idea that theory of mind development facilitates the acquisition of new words by allowing the child to avoid potential errors in word-learning.

As the present study did not specifically examine the children’s theory of mind development with formal theory of mind tasks, however, we do not claim that

these children retain and are making use of a sophisticated theory of mind in their word-learning. Rather, both Japanese and American children may be working through a kind of emotional contagion, which allows them to recognize the speaker’s “mood” of uncertainty or certainty through the speaker’s verbal cues. The child’s acknowledgement of the speaker’s “mood” may put the child in a similar state of mind as the speaker, thus making him hesitant or confident in choosing out the appropriate referents.

There were cultural differences in this ability to attend to the speaker’s degree of certainty when learning new words. Notably, Japanese children were more sensitive than American children to the verbally expressed mental states of certainty and uncertainty. This is explained by cultural differences in mothers’ communicative style and affect, as well as in children’s experience with a particular marker of uncertainty: *kana* (in Japanese) or maybe (in English). These findings potentially highlight a link between cultural differences in maternal speech and subsequent theory of mind development in children: as behaviors and mannerisms are shaped by a child’s experience in a culture, so too are his developing language and cognition.

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Types of Internet Use to Promote International Understanding

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Abstract

The purpose of this study was to examine the effects of various types of Internet use, such as reading/writing electronic mail, viewing web pages, and creating web pages in Japanese or foreign languages, on international understanding. A two-wave panel survey of 430 high school students was conducted, and the causal relationships were examined using structural equation model analysis. As a measure of international understanding, a scale named IUS 2000 (Suzuki et al., 2000) was used. The scale comprised four subscales measuring: respect for human rights; understanding of foreign cultures; sense of international solidarity; and understanding of foreign languages. The results showed that web page creation in foreign languages had a positive effect on the sense of international solidarity, and for male students especially, a larger amount of this usage heightened not only overall international understanding but also all subscales. These positive effects were not found in female students.

Key words: international understanding, internet use, panel study, senior high school students

Introduction

International understanding has increasingly come to be regarded as important in recent years. International understanding is regarded as one of the most important subjects to be learned during “comprehensive learning,” (a program implemented at elementary and junior high schools in 2002 and at senior high schools in 2003). For improved international understanding, it is important to provide opportunities for individuals to see various countries around the world and to meet new people on a daily basis. At schools, there is growing interest in teaching international understanding by using the Internet.

In schools that use the Internet for international exchanges, students engage in various activities, such as communicating with students in overseas schools through electronic mail (email) messages or collecting information on various countries through the World Wide Web (WWW). As a result, it has been reported

that individuals feel that Internet use improves international understanding. In the United States, it has been suggested that using email or viewing web pages allowed most students to obtain cultural knowledge (Lee, 1997). It has also been reported that when students posted information about themselves (their family, life goals, thoughts, values, likes/dislikes, and abilities, along with a self-introduction) or pictures of themselves on web pages, they often noticed differences between themselves and overseas students. However, by the end of the international exchanges, they often found and mentioned the similarities between them and were familiar with each other's family, passion for sports, values and dreams (Cifuentes & Murphy, 2000).

As seen above, the effect of Internet use is frequently reported; however, few studies have confirmed such an effect in empirical ways. Under such circumstances, Suzuki et al. (2000) created an international understanding scale 2000 (IUS 2000) and conducted panel studies with senior high school students in order to examine the effect of Internet usage on international understanding

(Suzuki et al., 2001). The IUS 2000's 4 subscales-respect for human rights; understanding of foreign cultures; sense of international solidarity; and understanding of foreign languages-are international education goals advocated by the Japanese National Commission for UNESCO (1982) and by other educational institutions. The reliability and validity of these subscales have already been confirmed (Suzuki et al., 2000). As a result of panel studies, male participants after using the Internet in foreign languages, showed improved international understanding as a whole, and also improved their respect for human rights and sense of international solidarity. This study, however, regarded the total amount of Internet use as a combination of various Internet usages, such as reading/writing email, viewing and creating web pages. Therefore, the type of Internet use that led to the above effect is still vague. Therefore, we examined the type of Internet use that had effects on international understanding.

Panel studies were conducted to measure each type of Internet use and international understanding at two different times, and then structural equation model analyses (Jaccard & Wan, 1996) were performed to examine the causal relationships between the type of Internet use and international understanding. One-time surveys in general are only capable of showing correlations between variables. However, if variables are measured at a minimum of two different times and are analyzed by the structural equation model, it is possible to estimate causal relationships between variables (Finkel, 1995). In the present study, the cross-lagged effect model was used for analyses. Through the use of this model, the relationship between the amount of Internet use measured in the first survey and the degree of international understanding measured in the second survey, and also between the degree of international understanding measured in the first survey and the amount of Internet use measured in the second survey, could be obtained. If the former relationship was significant, it would imply that Internet use has an effect on international understanding. If the latter relationship was significant, it would imply that international understanding has an effect on Internet use (Figure 1).

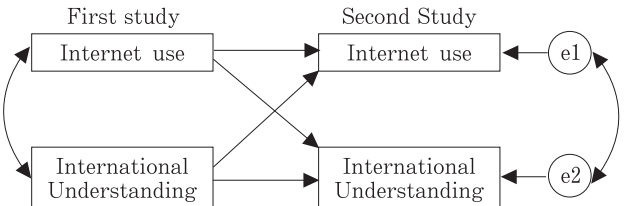


Figure 1 Cross-lagged effect model (e1 and e2 indicate errors).

Method

Participants

We selected five schools across Japan that use Internet for international education. Each school had a large number of connected personal computers, and allowed their students to use the Internet freely after class hours. We required participants in the study to have a sufficiently large amount of Internet use, or the power of the analysis would weaken. The five schools mentioned above were thus selected in order to include such participants.

There were a total of 430 participants (263 male and 167 female), and 388 participants (242 male and 146 female) responded twice to the surveys.

Questionnaire

Amount of Internet use (16 items): For the amount of Internet use per day both at home and at school, the participants were asked for the following information: a) the amount of time they spent reading/writing email; b) time spent viewing web pages; c) time spent on web page creation; and d) total time spent using the Internet including all types of usage. For each of the above questions, the participants provided the mean amount of Internet usage in Japanese or foreign languages on the following six-point scale: none, less than 5 minutes, 5 to less than 15 minutes, 15 to less than 30 minutes, 30 minutes to less than 1 hour, and more than 1 hour. Web page creation is usually done when the participants' PCs are not connected to the Internet. However, the purpose of web page creation is to publish information on the Internet; therefore, the answer to the corresponding question was used as a variable related to the amount of Internet usage. Similarly, for the amount of Internet usage per week at home and at school, the participants were asked for the following information: a) the number of days they used email; b) number of days they viewed web pages; c) number of days they created web pages; and d) total number of days they used the Internet including all types of usage. For each of the above questions, the participants provided the mean number of days they used the Internet per week in Japanese or foreign languages on an eight-point scale from none to 7 days.¹

IUS 2000 (72 items): Degree of international understanding was measured using the IUS 2000 (Suzuki et al., 2000). The IUS 2000 comprised four subscales as follows: a) respect for human rights (e.g., "I want to be

¹ We asked both the amount of Internet use per day and per week because when someone said "I use the Internet a lot," it could mean "I spend many hours on the Internet" or "I use the Internet many days a week."

friendly to anyone regardless of their nationality” or “People in developed countries should listen more to the opinions of those in developing countries”); b) understanding of foreign cultures (e.g., “I can name some typical dishes of each country” or “I think the traditional art of foreign countries is wonderful”); c) sense of international solidarity (e.g., “Sometimes I think if there is anything I can do to help people who starve” or “I want to support organizations that work hard to maintain world peace”); and d) understanding of foreign languages (e.g., “I can express what I want to say in foreign languages such as English” or “Sometimes I translate the lyrics of my favorite foreign songs into Japanese”). For each question, the participants were asked to answer on a five-point scale, from 1: Disagree to 5: Agree.

Others: As demographic variables, we asked each participant his/her school name, year, class, and sex.

Procedure

The surveys were conducted during regular class

hours, and included daily living and points of view. The first survey was conducted in October 1998 and the second one in February 1999.

Results

Mean and standard deviation for the amount of Internet use in each type of usage

For the amount of Internet use per day both at home and at school, the mean value of Internet use in Japanese or foreign languages and standard deviation were obtained for: a) time spent reading/writing email; b) time spent viewing web pages; c) time spent on web page creation; and d) total amount of time spent using the Internet including all types of usage (Table 1). A t-test was conducted on the amount of Internet use for each type of usage per day, both at home and at school, in order to examine any differences between the sexes. The result indicated that female participants, regardless of the type of usage, used the Internet significantly more than the male participants (Table 1).

Table 1 The mean scores for the amount of Internet use

	First study				Second study			
	All	Males	Females	Sex differences	All	Males	Females	Sex differences
Time spent on reading/writing electronic mail per day in Japanese	2.10 (1.49)	1.78 (1.30)	2.61 (1.64)	**	1.82 (1.34)	1.60 (1.20)	2.18 (1.48)	**
Time spent on Web page viewing per day in Japanese	2.36 (1.79)	2.17 (1.76)	2.67 (1.79)	**	2.33 (1.76)	2.13 (1.81)	2.66 (1.64)	**
Time spent on Web page creation per day in Japanese	1.90 (1.60)	1.75 (1.52)	2.14 (1.69)	*	2.05 (1.71)	1.75 (1.58)	2.53 (1.80)	**
Total amount of time spent on using Internet per day in Japanese	2.67 (2.03)	2.38 (1.98)	3.14 (2.02)	**	2.59 (1.98)	2.30 (1.95)	3.07 (1.93)	**
Number of days they used electronic mail per week in Japanese	2.22 (1.74)	1.88 (1.63)	2.79 (1.79)	**	2.01 (1.75)	1.80 (1.74)	2.35 (1.72)	**
Number of days they viewed Web pages per week in Japanese	2.24 (1.76)	2.05 (1.78)	2.57 (1.68)	**	2.19 (1.76)	2.07 (1.91)	2.40 (1.46)	†
Number of days they created Web pages per week in Japanese	1.63 (1.26)	1.47 (1.13)	1.88 (1.40)	**	1.69 (1.28)	1.52 (1.24)	1.96 (1.31)	**
Total number of days they used the Internet per week in Japanese	2.60 (2.06)	2.30 (2.05)	3.11 (1.98)	**	2.41 (1.96)	2.19 (2.04)	2.79 (1.76)	**
Time spent on reading/writing electronic mail per day in foreign languages	1.96 (1.29)	1.69 (1.21)	2.39 (1.31)	**	1.64 (1.20)	1.30 (.90)	2.20 (1.41)	**
Time spent on web page viewing per day in foreign languages	1.78 (1.18)	1.60 (1.13)	2.07 (1.23)	**	1.60 (1.11)	1.46 (1.05)	1.84 (1.17)	**
Time spent on web page creation per day in foreign languages	1.63 (1.28)	1.46 (1.16)	1.90 (1.41)	**	1.46 (1.13)	1.19 (.74)	1.92 (1.46)	**
Total amount of time spent on using Internet per day in foreign languages	2.15 (1.60)	1.80 (1.45)	2.73 (1.67)	**	1.82 (1.42)	1.51 (1.21)	2.33 (1.59)	**
Number of days they used electronic mail per week in foreign languages	1.77 (1.05)	1.44 (.82)	2.31 (1.16)	**	1.56 (1.10)	1.28 (.89)	2.02 (1.25)	**
Number of days they viewed Web pages per week in foreign languages	1.65 (.98)	1.45 (.88)	1.97 (1.05)	**	1.49 (.97)	1.32 (.85)	1.78 (1.07)	**
Number of days they created Web pages per week in foreign languages	1.38 (.75)	1.26 (.64)	1.58 (.87)	**	1.36 (.90)	1.14 (.57)	1.71 (1.18)	**
Total number of days they used the Internet per week in foreign languages	1.93 (1.33)	1.61 (1.24)	2.46 (1.32)	**	1.62 (1.16)	1.34 (.96)	2.06 (1.30)	**

Note: Values within parentheses indicate standard deviations. † $p < .10$, * $p < .05$, ** $p < .01$.

Similarly, for the amount of Internet use per week including both at home and at school, the mean value of Internet use in Japanese or foreign languages and standard deviation were obtained for: a) the number of days they used email; b) the number of days they viewed web pages; c) the number of days they creating web pages; and d) the total number of days they used the Internet including all types of usage. For each type of Internet usage, a t-test was conducted on the number of days the participants used the Internet in a week at home and at school in order to examine any differences between the sexes. The result indicated that female participants used the Internet significantly more than the male participants, except for web page viewing in Japanese in the second survey (Table 1).

Mean and standard deviation for degree of international understanding

Suzuki et al. (2001) presented mean scores and standard deviations for international understanding and each of the subscales: respect for human rights; understanding of foreign cultures; sense of international solidarity; and understanding of foreign languages. In the t-tests, female participants showed higher scores than male participants for all cases (Suzuki et al., 2001).

Estimation of causal relationships between the amount of each type of Internet use and the degree of international understanding for all participants

In order to estimate causal relationships between the amount of Internet use (email, web page viewing, web page creation, and total amount) and international understanding, structured equation model analyses were conducted. For the analyses, a partial correlation matrix with a controlled sex variable was used. Then, the χ^2 values of the restricted and unrestricted models (the saturated model) were compared. In the restricted model, a covariance of errors found in the second time point of the cross-lagged effect model (Figure 1) was set to zero. On the other hand, in the unrestricted model no such restriction was found. If a significant difference was indicated as a result of the comparison, the unrestricted model was employed; however, if no significant difference was indicated, the restricted model was employed. As indices of fit measures, the goodness of fit index (GFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) were used (Jaccard & Wan, 1996). In general, for the obtained data a particular model is determined to be well fit when the GFI and CFI values respectively get closer to .90 and the RMSEA value gets closer to .05. The fit measures of the model used here were: GFI = 1.00; CFI = .99 to 1.00; and RMSEA = .00 to .08.

Table 2 shows the causal relationships between the

amount of each type of Internet use and international understanding and its subscales. If any significant effects were indicated by the amount of Internet use per day and per week, the result could be considered as reliable. Such significant effects of Internet use per day and per week are described in the following sections.

The amount of each type of Internet use and international understanding for all participants. The effect of the amount of each type of Internet use measured in the first survey on the degree of international understanding measured in the second survey was not significant (Table 2).

On the other hand, the degree of international understanding measured in the first survey in relation to the amount of each type of Internet use measured in the second survey showed that a higher degree of international understanding led to an increased amount of web page viewing and total Internet use in Japanese. The result also indicated that a higher degree of international understanding led to an increased amount of each type of Internet use (using email, viewing web pages, creating web pages, and total Internet use) in foreign languages (Table 2).

The amount of each type of Internet use and respect for human rights for all participants. The effect of the amount of each type of Internet use measured in the first survey on the degree of respect for human rights measured in the second survey, and the effect of the degree of respect for human rights measured in the first survey on the amount of each type of Internet use measured in the second survey, were not significant (Table 2).

The amount of each type of Internet use and understanding of foreign cultures for all participants. The effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign cultures measured in the second survey was not significant (Table 2).

On the other hand, the effect of the degree of understanding of foreign cultures measured in the first survey on the amount of each type of Internet use measured in the second survey indicated that a higher degree of understanding of foreign cultures led to an increased amount of use of email, web page viewing, and total Internet use in Japanese. The results also showed that a higher degree of understanding of foreign cultures led to an increased amount of each type of Internet use (using email, viewing web pages, creating web pages, and total Internet use) in foreign languages (Table 2).

The amount of each type of Internet use and sense of international solidarity for all participants. The effect of the amount of each type of Internet use measured in the first survey on the sense of international solidarity measured in the second survey showed that a larger

Table 2 Causal relationships between the amount of each type of Internet use and International Understanding

		In Japanese				In foreign languages			
		E-mail reading/writing	Web page viewing	Web page creation	Total	E-mail reading/writing	Web page viewing	Web page creation	Total
Internet use →International Understanding	All	-/-	-/-	-/-	-/-	-/-	-/-	.07*/-	-/-
	Males	-/-	.07 † /-	.10*/.09*	-/-	-/-	.12**/.10*	.18**/.17**	.12**/.09*
	Females	-.11*/-	-.10*/-.08 †	-.10*/-.08 †	-.10*/-	-/-	-.10*/-.12*	-/-	.09*/-
Internet use →Respect for human rights	All	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
	Males	-/-	.09 † /.10*	.09 † /.13**	-.08 †	-.10*	.11*/.14**	.15**/.16**	.11*/.12*
	Females	-.16**/-	.09 † /-	.09 † /-	.08 † /-	-/-	-/-	-/-	-/-
Internet use →Understanding of foreign cultures	All	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
	Males	.08 † /-	.09 † /.08 †	.12*/.09 †	.09 † /.08 †	-/-	.11*/-	.14**/.13**	.10*/-
	Females	-.11*/-	-.10*/-	.08 † /-	-.11*/-	-/-	-.11*/-.09 †	-/-	-/-
Internet use →Sense of international solidarity	All	-/-	-/-	-/-	-/-	-/-	-/-	.09**/.08*	-/-
	Males	-/-	-/-	-/-	-/-	-.08 †	.08 † /.10*	.16**/.17**	.10*/.08 †
	Females	-/-	-.09 † /-	-/-	-/-	-/-	-/-	-/-	-/-
Internet use →Understanding of foreign languages	All	-/-	-/-	-/-	-/-	-/-	-/-	-/-	-/-
	Males	-/-	-/-	-/-	-/-	-/-	.08 † /-	.13**/.10*	.07 † /-
	Females	-/-	-/--.09*	-.10*/-.08 †	-.08 † /-	-/-	-/--.11*	-.07 † /-	-.09*/-
International Understanding →Internet use	All	.08 † /.08 †	.09*/.09*	.06 † /.15**	.08*/.09*	.19**/.12**	.18**/.21**	.19**/.20**	.13**/.16**
	Males	-.08 †	.10*/.08 †	-.08 †	.10*/.09 †	.23**/.11 †	-.13*	.19**/.22**	-.15**
	Females	.15*/-	-/-	-.17*	-/-	.20*/.16*	.19*/.24**	.19*/.15 †	-.19*
Respect for human rights →Internet use	All	-/-	.06 † /.07*	-/-	-.07 †	.14**/.09 †	-.12*	-.13*	-.09*
	Males	-/-	-/-	-.07 † /-	-/-	.18**/-	-/-	-.16**	-.10 †
	Females	.16*/-	-/-	-/-	-/-	.14 † /-	-/-	-/-	-/-
Understanding of foreign cultures →Internet use	All	.10*/.10**	.12**/.13**	-.13**	.11**/.11**	.14**/.10*	.17**/.19**	.15**/.16**	.11*/.15**
	Males	-.12*	.11**/.11**	-/-	.13**/.11*	.16**/.10 †	-/-	.14**/.17**	-.12*
	Females	.16*/-	-.13 †	-.15 †	-/-	.16*/-	.19**/.23**	.15 † /-	-/-
Sense of international solidarity →Internet use	All	-/-	-/-	-.13**	.06 † /.07*	.10*/.08 †	.13**/.11*	.10 † /.12*	-.09*
	Males	-/-	-/-	-.10*	-/-	.11 † /-	-/-	-.14*	-/-
	Females	-/-	-/-	-/-	-/-	-.12 †	-/-	-/-	-/-
Understanding of foreign languages →Internet use	All	.08 † /-	.08*/-	.11**/.16**	.07 † /-	.25**/.15**	.20**/.25**	.26**/.23**	.19**/.18**
	Males	-/-	.09*/-	-.09 †	.08 † /-	.27**/-	-.16**	.22**/.20**	.10 † /.13*
	Females	-/-	-/-	.19**/.20*	-/-	.27**/.24**	.24**/.31**	.31**/.23**	.21**/.25**

Note 1: Values shown in Table 2 indicate the estimated causal coefficient values. They have been inputted only when significant effects or tendencies were found. The left value was obtained for the case in which the amount of each type of Internet use per day was used in calculation, and the right value was obtained for the case in which the amount of each type of Internet use per week was used in calculation. † $p < .10$, * $p < .05$, ** $p < .01$.

Note 2: Grey zones indicate significant effects found by the amount of Internet use both per day and per week.

amount of web page creation in foreign languages led to a heightened sense of international solidarity (Table 2).

On the other hand, the effect of the sense of international solidarity measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher sense of international solidarity led to an increased amount of web page viewing in foreign languages (Table 2).

The amount of each type of Internet use and understanding of foreign languages for all participants. The effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign languages measured in the second survey was not significant (Table 2).

On the other hand, the effect of the degree of understanding of foreign languages measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher degree of understanding of foreign languages led to an increased amount of web page creation in Japanese. The result also indicated that a higher degree of understanding of foreign languages led to an increased amount of each type of Internet use (using email, viewing web pages, creating web pages, and total Internet use) in foreign languages (Table 2).

Examination of causal relationships between the amount of each type of Internet use and the degree of international understanding for each sex

Next, in order to examine the causal relationships between the amount of Internet use (email, web page viewing, web page creation, and total amount) and international understanding for each sex, structured equation model analyses similar to the analyses described above were conducted.²

Table 2 shows the causal relationships between the amount of each type of Internet use and international understanding and its subscales for each sex. The effects of Internet use per day and per week are described in the following sections.

The amount of each type of Internet use and international understanding for each sex. For male participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of international understanding measured in the second survey indicated that a larger amount of web page creation in Japanese led to a heightened degree of international understanding. The result also showed that a larger amount of web page viewing, Web page creation,

and overall Internet use in foreign languages led to a heightened degree of international understanding (Table 2). On the other hand, the effect of the degree of international understanding measured in the first survey on the amount of each type of Internet use measured in the second survey indicated that a higher degree of international understanding led to an increased amount of web page creation in foreign languages (Table 2).

For female participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of international understanding measured in the second survey showed that a larger amount of web page viewing in foreign languages led to a lower degree of international understanding (Table 2). On the other hand, the effect of the degree of international understanding measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher degree of international understanding led to an increased amount of use of email and web page viewing in foreign languages (Table 2).

The amount of each type of Internet use and respect for human rights for each sex. For male participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of respect for human rights measured in the second survey showed that a larger amount of web page viewing, web page creation, and total Internet use in foreign languages led to heightened respect for human rights (Table 2). On the other hand, the effect of the degree of respect for human rights measured in the first survey on the amount of each type of Internet use measured in the second survey was not significant (Table 2).

For female participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of respect for human rights measured in the second survey, and the effect of the degree of respect for human rights measured in the first survey on the amount of each type of Internet use measured in the second survey was not significant (Table 2).

The amount of each type of Internet use and understanding of foreign cultures for each sex. For male participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign cultures measured in the second survey showed that a large amount of web page creation in foreign languages led to a heightened understanding of foreign cultures (Table 2). On the other hand, the effect of the degree of understanding of foreign cultures measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher degree of understanding of foreign cultures led to a larger amount of web page viewing and total Internet use in Japanese

2 When there was no significant difference, the unrestricted model was still employed if fitness measures of the model were not satisfactory (i.e., the RMSEA value was over .08). The fit measures of the model used here were: GFI = .99 to 1.00; CFI = .99 to 1.00; and RMSEA = .00 to .08.

(Table 2). The result also indicated that a higher degree of understanding of foreign cultures led to a larger amount of web page creation in foreign languages (Table 2).

For female participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign cultures measured in the second survey was not significant (Table 2). On the other hand, the effect of the degree of understanding of foreign cultures measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher degree of understanding of foreign cultures led to a larger amount of web page viewing in foreign languages (Table 2).

The amount of each type of Internet use and the sense of international solidarity for each sex. For male participants, the effect of the amount of each type of Internet use measured in the first survey on the sense of international solidarity measured in the second survey showed that a larger amount of web page creation in foreign languages led to a heightened sense of international solidarity (Table 2). On the other hand, the effect of sense of international solidarity measured in the first survey on the amount of each type of Internet use measured in the second survey was not significant (Table 2).

For female participants, the effect of the amount of each type of Internet use measured in the first survey on the sense of international solidarity measured in the second survey, and the effect of the sense of international solidarity measured in the first survey on the amount of each type of Internet use measured in the second survey, were examined. As a result, no significant effects were indicated by the amount of each type of Internet use per day and per week in both cases (Table 2).

The amount of each type of Internet use and understanding of foreign languages for each sex. For male participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign languages measured in the second survey showed that a larger amount of web page creation in foreign languages led to a heightened understanding of foreign languages (Table 2). On the other hand, the effect of the degree of understanding of foreign languages measured in the first survey on the amount of each type of Internet use measured in the second survey indicated that a higher degree of understanding of foreign languages led to an increased amount of web page creation in foreign languages (Table 2).

For female participants, the effect of the amount of each type of Internet use measured in the first survey on the degree of understanding of foreign languages

measured in the second survey was not significant (Table 2). On the other hand, the effect of the degree of understanding of foreign languages measured in the first survey on the amount of each type of Internet use measured in the second survey showed that a higher degree of understanding of foreign languages led to an increased amount of web page creation in Japanese (Table 2). The result also indicated that a higher degree of understanding of foreign languages led to an increased amount of each type of Internet use (using email, viewing web pages, creating web pages, and total Internet use) in foreign languages (Table 2).

Discussion

The effects of amount of each type of Internet use on international understanding

In this study, the type-specific effect of Internet use, such as using email, viewing web pages, and creating web pages, on international understanding for senior high school students, was examined. The study result implied that web page creation, especially in foreign languages, was effective in heightening the degree of international understanding. For male participants especially, web page creation in foreign languages improved not only overall international understanding, but also all of its subscales (respect for human rights, understanding of foreign cultures, sense of international solidarity, and understanding of foreign languages). Web page creation in foreign languages is an activity in which individuals collect and digest information related to international understanding; then, based on what they learn from the obtained information, they express messages in their own words. Such a series of activities may play an important role in improving international understanding.

Suzuki et al. (2001) previously indicated that Internet use in foreign languages improved international understanding in male participants. However, this study further indicated that the effect of Internet use differed according to its type. For example, web page creation in foreign languages showed some effects, but using email in foreign languages did not show any reliable effect on the degree of international understanding. According to this finding, it is desirable that individuals actively participate in web page creation in the future.

Internet use did not show any positive effects on female participants. Rather, the study result indicated that web page viewing in foreign languages lowered the degree of international understanding. This may be because female participants did not have much room to improve their international understanding since their scores were higher than male participants. When the level of international understanding is at, or higher

than, a certain standard, what improves international understanding may not depend on lengthy exposure to information on the web, but rather, may depend on the type of information content that individuals are exposed to. In fact, the Internet can provide not only information that promotes international understanding, but also a large volume of information that hinders international relationships. There has been an increase in the number of websites whose contents are openly racially discriminatory. Repeated exposure to such negative information is predicted to cause the formation of improper attitudes in various groups of individuals (Huston, Donnerstein, Fairchild, Feshbach, Katz, Murray, Rubinstein, Wilcox & Zimmerman, 1992). In future, it will be necessary to examine the effect of information content to be viewed.

The effects of international understanding on the amount of each type of Internet use

As a result of examining the effect of international understanding on the amount of each type of Internet use, a higher degree of international understanding as a whole led to more web page viewing, more total Internet use in Japanese and foreign languages, more use of email, and more web page creation in foreign languages. Such tendencies were observed in the intellectual aspects of international understanding subscales, such as understanding of foreign cultures or languages. Therefore, knowledge may promote the use of the Internet, and also, having knowledge may be important in making use of the Internet.

Also, for male participants, the results indicated that a high degree of international understanding, and understanding of foreign culture and languages, led to more web page creation in foreign languages; and, as mentioned above, a large amount of web page creation in foreign languages led to a heightened degree of international understanding and understanding of foreign cultures and foreign languages. For female participants, a high degree of international understanding led to more web page viewings in foreign languages, and a large amount of web page viewing in foreign languages led to a lowered degree of international understanding. These circulating effects would have amplified the effect of the original Internet use. Therefore, for male participants, web page creation in foreign languages should be seen as more admirable, and it is necessary to be more careful about web page viewing in foreign languages for females.

Conclusion

The results of this study suggest that web page

creation in foreign languages had a positive effect on international understanding, although email in foreign languages did not show such an effect. Therefore, in the future, it is desirable that individuals actively participate in web page creation for international understanding. However, such a positive effect was observed only in male participants, and it was also suggested that web page viewing in foreign languages might even have a negative effect on female participants. Future research should be conducted to examine how the content of the information to be viewed affects international understanding; this research should look for more effective ways of using the Internet, based on the recent state of teaching international understanding through Internet use at schools.

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The Effects of Viewing Educational Programs on Children’s Cognitive Skills: Comparison of the Effects of Educational Focuses of the Programs

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Abstract

In this study, a survey was administered to 107 fifth graders at two different times in order to examine the effect on children’s cognitive skills (general knowledge, comprehension of social rules, spatial skill, mathematical processing skill, deduction skill, and linguistic skill) of the amount of viewing of educational programs with a particular educational focus. We examined through multiple regression analyses how well the amount of viewing of programs with each type of educational focus measured at the first survey predicted the cognitive skills measured at the second survey, and the result indicated that educational focuses such as “interpersonal skills” and “positive attitudes to learning” promoted mathematical processing skills but at the same time decreased linguistic skills. Therefore, this study has suggested that different contents of educational programs had different effects on children’s cognitive skills.

Introduction

It has been more than 50 years since TV broadcasting started and people started to enjoy it at home. During these 50 years, it has been believed that viewing TV has a strong impact on children, both physically and psychologically, due to the long hours of daily TV viewing by children, the entertaining nature of the programs, and the impact of the images shown. In particular, since the time when TV sets were first introduced to general households there has been a concern that TV viewing may have adverse effects on academic skills, intellectual abilities, and cognitive skills. In response to that concern, in order to find out if TV viewing really had such adverse effects, the relationship between TV viewing and academic or cognitive skills has been examined in many studies or social surveys.

Findings from studies that examined correlations between the amount of TV viewing and academic or cognitive skills have been integrated by some meta-analyses (Williams, Haertel, Haertel, & Walberg, 1982; Neuman, 1988; Razel, 2001). The results of the meta-analyses confirmed that there is a curvilinear negative correlation between the amount of TV viewing and academic or cognitive skills.

Recently, in addition to correlation studies, the number of longitudinal studies has been increasing that examining if TV viewing actually affected children’s cognitive skills (Gortmaker, Salter, Walker, & Dietz, 1990, Aksoy & Link, 2000; Koolstra, van der Voort & van der Kamp, 1997). While previous studies have indicated that a large amount of TV viewing limited improvement of mathematical skill (Aksoy & Link, 2000) or reading skill (Koolstra, van der Voort & van der Kamp, 1997), there have also been longitudinal studies that reported that TV viewing did not have any significant effect on children’s academic or cognitive skills (e. g., Gortmaker, Salter, Walker, & Dietz, 1990). Therefore, it seems too early to make any conclusions regarding the effect of TV viewing on children’s academic or cognitive skills.

Meanwhile, there have also been a large number of studies that examined the effect of not the amount but the quality of TV viewing on children’s cognitive skills. Among these studies, empirical studies and longitudinal studies have demonstrated that educational programs could improve children’s cognitive skills (Fisch, Truglio, & Cole, 1999, Fisch, 2002, Wright et al., 2001).

In these circumstances, we conducted a longitudinal study with Japanese fifth graders to examine the effect

of TV viewing on their cognitive skills (Omi, Sakamoto, & Hattori, 2003; Omi, Hattori, & Sakamoto, 2006). We administered the same survey twice at a six-month interval to approximately 100 fifth graders, and measured the amount of TV viewing and cognitive skills such as general knowledge, comprehension of social rules, spatial skill, linguistic skill, and mathematical processing skill in the first survey, and in the second survey, the same cognitive skills as measured in the first survey were measured again. Based on the data, we conducted multiple regression analyses to examine the effect of the amount of TV viewing measured in the first survey on the cognitive skills measured in the second survey with controlling the cognitive skills measured in the first survey. The result indicated that the amount of TV viewing measured in the first survey would predict improvement of spatial skill and decrease of linguistic skill (see Omi, Sakamoto, & Hattori, 2003 for details). Furthermore, using the analysis result, we also examined the effect of viewing of educational programs. The result showed that the amount of viewing of educational programs would predict improvement in comprehension of social rules (Omi, Hattori, & Sakamoto, 2006).

In this paper, we analyzed the data provided by Omi, Hattori, & Sakamoto (2006) in further detail to examine not only the amount of viewing of educational programs but also the type of elements of educational programs that would influence cognitive skills, and we also studied how they influenced the cognitive skills. More specifically, we used the content analysis data of educational programs obtained by Tajima, Omi, Sakamoto, Isshiki, & Hattori (2004), and analyzed if different educational focuses of educational programs had different impacts on cognitive skills. Comparison of effects on cognitive skills among educational focuses of programs has been never conducted in previous studies. Therefore, this study is believed to expand discussions on the effect of educational programs on children's cognitive skills.

Method

Subjects

Subjects of this study were fifth graders from 5 elementary schools in Kawasaki city in the Tokyo metropolitan area. They were sixth graders when they participated in the second survey. Among all the subjects, 107 (53 male, 54 female) of them completed and submitted viewing diaries and also participated in both cognitive tests. Data obtained from these subjects was used in the later analyses.

Time of survey

In this study, variables related to the amount of TV

viewing were measured based on the viewing diary kept by parents of the subjects, and the cognitive skills were measured by a test. Subjects' television viewing was recorded in a viewing diary for 1 week, from March 4 to March 10, 2002. The first cognitive skill test was administered in March 2002, and the second test took place in October 2002.

Content analysis of educational programs

Selection of subject programs

Parents of the subjects were asked to keep a viewing diary. In this diary, parents recorded the start and end time of TV viewing of their child inside the provided time scale everyday. Hours of viewing were recorded in units of 15 minutes. They were also asked to record the name and channel of the viewed programs. Based on the information provided through the diaries, we then selected educational programs using the following procedures.

First, during the survey period (1 week starting from March 4), programs that earned 10% or higher audience share (the percentage of households that had their TV on and also watched a particular TV program) were selected on the basis of an audience appreciation rating survey conducted by Video Research Ltd. targeting children in the age range from 4 to 12. Each of these programs was viewed for 5 minutes by 4 third year undergraduate students majoring in psychology. After viewing, the undergraduate students answered if each of the programs was "1: Educational," "2: Entertaining," or "3: Neither." As a result, 33 programs that all 4 of the undergraduate students evaluated as "educational" were regarded as educational programs in this study. Among these 33 programs, there were 28 programs on the NHK Educational channel, 1 on the TBS channel, 1 on the Fuji Television Network channel, 1 on the TV-Asahi channel, and 1 on the TV Tokyo channel.

Most of the programs on the NHK Educational channel have been designed for young children or first or second graders, and many of them deal with school readiness or study subjects that the viewers learn at school. The TBS program called "*3-nen B-gumi Kimpachi Sensei*" was a 1-hour drama series set in a third year high school class. A Fuji Television Network program called "*Hakkutsu! Aru Aru Daijiten*" was a variety show covering discussions of issues directly related to our lives such as health, society and the environment. A TV-Asahi program called "*Suteki na Uchusen Chikyu-go*" was a documentary program that shows wildlife in its natural habitat. A TV Tokyo program called "*Kitty's Paradaisu*" was a magazine-format program designed for young children (especially girls).

Table 1 Items and examples of the topics and categories for coding educational focuses of programs

Topics	Categories	Examples
Physical well-being and motor development	Motor skills	Gross hand-eye coordination skills, such as learning to throw, catch, kick, bat
	Health-related knowledge	Know that food, rest, and exercise are needed for healthy growth
Social and emotional development	Intrapersonal skills	Learn to label and express a variety of emotions
	Interpersonal skills	Learn to value of sharing, cooperating, and compromising
Approaches to learning	Positive attitudes to learning	Experience the joys and satisfactions of learning in general
	Creativity	Learn the joys of self-expression
Language skills, vocabulary flexibility, & fluency	Study skills	Learn to respect the need for classroom routines
	Language arts	Develop skill in describing events from personal experience
Cognitive skills	Literacy skills	Acquire a substantial vocabulary
	General cognitive skills	Order objects on the basis of size, amount, number and other attributes
	Problem solving	Articulate reasons for things
	Number skills	Acquire simple arithmetic skills (addition, subtraction, multiplication)
Natural and social science	Social science	Know some facts about history
	Natural science	Know about different kinds of weather and natural phenomena
Non-educational program content	Non-educational program content	Segments purely for fun, entertainment, or to advance the plot
	Advertisement	Product advertisement
	Non-educational non-program content	Scheduling information for other shows

Coding

With the 33 educational programs selected by the abovementioned procedures, we conducted the content analysis and coded the educational focuses of the programs. We used the same 7 topics and 17 categories for coding as used in the content analysis study by Neapolitan, Goser, & Huston (1994). Items and specific examples of the topics and categories are shown in Table 1.

Coding was done for each segment, a constituent of a program. Here, a segment is defined as “a self-contained program moment or event with no major time, place, or topic shifts” (Neapolitan, Goser, & Huston, 1994). Coders first watched each segment and then selected one each from the 7 topics or 17 categories that best described the content of the segment. The content analysis of the educational focuses of the programs was thus conducted. Refer to Tajima et al. (2004) for the detailed procedures of the content analysis.

In order to compare the effects on cognitive skills among educational focuses of the programs, we calculated the total number of segments for each topic and category for individual programs. We then compared the results with the data obtained from viewing diaries, calculated the number of segments in each topic and category that each subject watched, and then used that result in the analyses as the amount of viewing of each primary theme.

Cognitive skill test

The cognitive skill test used in this study consisted of: knowledge and comprehension questions from the Japanese version of the WISC-R (Kodama, Shinagawa

& Mogi, 1978); and questions from the Kakenshiki Chinou Shindan Kensa [Kakenshiki Intelligence Assessment Test] (Kyouiku Kagaku Kenkyujo [Education and Science Research Institute], 1964) on spatial relationships, mathematical processing, deduction, and language designed for fifth and sixth graders. The format of the questions from the Kakenshiki Chinou Shindan Kensa were based on the classic intelligence test called the “Army Test” developed by Arthus and Terman in 1918 (Wolman, 1985), and the questions themselves were based on intelligence test questions created up to that point mainly in the United States. The “Army Test” format refers to a combination of the A-format to measure the linguistic skills (as a sub-skill of cognitive skill) and the B-format to measure the skills other than the linguistic skills (spatial relationships, mathematical processing, and deduction).

(1) Knowledge: Questions on knowledge were to test common sense or general knowledge (e.g. In which direction does the sun set?). There were 18 questions, and the score range was 0 to 18. The time limit for answering the questions was set to 4 minutes, based on the Japanese version of the WISC-R (Kodama, et al, 1978).

(2) Comprehension: Questions on comprehension were designed to test problem solving skills in certain situations and also contained questions related to “being a good citizen” (e.g. Why are criminals kept in jails?). There were 9 questions, with a maximum of 2 points each; therefore, the score range was 0 to 18. The time limit for answering the questions was set to 6 minutes.

(3) Spatial relationships: Questions on spatial relationships consisted of mental rotation and figure matching questions. There were 30 questions, and the

score range was 0 to 30. The time limit for answering the questions was set to 6 minutes based on the manual of the Kakenshiki Chinou Shindan Kensa [Kakenshiki Intelligence Assessment Test] (Kyouiku Kagaku Kenkyujyo [Education and Science Research Institute], 1964).

(4) Mathematical processing: Questions on mathematical processing skills were all calculation problems (e. g. Assuming you have 75 pieces of cake and you have to put them into 5 boxes, and each box must have the same number of pieces of cakes, how many do you need to put in each box?). There were 10 questions and the score range was 0 to 10. The time limit for answering the questions was set to 2 minutes.

(5) Deduction: Questions on deduction were related to numerical sequence estimation (e. g. 2, 4, 6, 8, 10, 12, __, __). There were 19 questions and the score range was 0 to 19. The time limit for answering the questions was set to 3 minutes.

(6) Language: Questions on language were: questions on antonyms (e. g. Choose an antonym of the word “remember.” (1)*Forget*, (2)*Enjoy*, (3)*Be reminiscent*, (4) *Memorize*); questions on synonyms (e.g. Choose a synonym of the word “comfortable.” (1)*Fun*, (2)*Bright*, (3)*Pleasurable*, (4) *Happy*); and questions on conjunctions (e.g. I went fishing yesterday [(1)*Then*, (2)*Therefore*, (3)*However*, (4)*In other words*] I was not able to catch anything). There were 45 questions and the score range was 0 to 45. The time limit for answering the questions was set to 4 minutes.

Although the Japanese version of the WISC-R (Kodama et al., 1978) is originally an intelligence test designed to be administered to individuals, it was administered to groups of subjects by using questionnaires. This should not pose any problems since questions on knowledge and comprehension can be asked and answered using questionnaires.

Demographic variables.

Each subject provided his/her school name, school year, and gender.

Procedure

Viewing diaries were distributed and collected through teachers. The cognitive skill test was administered to each class. Before the test was administered, we explained that this test would not influence school grades, asked the subjects to listen to the instructor carefully, and not to talk to other subjects while answering the questions. After the test started, we explained each of the questions based on the guidelines of the Japanese version of the WISC-R (Kodama et al., 1978) and the Kakenshiki Chinou Shindan Kensa [Kakenshiki Intelligence Assessment Test] (Kyouiku Kagaku Kenkyujyo [Education and Science Research

Institute], 1964). At the same time, we asked the subjects not to start answering the questions unless they were told to do so, and not to turn the page and move on to the next question unless they were told to do so even if all the questions were answered within the set time limit. Undergraduate and graduate students (including first author) majoring in psychology served as instructors. To conduct the test, a pair of an instructor and an assistant, who helped the instructor in distributing/collecting test sheets and in timing, visited each school. A test manual was created in order to standardize instructions, and instructors followed it. The test took approximately 35 minutes, and test sheets were collected at the test site.

Results

Examination of gender differences in the amount of viewing of programs with each type of educational focus and cognitive skills

Table 2 shows the mean value and standard deviation of the amount of viewing of programs with each educational focus, and Table 3 shows the mean value and standard deviation of each cognitive skill. As a result of the t-test, which was used to examine gender differences in the amount of viewing of content with each educational focus, there were no significant difference in the amount of viewing of TV programs and educational programs. Note that, among the 17 topics, the segments that mainly dealt with “health-related knowledge,” “study skills,” and “number skills” were not included in the programs that subjects of this study watched.

Also, we conducted 2 (time of testing) x 2 (gender) mixed (repeated measures) ANOVAs for the cognitive skill in order to examine the main effect of the time of testing and subject genders and their interaction. As a result, the main effect of the test time was detected in all types of cognitive skills, and both male and female subjects had significantly higher scores at the second survey than at the first survey (knowledge: $F(1, 104) = 59.93, p < .001$; comprehension: $F(1, 87) = 10.92, p < .001$; spatial relationships: $F(1, 105) = 137.46, p < .001$; deduction: $F(1, 85) = 34.31, p < .001$; mathematical processing: $F(1, 80) = 35.94, p < .001$; and language: $F(1, 105) = 60.62, p < .001$). Also, the main effect of gender was detected only in deduction, where male subjects had higher scores than female subjects at the second survey ($F(1, 85) = 5.87, p < .05$). As for the interaction between the time of testing and gender, there were significant interactions about knowledge and language skills (knowledge: $F(1, 104) = 4.41, p < .05$; language: $F(1, 105) = 4.64, p < .05$), however, no significant effects were detected as a result of the sub-analysis.

Table 2 Mean value and standard (SD) deviation of the amount of viewing of programs with each educational focus

Topics	Categories	Mean	SD
Physical well-being and motor development ^a	Motor skills	0.45	1.44
	Health-related knowledge	0.43	1.47
Social and emotional development		—	—
		12.23	17.90
Approaches to learning	Intrapersonal skills	1.54	3.12
	Interpersonal skills	11.93	17.53
Language skills, vocabulary flexibility, & fluency		3.45	6.50
		0.29	0.46
Cognitive skills	Positive attitudes to learning	0.29	0.46
	Creativity	3.04	6.46
Natural and social science	Study skills	—	—
		3.61	5.47
Non-educational program content	Language arts	2.90	4.56
	Literacy skills	0.42	1.05
		0.79	1.71
		0.08	0.28
	General cognitive skills	0.37	0.52
	Problem solving	—	—
	Number skills	—	—
		5.96	17.83
		5.96	17.83
		0.17	0.56
		5.05	7.67
		2.49	5.38
		2.70	3.62
		0.17	0.69

^a The number of segment is the unit of this value.

Table 3 Mean values and standard deviation (SD) of cognitive skills

	Total			Male			Female		
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>
First survey									
WISC-R									
Knowledge	106	7.86	2.40	53	8.17	2.37	53	7.55	2.41
Comprehension	107	8.07	2.61	53	7.72	2.55	54	8.41	2.55
Kakenshiki Intelligence Assessment Test									
Spatial relationships	107	13.84	4.29	53	13.66	3.66	54	14.02	4.86
Mathematical processing	107	4.35	1.43	53	4.51	1.61	54	4.19	1.23
Deduction	87	7.72	3.78	43	8.56	3.76	44	6.91	3.67
Lauguage	107	32.51	6.82	53	31.62	7.40	54	33.39	6.14
Second survey									
WISC-R									
Knowledge	107	9.07	2.67	53	9.06	2.56	54	9.09	2.80
Comprehension	89	8.82	2.72	46	8.50	2.79	43	9.16	2.63
Kakenshiki Intelligence Assessment Test									
Spatial relationships	107	17.85	4.09	53	18.28	4.07	54	17.43	4.09
Mathematical processing	82	5.41	1.87	41	5.78	1.97	41	5.05	1.70
Deduction	107	9.50	3.72	53	10.09	3.74	54	8.93	3.65
Lauguage	107	35.76	5.58	53	35.77	5.84	54	35.74	5.37

The effect of the amount of viewing of content with each educational focus on children's cognitive skills

In order to examine the effect on children's cognitive skills of the amount of viewing of content with each educational focus, we conducted the multiple regression analyses with the cognitive skills measured in the second survey as dependent variables, and the cognitive skills and the amount of viewing of each educational focus measured in the first survey as independent

variables.

For the 7 topics, the amount of viewing of "social and emotional development (standardized $\beta = .21$, $p < .05$)," "language skills, vocabulary flexibility, & fluency (standardized $\beta = .20$, $p < .05$)," and "non-educational content (standardized $\beta = .18$, $p < .05$)" predicted a positive effect on the scores of comprehension. Also, the amount of viewing of "cognitive skills" and "natural and social science" predicted a positive effect on the

scores of mathematical processing, and a negative effect on the scores of language.

As for the 17 categories, the amount of viewing of “interpersonal skills (standardized $\beta = .21$, $p < .05$),” “positive attitudes to learning (standardized $\beta = .20$, $p < .05$),” “language arts (standardized $\beta = .20$, $p < .05$),” “problem solving (standardized $\beta = .21$, $p < .05$),” and “advertisement (standardized $\beta = .21$, $p < .05$)” had a positive effect on the scores of comprehension. Also, the amount of viewing of “general cognitive skills,” “social science,” and “natural science” had a significant positive effect on the scores of mathematical processing (standardized $\beta = .24$, $p < .05$, for general cognitive skills; standardized $\beta = .23$, $p < .05$, for social science; standardized $\beta = .24$, $p < .05$, for natural science) but significant negative effect on the scores of language (standardized $\beta = -.16$, $p < .01$, for general cognitive skills; standardized $\beta = -.16$, $p < .01$, for social science; standardized $\beta = -.16$, $p < .01$, for natural science).

Discussion

The effect of the educational focuses of educational programs on children's cognitive skills

When the effect of the educational focuses of educational programs on children's cognitive skills was examined, the result indicated that different focuses may have different effects on cognitive skills. When the educational focuses were categorized into 7 topics, the amount of viewing of “social and emotional development,” “language skills, vocabulary flexibility, & fluency,” and “non-educational content” showed a positive effect on comprehension of social rules. Meanwhile, the amount of viewing of “cognitive skills” and “natural and social science” both predicted improvement of the mathematical processing skill and a decrease in the linguistic skill.

When the effect of viewing of subordinate categories on comprehension were examined, the amount of viewing of “interpersonal skills,” “positive attitudes to learning,” “language arts,” “problem solving,” and “advertisement” promoted comprehension of social rules. The “interpersonal skills,” which are the skills for establishing and maintaining good relationships with others, are one of the types of skills necessary for leading a social life smoothly. The problems used to measure comprehension of social rules in this study included a question like “what would you do if a small child suddenly started punching you?” to find out the level of the interpersonal skill of the subjects. For “problem solving,” too, learning of the skills to solve problems by thinking logically seems to be closely related to the development of a willingness to understand social rules for leading a smooth social life and a willingness to behave in accordance with such

understanding. Therefore, it is not surprising that the study result indicated that viewing of these focuses had positive effects on comprehension of social rules.

Promotion of comprehension of social rules by “positive attitudes to learning” may be attributed to an increase in intellectual curiosity, interest in social rules, or willingness to understand. The positive effect seen with “language arts” may be related to the measurement method of comprehension of social rules. In this study, the social rule comprehension problems were free-answer questions. Therefore, it was possible that the scores of these questions were positively influenced by the size of vocabulary or the document creation skills, which were the educational goals of “language arts.”

As for the effect on the mathematical processing skill and linguistic skill, the subordinate categories “general cognitive skills,” “natural science,” and “social science” improved the mathematical skill and at the same time decreased the linguistic skill. The focus for “general cognitive skills” was the understanding of temporal and spatial relationships of events, and shared the concept of understanding of scientific regularity with mathematics. This subordinate category thus may have had a positive relationship with the mathematic skill in which mathematical regularity was understood. Also, the fact that this subordinate category had a negative effect on the linguistic skill may suggest that, even though the programs are educational, some of the focuses could lower the linguistic skill.

In addition to the effects of individual focuses as mentioned above, it is the effect of individual programs that needs to be considered. The most frequently watched program by the subjects of this study was “*3-nen B-gumi Kimpachi Sensei*.” This program not only depicted how interpersonal problems within the classroom were solved but also emphasized how interesting and fun it was to learn Japanese. The fact that “advertisements” had a positive effect on comprehension of social rules could be attributed to the TV commercials being broadcasted during the drama, sharing the positive effects with the drama.

The focuses on the mathematical processing skill and the linguistic skill would imply further the possibility that the effects of focuses and the effects of programs are not independent from each other. Since the same focus resulted in different effects, it is estimated that the opposite effects of a particular program were detected instead of the effects of the focus of that program.

One of the reasons why it was highly likely that the effects of programs, rather than their focuses, were detected is that, because there were only a small number of programs subject to the content analysis, the amount of viewing of the focuses by the subjects

was greatly influenced by viewing of certain programs. If the amount of viewing of the focuses were too closely tied with viewing of a particular program, the focuses contained in that program as a whole would create certain effects; therefore, it would become impossible to know which focuses actually had effects on the cognitive skills. Thus, in order to separate the focuses from the programs, and to clarify the effects of the focuses on the cognitive skills, it will be necessary to increase the amount of viewing of the same focus detected in different programs.

Note that even though the effects on the cognitive skills indicated in this study are more likely to be the effects of the programs than the effects of the focuses, the findings of the study are never meaningless. This study has suggested that some of the contents of the programs, even in the case of educational programs, could have different effects on the cognitive skills. Therefore, this study has not only supported the existing discussion that much attention must be paid to the contents of the viewed programs when examining in detail the effects of TV viewing on the cognitive skills, but also presented an effective methodology for the examination.

Conclusion

In this study, we conducted a longitudinal study to examine the effects on children's cognitive skills of the amount of viewing of educational programs with distinct types of focus. As a result, focuses such as "interpersonal skills," "positive attitudes to learning," "problem solving," and "language arts" promoted comprehension of social rules, and focuses such as "general cognitive skills," "natural science," and "social science" improved the mathematical processing skill while they decreased the linguistic skill.

Therefore, the effects on the cognitive skills may vary with the contents of educational programs. It is possible, however, that the effects of the programs have not been successfully separated from the effects of the focuses, and it is thus necessary in the future to further examine the effects of the focuses.

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Gender Differences in the Effects of the Internet Use on the Skill of Practical Use of Information: The Results of Analyses with a Multi-Group Comparison Technique

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Abstract

In this study, we examined the gender differences of the effects of the Internet use on their skill of practical use of information. To collect data, a two-wave panel study was conducted with 213 Japanese undergraduate students (110 men and 103 women). The results suggested that as a whole, the effects of the Internet use on the skill of practical use of information were stronger for women than for the men. In other word, we found that only the positive effects of Web browsing on the skill of collection were common in both genders. Also, we found that several Internet tools had the positive effects on the skill of processing and the negative effects on the skill of creation only in women. On the other hand E-mail had the positive effects on the skill of communication and chat/pagers had the positive effects on the skill of expression only in men.

Key words: Internet use, the skill of practical use of information, undergraduate students, gender differences

1. Introduction

In this information society, individuals are required to have the information literacy which is defined as “the basic ability of an individual to choose information and information methods actively (The Ministry of Education, Science and Culture 1992).”

Effects of the Internet use on the information literacy has been studied a few times so far through junior and senior high school students as the Internet became widely used in schools. For example, the results of a quasi-experiment with junior high school students suggested that students from schools that used the Internet more in classes showed greater improvements in their skill of practical use of information [Jouho Katsuyou no Jissenryoku] which is one of the important components of information literacy than students from schools that used the Internet less in classes (Naito et al., 2003). This suggested that the frequent use of Internet during classes contributed to improvement of the skill of practical use of information. Also, in a panel study that examined causal relationships between the Internet use outside school and the skill of practical use of information (Takahira et al., 2003), it became clear that students who used the Internet more showed improvement in their skills of practical use of information in some areas. Thus, for children, Internet use not only inside classes but also outside classes seemed to contribute to improvement of the skill of practical use of information.

For adults, although there are few studies that examined the effects of the Internet use on the skill of practical use of information, in a study with undergraduate students (Takahira et al., 2002), it was pointed out that sending/receiving E-mail messages and Web browsing improved the skill of expression and processing, which were sub-categories of the skill of practical use of information, while Web page creation lowered the skill of creation. Furthermore, these effects were stronger in undergraduate students than in junior or high school students.

This overview of the previous studies suggests that the Internet use has some positive effects on improvement of the skill of practical use of information.

In general, it is believed that women attach greater importance to interpersonal communications than men, and it has been pointed out that men and women use the Internet differently. For example, women use E-mail more often than men, use it to maintain or promote interpersonal relationships, and write more personal matters than men (Boneva et al., 2001). If there are gender differences in terms of methods of or purposes for using the Internet tools as described above, the resulting educational effects may differ between the genders even when the same tool is used. Therefore, it is necessary to examine gender differences and compare the observed effects between men and women in order to study the effects of the Internet use on the skill of practical use of information.

As an example of the studies on gender difference in the effects of the Internet use on the skill of practical

use of information, Mouri et al. (2002) conducted a panel study with senior high school students and found that the frequent use of Internet improved the skill in judgment for boys, while it lowered the skill of judgment and communication for girls. There are, however, few such studies with adults. Also, Mouri et al. (2002) examined the effects of the Internet use only by taking the total amount of the use of each Internet tool into consideration; therefore, the effect of each Internet tool on practical use of information was not clarified. Since various Internet tools have a large variety of functions and purposes, it is necessary to conduct tool-specific analyses to examine in great detail the effects of the Internet use on the skill of practical use of information. In this study, we examined gender differences in the effects of the Internet use on the skill of practical use of information with undergraduate students. To collect data, we conducted a panel study, and measured the amount of use of each Internet tool and the skill in practical use of information at two different times. If data is collected only once, it is generally impossible to estimate causal relationships between variables. If data is collected more than two times and analyzed by an appropriate method, it is possible to estimate causal relationships to some degree (Finkel, 1995).

As “the skill of practical use of information,” the total of six types of sub-categories (the abilities to collect, judge, express, process, create, and communicate information) and each of the individual variables was used in this study. Note that the description of each sub-category was as follows. (1)Skill of collection [Shyuushyuu Ryoku]: the ability to collect necessary information subjectively in accordance with purpose by using an appropriate method. (2)Skill of judgment [Handan Ryoku]: the ability to select necessary information from a large volume of information, judge its content, and extract the most appropriate information. (3)Skill of expression [Hyougen Ryoku]: the ability to carefully examine the method for expressing information, organize information in an appropriate style, and express the information. (4)Skill of processing [Syori Ryoku]: the ability to process the collected information properly and to extract and understand necessary information. (5)Skill of Creation [Souzou Ryoku]: the ability to create information based on one’s own ideas or opinions. (6)Skill of communication [Hasshin Dentatsu Ryoku]: the ability to communicate information while being aware of the recipient’s position or ability to process information.

2. Method

2.1 Participants

A two-wave panel survey was conducted to undergraduate students in the Tokyo metropolitan area and

surrounding areas with a three-month interval. Eventually, 213 students (110 men and 103 women) answered the questionnaire in both surveys, and their responses were analyzed.

2.2 Survey content

2.2.1 The skill in practical use of information

“The scale of the skill of practical use of information (Takahira et al., 2001)” was used to measure how practically the participants were able to use information. This scale consisted of 54 items (ten items for the skill of collection, eight items each for the skill of judgment, expression, and processing, and ten items each for the skill of creation and communication). The participants answered each item using a 7-point scale ranging from “strongly disagree” to “strongly agree,” and high scores meant that the skill of practically use information was high.

2.2.2 The amount of the Internet use

The participants were asked the amount of the use of 1) E-mail (including cell-phone mail), 2) BBS/forums, 3) Web page creation, 4) Web browsing, and 5) chat/pagers, with three types of frequency categories as below.

(1) The amount of Internet use per day (hours/day)

Participants were asked how much time they spent on using each Internet tool on average per day in the past 30 days. Each question was answered on an 8-point scale ranging from “none,” to “3 hours or longer.”

(2) The amount of Internet use per week (days/week)

Participants were asked how many days they used each Internet tool on average per week in the past 30 days. Each question was answered on an 8-point scale ranging from “none,” to “everyday.”

(3) The amount of Internet use per year (days/year)

Participants were asked how many days they used each Internet tool on average in the past year. Each question was answered on a 10-point scale ranging from “none,” to “3 or more days during a week.”

2.2.3 Demographic variables

Participants were asked their age and gender.

3. Result

3.1 Mean and gender differences of the skill of practical use of information and the amount of the Internet use.

Table 1 showed means and standard deviations for the skill of practical use of information and Table 2 showed means and standard deviations for the amount of Internet use, each of which was measured in the first survey.

As a result of mean comparisons, men showed significantly higher scores than women for the skill of

Table 1 Mean of the skill of practical use of information at the first survey.

	Male		Female	
	<i>m</i>	<i>sd</i>	<i>m</i>	<i>sd</i>
Overall skill of practical use	239.06	33.10	234.26	29.24
Skill of collection	46.75	8.04	45.40	7.57
Skill of judgment	34.40**	6.73	32.13	6.23
Skill of expression	31.20	7.38	33.28**	6.71
Skill of processing	35.66*	6.80	33.78	5.91
Skill of creation	44.32**	9.69	41.16	8.61
Skill of communication	46.74	7.45	48.52 [†]	6.13

***p* < .01, **p* < .05, [†]*p* < .10.

Table 2 Mean of Internet use at the first survey

	Male		Female	
	<i>m</i>	<i>sd</i>	<i>m</i>	<i>sd</i>
Overall Internet use				
Hours/day	7.12	4.84	7.82	4.50
Days/week	11.39	7.24	11.89	6.65
Days/year	24.80 [†]	9.03	22.57	8.19
E-mail				
Hours/day	2.19	1.38	2.92***	1.39
Days/week	4.51	2.57	5.15 [†]	2.29
Days/year	7.95	2.11	8.28	1.54
BBS/forums				
Hours/day	1.58	1.66	1.40	1.48
Days/week	2.60	2.65	2.35	2.68
Days/year	5.23	3.98	4.64	4.01
Web page creation				
Hours/day	0.35	0.98	0.33	1.07
Days/week	0.25	0.86	0.28	0.98
Days/year	2.34**	2.80	1.36	2.48
Web browsing				
Hours/day	2.69	1.66	2.78	1.61
Days/week	3.73	2.50	3.69	2.45
Days/year	7.86 [†]	1.88	7.30	2.55
Chat/pagers				
Hours/day	0.39	1.20	0.19	0.79
Days/week	0.36	1.17	0.38	1.19
Days/year	1.42	2.81	0.99	2.42

****p* < .001, ***p* < .01, [†]*p* < .10.

judgment, processing, and creation. Meanwhile, women showed higher scores than men for the skill of expression and communication. As for the Internet use, females used e-mail more per day and per week than males. On the other hand, males showed a larger amount of overall Internet use in a year, spent more days on creating Web pages in a year, and spent more days on Web browsing in a year than females.

3.2 Method and model for analysis of causal relationships

To analyze the effects of the Internet use on the skill of practical use of information and its sub-categories, we used structural equation modeling to examine the cross-lagged effect model shown in Figure 1. This model was designed for estimating causal relationships between variables from panel data (Finkel, 1995). For

example, if the Path E, which was the path from the amount of E-mail use measured in the first survey to the score of the skill of judgment measured in the second survey, suggested significant positive effects, then it would be estimated that the frequent use of E-mail would improved the skill of judgment.

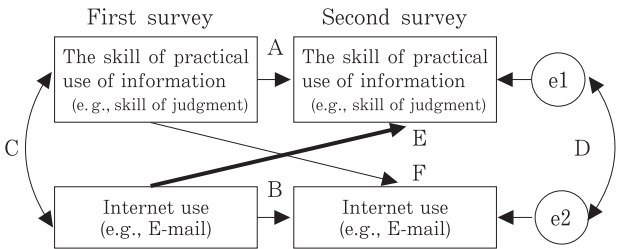


Figure 1 The cross-lagged effect model.

We then used a multi-group analysis technique to examine the gender differences. When comparing the characteristics of different groups using structural equation modeling, if the analysis model is employed for each group, it is assumed that estimated parameter values of the groups are all different even though they are analyzed with exactly the same analysis model. Note that it is possible to obtain more robust comparison results if the comparison can be made simpler by applying an equivalence restriction in which characteristics common to the groups are equivalent in parameter values. In the multi-group analysis technique, an equivalence restriction in which the regression weight and covariance are equivalent among the groups can be applied, and then the groups can be analyzed simultaneously. This will allow inter-group comparisons by using the best-fit model without rejected equivalence restrictions. Therefore, application of an equivalence restriction is useful when comparing the characteristics of groups.

Table 3 Equivalence restrictions of each analysis model.

Models	equivalence restrictions	<i>df</i>
Model 1	A, B, C, D, E, F	6
Model 2	A, B, C, D, F	5
Model 3	A, B, C, D, E	5
Model 4	A, B, C, D	4
Model 5	A, B, C	3
Model 6	A, B, D	3
Model 7	A, B,	2
Model 8	A	1
Model 9	B	1
Model 10	none	0

3.3 Selection of analysis models

To apply the multi-group analysis technique, equivalent restrictions were eliminated one by one from Model 1 to Model 10. In Model 1, all the relationships shown

Table 4 Selected models

	The skill of practical use of information.						
	Overall skill	Collection	Judgment	Expression	Processing	Creation	Communication
Overall Internet use							
Hours/day	5	1	8	1	2	1	5
Days/week	1	2	3	1	2	1	1
Days/year	1	1	3	1	2	1	1
E-mail							
Hours/day	1	1	1	1	1	1	1
Days/week	1	1	4	1	1	1	2
Days/year	8	8	8	8	8	8	8
BBS/forums							
Hours/day	1	1	1	1	1	1	1
Days/week	1	1	3	1	1	1	1
Days/year	1	2	5	1	2	3	1
Web page creation							
Hours/day	8	8	8	8	8	8	8
Days/week	8	1	8	8	8	8	8
Days/year	2	2	1	2	6	1	1
Web browsing							
Hours/day	2	1	1	1	2	1	1
Days/week	1	1	1	1	2	1	1
Days/year	1	1	8	1	5	1	2
Chat/pagers							
Hours/day	8	8	8	8	8	8	8
Days/week	8	8	8	8	8	8	8
Days/year	2	1	2	2	3	2	1

as Paths A through F in Figure 1 were assumed to be equivalent between men and women. Model 10 is a saturated model in which all relationships shown as the same path were different between the two groups (Table 3).

Then, based on the fit indices such as Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA), we selected a model that was considered the most suitable in predicting causal relationships between variables (Table 4). For the models selected for this study, GFI were .96 to 1.00, CFI were .98 to 1.00, and RMSEA were .00 to .09. Therefore, each set of the model and data can be judged to have sufficient degrees of fitness.

3.4 Estimation of causal relationships

Table 5 showed the results of the effects of use of each Internet tool and the overall Internet use on the skill of practical use of information and its six sub-categories (Path E in Figure 1). In the following sections, we will describe the effects of each Internet use that showed significant or marginally significant effects in more than two types of frequency among the three types (Internet use per day, per week, and per year). Since, if more than two significant effects found in different frequencies in the same internet tool, it would consider that the exhibited effects were robust. Note that, in this paper, the results of reversed causal relationship

(Path F in Figure 1) were not described.

3.4.1 Effects on the skill of practical use of information

The results showed that men indicated significant improvement in their overall skill of practical use of information as their frequent use of E-mail per week and per year.

For women, on the other hand, the same positive results were indicated as their frequent use of Web browsing per day and days per year. However, their overall skill of practical use of information lowered as they spent more days on creating Web pages per week and in a year (Table 5).

3.4.2 Effects on the skill of collection

The results showed that both men and women indicated significant improvement in their skill of collection as their frequent Web browsing in all three frequency categories. In addition, women also showed enhanced skill of collection as overall Internet use increased per week and per year (Table 5).

3.4.3 Effects on the skill of judgment

The results showed that no Internet tool indicated any significant or marginally significant effect on the skill of judgment in more than two frequencies (Table 5).

Table 5 Causal relationships from Internet use to the skill of practical use of information.

	The skill of practical use of information.													
	Overall skill		Collection		Judgment		Expression		Processing		Creation		Communication	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Overall Internet use														
Hours/day										.17**	-.07 [†]	-.07 [†]		
Days/week				.12 [†]						.11 [†]				
Days/year			.08 [†]	.07 [†]						.16**				
E-mail														
Hours/day											-.07 [†]	-.07 [†]	.08 [†]	.10 [†]
Days/week	.07 [†]	.06 [†]							.08 [†]	.07 [†]			.20**	
Days/year	.10*						.11 [†]	.12 [†]	.08 [†]	.18**			.24***	
BBS/forums														
Hours/day														
Days/week														
Days/year				.13*		.12 [†]				.13*				
Web page creation														
Hours/day												-.11*		
Days/week		-.11 [†]										-.15**		
Days/year		-.13*					-.16*	-.09 [†]		-.12***	-.12***			
Web browsing														
Hours/day		.12*	.13**	.13**						.18**				
Days/week			.14**	.14**						.14*				
Days/year	.06*	.09*	.10**	.12**			.09*	.12*		.18**			.11 [†]	
Chat/pagers														
Hours/day						-.12 [†]						-.10 [†]		
Days/week							.12*							
Days/year	.11*						.18**				.10*	-.12*		

Note. *** $p < .001$, ** $p < .01$, * $p < .05$, [†] $p < .10$.

3.4.4 Effects on the skill of expression

The results showed that men indicated significant improvement in their ability to express information as their frequent use of chat/pagers per week and per year.

Meanwhile, for women, no Internet tool indicated any significant or marginally significant effects in more than two frequencies (Table 5).

3.4.5 Effects on the skill of processing

The results showed that, for men, no Internet tool indicated any significant or marginally significant effects on the skill of processing in more than two frequencies.

For women, however, their skill of processing improved in all the frequency categories as their frequent use of Web browsing or overall Internet tools. Also, their skill of processing improved as their frequent use of E-mail per week and per year (Table 5).

3.4.6 Effects on the skill of creation

The results showed that, for men, no Internet tool indicated any significant or marginally significant effects on the skill of creation in more than two frequencies.

For women, however, their skill of creation signif-

icantly lowered as they spent more time or days on Web page creation in all the frequency categories. Furthermore, their skill of creation also became lower as their frequent use of chat/pager per day or per year (Table 5).

3.4.7 Effects on the skill of communication

The results showed that, for men, the skill of communication improved as their frequent use of E-mail in all the frequency categories.

Meanwhile, for women, no Internet tool indicated any significant or marginally significant effects in more than two frequencies (Table 5).

4. Discussion

The purpose of this study was to examine the effects of the Internet tools on the skill of practical use of information for men and women independently and to compare the observed effects. In the following sections, the results are summarized for men and women and discussed.

4.1 Effects of Internet use on the skill of practical use of information in men

For men, existence of the effects of the Internet use on the overall skill of practical use of information, the

skill of collection, the skill of expression, and the skill of communication were confirmed. This is to say that: (A) the overall skill of practical use of information improved as the E-mail use increased; (B) the skill of collection improved as the Web browsing increased; (C) the skill of expression improved as the use of chat/pagers increased; and (D) the skill of communication improved as the E-mail use increased. Except for (B), were observed only in men.

(A) Effects on the skill of practical use of information

The effects of E-mail on the overall skill of practical use of information were observed in a previous study (Takahira et al., 2002). Our results indicated that, for men, the effects of E-mail use were even stronger and robust. To examine the effect of E-mail use in detail, E-mail had stronger effects especially on the skill of communication (discussed later), but at the same time, it showed marginally significant effects in one frequency category for the skill of expression and processing. Therefore, for men, to encourage use of E-mail may contribute to improve their overall skill of practical use of information.

(B) Effects on the skill of collection

The effects of Web browsing on the skill of collection were observed in the previous study (Takahira et al., 2002). Our result showed that similar effects were observed for both men and women. Web browsing is one of the most common Internet uses, and this study indicated that this activity improved the ability to collect information regardless the gender. The experience of efficiently collecting necessary information from a large volume of information in accordance with the user's purposes may contribute to improvement of the skill of collection.

(C) Effects on the skill of expression

When using a chat, individuals exchange only text-based messages in real-time; therefore, participants must be able to produce appropriate responses or attitude while being aware of the atmosphere of the chat room. For men who are believed to have lower communication skills than women, use of such tools may allow them to accumulate experience in making smart responses. Such experience, in turn, may lead to improvement of the ability to be careful about how information should be expressed, to appropriately organize information, and to express such information.

(D) Effects on the skill of communication

Although in the previous study (Takahira et al., 2002) presented the effects of E-mail on the skill of communication, our results further indicated that such effects were observed only in men. In general, men tend to be less interested in establishing interpersonal relationships than women, and thus use E-mail less for interpersonal purposes (Boneva et al., 2001). However,

in addition to E-mail on PCs, cell-phone mail has been used as if it was a substitute for daily conversation, and its use is increasing even among men. Repeated exchange of such text-based messages without visual information may make men attempt to avoid misunderstanding or confusion arising from insufficient explanation or expression. This may contribute to improvement of the skill of communication in which individuals transmit or convey information while being aware of the recipient's position or ability to process information. Further examinations are required.

4.2 Effects of the Internet use on the skill of practical use of information in women

Overall, more effects were confirmed for women than men. Also, the amount of the use of various Internet tools had effects on the overall skill of practical use of information as well as the skills of collection, processing, and creation as described below.

For women, A) The overall skill of practical use of information lowered as the participants spent more days on Web page creation, but improved as their frequent use of Web browsing. B) The skill of collection improved as their frequent use of Web browsing or overall Internet tools. C) The skill of processing improved as their frequent use of E-mail, Web browsing, and overall Internet tools. D) The skill of creation lowered as they spent more hours or days on Web page creation, and as their frequent use of chat/pagers. Among the results listed above, all the results except for the part of B) were observed only in women.

(A) Effects on the skill of practical use of information

The negative effects of Web page creation and the positive effects of Web browsing on the overall skill of practical use of information were both already observed in one frequency category in the previous study (Takahira et al., 2002). Our results further suggested that such effects were observed only in women. The negative effects of Web page creation were the most powerful against the skill of creation (discussed later), but were also observed in one frequency category for the skill of expression. Therefore, Web page creation can be considered to have negative effects on the skill of practical use of information for women. For discussion of such negative effects, it is necessary to obtain information on what types of activities were carried out during the Web page creation. If the activities turned out such as Web diary or blog, in which required less skill to design a website layout, or a Web page update such as template-based addition to or slight correction of already completed Web pages, these activities will not improve the skill of practical use of information. For the useful suggestion to reduce its negative effects, further research will be required.

Meanwhile, the positive effects of Web browsing were found not only on the overall skill of practical use of information but also on the skills of collection and processing (discussed later). Furthermore, these positive effects were also observed in one frequency categories for the skill of expression. Therefore, for women, Web browsing, which is the most common Internet use, can improve the overall skill of practical use of information.

(B) Effects on the skill of collection

The effects of Web browsing on the skill of collection were confirmed both in the previous study (Takahira et al., 2002), and in the results for men in this study. However, the effects of overall Internet use on this skill were only observed because of the gender-specific analyses in this study.

Although the effects of overall Internet use were not stronger than any other causal relationships, the fact that the effects of overall Internet use were indicated may be attributed to the effects of Web browsing and the effects of the use of BBS/forums observed in one frequency categories. Since women generally show their interest in word-of-mouth information, use of the Internet including BBS/forums that contain a large volume of such information may promote their skill of collection.

(C) Effects on the skill of processing

Although the previous study showed the effects of E-mail and Web browsing on the skill of processing (Takahira et al., 2002), our results further indicated that these effects were observed only in women. Also, the effects of overall Internet use were observed in this study due to the gender-specific analyses.

E-mail showed different effects on the skill of practical use of information for men and women. Namely, it showed positive effects on the skill of communication for men; on the other hand, it showed positive effects on the skill of processing for women. Women generally use E-mail more often for interpersonal purposes than men (Boneva et al., 2001). Furthermore, women tend to already have high communicating skills and be interested in forming interpersonal relationships. This may be the reason why their skills of communication did not improve as a result of using E-mail. Instead, women might improve their skill of processing in which they efficiently choose and read necessary information from correspondence of E-mail.

The effects of Web browsing suggest that, through Web page searches and browsing, women learned how to properly process a large volume of information obtained from the Internet and how to pick and read necessary information. Such effects were not observed in men. It is thus necessary to examine in the future if such gender difference was caused by: (1)the skill of processing being high to start with for men; (2)the ways that women browsed Web pages, such as women trying

to collect information from a wider range of perspectives than men; or (3)the tendency that women generally are critical and skeptical about information provided on the Internet since, compared to men, women are more likely to become victims of Internet-based crimes.

(D) Effects on the skill of creation

All Internet tools showed the negative effects on the skill of creation. Web page creation had particularly stronger negative effects, and these were already confirmed in the previous study (Takahira et al., 2002). Our results, however, further confirmed that these effects were observed only in women. Also, the negative effects of use of chat/pagers were observed in this study due to the gender-specific analyses.

Web page creation involves expressing and sending out one's own ideas or opinions in one's own words. Therefore, the result that such Web page creation lowered the ability to create information seemed to be against the initial prediction. However, computers used for Web page creation usually have a large number of limitations in the operations that they can make. So, it has been pointed out that such limitations may hinder creative activities (Clements, 1995). In Web page creation, it is possible to think that creativity is required when the Web pages are first created. However, if an individual uses high performance Web page building software, he/she may consider how to use the already prepared materials but may have little chance to create something totally unique and original. Therefore, it is necessary to examine how much effort is made by individuals when creating Web pages. Furthermore, once Web pages are created and published, updates are generally quite subtle and page structure or layout does not dramatically change often. Thus, it seems unlikely that such update work improves the skill of creation. We measured voluntary Internet use by undergraduate students, and the result may reflect the effects of the latter case mentioned above. However, it needs further clarification since it is not possible to separate precisely the effects of Web page creation activity at the time of actual Web page creation and the effects of the same at the time of updating.

As for the effects of use of chat/pagers, individuals generally use chat to enjoy momentary and casual conversations. Thus, women who enjoy communicating, their first priority may be to go with the mood or atmosphere of the chat friends or the chat room to simply enjoy conversations. In this case, it is suspected that individuals may not regard chat rooms as a place to express or present their personalities. .

5. Summary

To summarize the results of this study, several new findings were observed due to the gender-specific

analyses. For example, the positive effects on the skills of processing and the negative effects on the skill of creation were observed only in women from several Internet tools. As future research, detailed examination will be needed especially for the negative effects of Web page creation observed in women, in order to find a way to reduce or avoid such negative effects.

Furthermore, the positive effects of E-mail on the skills of communication, and the positive effects of chat/pagers on the skill of expression were observed only in men. Therefore, these results seem to suggest that men further enhance their skill of practical use of information through the use of personal internet tools such as E-mail or small group communication tool such as chat.

Such new findings that there were gender differences in the effects of the Internet use on the skill of practical use of information will be meaningful in future examination and discussion regarding the Internet education.

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A Longitudinal Study of Relationships between Maternal Employment and Child Problem Behaviours

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Abstract

The present longitudinal study examined whether maternal employment is associated with the development of children's externalizing problems from infancy to middle-childhood. Consistent with previous studies (Gottfried & Gottfried, 1988; Harvey, 1999; NICHD, 1998; Shaffer, 1998), the present study showed no direct causal link between the two phenomena. Some children of employed mothers develop behavioral problems while others do not. Similarly, some children of stay-at-home mothers seem to show behavioral problems while others do not. This result was the same even after taking account of earlier maternal employment, before children were a year old. The needs for consideration of the broader context about the development of children's behavioral problems, not only in relation to the mothers, but also of childrearing and the social environment was discussed.

In Western countries, studies of the effects of maternal employment on children began in the 1980 s. Two reviews (Gottfried & Gottfried, 1988; Shaffer, 1998) concluded that maternal employment *per se* does not have negative effects on child development. The key predictor of child development outcomes appears to be the quality of care a child receives at home as well as outside the home (NICHD, 2003). For example, in a longitudinal study of about 2,000 American children, Harvey (1999) investigated children between the ages of 0 and 12 years. This study showed that maternal employment alone did not have direct negative effects on the development of behavioral problems and sociability. Another longitudinal project (The National Institute of Child Health and Human Development [NICHD], 1998), which studied American children from 1 months to 54 months, showed that the quality of care children receive was more important for child development than whether care was at home or a childcare facility.

Only a handful of studies have examined the effects of maternal employment on children in Japan. In particular, longitudinal studies in this area are still rare in Japan (e. g., Hattori & Harada, 1991;) According to Hattori and Harada's study of 5,000 children who were assessed at developmental health examinations from 4 months to 7 years of age, there were no effects of maternal employment on physical and cognitive development. They did not examine the relationship between maternal employment and children's problem behaviors, although this is a matter of public concern. In the remainder of this paper, we will discuss some of

the findings from our own longitudinal study about maternal employment and children's problem behaviors. Of course, we cannot conclude whether or not Japanese maternal employment has a negative effect on child development based on any single study, and future studies must be conducted on this issue. The present discussion is therefore tentative.

This study has three aims: first, we will present the results of our longitudinal project on the relationship between maternal employment in early childhood (prior to age 3) and the development of children's behavioral problem. In our study, children's behavior was monitored from birth to ten years of age, and several different career patterns of mothers were observed. Some mothers who resigned their jobs for the sake of pregnancy or childrearing returned to work after some years, and others remained at home. Still others had no break in their careers, and some mothers were not employed either before or after the birth of their children. The second aim of this study is to discuss the relationship between the development of behavioral problems and maternal career pattern alternatives. Third, we will discuss the association between maternal employment and the mother-child relationship in the light of our research data.

Methods

Participants

Between August 1984 and February 1986, 1,260 mother-child dyads joined a longitudinal study on

developmental psychopathology (Sugawara, Kitamura, Toda, Shima Sato, Mukai, 1999 a). We contacted participants at a pre-natal clinic in the obstetrics department of a hospital in Kawasaki city in Kanagawa Prefecture. Their data was collected three times during the pregnancy (early: 8~12 weeks of gestation, middle: 20~23 weeks of gestation, and late: 32~36 weeks of gestation) and ten times after birth (ages of 5 days, 1 month, 6 months, 12 months, 18 months, 6 years, 8 years, 10 years, 14 years and 18 years). The last data collection was from 2004, and study is still ongoing. Of the original sample, only those who participated in all eleven follow ups till 11 years (n=368) were included in the present analysis. This strict criterion meant that only 29.2% of the original data was analysed. To assess the effects of attrition, we compared the demographic characteristics of the mothers in the original sample and those who participated in all follow-ups. There were no statistically significant differences between the original and complete-participation samples in maternal age, family income at the time of joining the study, and paternal educational attainment. Mothers' educational attainment, however, was slightly higher among those who participated in all 11 years of follow-ups compared with the overall original sample ($p<.05$). Most attrition was caused by changes of residence or hospitals.

The number of children was one (6.25%), two (50.54%), three (35.05%), and four or more (8.25%) in the present sample (N=368). The nuclear family was 61.41% and extended was 38.59%, and 97.01% was a intact family.

Maternal Career Pattern

To determine whether maternal employment before age 3 affected development of behavioral problems in the children, mothers were categorized into two groups: those who were employed and those who were unemployed prior to the child's third birthday. Ninety-one mothers (24.7%) were in the employed category and 277 mothers (75.3%) were in the unemployed category (see Table 1). We also identified several different career patterns among the mothers. These included Type 1 mothers who continued to work full-time after finishing high school or college with no career breaks due to pregnancy or childrearing (12.4%); Type 2 mothers who kept working part-time job after graduation from high school or college (4.3%); Type 3 mothers who resigned from full- or part-time work for pregnancy or childrearing but returned to full-time employment at some point from after the first child's birth to 10 years after the target child was born (7.8%); Type 4 mothers who were similar to Type 3 except that they returned to a part-time position (41.2%); and Type 5 women who were not employed and stayed at home from the time of marriage and throughout our study (34.3%).

Table 1 Maternal employment before children turn 3 years of age (N=368)

Employment status after maternity leave	<i>n</i>	Proportion (%)
Employed	91	24.7
Unemployed	277	75.3

Table 2 Items Measuring Externalizing Problems (selected from CBCL 4- to 18-year olds version) adopted from Sugawara et al. (1999)

1. Very noisy	13. Quarrels frequently
2. Verbally abusive or Uses vulgar words	14. Complains incessantly
3. Does not obey orders at home	15. Demands to be looked after often
4. Throws a tantrum	16. Does not obey orders at school
5. Gets into fights	17. Complains of a lack of affection
6. Has severe mood swings	18. Acts unfairly without remorse
7. Excessive teasing	19. Lacks good relationships with friends
8. Very cynical	20. Feels strong sense of inferiority to others
9. Unable to pay attention	21. Very distrustful
10. Easily enraged	
11. Unable to sit still	
12. Talks excessively	

Behavioral Problems of Children

Of the wide variety of childhood disorders, we focused on two types of problems: externalizing problems and depression. Externalizing problems are observed in children who are impulsive and lack emotional control. These children also are easily provoked and act out in defiance of authority, are sometimes characterized by an inability to sit still due to heightened curiosity, and have difficulty with self-control. Finally, externalizing problems often include oppositional and anti-social behaviors. We measured externalizing problem behaviors using a Japanese translation of the Child Behavior Check List (CBCL) (Achenbach & Edelbrock, 1991; Togasaki & Sakano, 1998). Mothers filled out the CBCL when their children were 8- and 10-years old. The 3-point scale for items listed in Table 3 ranged from (1) “the described problem is not present,” to (2) “present sometimes,” and (3) “almost always present.” Child behavioral problems for infancy were assessed by the Emergence of Externalizing Problem Behavior Check List (EEPBCCL, Sugawara et al., 1999 a). The mothers completed this instrument when their children were 6-months, 18-months, and 5-years old. The items of the EEPBCCL were factor analyzed by principal component analysis with varimax rotation, for each follow-up set of data. Scores on the items that loaded on the first factor with component loadings of greater than .40 were added to obtain total scores for externalizing problems at each follow-up.

The number of items loaded greater than .40 were 8 items at 6-moths, 9 items at 18-months, and 10 items at

Table 3 Effect of maternal employment before child turns 3 years of age on total scores for child behavioral problems

	Age of Child	Maternal Employment		<i>t</i> -value
		Employed	Unemployed	
Externalizing Problems	6 months	12.40 (4.27)	13.36 (4.14)	-1.72 ns
	18 months	14.48 (4.38)	16.22 (5.16)	-2.41*
	5 years	16.08 (5.04)	17.64 (5.27)	-2.12*
	8 years	26.00 (3.98)	26.77 (5.52)	-0.87 ns
	10 years	28.31 (6.59)	28.28 (6.47)	0.04 ns
Depression	10 years	26.18 (4.00)	26.93 (4.65)	-1.30 ns

- $p < .05$
- Because of using different scales under 5-years and over 8-years old, the range of total scores is not the same at each age.

5-years old, respectively. These items of the EEPBCL were scored 4-points (1=not worry at all, 2=seldom worry, 3=worry a little, 4=worry very much), so the range of total scores were 8~32 points at 6-months, 9~36 points at 18-months, and 10~40 points at 5-years. As to the range of the CBCL externalizing scores at 8-years and 10-years old, the lowest score was 21 points and the highest was 63 points.

Depression is increasingly recognized as one of the important psychological disorders of childhood. Like depression in adulthood, childhood depression has been linked to suicide and suicidal tendencies (American Psychiatric Association, 1994; Tsujii & Houjo, 1998). At the time they were 10 years old, the children filled out the Japanese version of the Child Self-Rating Depression Scale (CSRDS, Birlleson, 1981). The CSRDS was consisted of 18 items, and rating was 3-points: 1=not at all, 2=sometimes, 3=often.

Results

Maternal Employment and Child Behavioral Problems

At the time of each follow-up, childhood behavioral problems were compared between children whose mothers had returned to work before the child reached three years of age, and children whose mothers had not returned to work. Table 4 summarizes the results of several *t*-tests on these data. Since the measure that is different 5 or less years old and at the age of eight or more was used, the range of the total scores was not the same. However, age 8 and 10 were measured the same scale (CBCL), the increase in a mean score was observed 8 years old and at the age of ten. The results showed that children whose mothers had returned to work before they reached age 3 reported slightly, but significantly fewer externalizing problems when they were 18 months and 5 years old. Consistent with the findings from Western studies (Gottfried & Gottfried, 1988; Harvey, 1999; NICHD, 1998; Shaffer, 1998), group differences were not found for subsequent follow-up ages when the children were 8- and 10-years old.

Similarly, there were no group differences found for depression scores. Thus, the present study did not support the hypothesis that maternal employment before children turns 3 years old would be associated with children’s problems beyond age 5.

Maternal Employment Patterns and Child Behavioral Problems

If maternal employment were implicated as one cause of problem behavior in children, as is commonly believed in Japan, we would expect the greatest amount of child behavioral problems among children whose mothers worked full-time after the children’s birth (Type 1). The results in Table 5 did not support this hypothesis. On the contrary, we found that significantly fewer behavioral problems were reported for children with mothers who were of Type 1 and Type 2 (those who continued to work full-time or part-time after the child’s birth). This trend was notable from infancy through early adolescence. In sum, our data therefore did not support the “three year-old myth.”

The frequency of behavioral problems was slightly higher among children whose mothers went back to work after a period of staying at home (Type 3 and Type 4 mothers) than among those whose mothers were employed continually (Type 1 and Type 2). This trend was observed from infancy through early adolescence. The average ages of children at the time mothers returned to full-time work and part-time work were approximately 3 years-old and 6-years old, respectively. These figures may indicate the possibility that behavioral problems among children precede their mothers’ return to work. Especially, Type 3 mothers (interrupted and returned to full-time jobs) had children whose scores of externalizing problems at 6-moths and 18-months were the highest among 5 groups. It might be that mothers of children with behavioral problems delay going back to work because of their children’s problems rather than maternal employment being the cause of the problems. In addition, our research (Sugawara et al., 1999) showed that mothers who chose to new full-time jobs had more marital problems before

Table 4 Maternal career patterns and total scores for children's externalizing problems and depression*

Maternal career pattern	Externalizing problems				Depression	
	6-mo	18-mo	5-year	8-year	10-year	10-year
Uninterrupted FT work (Type 1)	11.50 a	13.48 a	15.18 a	25.48 a	27.88	26.57
Uninterrupted PT work (Type 2)	12.45	15.22	16.78	25.17	28.07	27.00
Interrupted FT work (Type 3)	14.87 b	17.47 b	17.55	29.25 b	29.71 a	26.33
Interrupted PT work (Type 4)	13.10	16.01 b	18.10 b	27.41	29.28	26.68
Uninterrupted home duties (Type 5)	13.36 b	16.11 b	17.30	25.78 a	27.07 b	26.67

*Duncan's Multiple Comparison, significant difference ($p < .05$) between a and b
 FT: full-time, PT: part-time

Table 5 Multiple regression analysis to predict externalizing problems at age 10 ($n = 269$)

Step	Independent Variables	R^2 Change	B	t	Overall R^2	
					R^2	F
1. Child	Sex	.47**	.04	.34	.47**	6.13
	Novelty seeking		.38	2.65*		
	Harm avoidance		.20	1.69		
	Reward dependence		-.14	-1.18		
	Persistence		-.07	-.51		
	Maternal education		-.06	-.47		
	Family income		-.19	-1.45		
	Maternal life dissatisfaction		.36	3.07**		
2. Child	Sex	6.13	.04	.33	.45**	5.31
	Novelty seeking		.38	2.61*		
	Harm avoidance		.21	1.66		
	Reward dependence		-.13	-1.15		
	Persistence		-.07	-.50		
	Maternal education		-.06	-.49		
	Family income		-.19	-1.34		
	Maternal life dissatisfaction		.36	3.03**		
	Employment		.01	.10		
	Maternal employment prior to child turning 3					

* $p < .05$; ** $p < .01$

their return to work than other mothers. Taken together, the data suggest that Japanese mothers who return to full-time jobs may encounter family adjustment problems before reappointment. Children of stay-at-home mothers in our sample (Type 5) exhibited more behavioral problems until they turned 5 years old, but this tendency did not extend into the school years.

We analyzed by a multiple regression whether maternal employment prior to children turning 3 predicted externalizing problems when children were 10 years of age (Table 5). The literature had associated externalizing problems with children's gender and temperament, maternal education and life satisfaction, and family socio-economic status, these variables were entered in the analysis simultaneously to control for their effects. Children's temperament was measured when they were 10 years old using a Japanese translation of the Junior Temperament and Character Inventory (Cloninger, 1997; Luby et al., 1999). The analysis presented in Table 5 indicates that a greater level of novelty seeking (an aspect of child temperament, this factor is consisted of high impulsivity and low control of it) and mothers' lower life satisfaction were

associated with child externalizing problems in this analysis. In our previous study (Sugawara, 1999 a), early children's impulsivity and low controllability caused maternal stress of childrearing, and transaction of both factors (children's temperament and maternal stress) related to later externalising problems. Also in the present study, these two factors' interaction (greater level of novelty seeking and lower maternal life satisfaction) may become precursors to externalising problems. Whatever the case may be, most importantly, whether or not the mother was employed before the child was 3 years old did not account for unique variance. This analysis provides strong evidence that maternal employment was not associated with externalizing problems till 10 years old. Alternatively, the possibility was suggested that children's temperamental characteristics or maternal mental health might predict later children's externalising problems.

Family Relationships and Children's Behavioral Problems

The present study indicated that children's behavioral problems are not exacerbated if mothers are employed

Table 6 Mother-child relationship

	Follow-up	Employment status before child is 3 years old		t-value
		Returned to work	Not returned to work	
Maternal attachment feeling to child	1-month	42.15 (5.43)	42.39 (5.00)	.33 ns
	18-mo	41.40 (5.88)	41.39 (5.88)	.14 ns
	5-year	36.86 (7.09)	36.78 (5.90)	.09 ns
	10-year	35.90 (7.58)	35.90 (6.63)	.08 ns
Warmth of mother-child relationship, rated by child	10-year	10.87 (1.35)	10.75 (1.37)	.09 ns
Warmth of mothers' childrearing, rated by fathers	10-year	33.56 (4.58)	34.22 (4.55)	1.04 ns

before the child is 3. During infancy, in fact, maternal employment was associated with a lower incidence of externalizing problems. Before interpreting these results, we would like to introduce some related findings from other studies.

As a part of a larger investigation, participants in the present study had been given various other psychological assessments. One was a measure of mothers' attachment to their children. At several follow-ups (1 month, 18 months, 5 years, and 10 years of age), the mothers' feelings of attachment to their children was compared between women who did vs. did not return to work before the child's third birthday (see Table 6). Notably, the two groups did not differ on attachment scores in any of the follow-ups. Secondly, when the children were 10-years old, they answered the following questions about their mothers: (1)Do you like your mother? (2)Do you get along well with your mother? (3)Can you say anything you want to your mother? Answers to these questions were not related to whether or not participants' mothers had returned to work before the children were 3 years old. A third measure at the follow-up when children were 10 years old was the husband's rating of the mother's attitudes toward childrearing. As shown in Table 6, ratings by husbands did not differ between the two groups of mothers (who did vs. did not return to work). Taken together, the above findings give further indication that neither the mother-child relationships nor mothers' parenting attitudes differ between stay-at-home mothers and working mothers.

Discussion

The present study examined whether maternal employment is associated with the development of children's externalizing problems. Consistent with previous studies conducted in the U.S. (Gottfried & Gottfried, 1988; Harvey, 1999; NICHD, 1998; Shaffer, 1998), the present study showed no direct causal link between the two phenomena. Some children of employed mothers develop behavioral problems while others do not. Similarly, some children of stay-at-home mothers seem to show behavioral problems while others

do not. During infancy and preschool period, in fact, maternal employment had a weak but significant association with lower incidence of child behavioral problems. Future studies should replicate the present study to clarify the possibility that maternal employment has the effect of inoculating children against behavioral problems. Based on the available information, we can offer some suggestions to account for this inoculation effect.

Firstly, previous studies (e. g., Sugawara, 1997) have shown consistently that the psychological stability of parents has a significant effect on not only the development of externalizing problems but on behavioral problems in general. It is possible that working mothers are more psychologically stable because of the support they received as part of their employment compensation, e. g., childcare provided by or associated with the workplace. Stay-at-home mothers, in contrast, tend to spend most of their time at home with their children. Studies have shown that working mothers are physically more tired, but their stress over childrearing is lower than stay-at-home mothers (Ministry of Health and Welfare, 1998). Psychological stability among working mothers may account partially for the lower level of externalizing problems among their children. Secondly, children of working mothers probably are exposed more to other children at childcare and to adults other than their parents. These social contacts provide them with the opportunity to learn social skills, and acquisition of these skills may in turn help them to control externalizing tendencies.

These explanations are tentative and must be substantiated by empirical studies. It appears, however, that the development of children's behavioral problems should be examined not only in relation to the mothers, but also in the broader context of childrearing and the social environment. In addition, children's temperamental characteristics should also be considered when investigating the development of behavioral problems (for a detailed discussion of this issue, see Sugawara et al., 1999 a and 1999 b). It is likely that several environmental factors, for example, parental mental health or household socio-economic status etc., of which maternal employment is one, interact with

children's temperamental characteristics in a number of developmental trajectories of behavioral problems.

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A School-Based Primary Prevention Program for Eating Disorders in Japan: The Effects of Socio-Culturally Focused Intervention in High School Girls

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Abstract

The purpose of this study is to propose a prevention model and health promotion program for eating disorders among high school girls. Approximately 120 female high school students participated in the program, and another 110 female high school students were in the control group. The program focused on the socio-cultural factors affecting the female adolescents' drive for thinness and thinness idealism, and the themes of the program were “media literacy” and “peer-support”. To evaluate the program's effects quantitatively, variables including self-esteem, sensitivity to advantage of becoming slender, the drive for thinness and the level of disordered eating were measured in self-reported questionnaire. The intervention was implemented as an interactive and activity-oriented program that followed a review of the previous effective studies. In every session, students worked in small groups to engage in activities and to discuss the problems. At the post-test the experimental group showed an increase in self-esteem, a decrease in the drive for thinness and a significant change in the level of the disordered eating. For the qualitative evaluation, we used students' review notes written at the end of every session. By exploring inconsistencies in and differences to previous research, it was found to be essential that facilitating participants to identify the effects of socio-cultural factors surrounding their lives to change their attitudes of their own volition. In addition, it was found that discussing the socio-cultural context effects with the participants orients them to become reciprocally supportive.

Key words: primary prevention, eating disorders, female adolescents, mental health promotion, socio-cultural factors, evaluation, self-esteem, peer-support, Japan

Introduction

Disturbed eating behaviors and eating disorders are some of the most common psychosomatic disorders among female adolescents and young women. According to one of the recent epidemiological studies in Japan (Nakamura, Hoshino, Watanabe, Honda, Niwa, Tominaga, Shimai, & Yamamoto, 1999), five percent of females in a high school sample scored above the cut-off point on the Eating Attitudes Test-26 (Garner, Olmsted, Bohr, and Garfinkel, 1982) meaning there is a significant number of high school students potentially suffering from eating disorders. Since 1980s, a number of articles and books have been published calling for a greater attention to the prevention of eating disorders (Piran, 1998 a; Shisslak & Crago, 1987; Vandereycken & Meerman, 1984). In Western societies, various types of prevention programs have been developed especially in school-based settings (Piran, 1998 b; Rhyne-Winkler and Hubbard, 1994; Stewart, 1998). In Japan, however,

there have been few studies on this topic (Ikuno, 2001). Additionally they reported only the practice itself, without effect evaluation.

It is thus necessary to implement the prevention program in Japan and to evaluate it for future studies. The latest nationwide survey in Japan (Komaki, 2003) reports that school nurses in junior high and high schools identify the increase of students suffering from eating disorders. They seek for remedy against the problem. Developing an effective prevention and health promotion program for students leads to support teachers and other staffs who surround children (Aoki, 2004). Consequently, it is important to provide a model of school based mental health care system.

The objectives of this study are three folds; first, to implement a eating disorders prevention program for Japanese female high school students; second, to investigate the effects of this intervention quantitatively using quasi-experimental design, and qualitatively analyzing participating students' review notes; and third, to derive implications for promoting students' mental

health and for future prevention programs. We will attempt to propose an example of prevention and health promotion programs.

A paradigm shift in program styles

Most of the previous studies in the area of eating disorders are conducted in the Western countries (Vandereycken and Noordenbos, 1998). These studies were often practiced by a didactic, information providing style, and they targeted only the specific disease prevention (Killen, Taylor, Hammer, Litt, Wilson, Rich, Hayward, Simmonds, Kraemer, and Varady, 1993; Moreno & Thelen, 1993; Moriarty, Shone and Maxim, 1990). The programs reported only the increase of knowledge about the disease. However, attitudes were difficult to be changed.

More recently, however, we came to identify several effective programs in improving the eating behaviors and other related factors (Buddeberg-Fischer, Klaghofer, Gnam, and Budderberg, 1998; Wade, Davidson, and O'Dea, 2003). They are implemented by the interactive and activity-oriented style. According to Austin (2000), the use of participatory intervention strategies research has been addressed in areas of public health. In addition, those effective programs focus not only on eating disorders but also on the mental health in general. Rosenvinge and Borreson (1999) argued that a health promotion model should replace the disease prevention model, which contributes to a paradigm shift.

Factors affecting eating-disordered behaviors

There are promising results from the recent prevention and modern risk factor studies (McVey, Lieberman, Voorberg, Wardrope, & Blackmore, 2003; Newmark-Sztainer, Wall, Story, & Perry, 2003; Smolak & Levine, 2001; Stice, 2002). In this paper we focus on three such important factors; the relationship between self-esteem and eating disorders, the socio-cultural context, and the influence of children's peer group on eating disorders.

The level of disturbed eating behaviors and self-esteem were found to be negatively correlated in the previous studies (Stice, 2002). The relationship between self-esteem and other mental health problems was also found to be negative. Self-esteem has been considered as a protective factor and a predictive index of various mental or behavioral problems (Arakida, Takahashi, Tashiro, Kanamori, & Mori, 2004; Kawabata, Nishikawa, Haruki, Shimai, & Chikamori, 2001). In some prevention studies, participants' self-esteem was targeted in intervention efforts for correcting disordered eating behaviors (O'Dea & Abraham, 2000; Wade et al., 2003).

The socio-cultural factors affecting eating disorders

have been overlooked in the medical studies. However, we cannot understand the gendered nature to the disorder, the pervasiveness of the disorder, and other significant variables affecting the disorder without a solid comprehension of these factors. In the last three decades, eating disorders have garnered much attention from feminist researchers in a wide range of disciplines (Austin, 2000). The feminist perspective argues that eating disorders are affected by the society and the culture have become one of the dominant views in the Clinical Psychology and related fields (Marecek, 2001). For example, effects of the media on the disorders have been explored (Berel and Irving, 1998; Levin & Smolak, 1998). Programs including topics of media literacy were found to be effective in improving students' behaviors in a school-based setting (Wade et al, 2003).

The influence of peer group is one of the social factors affecting eating disorders. It also intervenes the relationship between the society and one's self-esteem. Many studies showed that peer pressure and peer teasing were associated with an increase in children's disturbed eating behaviors (van den Berg, Wertheim, Thompson, and Paxton, 2002; Huoon, Lim, Walton, Hayne, and Gunewardene, 2000, Lieberman, Gauvin, Bukouwski, and White, 2001).

Contributions to children's mental health

The factors mentioned above can be utilized in the prevention programs. They are more likely to be protective and health promotion resources. First, improving self-esteem has the potential to improve behaviors. Second, using topics concerning socio-cultural context, such as media literacy, can intervene students' belief in the thinness idealism. Third, establishing function of peer-support among children facilitates in developing their reciprocal care system as the positive influence of peer group.

The review of the previous studies enabled us to implement an interactive and activity-oriented program along with the health promotion model. The themes presented to students in a program were "media literacy" and "peer-support". These themes included both socio-cultural and peer group factors. The program aimed to help students identify their socio-cultural context and learn to be peer-supportive. These effects were expected to increase students' self-esteem because these are shared in their situations and experiences in a supportive atmosphere.

Methods

Sample

Participants in the program were 230 female 11th graders chosen from two high schools in Tokyo. They were assigned to the experimental group or the control

group according to their affiliation. One school for the experimental group (N=120) has collaborated our project study for years. The other school for the control group (N=110) was asked to cooperate in this study for the first time, where a physical education teacher was an acquaintance of the first author. Students in both groups were from three Japanese units of homeroom classes in each school. Their mean age was 16.2 years old (SD=.42). Their mean height, weight and BMI are shown in Table 1. These demographic data are not significantly different between two groups. The program was conducted in three sessions in the usual health and physical education curriculum.

Table 1 Characteristics of participants

Variables	Mean	SD	Range
Age	16.2	.42	15-17
Height (cm)	158.4	5.48	140.0-171.0
Weight (Kg)	50.4	5.49	33.0-68.0
Body Mass Index	20.1	1.9	13.1-26.2

Measurement

In order to evaluate the program effect, some variables were measured in self-reported questionnaire before (pre-test) and after the intervention (post-test). They were self-esteem (Rosenberg, 1965; Yamamoto, 1994), sensitivity to advantage of becoming slender (Nagai, 2001), and the drive for thinness and the level of disordered eating behaviors (Garner et al, 1982; Mukai, 2001). All items were measured on multiple points Likert scale; self-esteem and sensitivity to advantage of becoming slender were measured in 5-point scale (from “approvable” to “not approvable”) and the drive for thinness and the level of disordered eating behaviors were measured in 6-point scale (from “always” to “never”).

The Intervention Program

The intervention for the experimental group consisted of three sessions that lasted approximately fifty minutes per session. Students worked both on their own and within small groups. Homework exercises were given to facilitate the class learning. In the session one, students were lectured to learn the concept, “media literacy” and “peer-support” as the theme of the following three sessions. Then they saw the demonstration of the picture processing on the screen to understand the exaggeration or fictitiousness on the media. And they engaged in the group activity criticizing the advertisements on the magazines for females, especially concerning the diet, beauty-treatment clinics and related issues. In the session two, groups of students reflected their drive for thinness and the consciousness of their own body shape and weight. Then they considered and discussed where these feelings emerged. Through the group discussion they found the influences of the socio-cultural factors and realized that their drive or feelings have been shaped gradually in their daily lives. In the last session students discussed how they could support each other for their worries of the body shape and weight. At the end of every session students described their view in the open-ended evaluation form.

Statistical analyses

To explore the effects of the program, we used Multivariate Analysis of Covariance (MANCOVA) to compare two groups, and Mann-Whitney test for the variable which has deviated in the distribution; the level of disordered eating behaviors.

Results

Preventing and health promotion effects

Table 2 shows the results on outcome measures at the pre- and the post-test. The results of MANCOVA (Wilk’s Λ =.94, $F(3,191)=4.42$, $p<.001$) showed that the increase of the self-esteem ($F(1,193)=9.98$, $p<.01$) and the decrease of the drive for thinness ($F(1,193)=4.25$, $p<.05$)

Table 2 The results on outcome measures

	Pre-test				range	Post-test				test result	
	The experimental (N=115)		The control (N=100)			The experimental (N=110)		The control (N=94)			
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		
self-esteem	3.43	.78	3.21	.79	1-5	3.64	.85	3.17	.83	exprmtl>contrl	**
advantage of becoming slender	2.66	1.04	3.03	1.14	1-5	2.48	1.11	2.89	1.16	ns	
drive for thinness	2.43	1.08	2.91	1.23	1-6	2.05	.97	2.58	1.08	exprmtl<contrl	*
disordered eating	1.32	.50	1.36	.45	1-6	1.27	.40	1.38	.45	exprmtl<contrl	*

** p<.01 * p<.05

were significantly higher in the experimental group compared to the control group. The results of Mann-Whitney test showed the level of disordered eating behaviors was significantly lower in the experimental than in the control group at the post-test ($U=4223.5$, $Z=-2.40$, $p<.05$).

Themes Identified by Students

After the every session students reported what they learned from the class on the open-ended answer sheet. According to their reactions they identified advertising strategies (“there are much suspicious number and so-called specialist in ads”), tried to accept themselves as they are (“I am only one who I am”, “don’t need to compare with others”), and recognized the necessity to enrich the content of oneself (“it is the content of myself that counts”, “not the shape but the content is the one’s value”). Students seemed to become more conscious of themselves except the body shape and weight.

Discussion

This primary prevention program for eating disorders was aimed at female high school students in Japan (11 th graders). This population was chosen for a universal prevention program because they were at a high risk of the onset of the disorders. The purpose of this program was not only to prevent the disorders but also to promote students’ mental health in general. The objective of the program was to accomplish these by enhancing the media literacy and establishing a peer-supportive atmosphere in their classes. Evaluation after the intervention showed the increase of self-esteem and the decrease of the drive for thinness and the level of the disordered eating in the experimental group than in the control group. The increase of self-esteem suggests that the program is effective not only for high-risk students but also for the students as a whole. The program is expected to promote the students’ mental health in school-based settings. Although the evaluation was immediately after the intervention, the decrease of the drive for thinness and the level of disordered eating seems to be a more effective intervention by a long-term practice and/or in refinement of the program.

The increase of self-esteem by the intervention is consistent with Wade et al. (2003). Considering both our statistical results and students feedback comprehensively, students in our program found the socio-cultural context affected their drive, beliefs and behaviors. Additionally, they have begun to accept themselves as they were and to have more motives to support reciprocally than before.

We observed reduction in the sensitivity to advantage of becoming slender in the experimental group although it was not statistically significant. What does it mean

that the drive for thinness significantly decreased while the sensitivity to advantage of becoming slender did not? It is assumed that enhancing the comprehension of socio-cultural factors affecting their lives is not enough to intervene students’ belief in the thinness idealism. According to the previous studies (Oliver and Thelen, 1996), peer influences; peer likeability (e.g., the belief that being thin will increase how much peers like them) and peer message (e.g., being teased about weight) were major contributors in predicting eating and body concerns as early as in 3 rd grade. Thus, thinness idealism has been internalized at the earliest by 9 years old among girls, meaning participants in the current program had sustained the myth of thinness beauty for over 7 years. Urging for women to be beautiful, the gender ideology strongly affects women’s values, beliefs and preferable on their bodies and behaviors. In this research, however, without the reduction of the belief in thinness idealism, the significant decrease of the level of disordered eating was shown at the post-test. Future research needs to consider whether it is necessary to affect the sensitivity to the advantage of becoming slender to prevent students’ onset of disordered eating.

Additionally our results were inconsistent with Stice, Trost and Chase (2003). They implemented dissonance-based eating disorder prevention program and healthy weight control program. The participants in both programs showed significant reductions in thin-ideal internalization, negative affect and bulimic pathology but not in body dissatisfaction. Both our program and Stice et al. (2003) were effective to prevent the disordered behaviors. The sensitivity to advantage of becoming slender in our study is similar to thin-ideal internalization and the drive for thinness is also similar to body dissatisfaction. However, two studies resulted in inconsistent findings (Table 3). What does this inconsistency indicate? Although there is a limitation in our study that evaluation period is immediately after the intervention and no follow-up data were collected, implications for the future research are speculated. First, there are more than one effective paths to prevent the disordered eating behaviors. If one way is interrupted or failed to intervene, the other methods may work. Second, it is necessary to identify what variables are

Table 3 Inconsistent findings between two sets of research

	In current study	In Stice, <i>et al.</i> (2003)
Variable 1	advantage of becoming slender	thin-ideal internalization
Result	ns	decrease
Variable 2	drive for thinness	body dissatisfaction
Result	decrease	ns

essential for the prevention, what others are optional or additional and what combinations of them are effective. Third, facilitating participants to identify the effects of socio-cultural factors surrounding their lives is essential for them to change their attitudes initiatively. This element was shared in most of the effective prevention studies (Stice et al, 2003; Wade et al, 2003).

We need to consider and attempt to solve three major problems. First, implementing long-term practices and evaluations are required to clearly and effectively produce preventive effects. Second, refinement of the program and the assessment are necessary for the same reason and for promoting mental health program. And third, the expansion of the level of interventions will be a future agenda; targeted participants' gender and ages to be broadened, and the collaboration with the community to be considered.

Supplement

This study is a part of the research project, "Establishment of preventive support system for children and students' mental health at schools from kindergarten to high school" (The project leader; Aoki, K.); in Project 2, "Diagnosis and clinical support of a development crisis at home, in school, and in a community", from "Studies on Human Development from Birth to Death", in Ochanomizu University, Japan; supported by a grant the 21 st Century Center Of the Excellence Program (the 21 st Century COE Program; operated by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT)).

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Re-Experiencing Adolescence: Issues and Problems Faced by International Students in Japan

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Abstract

This study examines the meanings of daily experience of international students in Japan using a qualitative method. Five international female students from China, Taiwan, and Korea have semi-structured interviews. The data are analyzed using grounded theory approach. Three main categories are generated: dis-communication, economic disparity, and facelessness in a crowd. Although the first two categories have negative connotations resulting in feeling of hurt, 'being faceless in a crowd' is not necessarily a negative experience. In conclusion, the experience of being international students is characterized as re-experiencing adolescence although they have reached in a stage of young adulthood. Implications will be discussed in relation to the concept of adjustment which has been widely used to understand the process of adapting oneself to other cultures.

Key words: interview, International students, Japan, daily experience, adolescence

Introduction

In recent years, the Japanese Ministry of Education and Science has promoted services for international students in response to the increasing number of exchange students and the increasing need for those services. The total number of international students in Japan has exceeded a hundred thousand since 2003 (Japan Student Services Organization, 2004). This increase poses a significant question of how people continue the sequence of their lives in a place that is totally different from their own countries. International students choose to start living in a different surrounding although their individual lives continue. Studies on these students have also been increasing. The methods used in the previous research are mostly survey-questionnaires to examine their stress and attitudes towards Japanese culture.

In cultural psychology, adjustment focuses on the strategies people use in daily contact with people from other cultures. Berry's ASIM (assimilation, separation, integration, and marginalization) model (1990, 1991, 1997) is the most popular scale for a straightforward questionnaire to measure people's attitudes. According to Berry, when individuals do not wish to maintain their cultural heritage and seek interaction with other cultures, the "Assimilation" strategy is defined. On the contrary, when they place a value on holding on to their original culture, and at the same time wish to avoid interaction with others, the "Separation" alternative is

defined. When there is an interest in maintaining one's original culture while maintaining daily interactions with other groups, "Integration" is the option. Finally, when there is little possibility or interest in having relations with others, "Marginalization" is defined. Berry's ASIM model claims that four attitudes are assumed when people face another culture. These concepts are used to understand the cultural attitudes of immigrants, international students and others who move among different cultures. Inoue (1993, 2001) applies this model to international students in Japan. It is found that "integration" contributes to their mental health, but it does not explain how it contributes.

Brislin (1975, 1986) also revealed 18 factors contributing to sojourners' adjustment. Those factors are jobs, time and space, the way of learning, roles, the significance of a group and individual, rituals, hierarchy, values, a sense of belonging, ethnocentrism, anxiety, disappointment, ambiguity, emotional responses to the language, group identity, categorization, segmentation, and reasoning. Regarding to reasoning, Doktor (1982) researches cognitive differences between Westerners and Asians. It suggests that Westerners tend to use logical, sequential reasoning. They are more likely to use abstract concepts and universal laws. By contrast, Asians are more likely to focus on the sensory inputs, particular instances, and sensitivity to context. Brislin, however, does not analyze the relation among these 18 factors. Akiyama (1998), furthermore, classifies those 18 factors into four processes: cultural structures, individual norms of culture, experiences of a different

culture, and cognitive processes. The most interesting factor in all is emotional responses to the language spoken in the host country. Akiyama points out that since sojourners use gestures to supplement the expression by the second language, and they have to be taught how to behave in that culture, they feel that they are treated like children which lowered their self-esteem.

The concept of adjustment, however, is based on the assumption that individual members have the freedom to choose how they want to engage in intercultural relations. The concept of adjustment does not shed light on a developmental perspective. International students are, needless to say, young adults just like other Japanese students (Funaki, 2003, 2004). They first engage in studying, not working, which means they are yet to achieve financial sufficiency. Applying this developmental perspective to international students' understanding is extremely important for at least two reasons. First, international students have continuously been achieving their life tasks to get mature in a culture different from where they were born and grew up. Second, these individuals experience Japanese culture subjectively. They somehow take in another culture, excluding some parts of it at the same time. They choose some aspects to take into their cultural experiences according to their subjective impressions. Through this, meanings are given to each experience in a new circumstance and get entangled with their psychological development.

There is another socioeconomic factor that contributes to their experiences in Japan. Considering the effects of their socioeconomic factors, it may reveal how they experience a culture differently. The lifestyle of international students in Japan depends on their economic conditions. Also, their ethnicity effects their adjustment as Kim (1990) describes the hidden difficulties of Koreans in America using Berry's theory. Since most of international students in Japan are 66.3%, Jou (1994, 2004) finds that constructing a social support network is the most effective support for Chinese students who put value on taking care of neighbors. It is clear that there is a different experience between Asian and Western international students in Japan as Dillon (1993) studies. Therefore, this study picks up Asian students who are the majority of international students in Japan.

Many different models for understanding international students exist. Although all are useful, they share a common limitation. These models do not account for subjective and emotional experiences of the individuals. That is why the categorization or models are too simplistic to understand the reality. Although these factors seem to account for adjustment, they only provide the categorizations and their intensities, not the rich qualities of subjective experience. If we follow

Berry's theory, for instance, any person is put into only one of the four categories, and no person is permitted to deviate from their categories. Although Berry's theory seems to be applicable to anyone who moves between cultures, including international students, the concept of adjustment itself is still vague and often explained by statistical analysis. It does not tell us what adjustment is or what students have to acculturate to. Therefore, discussions of adjustment are still inconclusive.

There are two objectives of this paper: exploring the meaning of daily experiences of international students in Japan and reconsidering Berry's study. To achieve these objectives, qualitative research is chosen to reveal the meaning of experiences of international students. Then adjustment will be discussed, integrating previous quantitative data with my qualitative data. Achieving these two objectives is significant because I will be able to describe the specific content and process of the adjustment.

Method

Five female international students living in Tokyo were interviewed at the author's university. The semi-structured interview had been held from March in 2005 to January in 2006. The author visited three universities and asked international students, who were walking on campus, randomly to cooperate this research interview. They were given an explanation that this study was about international students' life in Japan, which they enthusiastically volunteered to help with. The interviews were conducted with each of the five participants individually and tape-recorded with their consent. All five participants were informed of their rights to terminate participation in the interview at any time. All the interviews were conducted in Japanese.

Procedures

Before the interview, the participants were asked to fill out a paper for the purpose of obtaining personal and background information, and participated in casual conversation with the author, thus developing rapport. Then the actual interviews began.

All interviews were tape-recorded, and later translated into English by a bilingual researcher. After each interview, the researcher reviewed the tape-recorded information and transcribed the sessions. During the review, recurring ideas and thoughts were documented, and emerging patterns were identified. Throughout the data analysis, the researcher utilized debriefing with the author's supervisor as a way to ensure reliability and validity of the data.

Comparisons were made and data were analyzed using an open coding procedure. Throughout this

process, categories and codes were identified by isolating topics. At the beginning of the coding procedure, coding was done by each line. After further analysis, the codes were collapsed into three categories. Some of the codes were assigned to more than one category, while others were clustered together into one specific category. This occurred while the researchers continued to narrow down and categorize the codes and rework the configurations until patterns were emerged in the data.

Participants

The five Asian female students were chosen because Roger (1979) asserted that women experience more variety of events through study abroad. Moreover, about 80% of international students in Japan come from other Asian countries, especially China and Korea. Thus, this study focused on Asian female students as the subjects. The names used in this study are pseudonyms.

Kelly. Kelly is a 22-year-old woman, born in China. She has been living in Japan for 3 years and 10 months. She is currently a junior at a 4-year university in Tokyo. She stays in a dormitory provided by her university. She also has a part-time job after school.

Yunjin. Yunjin is also a 22-year-old woman, born in Korea. She is presently enrolled in a 4-year university. She has already lived in Japan for 2 years and 2 months although she is a freshman. She works after school. Her relatives live in Japan as well.

Winnie. Winnie is a 22-year-old woman, born in Taiwan. She is a sophomore at a 4-year university and works after school. She has already lived in an apartment for 3 years and 3 months in Tokyo. She has relatives in Japan.

Youngae. Youngae is a 19-year-old woman, born in Korea. She had previously studied Japanese in high school in Korea. She took an entrance exam in Japan while she was a senior in high school. Now she is a junior in a 4-year university in Tokyo, and has been living in a dormitory for 1 year and 3 months. She has a part-time job after school.

Mariam. Mariam is a 21-year-old woman, born in Taiwan. She is an exchange student, and therefore will return to her home university after spending a year in Japan. She has lived in Japan for just 4 months in a dormitory.

Results

Although this study provides valuable insights into

experiences of international students, the results must be interpreted with some caution. The information received from the participants was based only on their perceptions of their individual experiences in Japan, specifically, Tokyo. This study did not account for or differentiate among such experiences on the basis of gender, age, or religion. The data of this study were collected from five women who responded as volunteers. Therefore, the results of this study are limited to the five specific participants.

During data analysis, three sub-themes and one overarching theme were identified. The following is a discussion of the themes that emerged from the data.

Theme 1: International Students Experience Frequent Dis-communication and Silent Situations

All of the participants had some negative experiences when speaking with Japanese students. For the most part, they could not join in a conversation as they like, and each had compared the conversations to those done in their mother language.

Youngae, for example, experienced being uncomfortable when conversing in Japanese. She stated that;

She was funny, actually. But in Japanese, I can never even say any jokes. So, Japanese people who watch me speaking in my mother language are surprised because I show such a talkative self.

Kelly commented on an all too-common situation:

It is alright when I talk with one person. But when I have to join a conversation with more than two people, I am anxious to make the conversation proceed smoothly and therefore feel hasty. I want to say things at the right time. If I only speak slowly, it is not enjoyable, is it?

Winnie had similar experiences and “had missed so many timings to get connected with people over conversation” even though she already had lived in Japan for more than 3 years, like Kelly. She noted that she always felt the need to learn more Japanese, and never felt satisfied with her level of Japanese.

Theme 2: Economic Disparity Affects School Life, Part-time Jobs, and Sending Money

All of the participants from Asian countries referred to the high cost of living in Japan. They all have after school part-time jobs. They expressed having difficulty not with the actual job duties, but with management of work and study. As Kelly stated, “In fact, I work more than 4 hours every day although I know I am legally allowed to work only 4 hours per day. If I can get a scholarship, I may not have to work so much. But there

are only a few scholarships for international students here.”

Being successful in school involves a great deal more than just doing school work. The participants expressed that they typically have difficulty with finding a job while studying. Youngae, who experienced the job search, said,

After 15 or 20 minutes of talking with the owner on the phone, I felt I could get a job until he discovered I was a foreigner. He never said he wouldn’t employ me because I was a foreigner. He just said it just got filled or someone was already here. In the end, I was rejected from 50 jobs. I got really mad, and then depressed about my Japanese language ability.

Moreover, Kelly is supporting her family living in China;

Two weeks ago, I was told my father is suffering from leukemia. He is old and can’t work now. That’s why my brother and I are here and working after school, not only for ourselves but also for our father. We will send him money after we save a thousand dollars.

Theme 3: Asian students Feel Faceless in a Crowd

The participants described that, over time, the public recognizes them as minority. This experience resulted in a disappearance of the expectation that the participants would have a closer relationship with Japanese people as time passed. Paradoxically, the participants felt that the interest toward them by surrounding people was decreasing and then eventually vanishing.

Here is a significant comparison about personal relationships between Mariam (who has stayed for 4 months) and Winnie (who has stayed for more 3 years). Mariam had a great deal of expectations that she would have Japanese friends. Winnie, however, had many negative and frustrating experiences with other Japanese students: “When I saw a classmate in the train, I would greet her. I was sure she recognized me, but she seemed not to see me. I experienced such a situation several times. Since then, I decided I would never initiate the greetings until the other person recognized and spoke to me.”

Kelly stated;

At first, I got much attention from classmates, co-workers, and people from my volunteering club. They asked me, “How do you like Japan?” “How is the weather in your country?” “What kind of food do you eat in your country?” and so on. Some questions were very similar, but I felt happy to be

asked. But as time went by, people were not asking me things anymore, and seemed not to be interested in me any more. I felt kinda hurt.

Yunjin shared that it was difficult to be a friend with other Japanese students. She said,

I wanted to talk with them about more personal stuff. More personal..., like my thoughts, my feelings, a part of my life, whatever. But they never ever shared such things with me. Only greetings. I feel like there is a wall between me and them. But I don’t blame anyone. I think this is just the way it is. No one can change it.

Conclusions

In this study, Asian students in Japan revealed areas of daily experiences regarding dis-communication, economic disparity, and faceless experiences in a crowd.

In terms of dis-communication, the participants expressed that they “can’t say what I want,” “can’t talk deeply,” and “can’t even say jokes.” These deficits did not allow them to settle down to the life in Japan; words seemed to float and limited to express who they were. Expressing who they were meant how to exist in Japan. However, Japanese language was not enough to convey the participants’ ways of existence, and only tell others a shallow-minded person. This caused stress and discouragement for the participants.

Being thought of as a shallow-minded person by others causes stress to anyone, but in a perspective of development, young people especially were sensitive to others. Moreover, international students preferred to show themselves as intelligent, but language sometimes limited this effort.

The participants experienced economic disparity, which lowered their economical classes in Japanese economics. They may easily suffer from an inferiority complex in terms of economic status in Japan. This limited the participants’ life styles, which meant they could not able to afford to time and money to get together with Japanese students. It is important to provide appropriate economic support such as scholarships, and, at the same time, providing opportunities for school activities, places to live, and some enjoyable time to change their everyday life style.

Being ‘faceless in a crowd’ does not always cause hurtful experiences, but it is a chance to re-discover oneself; and in order to do it, one has to define oneself in the previous developmental stage, that is, adolescence. Thus, the participants already had a self in the first place, but they were not satisfied with it, they then tried to re-discover a new self once they got faceless amongst Japanese people. In a sense, the participants re-experience adolescence even though they

already have reached a stage of young adulthood. Even though Akiyama considers that sojourners' "psychological regression to childhood," I emphasize that they do not seem to get back into childhood but a stage of adolescence. In addition, being 'faceless in a crowd' relates with Brewer's (1991) model of "optimal distinctiveness" that points humans are characterized by two opposing needs that govern the relationship between the self-concept and membership in social groups. The first is a need for assimilation and inclusion, a desire for belonging that motivates immersion in social groups. The second is a need for differentiation from others that operates in opposition to the need for immersion. In the case of international students, from the first, as inclusiveness decreases, the differentiation need is reduced but the need for assimilation is activated. From this point of view, the international students are searching for the self identity once they get faceless experiences. As Simon (1999) considers that without a place in the social world, people would not achieve a sense of self or identity; socially, they would not exist, and life would be meaningless.

When Berry's theory was revisited, it is found that the four categories that the ASIM model asserted did not fully describe "adjustment." Expressions of the participants demonstrated how they experienced Japanese life specifically. These expressions showed us a reality of their life, not just a categorization. From this point of view, Berry's theory of adjustment was too rough to grasp the real experience of international students and their adjustment.

All of those interviewed had had difficulty contacting with Japanese people, finding jobs and feeling facelessness. Not being able to solve each theme was not the most serious problem for each participant, however. The three themes put together created their "minority experience." In other words, the more they experienced these themes, the more easily they felt "powerless" in language, personal relationships, and social contexts in Japan. The minority experience and related difficulties caused these feelings of powerlessness, which caused them, in turn, to eventually re-experience their adolescence in Japan.

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Father's Involvement in Child Care and Support for Those Who Have Young Children in Japan

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Abstract

This study examined the effects of support program on 535 fathers such as parenting classes conducted by public health centers before the birth of their first baby. Since this is part of a longitudinal research, data were obtained through questionnaires both during pregnancy (first time) and a year after childbirth (second time). When it examined the relationship between attendance and level of involvement in child care, it was found that fathers who attended parenting programs revealed high scores in child care, particularly in activities involving daily care. They also considered this experience to be helpful and reported positive influences on their involvement in infant care. With regard to program attendance, it was shown that the work environment such as relations with co-workers and flexibility of work, was very important. When it examined the use of paternity leave, there appeared to be multiple factors related to it, particularly the work environment. These results suggest that support programs conducted before childbirth had a positive influence on fathers' involvement in childcare. Like mothers, fathers also desire to have such support that provide information and teaches skills for child care at the onset of parenthood. Arranging the work environment could enable them to balance their multiple roles between work and family better.

It is also important to remember that fathers require support as parents and such programs should be presented in a way that allows fathers to access them easily.

Key words: father, support program, period of pregnancy, child care, fathers' involvement, work environment, multiple roles, work and family, paternity leave, longitudinal research

Introduction

As indicated in the issue on decline in birthrate, the environment surrounding a family has changed dramatically in the past few decades in Japan. According to the family development theory, each developmental stage has several developmental issues that each family member needs to deal with. Sometimes, these issues require each family member to change himself/herself and adapt accordingly. In particular, the stage at which individuals become parents is sometimes accompanied by difficulties for both fathers and mothers because they have to address their new roles as parents. Moreover, as indicated by extensive research, females often experience several dynamic psychological changes as well as physical changes (Nakayama, Fukumaru, Koizumi, Muto, 2005).

In addition, there exist problems that are more common to Japan, for instance, problems such as child birth or even pregnancy, which sometimes compels

females to discontinue their employment. Consequently, they feel somewhat anxious about being marginalized from society (Fukumaru & Nagase, 2003). Further, we also traditionally value a strong relationship between mothers and children rather than husbands and wives. These cultural issues and circumstances surrounding individuals about to be parents sometimes result in excessive anxiety over their child rearing issues among mothers (Kashiwagi, 2006).

As indicated by Kashiwagi (2006), one of the factors that may be related to mothers' anxiety is “the existence of fathers”. A father's involvement in child care not only affects his own development (Shintani, Muramatsu, & Makino, 1993; Fukumaru, 1997; Morishita, 2006), but also enhances the spouse's positivism with respect to child rearing and simultaneously, reduces her anxiety over child care (Suwa, Toda, & Horiuchi, 1998). On the contrary, it is revealed that the absence of fathers accelerates mothers' anxiety over child care (Kashiwagi & Wakamatsu, 1994) and also influences the latter's marital relationship with the former (Onodera,

2005). Moreover, it is pointed out that this relation between absence-related anxiety and subsequent effect on the marital relationship is already evident during the period of pregnancy (Koizumi, Nakayama, Fukumaru, & Muto, 2005)

As indicated by extensive research, fathers' involvement in child care also impacts child development in a variety of aspects. For example, it affects children's social development (MacDonald & Paeke, 1984; Ogata & Miyashita, 1999), cognitive development (Crockett, Eggebeen & Hawkins, 1993), self efficacy (Radin, 1988), and children's educational achievement and behavioral adjustment (Sobolewski, 2005). As revealed by these results, fathers' involvement in child care, as well as mental support, is extremely important for mothers and children.

At the same time, however, it is also revealed that not a few fathers experience difficulties in managing multiple roles between work and family (Fukumaru, 2000; Fukumaru, 2003 b). In particular, fathers who found themselves unable to give sufficient time to their children against their desire to do so, complained of lack of support and understanding from their work place, coworkers, and revealed a high score of depression (Fukumaru 2003 a).

Based on these findings, a father is one who supports the mother and receives support from other individuals like mothers. It is evident that fathers also need support especially from their work place to manage their multiple roles at work and within the family and to be more involved in their child care. Considering the role played by fathers in child care, it is also important to have sufficient opportunities for acquiring skills, and information. These opportunities are helpful and enable fathers to care for their children confidently.

According to Taffel (1994), there are five steps in which fathers can get positively involved in their child care. First, it is necessary for them to realize the disproportion in the parental responsibilities carried out by fathers and mothers, including the difference in the quality of involvement with children. Second, they should learn to deal with their fear and belief. Fear means that they might not be good at child care, for example, "I fear that I might do terrible things to my child when I look after him or her alone", Sometimes people are strongly convinced about their beliefs, even though they might wrongly placed, for example, "When it comes nurturing, a female is by nature always better than a male".

Taffel insists that fears and beliefs surrounding fatherhood sometimes tend to discourage men from engaging actively in child care, he also insists that it is important for fathers to reconsider these fears and beliefs which are sometimes considered to stem from lack of experience or knowledge. Therefore, it would be

extremely beneficial for fathers to have the skills or knowledge which are necessary for their child care. It is also important for them to consider their life with a baby during the pregnancy period because this consideration suggests that they are preparing to be a parent. Such support will be beneficial to not only fathers but also for mothers, because in the long term, it would lead to collaborative child care involving both parents.

Within the past few decades, there has been an increase in the amount of research conducted and the number of books on fathers. However, with regard to support programs including those for fathers, it must be stated that we have not had enough. Moreover, most of the research in this area tends to focus on mothers. Even if support programs do begin focusing on fathers, there is very few of them. In fact, we have such few opportunities to implement support programs for both fathers and mothers or focusing on fathers alone. Under these circumstances, parenting classes conducted by public health centers during pregnancy provide a good opportunity for fathers to acquire some information or skills that can be used after their child birth.

Although, it has already been shown that the level of fathers' involvement in child care is influenced by a variety of factors such as their working hours of fathers (Shintani, Muramatsu, & Makino, 1993), the value they attach to child rearing, their marital satisfaction (Fukumaru, Muto, & Iinaga, 1999), their spouse's perception of their ability (Henley & Psley, 2005), and their sense of being able to interact with the child (Morishita, 2006). There is no research that examines the effectiveness of attending support program on fathers' involvement in child care.

Based on all these findings, this paper presents the effects of fathers' participation in support programs such as parenting classes conducted by public health centers before their childbirth. Further, we also examined the relationship between their attendance and their degree of involvement in childcare, the circumstances that demand their involvement in child care, and future directions for improving support programs for fathers.

As will be shown later, this study is a part of a longitudinal research focusing on both males and females from the pregnancy period onward. The final goal of this research is to examine the type of support that is necessary and meaningful for families with young children and to elucidate the factors that will influence on their mental health.

One of the features of this research is its focusing on both family life and work life since both exert significant influence on one's daily life. Even though the focus of this longitudinal research pays attention to both fathers and mothers, this paper focuses solely on the result of fathers, because there is still little known about them.

Specifically the following is the purposes of this study

- 1) Examine the effect of pre-birth support programs for fathers
- 2) Examine the level of the fathers' involvement in child care and house work a year after childbirth.
- 3) Examine the factor of work role conditions which have relation to the parent program attendance.
- 4) Examine the current needs of support programs for fathers who have young children.
- 5) Examine the current conditions of paternity leave.

Methods

Participants:

Participants were five hundred and thirty five fathers who had one year old first infants in Japan. Their average age during the third period was 33.5 years old and that of their partners was 31.3 years old. The average marriage years was 2.5 years. The average annual home income in a year was 6,400 thousands yen.

Regarding the work condition, 94% were full time workers, 4.9% were part-time workers, and 1.1% were unemployed. With regard to the spouse's work condition during third period, 12.3% were full time workers, 7.9% were part-time workers, and 79.8% were unemployed. Approximately 80% of the fathers worked in private companies, 8% were in public offices, and 10% were self-employed. The average working hours was 10.12 per day.

Procedure

As stated before, this study is part of a longitudinal study, and the data was first collected at the time of their partner's pregnancies. All the participants were recruited through the public health centers in Tokyo, Kanagawa, and Saitama prefecture. To be more precise, researchers visited each public health center and explained the purpose and procedure of this research. They also answered questions asked by attendants, and distributed questionnaires to each one of them. The data was collected later via mail. With regard to the research after their child was born, the second research was conducted six months after the child were born. The third research was carried out one year after childbirth. This paper is based on the data collected from the first period to the third one.

Parenting classes mentioned in this research focused on both fathers and mothers, all the classes were held in public health centers during pregnancy. The program included demonstrations on how to hold and bathe a baby, as well as lectures on delivery and parenting. One third of the classes were held on Saturday and the remaining ones were held on weekdays.

Measures

–Involvement in childcare activities: A father's perception of his involvement in child care activities. This scale was developed by Fukumaru & Koizumi (2003). It includes 6 questions such as bathing, playing, putting the child to bed. The scales for each item ranged 1 to 5, where 5 implied that “fathers were completely responsible for the task” and 1 meant that their “spouse were completely responsible for the task”. The scale of child care was prepared by adding raw scores.

–Involvement in housework activities: A father's perception of his involvement in housework activities. This scale was developed by Fukumaru & Koizumi (2003). It includes 6 questions such as cooking, cleaning rooms, taking the garbage out, and so on. The scales for each item ranged from 1 to 5, where 5 implied that “fathers were completely responsible for the task” and 1 meant that their “spouse were completely responsible for the task”. The scale of child care was prepared by adding raw scores.

–Work role conditions: The work role conditions comprised 23 items. This scale was developed by Fukumaru (2003 b), Fukumaru & Koizumi (2003), and Koizumi (2004). The scale for each item ranged between 1 and 5, representing various options from “strongly agree” to “strongly disagree”. As a result of factor analysis with Varimax rotation, the following seven factors were obtained (Table 1).

They are flexible judgment of their work (for example “I can arrange my work schedule on my own”.) ($\alpha = 0.83$), anxious related current employment position (for example “I worry that I might be laid off”.) ($\alpha = 0.78$), overwork (for example “I have too many things to do”.) ($\alpha = 0.82$), prove their ability at work (for example “I can use my talent at work”.) ($\alpha = 0.82$), good relations with co-workers (for example “My colleagues are not collaborative to me”: As this factor has reverse meaning, the score was made by opposite number.) ($\alpha = 0.81$), work place environment (for example “I feel hesitation when I take a paid holiday”.) ($\alpha = 0.70$), and ‘consideration for family life (for example “My boss is considerate of my family”.) ($\alpha = 0.71$)’ (See Fukumaru et. al (2006) for details).

Further, we examined the existing systems at the work place, such as the holiday system, commute hours and so on. With regard to the two-day weekend, 68.4% had two days off every week, 10% had a biweekly off, and 21% had the one-day weekends.

–Usage of social support programs: The use of social support programs was focused mainly on those held by public agencies, such as receiving of child birth subsidy, and having home visitation by public health nurses. The participants were asked whether or not they received these benefits, and if they received them, also asked whether or not they were useful. They were also

Table 1 Factor analysis of work role conditions

Factors	Items	factor 1
Flexible judgment of their work	I am able to function well at work by making my own judgement.	.915
	I can decide description ane way of my job.	.825
	I can arrange my work schedule by myself.	.682
Anxious related current employmen position	I have concern about employment layoff.	-.015
	I am anxious if I can continue working present work place.	-.022
	My status of job is unstable.	-.016
	My income will be getting decrease.	.070
Overwork	I have a heavy workload.	-.087
	I work under time pressure.	-.058
	I have to deal with multiple works at the same time.	.146
Prove their ability at work	I can turn on my skills at my work.	-.058
	I have a sense of success in my work.	-.056
Good relations with co-workers		.224
	We have a poble of human-relation in my work place.	-.029
	We have problems of bullying or patronage in my work place.	-.020
Work place environment	Our colleagues are not collaborative.	.064
	I feel a constraint in having pain holidays.	.026
	There is the feeling that difficult to go back home early.	-.068
	We have to be in a relationship of work when we are out of work.	.051
Consideration for family life	We have competence of promotion in work place.	.028
	My boss and colleagues are considerate of my family issues.	.008
	I can get support when I can not work because of my family.	.027
	There is the feeling that we can talk about families,	-.074
Factor contribution(%)		20.893
Amount of factor contribution(%)		20.893

*:deleted item

The factors of good relation with co-workers and enviironment of work place were dealed with deversed.

requested to answer questions related to parent program attendance during the pregnancy. Further, we questioned them about the conditions related to paternity leave. Those who did not take the leave were asked to provide the reason for not doing so.

In addition, we also asked about to name the individuals that they rely on for help when they need where they had difficulty managing work and family roles. Further, they were asked to select up to two individuals such as their spouse, own parents, friend, and so on.

-Attitude toward the current needs of support programs for fathers' involvement in child care: With regard to current support programs, the questions are composed of the following three items: support programs for fathers who have young children, presenting opportunities for social interaction with fathers in a community, and presenting opportunities for social interaction with more experienced fathers in the community. The scale for each item ranged between 1 and 3, with 3 indicating "would be very useful" and 1 indicating "would never be useful".

Results

1) The effect of pre-birth support programs for

fathers

Out of 535 participants, 325 (60.3%) had attended parenting classes held for both parents by a public health center during the pregnancy period. The data from the third period revealed that 64.8% who attended these parental classes considered this experience to be helpful and reported positive influences on their current involvement in childcare as a result of attending the classes.

2) The effect on the level of father's involvement in child care and house work one year after child birth.

Comparing the level of child care activities in the third period, fathers who had attended the parenting classes exhibited higher scores than those fathers who had not attended the class ($t=3.07$, $p<.01$). With regard to the level of house work activity, fathers who had attended the classes exhibited higher scores than those fathers who had not attended the class ($t=4.98$, $p<.001$).

Furthermore, we examined each items on child care and house works. As shown in Fig 1, there were significant differences in the activities involving daily child care such as changing clothes, putting the child to bed, and so on. As for the house work, there were

factor 2	factor 3	factor 4	factor 5	factor 6	factor 7	commonality	α -score	average score
.016 -.019 .013	-.021 .035 -.036	-.035 .059 -.036	-.031 -.025 .054	.051 .089 -.135	-.026 -.023 .011	.453 .619 .605	0.83	3.58
.915 .685 .617 .539	.029 -.006 -.098 .054	.028 -.006 .026 -.068	-.063 .087 .017 -.002	-.092 .085 .079 -.042	-.007 .037 -.012 -.013	.297 .535 .379 .479	0.78	2.46
-.014 .053 -.054	.921 .764 .683	-.045 .012 .019	-.033 -.029 .061	.011 .021 .006	-.010 -.060 .097	.497 .567 .454	0.82	3.53
-.020 -.021 .049	.001 -.053 .059	.928 .760 .613	.024 -.045 -.029	-.044 .076 -.002	-.038 .033 .014	.550 .621 .490	0.82	3.77
-.032 .027 .047	-.040 -.023 .095	.014 .002 -.088	.932 .732 .575	.020 .005 .018	.037 -.010 -.080	.513 .581 .499	0.81	3.03
.018 .000 .045 -.088	-.039 .033 .043 .069	-.071 -.017 .118 .109	-.039 -.026 .105 .093	.830 .790 .358 .232	.024 -.059 .092 .009	.203 .479 .546 .289	0.7	2.35
.042 -.061 .007	.019 -.042 .037	-.035 -.080 .109	-.016 -.055 .042	-.023 -.006 .069	.863 .614 .607	.451 .368 .142	0.71	3.55
14.079 34.972	9.806 44.779	6.996 51.775	6.141 57.916	5.653 63.568	4.538 68.106			

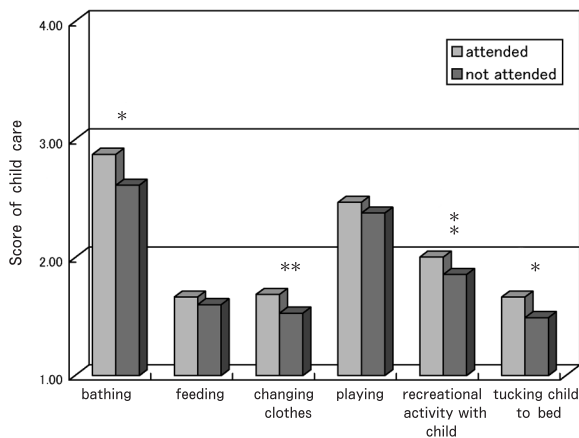


Fig. 1 Comparing the level of child care

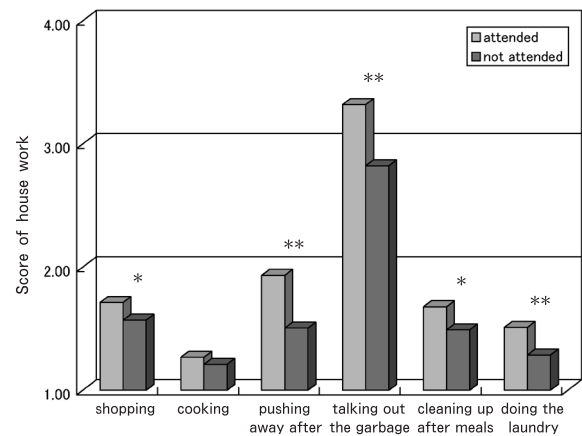


Fig. 2 Compareing the level of house work

significant differences in housework activities such as cooking, grocery shopping, clearing up after meals, taking the garbage out, and holding washed clothes (Fig 2).

- 3) The factor of work role conditions which have relation to the parent program attendance..

Approximately 40% of the fathers did not attend the parenting classes. On examining the reason why they

did not attend the class, it was found that this was mostly due to their busy work schedules. More than half the fathers stated that they wanted to attend the classes but could not because they were unable to arrange their work schedules during the weekdays. The second reason provided was that it was a pain to attend the classes (8.5%), and the third was that they hesitated because there supposed to be few fathers in these classes (6.6%).

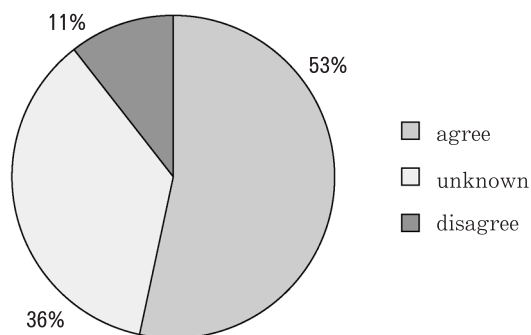


Fig. 3 Will child rearing support programs for fathers be useful?

On comparing the work place environment in the first period, fathers who attended classes revealed high scores in the factors of good relations with coworkers ($t=1.92$, $p<.07$) and of flexible judgment of their work ($t=2.54$, $p<.05$).

- 4) The current needs of support programs for fathers who have young children.

Regarding support programs for fathers post child-birth, none of the public health centers provided these programs, however, as is shown in Figure 3, two hundreds seventy nine out of 535 fathers (52.5%) reported that these support programs would have been very helpful (Figure 3). Moreover, it revealed that 30.4% of fathers reported that opportunities such as social interaction with fathers in a community would have been very helpful for them, even though 21.7% were disagreed and 47.9% were undecided.

With regard to the individuals that they would rely on for help due to their busy work schedules, making it difficult to manage their work and family roles, most fathers answered that they would rely on their spouses. The second most popular answer was their spouse's parents, third was their own parents, and then the fourth was they have no one to rely on.

- 5) The current conditions of paternity leave

With regard to the conditions of paternity leave, only 34 out of 535 (6.4%) answered that they took paternity leave. Moreover, on examining the period of paternity leave, it was found that all of them took leave for less than for two weeks. As is shown in Table 2, one of the main reasons for them not taking paternity leave was that they did not have a clear system at their work place for taking such leave. In addition, there were many fathers who worried that their paternity leave would affect their relationship with their coworkers because they had not had such customs thus far.

Discussion

The present study examined the effects of fathers'

Table 2 The reason they didn't have paternal leaves number of responses*

1	They don't have the system of paternal leave in their work	228
2	No one has had paternal leave in their workplace	190
3	Afraid to cause other co-workers trouble	170
4	There isn't any system of financial security	91
5	Co-workers don't show understanding to paternal leave	84

*(multiple answers)

participation in support programs, the relationship between their attendance and their level of involvement in child care, the effect of work role conditions on fathers' involvement in child care, and future directions for improving the current support programs for fathers. As a result, it was shown that

1. Attending the support program is effective even after they become fathers
2. Fathers who attended the program revealed high scores for both of house works and child care activities especially those involving daily care
3. Work place environment such as relations with co-workers and flexibility at the work place is important
4. Like mothers, fathers need social support through programs that provide information and teach the skills for required for child care
5. With regard to the paternity leave, there appear to be multiple factors related to such type of leave, especially those related to the work place environment.

The overall findings of this study support the view that support for fathers, as well as mothers, has an influence on their fatherhood post child birth. These findings reported here suggest three important points in relation to the conditions surrounding fathers.

First, there was a significant effect of attending support programs such as parenting classes. This result was obtained from the level of daily involvement in child care along with fathers' perception of this involvement. These results imply that the acquiring of skills or information regarding child care through parenting classes would have positive influence on fathers' awareness as a parent and lead them to be involved in child care. Moreover, this tendency continues at least for several years after their children birth. It is also possible to interpret that fathers who attended parenting classes may have originally been interests in child care. If this is the case, however, such fathers will be more positively involving in their children's care. Thus, as described below, it is necessary to create a way that enables fathers to attend these types of programs more easily.

Moreover, this study showed the significant differences in the activities daily care such as putting the

child to bed, as well as playing with the child which have been indicated in the past. Considering all these findings, it can be pointed out that these types of support programs conducted by public agencies have a large influence on fathers.

Secondly, in order to encourage fathers to attend such support programs, it is important to acquiring the understanding existing in their work place. In particular, it was shown that the factors of good relations with co-workers and flexible judgment of their work are related to their program attendance.

As indicated by Sagara, Ito, & Ikeda (2006), Japan still has a distinct gender-based division of work and the gender conception has a very significant influence on the work place environment. Fukumaru (2001) interviewing 42 fathers who have young children reported the impact of a boss's gender concept on fathers' involvement in child care. One of the fathers discussed his conflict with his supervisor as follows, "I am eager to take a paid holiday" and attend the events at my son's nursery school. However, when I apply, my supervisor tells me that he has never attend such events for his own kids and does not sanction my taking holidays. Another father complained that "taking leaves for my family sometimes has negative influence on my job performance and is perceived negatively by my boss" (Fukumaru, 2001).

Further, as compared with western countries, Japan continues to have traditional gender concept, especially among males (Sagara et al., 2006). It is sometimes very difficult to obtain the support on a family issue. However, the present study revealed that it is extremely important for fathers and mothers to receive support from individuals at their work place even during the pregnancy period.

In addition, for fathers to consider taking paternity leave, it is also indispensable to ensure that their bosses and colleagues understand the issues related to family life. On examining the reason why they did not take paternity leaves, it is found that all are related to the condition of work place environment. These results revealed that the absence of an appropriate system or economic security concerning paternal leave discourages fathers from taking leave and hinders their sense of value. According to these findings, improvement of the work place environment is concluded to be an urgent need in our country.

However, at the same time, it can be pointed out that a lot of fathers might never know that they have paternity leave system at their work place. Sato & Takeishi (2004) reveal that the existence of these types of support system sometimes fails to be a commonly known fact among employees. Therefore, it is also important for an employer to inform his employees about the type of social support provided at the work place.

Third, this study showed that, like mothers, many fathers desire to have opportunities to acquire information on skills required for child care and to obtain support from social resources from the onset of parenthood. It is possible that the usefulness of such opportunities might be realized only after childbirth even though they have never believed it to be necessary before. Offering the support to fathers would encourage them to be involved in child care and which would be regarded as beneficial by their spouses as well.

Unfortunately, we could not conduct sufficient research on fathers or provide them with sufficient opportunities to practice. One of the reasons why we have such few opportunities is because even specialists like psychologists or social workers sometimes fail to realize that fathers are also parents who can obtain and require support from other people. The general trend is to focus only on the relationship between mothers and children. However, this study revealed that such research and practice are not sufficient and appropriate.

Moreover, most fathers perform multiple roles. For them, their work role sometimes plays much greater role in their life (Fukumaru, 2003 b). Therefore, it will be more necessary to arrange the work environment such that it could enable them to manage both their work role and family role.

Further, it is also important for specialists to be cognizant of the fact that fathers require support as parents and to consider the type of support that they desire or can use effectively. It is also necessary to provide support to fathers such that it can be easily accessed.

Finally, the findings should be interpreted by considering at least two limitations. The first limitation of this study is the sample considered. This longitudinal study involved fathers who wished to continue being part of this study. Therefore, the participants might have been limited to only those who interested in these issues. In future, it will be necessary to examine a wide variety of samples.

The second limitation involves methodological problems. Since this study employed self-report questionnaire for all the variables, it is possible that the validity of the data might have becomes weak. Therefore, it will be necessary to be investigated the data received from their spouses.

Although there still exist limitations like the two mentioned above, examining the condition of fathers and their ideas is very important for improving the environment of child rearing in Japan.

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Media Factors Influencing Older Children's Social Problem Behaviors and Depression

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Abstract

This study examined the influence of television and video game on children's social and psychological problems by considering two questions. (a) Is children's media use critical to their social Problem behaviors and depression? (b) Does children's media use function as indirect predictors of the problems? Seven hundred and twenty one fifth graders (377 boys, 344 girls) were selected randomly and completed the four-wave questionnaires from February 2001 to February 2004. The results indicated that children's media use was one of the factors that influence on child development, although its effects were moderate. The program content and the ways they watch and manage the media were important for children's development. This study also revealed that the children media use increased children's social problems and depression indirectly through late bedtime, the difficulties of school adjustment, and being involved in bullying at school.

Key words: media use, social problem behaviors, depression, longitudinal survey

Television and video game are generally assumed to be important environmental factors that have influence on child development, especially in negative way. Hager (2006) discussed that the television was responsible for many problems in society. Gentile, Lynch, Linder, and Walsh (2004) discussed that video game impacted adolescents' social and academic problems. Children's exposure to violence in both television and video game causes their problematic behaviors such as social problem behaviors (e. g., Gidwani, Sobol, DeJong, Perrin, & Gortmaker, 2001; Hough & Erwin, 1997; Huesmann, Moise, & Podolski, 1997), and negative mental health in both short- and long- term (e. g., American Academy Pediatrics, 2001). Television and video game use also relates to children's time use. The more they spend with television and video game, the less they spend for other activities including sleeping time, homework, studying (e. g., Valkenburg & van der Voort, 1994), and physical activities (Hager, 2006; Motl, McAuley, Birnbaum, & Lytle, 2006; Vandewater, Shim, & Caplovitz, 2004). The lack of these activities, in turn, causes children's mental health problems and difficulties of school and social adjustment (Hager, 2006; Motl, McAuley, Birnbaum, & Lytle, 2006; Shin, 2004).

The influence of media use on children's development is related to the time they spend as well as the content they watch. Many studies that examined the relationships between media-violence and children's aggressive behaviors focused on the effects of watching dramatic

violence (e. g., Huesmann, Moise-Titus, Podolski, & Eron, 2003).

Children's vulnerabilities to the media are also important in considering media's effects to them. For example, as one of the short-term effects of media violence, Huesmann, Moise-Titus, Podolski, and Eron (2003) discussed that the imitation of specific behaviors and identification with characters in media increased the risk for aggression.

However, several other articles found positive effects of media for child development (e. g., Anderson, Huston, Schmitt, Linebarger, & Wright, 2001). Dominick (1984) discussed that heavy videogame players were not necessarily more aggressive, although it led low self-esteem. Moreover, television and video game are also considered as important media for children to develop their friendship by sharing the common topics in Japan (Sumiya & Muto, 2001), although television viewing increases unpleasant peer norms (Eggermont, 2005). Thus in Japan, attention to the examination of the function of television and video game has been considered in addition to the influence on children's problems.

Most articles of children's social problem behaviors and depression agree that children's media use is not the only critical factor that causes their social problem behaviors and depression, and several other critical factors such as poor child rearing, poor peer relations, frustration, and provocation are emphasized as well (e. g., Eggermont, 2005; Hale, Engels, & Meeus, 2006;

Huesmann, Moise-Titus, Podolski, & Eron, 2003; Muto, Sumiya, & Komaya, 2005; Sumiya & Muto, 2003).

Thus, two questions are appeared to examine the influence of children's media use on their social and psychological development: (a) Is children's media use as critical to their social problem behaviors and depression as other factors represented by bedtime, interrelationships with family and friends, and self confidence? (b) Does children's media use function as the predictors of those critical factors?

In order to examine these two questions in the study, time spent watching television, watching youth-favorite programs such as drama, music, and talk shows, the identification with TV characters and scenes, the amount of children's own electronic devices, and time spent playing with video game are included as media factors. In addition to children's social problem behaviors and depression, their bedtime, family adjustment, school adjustment, friendship, and self confidence are also taken into account in order not to over- and under- estimate the media influence on children.

Methods

Participants

Participants were drawn from the Longitudinal Survey of Broadcasting sponsored by The Broadcasting and Youth-Child Committee, which comprises approximately 1,850 children and their primary caregivers living within the distance of 40 km from Tokyo. A random sample was obtained using the add-a-digit approach. Data were collected annually from February 2001 to February 2004. At time 1 (2001), 1,500 fifth and 350 eighth graders and their primary caregivers were asked to participate in this survey, and 1006 fifth and 216 eighth graders and their primary caregivers completed it. At time 4 (2004), in addition to the 1,006 followed up eighth graders and their primary caregivers, 350 fifth graders and their primary caregivers were asked to participate in it. To be included in the analyses, participants needed to be at fifth graders at time 1 (2001), and these children also needed to have full data points from time 1 to time 4. The final sample analyzed in this article includes 721 children (377 boys, 344 girls). The mean age at time 1 was 11.4 (SD = 3.46).

Instruments and Procedures

In addition to the demographic data (age, sex, grade, and the numbers of family member), the questions of the following 10 categories were asked for children by professional interviewers at participants' houses. Children and their primary caregivers answered the questionnaire separately so that they could answer with little hesitation.

Social problem behaviors and depression. The social problem behaviors were measured with 9 items. An example item is "Have you ever experienced to go to the game arcades without escorts?" The other items were those transposed the sentence "to go to the game arcades without escort" into "to steal someone's bicycle," "to smoke," "alcoholic drinking without permission," "shoplifting," "to break something purposely," "to hit somebody," "to run away from home." Children could choose *Yes* (1) or *No* (0) to each item, and all the scores were summed up to form a single composite score (0 min, 9 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .44 and .53.

The depression was measured by four items. An example item is "How often do you feel being irritated?" The other items were those transposed the sentence "being irritated" into "lonesome," "apathy," and "headache and stomachache." They were rated with four-point scale from *not at all* (1) to *very often* (4), and all the scores were summed up to form a single composite score (4 min, 16 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .44 and .56.

The amount of television viewing. As for the amount of television viewing, two categories were included -- (a) time spent watching television and (b) watching youth-favorite programs. Time spent watching television was measured by two items, "How many hours per day do you usually watch television during weekdays?" and "How many hours per day do you usually watch television in your own room?" These items were rated using a seven-point scale with anchors of *I seldom watch TV during the weekday / in my own room* (1), *less than 30 minutes per day* (2), *about an hour per day* (3), *about two hours per day* (4), *about three hours per day* (5), *about four hours per day* (6), and *more than five hours per day* (7). The test-retest reliabilities, based on an intraclass correlation, of each measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .44 and .63.

Watching youth favorite programs including drama, music, and talk shows was measured by three items. "Do you watch drama?" "Do you watch music programs?" and "Do you watch talk show programs?" Children could choose *Yes* (1) or *No* (0) to each item, and all the scores were summed up to form a single composite score (0 min, 3 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .55 and .64.

The identification with TV characters and scenes. The identification with TV characters and scenes was

measured by six items. An example item is "Have you ever experienced that you could not help buying something you have seen in TV advertisement?" The other items were those transposed the sentence "buying something you have seen in TV advertisement" into "using the vogue-word you have heard in TV," "going somewhere you have seen in TV," "trying to become a hero you have seen in TV," "trying to make your friends laugh in the same way you watched in TV," and "imitating the violence you watched in TV." Children were asked to choose *Yes* (1) or *No* (0) to each item, and all the scores were summed up to form a single composite score (0 min, 6 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .34 and .55.

The numbers of children's own electronic devices.

The numbers of children's own electronic devices were measured by eight items. An example item is "Do you have your own television set?" The other items were those transposed the word "television set" into "radio," "video game player," "portable video game player," "video tape recorder," "computer," "telephone," and "cellphone." Children were asked to choose *Yes* (1) or *No* (0) to each item, and all the scores were summed up to form a single composite score (0 min, 8 max). The test-retest reliabilities, based on an intraclass correlation, of each measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .56 and .58.

Time spent playing with video game. Time spent playing with video game was measured by a single item, "How many hours per day do you usually play video game during weekdays?" The item was rated using a seven-point scale with anchors of *I seldom play video game during the weekday* (1), *less than 30 minutes per day* (2), *about an hour per day* (3), *about two hours per day* (4), *about three hours per day* (5), *about four hours per day* (6), *more than five hours per day* (7). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .43 and .56.

Children's lifestyle: Bedtime. As a representation of the children's lifestyle, their bedtime was measured by a single item, "How many days per week are you usually awake after 11:00 p. m.?" This item was rated using a five-point scale with anchors of *Almost every day* (1), *four or five days* (2), *two or three days* (3), *a day* (4), and *I am not awake after 11:00 p. m.* (5). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .49 and .60.

Family, school, and friends. Family adjustment was measured by three items, "I like my family," "I think my mother really trusts me," and "I think my father really trusts me." The items were rated using a four-

point scale with anchors of *Strongly agree* (1), *Agree* (2), *Disagree* (3), and *Strongly disagree* (4), and all the scores were summed up to form a single composite score (3 min, 12 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .55 and .66.

School adjustment was measured by three items, "I like school," "I think my homeroom teacher really understands me," and "I am good at school performance." The items were rated using a four-point scale with anchors of *Strongly agree* (1), *Agree* (2), *Disagree* (3), and *Strongly disagree* (4), and all the scores were summed up to form a single composite score (3 min, 12 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .47 and .54.

In order to measure friendship, two categories were included -- (a) the problematic relationship with friends at school (bullying and isolation) and (b) the type of friendship (intimacy). The bullying at school was measured by three items, "How often do you hit and kick your friends at school?" "How often do you make fun of your friends at school?" and "How often have you been hit and kicked by your friends at school?" The items were rated using a four-point scale with anchors of *very often* (1), *often* (2), *sometimes* (3), and *not at all* (4), and all the scores were summed up to form a single composite score (4 min, 12 max). The isolation at school was measured by three items, "How often do you spend coffee break alone at school?" "How often are you ignored at school?" and "How are you forced obedience at school?" The items were rated using a four-point scale with anchors of *very often* (1), *often* (2), *sometimes* (3), and *not at all* (4), and all the scores were summed up averaged to form a single composite score (1 min, 4 max). The test-retest reliabilities, based on an intraclass correlation, of each measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .44 and .53.

Intimacy was measured by three items, "Do you have any friends you can trust?" "Do you have any best friend?" and "Do you have any friends to whom you can confess something important?" Children were asked to choose *Yes* (1) or *No* (0) to each item, and all the scores were summed up to form a single composite score (0 min, 3 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .39 and .54.

Self confidence. Self confidence was measured by six items, "I am good at sports," "I have many friends," "I am kind to others," "I am patient," and "I am good at anything more than average." The items were rated

using a two-point scale with anchors of *Agree* (1) and *Disagree* (2), and all the scores were summed up to form a single composite score (0 min, 6 max). The test-retest reliabilities, based on an intraclass correlation, of single measure between time 1 and 2, time 2 and 3, and time 3 and 4 were between .45 and .50.

Results

Descriptive Statistics

The fourteen factors were analyzed in the study. This includes social problem behaviors, depression, time spent watching television, watching youth-favorite programs, the identification with TV characters and scenes, the numbers of children's own electronic devices, time spent playing with video game, bedtime, family adjustment, school adjustment, bullying at school, isolation at school, intimacy, and self confidence. The mean scores and standard deviations for these factors are provided for the overall sample and girls and boys separately in Table 1. The correlation coefficients among the measures of these factors are provided in Appendix A.

Partial Correlations: social problem behaviors and depression

Social problem behaviors. Partial correlations were conducted between "social problem behaviors" at time (*ns*) and other factors at time (*ns*), controlling for "social problem behaviors" at time (*ns*-1, $2 < ns < 4$). Table 2 presents the results of the analyses.

The correlation coefficients between "depressions" and "social problem behaviors" were sufficient at any time ($rs = .13, .23, \text{ and } .15, ps < .01$ at time 1, 2, and 3 respectively). Those who expressed high depression tended to commit to the social problem behaviors.

As for the television factors, the correlation coefficients between "watching youth-favorite programs" and "social problem behaviors" were sufficient at any time ($rs = .14, .20, \text{ and } .09, ps < .01$ at time 1 and 2, and $p < .05$ at time 3 respectively). Those who watched more television programs such as dramas, music, and talk shows tended to commit to the social problem behaviors. The correlation coefficients between "the identification with TV characters and scenes" and "social problem behaviors" were sufficient at any time ($rs = .21, .23, \text{ and } .17, ps < .01$ at time 1, 2, and 3 respectively). Those who easily identify themselves with something in television programs tended to commit to the social problem behaviors. At time 1 and time 2, the correlation coefficients between "time spent watching television" and "social problem behaviors" were sufficient at any time ($r = .13, p < .01$ at time 1, and $r = .09, p < .05$ at time 2 respectively). Those who watched television longer in earlier years tended to commit to the social

problems.

As for the other media-related questions, the correlation coefficients between "the numbers of children's own electronic devices" and "social problem behaviors" were sufficient at any time ($rs = -.15, -.12, \text{ and } -.10, ps < .01$ at time 1 and 2, and $p < .05$ at time 3 respectively). Those who had their own electronic devices expressed lower social problem behaviors. The correlation coefficients between "time spent playing with video game" and "social problem behaviors" were not sufficient at any time.

As for the children's life style, the correlation coefficients between "bedtimes" and "social problem behaviors" were sufficient at any time ($rs = -.09, -.18, \text{ and } -.12, p < .05$ at time 1, and $ps < .01$ at time 2 and 3 respectively). Those who were awake after 11 o'clock showed higher risk for social problem behaviors.

The correlation coefficients between "family adjustments" and "social problem behaviors" were sufficient at any time ($rs = .17, .24, \text{ and } .21, ps < .01$ at time 1, 2, and 3 respectively). The correlation coefficients between "school adjustments" and "social problem behaviors" were sufficient at any time ($rs = .14, .18, \text{ and } .09, ps < .01$ at time 1 and 2, and $p < .05$ at time 3 respectively). Those who showed the difficulties in the adjustment to family and school were more risky for social problem involvement. The correlation coefficients between "bullying at schools" and "social problem behaviors" were sufficient at any time ($rs = -.12, -.16, \text{ and } -.10, ps < .01$ at time 1 and 2, and $p < .05$ at time 3 respectively). Those who were in more trouble with bullying showed higher risk for social problem behaviors. The correlation coefficients between "isolation at schools" and "social problem behaviors" were not sufficient at any time. The correlation coefficients between "intimacies" and "social problem behaviors" were sufficient at time 1 and 2 ($rs = .11 \text{ and } .12, ps < .01$ respectively). Those who kept intimacy were more risky for social problem behaviors.

The correlation coefficients between "self confidence" and "social problem behaviors" were not sufficient at any time.

Depression. Partial correlations were conducted between "depressions" at time (*ns*) and other factors at time (*ns*), controlling for "depressions" at time (*ns*-1, $2 < ns < 4$). Table 3 presents the results of the analyses.

The correlation coefficients between "social problem behaviors" and "depressions" were sufficient at any time ($rs = .13, .18, \text{ and } .15, ps < .01$ at time 1, 2, and 3 respectively). Those who expressed more social problem behaviors kept higher risk for depression.

As for the television factors, the correlation coefficients between "watching youth-favorite programs" and "depressions" were sufficient at any time ($rs = .15, .14, \text{ and } .09, ps < .01$ at time 1 and 2, and $p < .05$ at time

Table 1 Means (*M*) and standard deviations (*SD*) for fourteen factors

Factors and time point	Overall		Girls		Boys	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Social problem behaviors						
time 1	.93	.99	.99	.99	.89	1.00
time 2	.75	.89	.85	.90	.66	.87
time 3	.46	.67	.49	.70	.43	.63
time 4	.34	.66	.30	.60	.37	.71
Depression						
	9.33	2.45	9.99	2.39	8.73	2.35
	9.07	2.49	9.69	2.54	8.50	2.30
	8.93	2.45	9.38	2.61	8.51	2.21
	9.43	2.32	9.59	2.32	9.29	2.31
Time spent watching television						
	4.64	1.32	4.76	1.41	4.54	1.22
	4.71	1.34	4.79	1.43	4.64	1.24
	4.87	1.33	5.01	1.36	4.74	1.29
	3.77	1.35	3.83	1.41	3.71	1.30
Watching youth programs						
	1.56	1.05	1.91	.96	1.24	1.03
	1.37	1.10	1.88	1.02	.90	.96
	1.23	1.08	1.77	1.05	.74	.86
	.88	.95	1.29	.99	.50	.73
The identification with TV characters and scenes						
	1.33	1.21	1.43	1.24	1.24	1.17
	1.33	1.15	1.45	1.14	1.21	1.15
	1.41	1.15	1.53	1.18	1.29	1.10
	1.52	1.20	1.54	1.19	1.50	1.21
The amount of children's own electronic devices						
	13.55	1.52	13.66	1.58	13.44	1.45
	13.71	1.46	13.76	1.55	13.66	1.37
	13.52	1.43	13.53	1.52	13.51	1.34
	13.67	1.30	13.69	1.43	13.65	1.18
Time spent playing with video game						
	2.32	1.38	1.62	1.04	2.88	1.36
	2.33	1.45	1.67	1.15	2.86	1.45
	2.79	1.41	2.25	1.33	3.25	1.31
	2.75	1.37	2.20	1.20	3.22	1.33
Bedtime						
	2.05	1.16	1.90	1.10	2.20	1.19
	2.47	1.31	2.33	1.32	2.60	1.30
	3.12	1.43	3.01	1.45	3.21	1.41
	3.41	1.38	3.38	1.38	3.43	1.39
Family adjustment						
	4.79	1.70	4.71	1.70	4.86	1.69
	4.63	1.76	4.63	1.81	4.62	1.71
	4.38	1.61	4.43	1.65	4.33	1.57
	4.27	1.50	4.25	1.50	4.29	1.51
School adjustment						
	6.10	1.58	6.19	1.58	6.03	1.57
	5.94	1.57	6.04	1.59	5.84	1.54
	5.60	1.66	5.60	1.67	5.59	1.66
	5.57	1.55	5.60	1.52	5.54	1.58
Bullying at school						
	3.47	.57	3.62	.48	3.34	.61
	3.43	.62	3.52	.54	3.34	.66
	3.33	.65	3.40	.61	3.27	.67
	3.33	.66	3.42	.62	3.24	.68
Isolation at school						
	3.58	.46	3.60	.43	3.57	.48
	3.57	.48	3.58	.47	3.57	.49
	3.46	.54	3.45	.55	3.46	.55
	3.39	.56	3.41	.56	3.37	.56
Intimacy						
	1.52	1.03	1.83	.98	1.25	1.00
	1.44	1.00	1.76	.99	1.15	.91
	1.47	1.00	1.81	.95	1.16	.95
	1.30	.95	1.56	.92	1.06	.92
Self confidence						
	2.08	1.25	2.01	1.22	2.15	1.27
	1.95	1.17	1.98	1.18	1.92	1.15
	2.17	1.27	2.18	1.23	2.16	1.31
	1.92	1.18	1.87	1.13	1.97	1.23

Table 2 *Partial correlations between social problem behaviors at time (time n) and twelve factors at time (time*

		Depression	Time spent watching television	Watching youth programs	The identification with TV characters and scenes	The amount of children's own electronic devices	Time spent playing with video gam
Social problem behaviors	time 2	.13**	.13**	.14**	.21**	-.15**	.02
	time 3	.23**	.09*	.20**	.23**	-.12**	-.07
	time 4	.15**	.02	.09*	.17**	-.10*	.02

Note. ** $p < .01$, * $p < .05$

Table 3 *Partial correlations between social depression at time (time n) and twelve factors at time (time n) with*

		Depression	Time spent watching television	Watching youth programs	The identification with TV characters and scenes	The amount of children's own electronic devices	Time spent playing with video game
Depression	time 2	.13**	.03	.15**	.15**	-.02	-.08*
	time 3	.18**	.02	.14**	.13**	-.05	-.07
	time 4	.15**	.04	.09*	.07	.02	-.09*

Note. ** $p < .01$, * $p < .05$

3 respectively). Those who watched more television programs such as dramas, music, and talk shows tended to keep more risk for depression. The correlation coefficients between “the identification with TV characters and scenes” and “depressions” were sufficient at time 1 and 2 ($rs = .15, .13, ps < .01$ respectively). Those who easily identify themselves with something in television programs were more risky for depression. The correlation coefficients between “time spent watching television” and “depressions” were not sufficient at any time.

As for other media, the correlation coefficients between “the numbers of children’s own electronic devices” and “depressions” were not sufficient at any time. The correlation coefficients between “time spent playing with video game” and “depressions” were sufficient at time 1 and 3 ($rs = -.08, -.09, ps < .05$ respectively). Those who played video game longer showed lower risk for depression.

As children’s life style, the correlation coefficients between “bedtimes” and “depressions” were sufficient at any time ($rs = -.11, -.16, \text{ and } -.10, ps < .01$ at time 1, 2, and $p < .05$ at time 3 respectively). Those who were awake after 11 o’clock showed higher risk for depression.

The correlation coefficients between “family adjustments” and “depressions” were sufficient at any time ($rs = .17, .12, \text{ and } .09, ps < .01$ at time 1, 2, and $p < .05$ at time 3 respectively). The correlation coefficients between “school adjustments” and “depressions” were sufficient at any time ($rs = .21, .23, \text{ and } .16, ps < .01$ at time 1, 2, and 3 respectively). Those who showed the difficulties in the adjustment to family and school were more risky for depression. The correlation coefficients

between “bullying at schools” and “depressions” were sufficient at any time ($rs = -.23, -.13, \text{ and } -.18, ps < .01$ at time 1, 2, and 3 respectively). The correlation coefficients between “isolation at schools” and “depressions” were sufficient at any time ($rs = -.29, -.24, \text{ and } -.23, ps < .01$ at time 1, 2, and 3 respectively). Those who were in trouble with friends at school more showed higher risk for depression. The correlation coefficient between “intimacy” and “depression” was sufficient at time 2 ($r = .11, p < .05$). Those who kept intimacy were more risky for depression.

The correlation coefficient between “self confidence” and “depression” was sufficient at time 3 ($r = -.09, p < .05$). Those who were less confident were more risky for depression.

Partial Correlations: media factors

Media factors. To examine the relations between children’s media use (time spent watching television, watching youth-favorite programs, the identification with TV characters and scenes, the amount of children’s own electronic devices, and time spent playing with video game) and other factors (bedtime, family adjustment, school adjustment, bullying at school, isolation at school, intimacy, and self confidence), partial correlations were conducted between media factors at time (ns) and other factors at time (ns), controlling for other factors at time ($ns -1, 2 < ns < 4$). Table 4 presents the results of the analyses.

“Time spent watching television” was related to “bedtime” at time 2 ($r = -.15, p < .01$), “family adjustment” at time 2 ($r = .07, p < .1$), “school adjustment” at time 2 and 3 ($rs = .10, .12, ps < .01$ respectively), “isolation at school” at time 3 ($r = .07, p < .1$), and “intimacy” at time 2 and 4

n) with controlled variables of social problem behaviors (time n-1)

Bedtime	Family adjustment	School adjustment	Bullying at school	Isolation at school	Intimacy	Self confidence	controlled variables	
-.09*	.17**	.14**	-.12**	-.05	.11**	.04	Social problem behaviors	time 1
-.18**	.24**	.18**	-.16**	-.06	.07	.04		time 2
-.12**	.21**	.09*	-.10*	-.06	.12**	.03		time 3

controlled variables of depression at time (time n-1)

Bedtime	Family adjustment	School adjustment	Bullying at school	Isolation at school	Intimacy	Self confidence	controlled variables	
-.11**	.17**	.21**	-.23**	-.29**	.05	-.05	Depression	time 1
-.16**	.12**	.23**	-.13**	-.24**	.11*	-.02		time 2
-.10*	.09*	.16**	-.18**	-.23**	.06	-.09*		time 3

Table 4 *Partial correlations between media factors (time n) and bedtime, family adjustment, school adjustment, bullying at school, isolation at school, intimacy, and self confidence (time n) with controlled variables of those factors (time n-1)*

		Time spent watching television	Watching youth programs	The identification with TV characters and scenes	The amount of children's own electronic devices	Time spent playing with video game	controlled variables	
Bedtime	time 2	-.15**	-.14**	-.06 †	.04	-.05	Bedtime	time 1
	time 3	-.01	-.16**	-.05	.03	.04		time 2
	time 4	-.03	-.08*	-.07	.03	.05		time 3
Family adjustment	time 2	.07 †	.06	.03	-.07 †	.01	Family adjustment	time 1
	time 3	.05	.02	.02	-.01	.00		time 2
	time 4	.02	.04	.00	.00	.03		time 3
School adjustment	time 2	.10**	.06	.08*	-.05	.04	School adjustment	time 1
	time 3	.12**	.02	-.03	.03	.02		time 2
	time 4	.07	.03	.00	.00	.04		time 3
Bullying at school	time 2	-.04	-.01	-.08*	-.03	-.03**	Bullying at school	time 1
	time 3	.01	.05	-.09*	.01	-.03		time 2
	time 4	-.01	.03	-.12**	.05	-.12		time 3
Isolation at school	time 2	.00 †	.01 †	-.05 †	-.02	-.05	Isolation at school	time 1
	time 3	.07	.07*	-.07	-.04	-.03		time 2
	time 4	.03	.08	-.05	.02	-.04		time 3
Intimacy	time 2	.09*	.25**	.22**	-.09*	-.07 †	Intimacy	time 1
	time 3	.03**	.21**	.16**	-.08*	-.11**		time 2
	time 4	.12	.16**	.17**	-.10**	-.04		time 3
Self confidence	time 2	-.05	.08*	.14**	-.08*	-.01*	Self confidence	time 1
	time 3	-.04	.08*	.16**	-.11**	-.08		time 2
	time 4	-.04	.07 †	.13**	-.16**	-.01		time 3

Note. ** $p < .01$, * $p < .05$, † $p < .10$

($r_s = .09$, $.12$, $p_s < .01$ respectively). Those who watch television longer exhibited late bedtime and kept more intimate friendship, although these were not stable through time.

“Watching youth-favorite programs” was related to

“bedtimes” ($r_s = -.14$, $-.16$, and $-.08$, $p_s < .01$ at time 1, 2, and $p < .05$ at time 3 respectively), “intimacies” ($r_s = .25$, $.21$, and $.16$, $p_s < .01$ at time 1, 2, and 3 respectively), and “self confidences” ($r_s = .08$, $.08$, and $.07$, $p_s < .05$ at time 1, 2, and $p < .10$ at time 3 respectively) at any time.

Those watch drama, music, and talk shows exhibited late bedtime, and kept more intimate friendship and higher self confidence.

“The identification with TV characters and scenes” was related to “bullying at schools” ($rs = -.08, -.09$, and $-.12$, $ps < .05$ at time 1, 2, and $p < .01$ at time 3 respectively), “intimacies” ($rs = .22, .16$, and $.17$, $ps < .01$ at time 1, 2, and 3 respectively), and “self confidences” ($rs = .14, .16$, and $.13$, $ps < .01$ at time 1, 2, and 3 respectively) at any time. Those who easily identified themselves with something shown in television maintained more intimate friendship and high self confidence, and were more concerned in bullying at school.

“The numbers of children’s own electronic devices” was related to “intimacies” ($rs = -.09, -.08$, and $-.10$, $ps < .05$ at time 1, 2, and $p < .01$ at time 3 respectively), and “self confidences” ($rs = -.08, -.11$, and $-.16$, $p < .05$ at time 1, and $ps < .01$ at 2 and 3 respectively) at any time. Those who owned their media kept less intimate friendship and lower self confidence.

“Time spent playing with video game” was related to “bullying at school” at time 4 ($r = -.12$, $p < .01$), “intimacy” at time 2 and 3 ($r = -.07$, $p < .1$, $r = -.11$, $p < .01$ respectively), and “self confidence” at time 3 ($r = -.08$, $p < .01$). Those played video game longer were more concerned in bullying at school, and kept less intimate friendship and lower self confidence, although these were not stable through time.

Discussion

This article examined the both direct and indirect influence of television and video game on children’s social and psychological problems by considering the two questions of (a) whether children’s media use was critical to their social problem behaviors and depression, and (b) whether children’s media use functioned as the indirect predictors of the problems.

First, the results of this study supported the fact that children’s media use is one of the factors that influence on child development, although its effects are moderate. The influence of other factors including bedtime, family adjustment, school adjustment, and bullying at school were more stable and critical to both social problem behaviors and depression, and the factor of isolation was related to depression. The results that “watching youth-favorite programs” and “the identification with TV characters and scenes” promoted children’s social problem behaviors and depression more conclusively than “time spent watching television” were worthy of special mention in regard to the first question. The program content and the ways they watch and manage the media are important for children’s development. It is consistent with the importance of third-person’s perceptions for children when they watch television (Hoffner,

et al., 2001).

Second, the results of the analyses also revealed that children media use increases children’s social problems and depression indirectly through late bedtime, the difficulties of school adjustment, and being involved in bullying at school. In this study, “watching youth programs” and “the identification with TV characters and scenes” increased children’s intimate friendship and self confidence. This result is consistent with the fact that television and video game function as their resource of social status by sharing the common topics with friends among Japanese children. However, the two factors of intimacy and self confidence were not in stable relationships with children’s social problem behaviors and depression. Children’s intimacy and self confidence supported by sharing the television and video game topics are not sufficient to promote their healthy development.

This paper has several limits. First, the main analyses were conducted with the overall sample. In future study, it is necessary to analyze with separate samples by sex, grade, and the level of social and psychological problem. Second, the exact causal direction still needs to examine for better understanding of the results. Third, several other media factors such as the attitude toward media violence and parents’ effects need to be included in the future study.

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Appendix A *Correlation coefficients among the fourteen factors from time 1 to time 4*

		①				②				③			
		time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4
① Social problem behaviors	time 1												
	time 2	.52**											
	time 3	.36**	.44**										
	time 4	.14**	.25**	.45**									
② Depression	time 1	.23**	.19**	.15**	.02								
	time 2	.18**	.28**	.16**	.05	.56**							
	time 3	.09*	.21**	.19**	.14**	.41**	.53**						
	time 4	.06	.10**	.12**	.17**	.35**	.39**	.45**					
③ Time spent watching television	time 1	.09	.14**	.11**	.11**	.05	.02	.04	.02				
	time 2	.07	.13**	.09*	.08*	.05	.01	.02	.01	.61**			
	time 3	.08*	.18**	.15**	.08*	.02	.06	.03	.03	.51**	.54**		
	time 4	.10**	.13**	.11**	.10**	.07*	.08*	.08*	.10**	.35**	.36**	.44**	
④ Watching youth programs	time 1	.19**	.18**	.16**	.04	.11**	.04	.03	-.02	.23**	.22**	.20**	.12**
	time 2	.20**	.25**	.13**	.04	.16**	.18**	.10**	.01	.22**	.26**	.22**	.07
	time 3	.20**	.21**	.17**	.08*	.15**	.16**	.14**	.04	.21**	.21**	.26**	.18**
	time 4	.17**	.18**	.18**	.07	.15**	.12**	.11**	.07*	.16**	.16**	.23**	.24**
⑤ The identification with TV characters and scenes	time 1	.27**	.22**	.17**	.08*	.15**	.14**	.07	.04	.11**	.09*	.09*	.04
	time 2	.21**	.29**	.17**	.04	.11**	.18**	.14**	.07	.09*	.10**	.07*	.05
	time 3	.24**	.23**	.24**	.09*	.11**	.13**	.16**	.05	.08*	.11**	.15**	.04
	time 4	.14**	.16**	.09*	.11**	.07	.09*	.14**	.13**	.02	.01	.09*	.06
⑥ The amount of children's own electronic devices	time 1	-.17**	-.15**	-.19**	-.11**	.01	-.03	-.04	-.02	-.06	-.09*	-.11**	-.10**
	time 2	-.18**	-.19**	-.15**	-.07*	-.02	-.07*	-.06	.01	-.07	-.10**	-.08*	-.09*
	time 3	-.16**	-.18**	-.16**	-.10**	.02	-.04	-.01	.02	-.10**	-.11**	-.10**	-.09*
	time 4	-.12**	-.14**	-.19**	-.06	-.02	-.04	-.07	.00	-.06	-.03	-.08*	-.06
⑦ Time spent playing with video game	time 1	-.01	-.04	.00	.14**	-.10**	-.05	-.05	.06	.11**	.08*	.07	.06
	time 2	-.01	-.08*	-.02	.10**	-.12**	-.06	-.01	.02	.06	.13**	.07	.02
	time 3	.03	.01	.05	.08*	-.07	-.03	-.06	.03	.09*	.12**	.19**	.08*
	time 4	-.02	-.04	.02	.13**	-.06	-.06	-.01	.08*	.07	.12**	.09*	.12**
⑧ Bedtime	time 1	-.16**	-.15**	-.06	-.04	-.17**	-.14**	-.06	-.05	-.07	-.03	-.06	-.02
	time 2	-.15**	-.18**	-.09*	-.02	-.17**	-.18**	-.09*	-.03	-.10**	-.11**	-.10**	-.08*
	time 3	-.14**	-.17**	-.15**	-.12**	-.09*	-.13**	-.14**	-.10**	-.16**	-.20**	-.18**	-.14**
	time 4	-.12**	-.14**	-.11**	-.15**	-.10**	-.14**	-.13**	-.18**	-.10**	-.15**	-.10**	-.18**
⑨ Family adjustment	time 1	.26**	.20**	.24**	.23**	.16**	.16**	.17**	.18**	.09*	.05	.13**	.14**
	time 2	.25**	.30**	.22**	.27**	.11**	.21**	.20**	.18**	.08*	.06	.12**	.12**
	time 3	.15**	.22**	.23**	.21**	.12**	.18**	.25**	.22**	.09*	.03	.08*	.09*
	time 4	.09*	.11**	.14**	.24**	.09*	.15**	.17**	.24**	.05	.00	.04	.08*
⑩ School adjustment	time 1	.15**	.15**	.13**	.14**	.29**	.25**	.15**	.25**	.13**	.09*	.09*	.14**
	time 2	.16**	.21**	.17**	.14**	.26**	.30**	.18**	.24**	.16**	.14**	.18**	.16**
	time 3	.13**	.20**	.15**	.13**	.11**	.23**	.28**	.23**	.11**	.11**	.18**	.16**
	time 4	.08*	.10*	.09*	.19**	.15**	.21**	.16**	.24**	.10*	.11**	.17**	.13**
⑪ Bullying at school	time 1	-.16**	-.15**	-.16**	-.11**	-.22**	-.14**	-.16**	-.14**	-.03	-.03	-.03	-.03
	time 2	-.14**	-.20**	-.16**	-.11**	-.17**	-.26**	-.23**	-.20**	-.01	.01	.02	-.03
	time 3	-.07	-.15**	-.18**	-.14**	-.13**	-.18**	-.30**	-.24**	.01	.02	-.08*	-.10**
	time 4	-.05	-.14**	-.21**	-.26**	-.09*	-.15**	-.18**	-.35**	-.03	-.02	-.09*	-.12**
⑫ Isolation at school	time 1	-.08*	-.04	-.07	-.02	-.32**	-.26**	-.20**	-.17**	.04	.05	.00	-.01
	time 2	.01	-.08*	-.06	-.02	-.22**	-.32**	-.24**	-.22**	.06	.09*	.03	.01
	time 3	.05	-.02	-.08*	-.10**	-.23**	-.27**	-.37**	-.28**	.04	.07	-.01	-.07
	time 4	.03	.00	-.03	-.02	-.15**	-.22**	-.23**	-.37**	.02	.04	-.04	-.09*
⑬ Intimacy	time 1	.19**	.13**	.10**	.00	.12**	.11**	.04	.03	.13**	.07	.10**	.06
	time 2	.12**	.13**	.09*	-.04	.11**	.15**	.05	.00	.07	.05	.07	.00
	time 3	.13**	.16**	.10**	.04	.13**	.17**	.04	.03	.07	.06	.11**	.04
	time 4	.12**	.10**	.08*	.03	.13**	.11**	.05	.05	.03	.03	.09*	.06
⑭ Self confidence	time 1	.08*	.04	.02	-.02	-.08*	-.05	-.07	-.08*	-.01	-.02	-.03	-.02
	time 2	.10**	.05	.04	-.07	-.04	-.04	-.06	-.07	.03	-.03	.01	-.04
	time 3	.11**	.06	.06	.00	-.05	-.04	-.09*	-.12**	-.03	.02	-.06	-.06
	time 4	.17**	.12**	.03	.00	-.02	-.05	-.10**	-.11**	.00	.02	.01	-.01

Note. ** $p < .01$, * $p < .05$

Media Factors Influencing Older Children's Social Problem Behaviors and Depression

④				⑤				⑥				⑦			
time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4

Appendix A *continued*

		⑧				⑨				⑩			
		time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4
① Social problem behaviors	time 1												
	time 2												
	time 3												
	time 4												
② Depression													
③ Time spent watching television													
④ Watching youth programs													
⑤ The identification with TV characters and scenes													
⑥ The amount of children's own electronic devices													
⑦ Time spent playing with video game													
⑧ Bedtime		.54**											
		.34**	.50**										
		.33**	.39**	.59**									
⑨ Family adjustment		-.09*	-.04	-.06	-.03								
		-.09*	-.09*	-.09*	-.06	.66**							
		-.07	-.10**	-.14**	-.09*	.55**	.64**						
		-.04	-.05	-.10*	-.10**	.45**	.45**	.55**					
⑩ School adjustment		-.01	-.03	-.05	-.07*	.40**	.33**	.23**	.21**				
		-.07	-.11**	-.14**	-.16**	.33**	.41**	.31**	.28**	.54**			
		-.03	-.08*	-.14**	-.11**	.30**	.32**	.37**	.26**	.42**	.48**		
		-.04	-.08*	-.20**	-.15**	.27**	.26**	.29**	.38**	.36**	.42**	.52**	
⑪ Bullying at school		.07	.06	.03	.00	-.15**	-.15**	-.13**	-.13**	-.10**	-.15**	-.09*	-.12**
		.05	.07*	.07	.07	-.10**	-.17**	-.11**	-.11**	-.09*	-.20**	-.10**	-.09*
		-.01	.05	.09*	.05	-.14**	-.19**	-.18**	-.14**	-.13**	-.17**	-.21**	-.15**
		.02	-.01	.06	.11**	-.17**	-.18**	-.21**	-.24**	-.09*	-.12**	-.12**	-.14**
⑫ Isolation at school		-.06	-.01	-.04	.00	-.08*	-.08*	-.05	-.06	-.20**	-.14**	-.12**	-.11**
		.02	.04	-.01	.02	-.05	-.07	-.06	-.08*	-.10**	-.14**	-.11**	-.10**
		-.06	.00	.03	.02	-.08*	-.10**	-.13**	-.11**	-.15**	-.11**	-.23**	-.16**
		.02	.01	.04	.07	-.10**	-.08*	-.05	-.12**	-.12**	-.16**	-.17**	-.20**
⑬ Intimacy		-.12**	-.09*	-.10**	-.07	-.11**	-.06	-.13**	-.13**	-.08*	-.05	-.11**	-.12**
		-.11**	-.08*	-.03	-.02	-.10**	-.11**	-.15**	-.14**	-.04	-.10**	-.10*	-.14**
		-.13**	-.12**	-.07	-.03	-.04	-.01	-.06	-.11**	.01	-.03	-.13**	-.12**
		-.07	-.07	-.06	-.05	-.07	-.03	-.06	-.11**	.00	-.01	-.11**	-.18**
⑭ Self confidence		.05	.03	.02	.02	-.12**	-.05	-.08*	-.10*	-.20**	-.17**	-.14**	-.16**
		-.01	.04	.06	.02	-.10*	-.09*	-.07	-.16**	-.14**	-.23**	-.12**	-.18**
		-.04	-.05	.05	.04	-.17**	-.12**	-.13**	-.19**	-.18**	-.22**	-.24**	-.23**
		.00	.00	.00	.00	-.07	-.05	-.08*	-.16**	-.06	-.09*	-.08*	-.18**

Note. ** $p < .01$, * $p < .05$

Media Factors Influencing Older Children's Social Problem Behaviors and Depression

⑪				⑫				⑬				⑭		
time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3	time 4	time 1	time 2	time 3
.50**														
.37**	.45**													
.29**	.36**	.44**												
.37**	.29**	.25**	.20**											
.29**	.46**	.27**	.20**	.48**										
.19**	.27**	.38**	.23**	.43**	.52**									
.17**	.18**	.23**	.42**	.31**	.29**	.45								
.07	.14**	.08*	.09*	.17**	.13**	.12	.10							
.08*	.10*	.10**	.09*	.07	.13**	.10	.08	.54**						
.11**	.09*	.11**	.04	.05	.04	.12	.08**	.39**	.49**					
.06	.06	.01	.00	.03	.05	.02	.09**	.33**	.35**	.40**				
.03	.04	.09*	.03	.16**	.10*	.14	.13**	.32**	.23**	.20**	.16**			
.05	.04	.10**	.04	.11**	.13**	.16	.12**	.27**	.32**	.28**	.18**	.48**		
.08*	.12**	.13**	.08*	.12**	.15**	.21	.19**	.25**	.24**	.30**	.19**	.44**	.49**	
.08*	.09*	.04.33	.05.16	.10**	.15**	.18	.24**	.21**	.17**	.16**	.29**	.36**	.38**	.46**

Adaptation of University Hopefuls: The Relationships among Exam Preparation Stress, Negative Rumination, Control Strategies, and Depression

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Abstract

The present study examined the relationships among exam preparation stress, negative rumination, control strategies, and depression in university hopefuls. A questionnaire survey was administered to 1,303 high school students. A model that negative rumination and control strategies mediate exam preparation stress and depression was hypothesized, and the result of structural equation modeling showed the model's good fit to the data for both females and males. Exam preparation stress was found to enhance negative rumination and the use of compensatory secondary and selective secondary control, while it decreased the use of compensatory secondary control. Negative rumination showed negative influence on depression while selective primary, selective secondary and compensatory secondary control showed alleviative effects on depression. The suppressive function of compensatory primary control on depression was seen only in females. Furthermore, frequent use of compensatory secondary control for both females and males, frequent use of selective primary for females, and frequent use of selective secondary control for males were found to lessen frequency of negative rumination. Although negative rumination is the strong predictor for maladaptation, the present study demonstrated the impacts of control strategies to countervail the effect of negative rumination and suppress depression. Considering the function of compensatory secondary control to lessen the frequency of negative rumination, and the nature of compensatory secondary control being vulnerable to the impact of stress, it would be pivotal for teachers to continuously provide information that help university hopefuls positively evaluate their situation.

Key words: university hopefuls, goal-attainment process, exam preparation stress, depression, negative rumination, selective primary control, compensatory secondary control, selective secondary control, compensatory secondary control, structural equation modeling

Background

Preparation for the entrance examination for university is still a stressful experience in Japan (Nakaune, Uchida, Ishizuka & Maeda, 2003). The difficulty of preparation for the university exam was once likened to an examination grind. In recent years, the heat of the competition has calmed, and most applicants are able to enter a university (Ministry of Education, Culture, Sports, Science and Technology, 2006). It does not mean, however, that every examinee can pass her/his preferred university's entrance exam. Most university hopefuls take the entrance examination of several universities and are accepted to some of these schools,

but only some can enter their first-choice university (Nakajima, 2001). For university hopefuls, it is important to enter their favorite university so that they can receive their desired education and take the licenses necessary for the job to which they aspire (Nakajima, 2001). In this context, the university entrance examination is still competitive and stressful for most of them. Another factor creating stress is that the students cannot determine whether their hard preparation bears the fruit; this is verified only at the moment they receive their exam results. University hopefuls interviewed by Nakajima (2001) often told that the fact their hard work might not lead to success in the examination made them suffer. In fact, it was found that university hopefuls experienced maladaptation such as intense anxiety and relatively intense depression (Nakajima, 2001).

1 I would like to appreciate Taro Hatogai, and thank high school students and teachers participated in this study for their kind cooperation.

It can be thought that such distress of university hopefuls is the one accompanied by the problematic progress in the goal-attainment process. The university hopefuls work hard so that they can attain the goal, i. e., admission to their preferred university. All goal process, however, necessarily contain failure or a problematic progress to goal attainment (Heckhausen and Schulz, 1993). In the case of university hopefuls, their progress is not always smooth and their hard work does not always pay. They might not be able to raise their grades as they expected, and they may fail despite their hard work. Such problematic progress in the goal-attainment process often jeopardizes their goal or belief, which invokes stress.

Mediators of stress and maladaptation

Mediators of stress and maladaptation among university hopefuls, however, have been investigated by very few studies. Although stress has a relationship with maladaptation (Holmes & Masuda, 1974), stress does not necessarily lead to maladaptation directly. Rather, how a person reacts and copes with the stressor mediate stress and maladaptation (Lazarus & Folkman, 1984). Automatic, involuntary responses to stress, such as rumination, intrusive thoughts, and emotional arousal, have been found to amplify the impact of stress and lead to maladaptation (Lutgendorf, Antoni, Ironson, Fletcher & Schneiderman, 1997; Nolen-Hoeksema, Parker & Larson, 1994). Meanwhile, researchers have found that effortful, voluntary copings such as problem solving and emotion regulation lessen the impact of stress and alleviate maladaptation (McQuillen, Licht & Licht, 2003; Weisz, McCabe & Dennig, 1994).

These impacts of involuntary reactions and effortful copings have been traditionally studied separately. In real life, however, a stressor tends to invoke both involuntary reaction and voluntary coping (Connor-Smith, Compas, Wadsworth, Thomsen & Saltzman, 2000). Thus, to investigate the mediators of stress and adaptation among university hopefuls, it would be pivotal to examine how both involuntary reactions and intentional copings of university hopefuls relate to stress and adaptation simultaneously.

Several studies have pioneered to examine simultaneous mediative effects of involuntary reaction and voluntary coping. However, the findings of the studies are mixed. Using the Reaction to Stress Questionnaire (RSQ; Conner-Smith et al., 2000), Langrock, Compas, Keller, Merchant and Copeland (2002) examined how involuntary reaction and voluntary coping mediate stress and adjustment among adolescents whose parental depression works as a stressor to them. They found that among five factors of RSQ, involuntary engagement associated with more anxiety/depression, while

secondary control coping associated with less anxiety/depression. Meanwhile, using RSQ, Jaser, Langrock, Keller, Merchant, Benson, Reeslund, Champion and Compas (2005) also examined the impacts of both involuntary engagement and coping on anxiety/depression among adolescents of depressive parents. They found, however, that neither involuntary engagement nor voluntary coping, including secondary control, reported by adolescents predicted their anxiety/depression.

The finding of Langrock et al. (2002), however, needs more consideration on the next two points. First, all variables that adolescents experienced, including stressor, items of RSQ, and anxiety/depression, were measured not by the adolescents themselves but by their parents. Because internal activities such as rumination and cognitive coping are not expressed overtly, there is a possibility that these variables measured by parents were not identical with the actual experience of the adolescents. In fact, the results of Jaser et al. (2005) clarified the gaps between the adolescents' self-report and their parents' measurement, and that each reaction and coping measured by parents did not significantly correlate with the adolescents' actual experience of anxiety/depression. Thus, using participants' self-report, the present study examined simultaneous impacts of involuntary reaction and voluntary coping in a more rigorous manner.

The second problem is that Langrock et al. (2002), as well as Jaser et al. (2005), packed rumination, intrusive thought, emotional arousal, impulsive actions, and physiological reactions together as a single variable-involuntary engagement. Rumination or intrusive thought is conscious cognitive reaction, and negative rumination especially has been found to lead to depression (e. g., Lutgendorf et al., 1997). Furthermore, negative rumination is assumed as a characteristic trait that relates to depression (Ito, Takenaka & Agari, 2001), and retains its significant negative impact on adaptation over a long period of time (Ito et al., 2001; Nolen-Hoeksema et al., 1994). Meanwhile, physiological arousal including feeling hot or sweaty, speeding up of breathing and the like (Conner-Smith et al., 2000) is an unconscious reaction. Such physiological arousal or impulsive actions may influence depression, but these impacts would be just temporal. There is a possibility that the impact of these arousal or impulsive actions on adaptation differs in its nature from that of cognitive reaction such as ruminative thoughts. In fact, Skinner, Edge, Altman and Sherwood (2003) distinguish rumination from physiological arousal or impulsive action, and perceive it as a separate family of coping. Thus, the influence of cognitive reaction needs to be investigated separately from other arousals or reactions.

Among involuntary cognitive reactions, negative

Table 1 Two-dimensional model of primary/secondary control and selection/compensation (adapted from Heckhausen & Schulz, 1993)

	selectivity	compensation
primary control	<p><i>selective primary control</i></p> <ul style="list-style-type: none"> • investment of internal resources such as time, effort, and abilities toward the selected goal <p>e. g.: collect information make a plan and put it into practice</p>	<p><i>compensatory primary control</i></p> <ul style="list-style-type: none"> • use of external resources or social support to compensate for the shortfall of internal resources <p>e. g.: refresh oneself with music consult with friends</p>
secondary control	<p><i>selective secondary control</i></p> <ul style="list-style-type: none"> • metavolition. enhancement of commitment toward the selected goal <p>e. g.: remaining focused on the goal do not give up the goal even in hard times</p>	<p><i>compensatory secondary control</i></p> <ul style="list-style-type: none"> • shift of cognitive appraisal in order to buffer negative effects of failure or loss on motivation or emotion <p>e. g.: every cloud has a silver lining believe everything will be all right</p>

rumination is expected to have a significant impact on university hopefuls' adaptation. Ruminative thought is invoked by the problematic progress of goal-attainment (Marin & Tesser, 1996). Thinking that university hopefuls' process toward the goal of passing the exam of their favorite university is often problematic (Nakajima, 2001), there is a possibility that university hopefuls tend to experience negative rumination, and this leads to maladaptation.

Meanwhile, among voluntary coping, primary control and secondary control have been studied as the ones that promote adjustment in a stressful situation (McQuillen et al., 2003; Weisz et al., 1994). Regarding voluntary coping in the goal-attainment process, the present study highlighted the control strategies proposed in the life-span theory of control (Heckhausen & Schulz, 1993, 1995). Based on control theory (Rothbaum, Weisz & Snyder, 1982), Heckhausen and Schulz adopted the viewpoint of selection/compensation (Baltes & Baltes, 1990) and theorized goal-oriented control perspective in which four kinds of control strategies are equipped: selective primary control, compensatory primary control, selective secondary control, and compensatory secondary control (Table 1). The control strategies held by Heckhausen and Schulz are unique regarding their conceptual difference of secondary control from the original theorized by Rothbaum et al. (1982). Secondary control was originally assumed as a coping mechanism that prevents development of maladaptation when a person cannot control or change the situation by primary control. Meanwhile, Heckhausen and Schulz argue the primacy of primary control over the secondary control; secondary control enhances emotional or motivational resources and protects them in case of loss or failure so that an individual can maximize her/his development by primary control. In that meaning, Heckhausen and Schulz emphasize the

goal-oriented aspect of secondary control compared to the original (Morling & Evered, 2006), though the control strategies have been also found to predict adaptation (e.g., Wahl, Becker, Burmedi, Schilling, 2004). Considering that university hopefuls are expected to primarily use copings that are useful for their goal attainment in their exam preparation, the control strategies by Heckhausen and Schulz would be most adequate to examine if university hopefuls' goal-oriented coping strategies also contribute to adaptation.

Negative rumination and control strategies

The present study also examined the relationship between control strategies and negative rumination. Compas, Connor, Osowiecki and Welch (1997) suggest that a key factor in non-depression-prone individuals' responses to stress may be the ability to engage in effortful coping that disrupts cognitions leading to the development of a depressed mood. This argument is supported by the findings of several experiments in which the frequency of ruminative thought decreased by distractive thought (Clark, Winton & Thynn, 1993) or distractive task (Salkovskis & Campbell, 1994). Also in real life, there is a possibility that control strategies suppress negative rumination when they function to disrupt negative rumination.

Aims and the hypotheses

Thus, the first aim of the present study was to examine a hypothetical model that negative rumination and control strategies mediate exam preparation stress and depression. The second was to examine the relationships between negative rumination and control strategies. Considering that female students are likely to feel more academic stress (Kan & Uechi, 1996; Nakaune et al., 2003) and use more primary control than male

students (Nakaune et al., 2003), and that females are more likely to fall into depression (Nolen-Hoeksema, 1987), the present study examined the relationships among exam preparation stress, negative rumination, control strategies and depression for females and males respectively. It was expected that perception of exam preparation stress enhances negative rumination and control strategies. It was also anticipated that negative rumination promotes maladaptation while control strategies alleviate it. Furthermore, it was expected that control strategies function to moderate negative rumination.

Method

Participants

A questionnaire was distributed to 1,721 third-year and second-year high school students in eight (three public and five private) high schools. Of 1,721 students, 1,485 students answered that they were planning to take the university examination. Eliminating the data of students who would not take the university examination and invalid data, the data of 1,303 university hopefuls (third-year: 618, second-year: 685; female: 594, male: 709) were used for analysis.

Procedure

The questionnaire survey was conducted from June through September 2005, prior to university entrance examination. Teachers distributed the questionnaires during class meeting, and collected them after the students were finished.

Measures

Exam preparation stress. A scale to measure exam preparation stress was developed with using seven items from the Academic Performance Stressor Scale within the Academic Stressor Evaluation Scale (Shinto, 1998) and seven items from the Academic and Course Scale within the High School Students Stressor Evaluation Scale (Kan & Uechi, 1996). The stress was measured two-dimensionally. Participants were first asked the frequency of each stressful event within the last six months, and then asked the degree of stressfulness of

each event. The frequency and degree of stress were measured by a 4-point scale ranging from 0 (not at all) to 3 (very much). The score of stress evaluation was calculated with multiplying frequency by degree.

Negative rumination. Negative Rumination was measured with the Inclination of Negative Rumination Scale consisting of six items (Ito et al., 2001). The ruminative thought was measured by a 5-point scale ranging from 1 (not at all) to 5 (very much).

Control strategies. Control strategies were measured with using the Control Scale (Nakajima, 2005), which consists of four sub scales: selective primary control (6 items), compensatory primary control (5 items), selective secondary control (7 items), and compensatory secondary control (7 items). Each control strategy was measured by a 5-point scale ranging from 1 (not at all) to 5 (very much).

Depression. The Self-rating Depression Scale (SDS), translated into Japanese (Fukuda & Kobayashi, 1983), was used to measure depression. The scale consists of 20 items and measures physiological and psychological depressive status. Depression was measured by a 4-point scale ranging from 1 (rarely) to 4 (always). Summation of the scores for 20 items was used to evaluate the degree of depression.

Results

The results of exploratory factorial analysis (EFA)

Exam preparation stress. The result of EFA (principal factor method) showed that the initial eigenvalue of the first factor amounted to 6.51, explaining 46.64% of variance, while that of the second factor dropped to 1.21, showing a big gap. Thus, the single-factor structure was adopted. Cronbach alpha of 14 items was .91, showing high reliability. The examples of the items are presented in Table 3.

Negative rumination. The result of EFA yielded 1-factor structure, of which Cronbach alpha was .87. The examples of the items are presented in Table 3.

Control strategies. The result of EFA yielded a 4-factor structure. Cronbach alpha of each control strategy was .76 for selective primary, .76 for compensatory primary, .80 for selective secondary, and .77 for

Table 2 Intercorrelations and descriptive statistics for variables

	1	2	3	4	5	6	M	SD
1. exam preparation stress	—						4.24	2.18
2. negative rumination	.36***	—					2.93	.95
3. selective primary	-.02	-.06*	—				3.10	.71
4. compensatory primary	.10**	-.01	.44***	—			3.51	.80
5. selective secondary	.03	-.08*	.57***	.38***	—		3.56	.68
6. compensatory secondary	-.22***	-.52***	.03	.09**	.04	—	3.13	.74
7. depression	.35***	-.51***	-.24***	-.18**	-.28**	-.36***	46.94	8.35

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3 observed variables composing each latent variable and their path coefficients

Latent variables and observed variables composing them	path coefficient
Exam preparation stress	
I worry about the result of exam or grades.	.77
I worry about the university entrance exam.	.75
The result of the sham exam or exam at school was worse than I expected.	.62
Negative rumination	
Once I start thinking about negative things, I cannot stop thinking.	.63
I often think only about negative things continuously.	.85
I sometimes think about negative things continuously for days.	.79
Selective primary control	
I collect information about my preferred university or effective studying.	.62
I make a long-term plan and study along it the plan.	.86
I do all kinds of things to study effectively or to manage my time.	.56
Compensatory primary control	
I consult with someone when I can't make expected progress and feel pressed.	.77
I consult with someone when I'm stuck or feel anxious to get refreshed.	.89
I talk and dine with friends when I'm depressed with my unsatisfactory progress.	.56
Selective secondary control	
I believe that my hard work bears fruit.	.54
I won't give up even when I can't make expected progress.	.50
It is important to make an effort even when things won't go as expected.	.96
Compensatory secondary control	
I try not to think very seriously when things don't go as expected.	.72
I believe that every cloud has a silver lining.	.64
I try not to worry too much about failure or unsatisfactory progress.	.74

compensatory secondary control. The examples of the items are presented in Table 3.

Descriptive data

To calculate descriptive data, scale score was used for exam preparation stress, negative rumination, and control strategies, and summation was used for depression. Means and standard deviations of the variables are presented in Table 2. It was noteworthy that the mean of the depression score of the university hopefuls marked 46.94. According to Fukuda and Kobayashi (1983), for the Japanese, the score in the 40 s tells mild depression, and the score more than 50 indicates moderate or more severe depression. The data showed that the depression level among university hopefuls was mild to moderate. The result of MANOVA showed gender difference (Wilks's $\lambda = .92$, $p < .001$). Female students showed higher stress ($F = 25.66$, $p < .001$), more frequent use of selective primary control ($F = 7.51$, $p < .001$), compensatory primary control ($F = 52.69$, $p < .001$), and selective secondary control ($F = 8.43$, $p < .01$), and more severe depression ($F = 22.70$, $p < .001$).

Intercorrelations

Correlations among variables are presented in Table 2. Exam preparation stress showed a high positive correlation with negative rumination and depression.

Negative rumination showed a high positive correlation with depression, while a high negative correlation with compensatory secondary control. Selective primary control showed a high positive correlation with compensatory primary and selective secondary control, and compensatory primary control showed a high positive correlation with selective secondary control. All four control strategies showed moderate to high negative correlations with depression.

Model testing

A hypothetical model was constructed based on the previous studies (Figure 1). To examine the model, the present study conducted structural equation modeling because of its utility in examining mediating relationships and simultaneous testing of all relationships among complex multidimensional phenomena. The model was estimated using Amos 4.0 statistical package (Arbuckle & Wothke, 1995), which uses the maximum likelihood method for estimating parameters. Depression was represented by an observed variable. Exam preparation stress, negative rumination, and control strategies were represented by latent variables. Each latent factor was composed of three observed variables of which factor loadings were high enough and fairly explain the latent variable. The path coefficient of each observed variable to its respective latent factor is

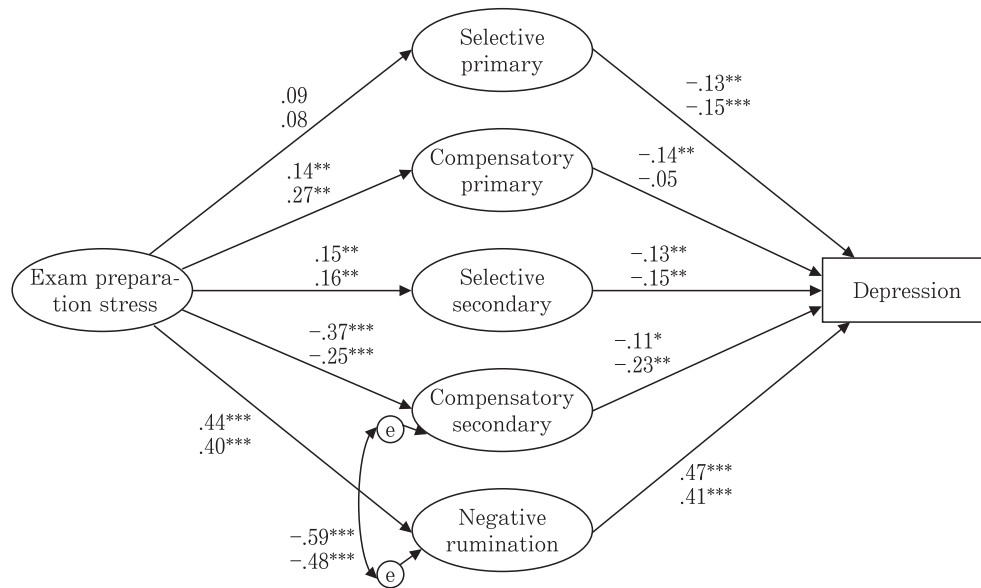


Figure 1

Structural model of exam preparation stress, control strategies, negative rumination, and depression. Values. Note: shown are standardized parameter estimates (upper estimates for females, lower estimates for males). *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 4 Goodness-of-fit indexes for path models

Model	GFI	AGFI	CFI	RMSEA	AIC
Model 1	.919	.892	.912	.044	1201.02
Model 2	.918	.895	.912	.043	1188.95
Model 3	.918	.895	.912	.043	1186.97
Model 4	.918	.895	.911	.043	1191.61
Model 5	.918	.895	.912	.043	1189.63

Note: GFI=goodness of fit index; AGFI=adjusted goodness of fit index; CFI=comparative fit index; RMSEA=root mean squared error of approximation; AIC=Akaike information criterion.

presented in Table 3. In addition, because a significant negative association between negative rumination and compensatory secondary control was expected, the errors for these two variables were allowed to covary. The result of the analysis showed that the model provided good fit to the data (GFI=.929, AGFI=.905, CFI=.913, and RMSEA=.062).

Multigroup comparison analysis

Since the hypothesized model fit the data well, a simultaneous examination of multiple groups was conducted. First, the default model (model 1) was examined simultaneously for both males and females, and the model fit the data well (Table 4). Thus, although structural paths were allowed to vary across groups, the measurement models and overall structure of the model adequately represented the data for both males and females, and could be considered equivalent across groups. A series of nested model comparisons were made to test for gender differences in structural relationships. In model 2, only the paths from observed

indicators to latent variables were constrained to be equal across the gender groups; in model 3, variance of stress was constrained to be equal across groups in addition to the constraints set in model 2; in model 4, the covariance was also set equal across the groups in addition to the constraint set in model 2; and in model 5, the covariance was also set equal across the groups in addition to the constraint set in model 3. Comparing the fit of the models presented in Table 4, model 3 provided the best fit. Each group's standardized estimates for structural paths of model 3 are presented in Figure 1.

Relationships between exam preparation stress and mediators. For both female and male students, stress positively related to compensatory secondary control, selective secondary control, and negative rumination, while negatively related to compensatory secondary control. Stress showed no significant influence on selective primary control.

Relationships between mediators and depression. For both female and male students, negative rumination positively related to depression while selective primary control, selective secondary control, and compensatory secondary control negatively related to depression. Compensatory primary control negatively related to depression only among female students. The test statistics for differences between the parameters of multi groups showed, however, that the difference of parameter between female and male for the path from compensatory primary control to depression was 1.76, not significant on a 5% level. The total effect from control strategies on depression were $-.51$ ($-.13 + -.14 + -.13 + -.11$) for female and $-.58$ ($-.15 + -.05 + -.15 + -.23$)

for male students, both of which surpassed the effect from negative rumination on depression (females=.47, males=.41).

Negative rumination and control strategies

The relationships between negative rumination and control strategies were examined for female and male students, respectively. The difference in frequency of experienced negative rumination between students who reported more use of control strategy (1 *SD* above the mean) and those who reported less use of control strategy (1 *SD* below the mean) for each control strategy was computed. For female students, the results of the *t*-test showed that those who used more selective primary control and those who used more compensatory secondary control were likely to experience less negative rumination (selective primary; $t=2.46$, $p<.05$; compensatory secondary; $t=14.14$, $p<.001$). For male students, those who used more selective secondary control and those who used more compensatory secondary control were likely to experience less negative rumination (selective secondary; $t=2.41$, $p<.05$; compensatory secondary; $t=9.47$, $p<.001$).

Discussion

The goal of the present study was twofold; to test the hypothetical model in which negative rumination and control strategies mediate exam preparation stress and depression, and to examine the relation between negative rumination and control strategies. The examinations were conducted for female and male university hopefuls respectively.

Hypothetical model

Good fitness of the hypothetical model to the data underpinned that exam preparation stress is simultaneously mediated by both negative rumination as an involuntary reaction and control strategies as voluntary coping. The model also fit the data of both female and male university hopefuls.

Relationships between stress and mediators. It was found that perception of exam preparation stress enhanced negative rumination and the use of compensatory primary control and selective secondary control. This suggests that although experience of stress invokes negative rumination that alleviates maladaptation, it, at the same time, also enhances control copings that counteract the negative influence of the rumination. Concerning selective primary control, stress did not significantly enhance its use. In the case of university hopefuls, their task is to study, i.e., using selective primary control, so that they pass their favorite university's entrance exam. Thus, it can be thought that whether they perceive stress or not, they

constantly use selective primary control and study hard to attain admission. The use of compensatory secondary control was diminished when they perceived stress, which suggested vulnerability of cognitive coping to perception of stress. The relationship between stress and two kinds of primary control (selective and compensatory) contradicted the finding of Langrock et al. (2002) in which stress negatively related to primary control. One of the main reasons for this contradiction would be the difference in the nature of the stress perceived by the participants. While the participants of Langrock et al. (2002) were adolescents whose stressor was the attitude of their depressed parents toward them, the stressor of the participants in the present study was the one such as poor grades and tardy preparation. Depressed parents' children can seldom do anything about their parents' attitude; however, since the university hopefuls may know an accurate means to cope with the stressor, the perception of this stress may urge them to take specific action to cope with it.

Relationship between mediators and depression. For both female and male students, negative rumination showed negative influence on depression, while selective primary, selective secondary, and compensatory secondary control showed alleviative effects on depression. In the case of university hopefuls who have a clear goal, though progress toward their goal is hard to perceive, strong will to take and pass the university exam, investing their time and ability for exam preparation, and to positively appraise failure or negative events might lead to adaptation. Meanwhile, function of compensatory primary control differed between female and male students. Compensatory primary control showed its alleviative effect on depression only for female students. One reason for this difference between females and males might be that female students are more likely to seek social support when they perceive of stress, which effectively diminishes maladaptation among them (Ishige & Muto, 2006). These findings partly supported those of Langrock et al. (2002) on the point that secondary control alleviated depression, while contradicted on the relationship of primary control to depression. The difference in the primary control's function may, again, relate to the nature of the stress with which primary control copes. In the case of children of depressed parents, it would be almost impossible for them to take action and change their depressed parents' attitude toward them. In the case of university hopefuls, on the other hand, since their hard work has the possibility to make progress and enables them to pass the university exam, use of primary control might be effective to alleviate depression.

The impact of control strategies on negative rumination

Students who frequently used compensatory

secondary control showed less frequent negative rumination. Since negative rumination is automatic cognitive reaction to a stressor, it can be thought that use of cognitive appraisal to take negative events positively is effective to lessen the frequency of negative rumination. Female students with frequent use of selective primary control and male students with frequent use of selective secondary control also showed less negative rumination. Regarding that frequency of ruminative thoughts decreases by distractive thought (Clark et al, 1993) or distractive task (Salkovskis & Campbell, 1994), concentration of the desired goal, such as investment of time or ability and a strong will to attain admission to their favorite university, might work as a distraction from ruminative thought.

Conclusion

Although negative rumination is the strong predictor for maladaptation, the present study demonstrated the effects of control strategies to countervail negative rumination and suppress depression. This finding would be useful for university hopefuls, and also for school teachers who exert themselves to maintain the well-being of the university hopefuls. Especially, considering the function of compensatory secondary control to lessen the frequency of negative rumination, it would be useful to encourage students to positively evaluate their situation. Also, considering the nature of compensatory secondary control that is vulnerable to the impact of stress, and considering that negative rumination is automatically invoked, it would be pivotal for teachers to continuously provide information that helps students positively evaluate their situation.

One limitation of the present study is the necessity to count the impact of negative rumination on control strategies. Although it was found that use of selective primary, selective secondary, and compensatory secondary control lessened the frequency of negative rumination, negative rumination, as a trait, also has a possibility to influence control strategies. Especially, since negative rumination and compensatory secondary control are both cognitive activities, frequent negative ruminative thinking might hamper pursuit of compensatory secondary control. Thus, as a future study, examination of the impact of control strategies on negative rumination in a longitudinal study is vital.

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What is Happening to Japanese Families Today: Recent Family Changes in Japan

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Abstract

The purpose of this paper is to give an overview of recent changes in Japanese families. Major demographic changes include decline in number of household members, an increase in single households, fewer children and more aged people. The latest Census of 2000 showed the average household size of 2.67. Since 1990 the largest percentage of households has one person. The change of total fertility rate shows that until 1920 the average Japanese women bore five children in their lives. Today the total fertility rate is 1.25 in 2005. In 1930 the percentage of elderly population was only 4.75%, 17.34% in 2000 but the aged people will occupy 28.7% of the total population in 2025. There are fewer children in families and in communities today. Meanings of children for parents have changed from “valuable” to “unfavorable” existence during these few decades. In this paper, I argued that important issues surrounding Japanese families are; gender inequality in household work, mother's dissatisfaction with father's involvement in child care, and husband's little involvement in caring elderly parents. Sharing work and family life for both men and women, is particularly necessary in Japan.

Key words: Japanese family, household, total fertility rate, aged people, burden for childrearing mother's anxiety in childcare, gender ideology, family support systems

1. Recent Changes in Japanese Families: Demographic Aspects

Japanese families have changed greatly both in their structures and functions after the World War II. Family relations also have been changing. In this paper I give an overview of Japanese families in transition.

At first I describe about recent demographic changes in Japanese families. There are four major changes. The first is; Declining average number of household members. The second is; Increasing number of single households. The third is; Fewer Children. And the last one is; More Aged People. These characteristics are related to each other. The statistical data may explain in more details (Yamada 1998).

(1) Declining Average Number of Household Members

The average household size has been declining since 1950 in Japan. National Census data have been compiled every five years since 1920. During the first 40 years, average numbers of household were around five. In Western countries average size of households decreased from five to three during one hundred years until 1950's. In 1950 Japanese researcher considered that the large household size was unique to Japan at that time. Dramatic change occurred in 1955, however, with a decline of 0.5 point. Thereafter average household size steadily declined. The latest Census of 2000 showed the

average household size of 2.67. It took about forty years for average size of household to decline from five to three. In contrast, Western countries took almost one century for the similar decline. This means that the household size in Japan declined at a much faster pace than that in Western countries.

Figure 1 shows the typical recent characteristics of Japanese families. In 1980 the largest percentage of households has four members, while the largest percentage of households today has one person. Followed by households with two members. Four member households constitute only a small percentage today.

(2) Increase in Single Households

The number of single households increased rapidly after the high economic growth period. Most of the single householders are young who are living in urban areas. The percentage of single households in Tokyo Metropolitan area is 40.8% in 2000. In contrast, single households in rural areas are occupied by older people. For example, in Kagoshima prefecture, southern part of Japan in Kyushu, the percentage of single households is 32.7 and, among that, 38.1% households are occupied by over 65 year-old people (2000 Census).

A transition of households' composition is shown in Figure 2. As shown, households composed by “husband and wife” have increased while those with “parents and children” have decreased. Single parent families

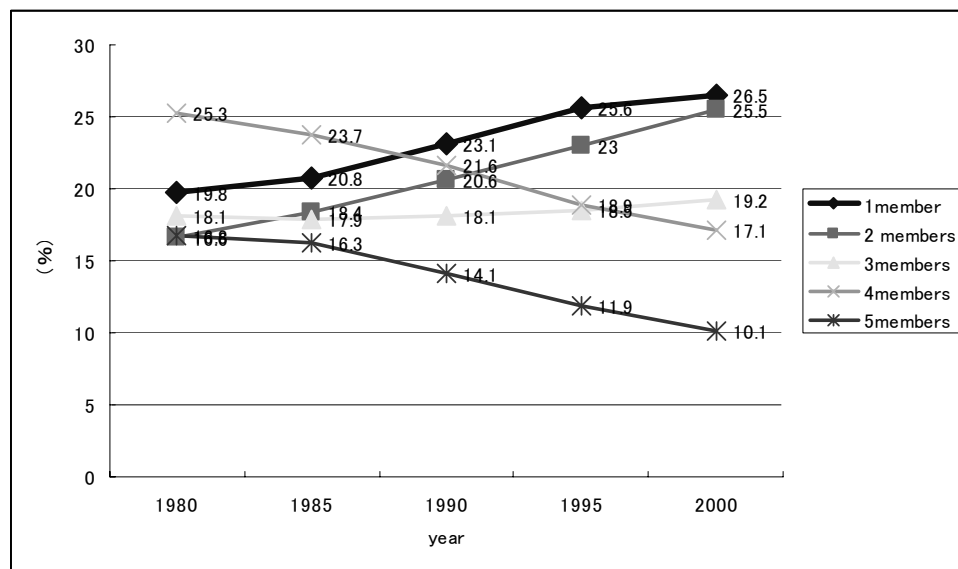


Figure 1 Transition of Percentage of Households According to Number of Members (National Census)

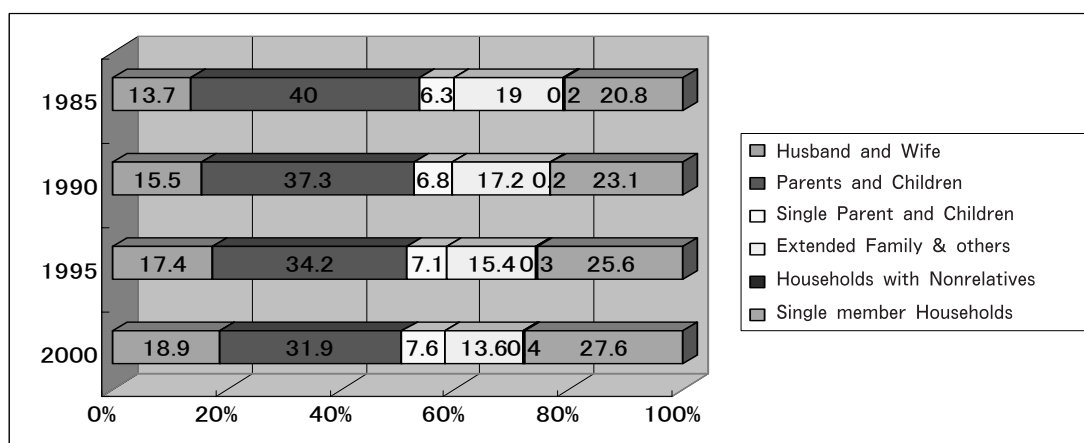


Figure 2 Composition of Normal Households by Type of Family (Census)

have slightly increased. The first three types of families from left are nuclear families. Total percentages of nuclear families are almost 60% and they remained unchanged. “Extended family and others” have decreased and “Single member-Households” have increased.

(3) Fewer Children

The third change that has been occurring in Japanese families: is the declining number of children. The number of births and Total Fertility Rate show that the first peak of births occurred after the World War II. Afterwards both numbers of birth and total fertility rate have been rapidly decreasing because of the government promotion of birth control policy. The second baby boom occurred in early 70's. The decreasing number of birth and the birth rate continued there

after.

The change of total fertility rate shows that until 1920 average Japanese women bore five children in their lives. Today the total fertility rate is 1.25 in 2005. Japan belongs to a group of countries with the lowest birth rates today. According to the “Demographic Yearbook” of the United Nations, Sweden’s birth rate is 1.71, France is 1.90, and Italy is 1.29. It is surprising that the total fertility rate in Korea is 1.08 in 2005. It may be the lowest number in the world. It is interesting to know what is happening in Korean families.

(4) More Aged People

The fourth characteristic of family related change in Japan is “an increasing number of the aged. This change has been brought upon by an expansion of life expectancy of Japanese people. The life expectancy of

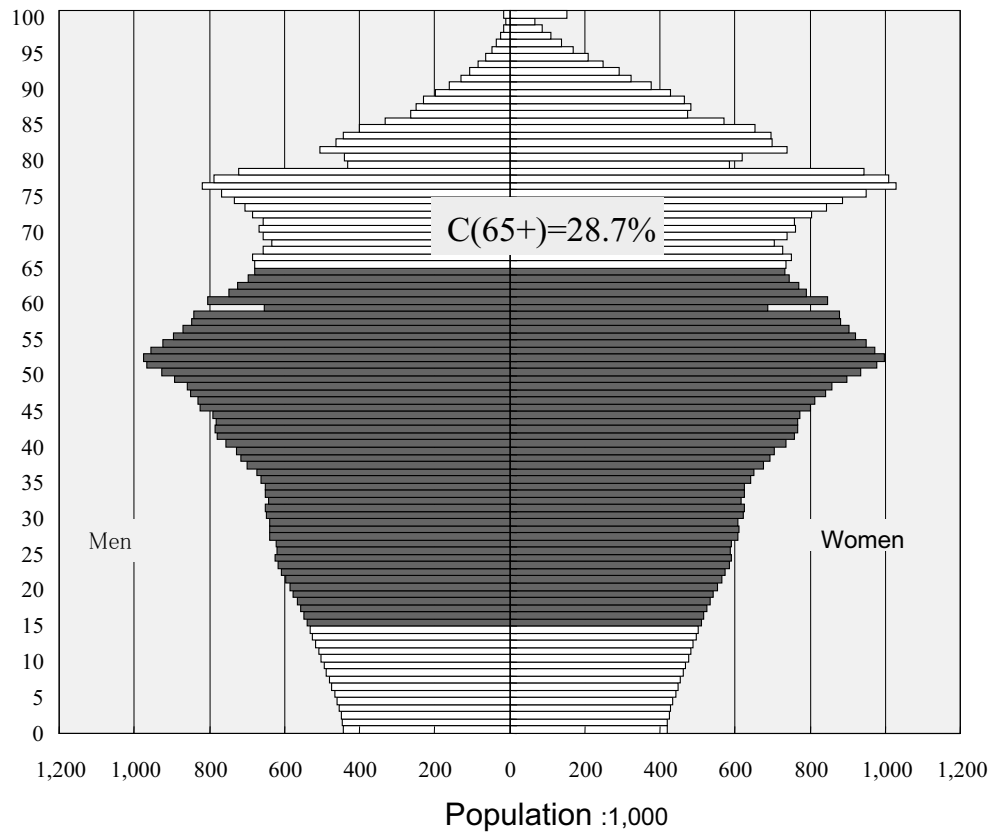


Figure 3 Population Pyramid: 2025

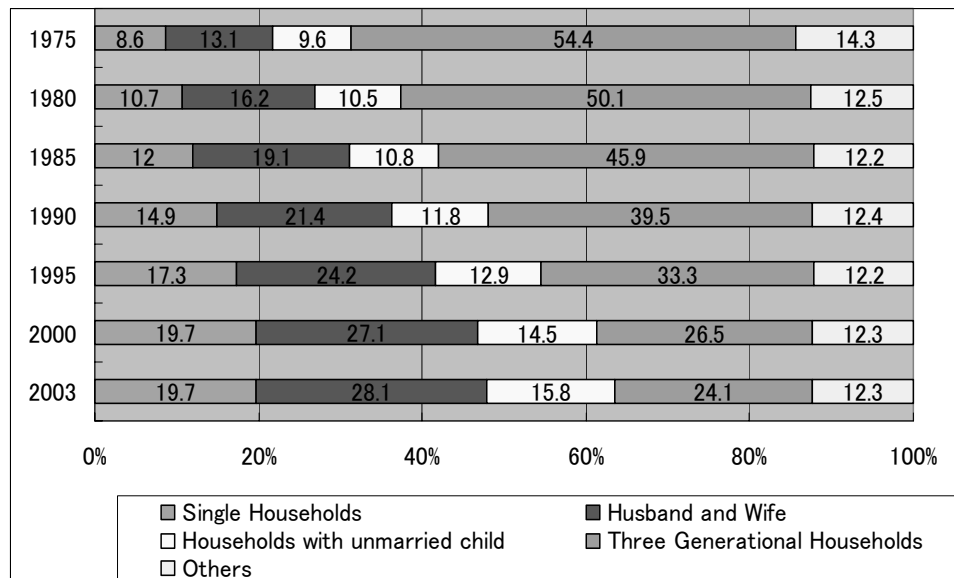


Figure 4 Composition of Households of Elderly People by Type of Family (over 65 year old)

Japanese men and women is the longest in the world today.

Until 1930 the average life expectancy was under 50 years. Infant mortality was extremely high at that time. After the WWII, medical and social conditions for health have been improved. Consequently, the life

expectancy of Japanese women reached 85.33 today.

The change of population pyramid in Japan in 2025 is shown in Figure 3. The vertical line shows age and horizontal line shows population. Left side from the center is population of men and right side is that of women. In 1930 the pyramid showed the typical pyramid shape.

The shapes have become larger in every decade. The part on the top shows over 65-year-old population. In 1930, the percentage of elderly population was only 4.75%, 17.34%, in 2000, and the aged people will occupy 28.7% of the total population in 2025 (Fig. 3). This is no more a pyramid, but a warped hanging bell. (National Institute of Population and Security 2005).

The right side of the Figure 3 shows that, in 2025 almost one third of women's population will be over 65.

To live long is great from one side, but it is also difficult on the other side. If we could live very healthy and independent life style until the end of our lives, we will be happy and delightful. However, many people become ill and dependent. Who should take care of elderly people who need special care? This is one of the major problems facing Japanese people today.

Figure 4 is the change of households composition among the elderly during the past thirty years. The percentage of single-household and "husband and wife" households have been increasing whereas three generational households have been decreasing rapidly. Households with unmarried child have slightly increased. "Other" category includes those living in nursing homes, hospitals, and with friends.

2. Fewer Children in Families, Communities and Society

There are fewer children in families and in communities. It is said that children are disappearing in Japan today. Why are children disappearing? There are three reasons. The first reason is an increase of unmarried people. The second reason is an increase of people who "Don't want to have more children". Finally, anxiety in childrearing is another reason.

(1) Increase of Unmarried People

The data on transition of Average Age of first Marriage show that the average age of men and women are both increasing. The latest data for men is 29.4 in 2003, and 27.6 for women.

The percentage of unmarried women has been increasing since 1970. Especially, 25~29 age group has been increasing. Today, this means only one-thirds of 25~29 years old women are married and two-thirds are unmarried. Additionally, unmarried age group of 30~34 is rapidly increasing. In Japan almost all children are born from married couples. Never-married women usually don't have children.

(2) Don't want to have more children

Figure 5 shows a result of a questionnaire conducted by the Cabinet Office in 1997 and 2003. Respondents were asked why they would have fewer children than their ideal number. The most frequent answer is "Children cost money" in both research years, Feelings of economical burden for childrearing is wide spread among younger generations in Japan. Next frequent response is "I don't have physical strength". The other three items are all related to feelings of mental burden. Therefore, childrearing is considered to be a cause of economical and mental difficulties (Cabinet Office 2003). Meanings of children for parents have changed from valuable existence to unfavorable existence during the past few decades.

(3) Anxiety in Childrearing

Figure 6 shows 20-34 year-old women's responses to a question. "Do you feel the following while raising your child?" Seventy five percent of women answered "Yes" to "I am irritated by child". And 64% of women said "I

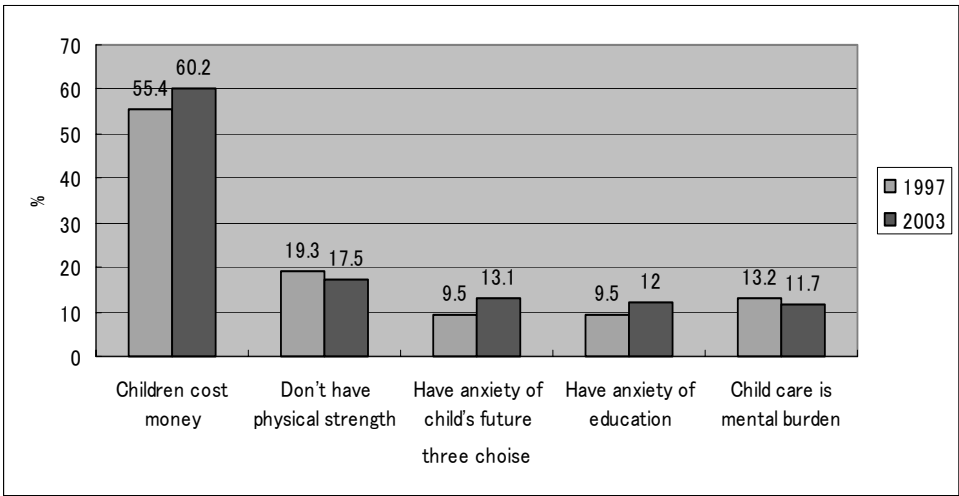


Figure 5 Why will you have fewer children compared to your ideal number of children ?
(Researches by the Cabinet Office)
(20~34 year old men & women, 1997 N=296, 2003 N=435)

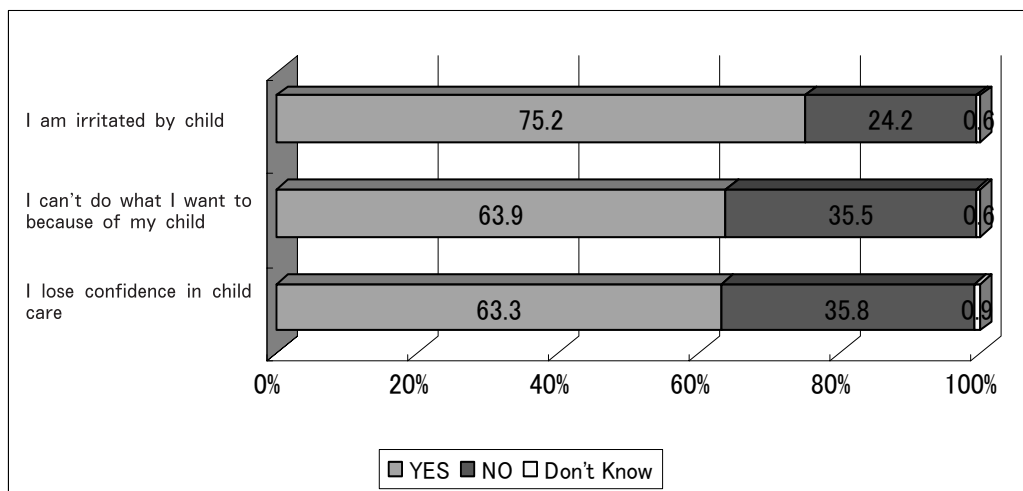


Figure 6 Do you feel the followings while raising your child ? (The Cabinet Office Research 2003) (20~34 year-old women N=335)

can't do what I wanted to because of my child". Also 63% of women said "I lose confidence in child care".

These are the similar questions I used when I conducted my research on "mothers' anxiety in child rearing" twenty years ago (Makino, 1983) I constructed measures to understand actual feelings of mothers who were involved in daily childrearing. I found that mothers who have small children feel various kinds of anxiety for their child's present and future conditions.

My research clarified that the mother's anxiety would increase when her husband was not involved in childcare and also when the mother has very small networks and isolated in the community. My researches were conducted in early 1980s, however the child care situation has changed little today.

3. Contemporary Issues about Family Relations

(1) Gender Ideology Gaps between Men and Women

Fewer children and mothers' anxiety in child rearing are all related to the gender ideology. The common idea of gender role, such as, "Men for work and women for home", or "Man is a bread winner and woman is a consumer" is deeply rooted in contemporary Japan. Japanese men have more stereotypical ideas than women. Thus the contemporary problems about family relations are based on the gender ideology gaps between men and women. There are important issues in most families.

- Gender Inequality in Household Work
- Mother's Dissatisfaction with Father's Involvement in Child Care
- Husband's less Involvement in Caring Elderly Parents

(2) What is going on with Japanese Families

Finally, to answer a question "What is going on with Japanese Families today", I point out three issues.

- (1) More Single Household
- (2) Fewer Children
- (3) More Elderly People

What will happen to Japanese Families.? First, more single households will continue individualisation in Japanese society. Familial support and aids may not be expected when people face critical situation. Second, fewer children may bring unhappy social environment for small children because the meanings of children for society will continue to be unfavorable. Third, more elderly people will bring new energy into their interests and activities and, in contrast, new demand for special care for dependent elderly people will be increased. These are the shadows of the future families in Japan. What should we do today towards happier future ?

(3) Needs for Family Support System and Community Support System

Families are no longer effective and useful institution for caring people. Family support systems and community support systems are necessary in society. National Government Provision for Fewer Child Society (Angel Plan) was announced in 1994. It was revised in 1997 and the policies have strengthen Childrearing Support. In the "White paper on the National Life Style 2006, the Cabinet said that the parents of the child-rearing generation will convey to their children that parenthood is not just a painful and difficult experience, but that it can also be a joyful and enriching time. Hopefully not only the parents of those rearing children but the friends of the parental generation, their colleagues, neighbours and society as a whole will in one way or the other participate in child rearing, or work towards

creating a framework in which this is possible.

Additionally, it is important for all community members to feel babies, infants and children are lovely and valuable. Enjoyable childrearing society is necessary for all children and parents. Sharing work and family life for both men and women, Child rearing in community and care of people with special needs in community are particularly necessary in Japan. A system is needed under which youner parents can obtain assistance from their immediate communities whenever required.

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Effects of Parent’s Academic Background and Child’s Gender on Educational Resources in the Family : in Relation to Child’s Perception of Family Atmosphere and Self-Esteem

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Abstract

Using the data of JELS 2003, we examine how children perceive their family atmosphere, whether the parent academic background and educational resources are related to the children’s perception of their family atmosphere, and whether there is any relation between family atmosphere and self-esteem of children. The results showed that score of children’s perception of the family atmosphere lowered as the school grade advanced, and girls felt more comfortable than boys in each grade. Regarding the children’s self-esteem, self-esteem lowered as the grade in school advanced and girl’s score was lower than boys. Parent’s academic background did not affect the children’s perception of family atmosphere directly. Educational resources in the family, however, affected the children’s perception of family atmosphere directly and the better the family atmosphere, the higher the children’s self-esteem.

Key words: family atmosphere, educational resources, self-esteem, school grade, children’s gender

1. Background and Purpose

Recently, problems concerning young people have been controversial in Japanese society. Bullying at school, truancy, domestic violence (children’s violence to their parents), and the emergence of young people Not in Education, Employment or Training (NEET) are believed to be caused by family environment. There are a lot of children with low self-esteem. They cannot set a goal in the future, or they are self-centered and suddenly get angry without provocation. It is believed that family environments affect children (Sumida et al. 1999).

A lot of studies on the relation between family environments, such as parent’s academic background, parent’s occupation and the children’s social problems have been done. Many studies revealed that when the family was rich in educational resources, children tended to get good grades and acquire high academic qualification. However, the relations between social problems, such as bullying, truancy, domestic violence, and children’s self-esteem as well as their perception of family atmosphere have not been studied exactly. It is more important for children to perceive their family

atmosphere warm, pleasant and relaxed (Sugawara et al. 2002). We consider that family atmosphere and children’s self-esteem may be more important for the children’s social problems.

The objectives of this study are: to examine how children perceive their family atmosphere and determine whether the perception differ by gender and school grade, whether there is any difference between boys and girls about educational resources in the family, whether the parent academic background and educational resources are related to the children’s perception of their family atmosphere, and whether there is any relation between family atmosphere and self-esteem of children.

2. Methods

(1) Sample

The data used in this study came from Japan Educational Longitudinal Study (JELS) conducted in 2003 by Ochanomizu University. The purpose of JELS is to reveal the developmental process and problems of children during the period of transition from adolescence to adulthood and their ways of coping with them.

JELS were administered to third-grade and sixth-grade elementary school students and third-year junior

TABLE 1 Participants

Total 3,369 students	elementary school students	3 rd -grade	1,118
		6 th -grade	1,194
	junior high school students	3 rd -year (9 th -grade)	1,057

(JELS2003)

high school students from suburbs of Tokyo. The total of 3,369 responses was obtained with the return rate of 96.5%. The third-grade elementary school students were 1,118, the sixth-grade elementary students were 1,194 and the third-year junior high school students were 1,057 (TABLE 1).

(2) Measurement

Parent's academic background: As parent's academic background, two items were used: whether the father graduated from university, and whether the mother graduated from university. In the analysis, four types were recorded: both father and mother graduated from university, only father graduated from university, only mother graduated from university, and neither father nor mother graduated from university.

Educational resources in the family: There are five questions. They are: *Are there lots of books, excluding comic books, at home?* *Do you have your own room for studying?* *Do your parents say, "Study hard." every day?* *Did your parents help with your study at home?* and *Did your parents bring you to museums or art museums when you were young?*

Family atmosphere: Three questions were used to measure family atmosphere. They are: *Is the atmosphere at home warm?* *Do you feel pleasant at home?* and *Do you feel relaxed at home?*. They were asked to choose one of the four answers: *yes*, *a little*, *not very*, or *no*. Four points were given to *yes*, three points to *a little*, two points to *not very*, and one point to *no*. The family atmosphere of each student was measured with the added score of three questions. The score ranged between three points and twelve points, and the higher the score, the better the family atmosphere is perceived to be.

Children's Self-esteem: Three questions were used to measure the self-esteem of the students. They were: *Can you get things done like others?* *Do you like yourself?* and *Do you think you have superior ability than others?*. Students were asked to choose one of the five answers. Five points were given to *yes*, four points to *a little*, three points to *do not know*, two points to *not very*, and one point to *no*. The total score may range from three to fifteen points. Self-esteem of the students is shown in the added score of three questions, and the higher the score, the higher the self-esteem.

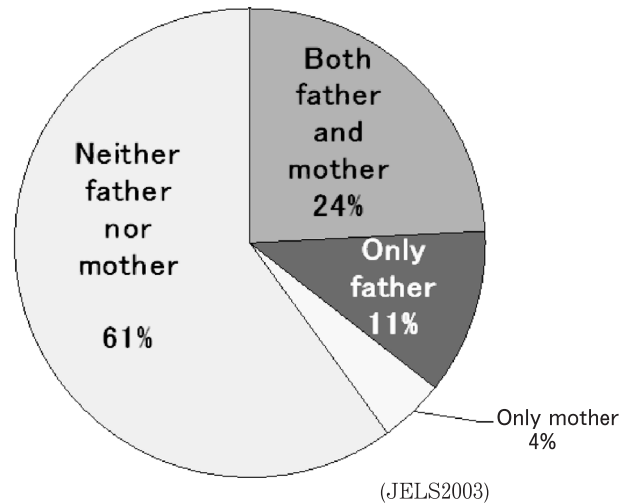


Figure 1 Parents academic background

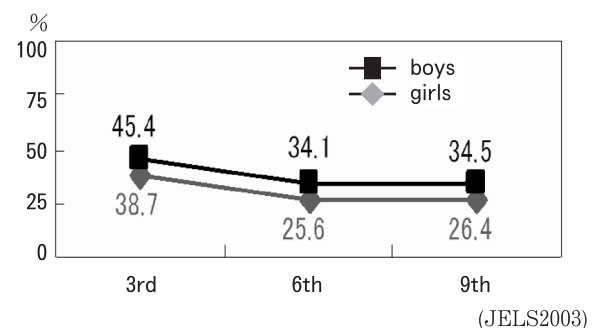


Figure 2 Educational resources "Do your parents say 'Study hard' every day?"

3. Results

The results of the survey on the parent's academic background are as follows: those with both father and mother graduated from university were 24%. Those with only father graduated from university were 11%. Those with only mother graduated from university were 4%, and those with neither father nor mother graduated from university were 61% (Figure 1). As this survey was conducted in metropolitan areas, academic background of responses was higher than national surveys.

Regarding the educational resources in the family, these interesting results were found. There were differences by gender: Figure 2 shows the response to the question, *Do your parents say, "Study hard." every day?* Boys were told to study hard every day by parents more than girls. Boys are expected by parents to get good academic achievement more than girls. Figure 3, on the other hand, shows response to *Did your parents help with your study at home?* Girls were more helped by parents with their study at home than boys. Figure 4 shows the response to the question, *Did your parents*

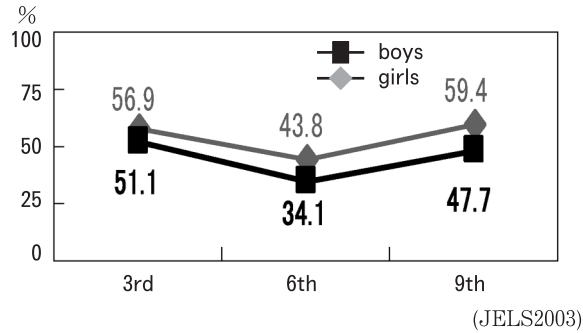


Figure 3 Educational resources "Did your parents help with your study at home?"

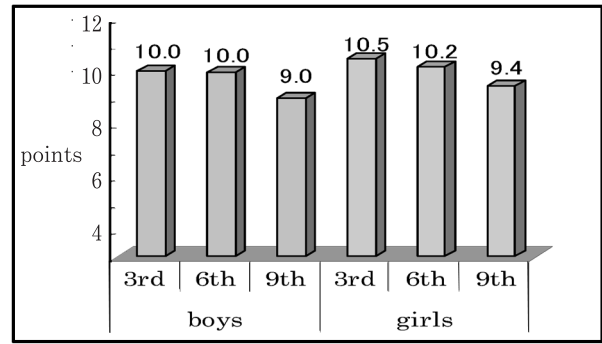


Figure 5 Children's Perception of their Family Atmosphere

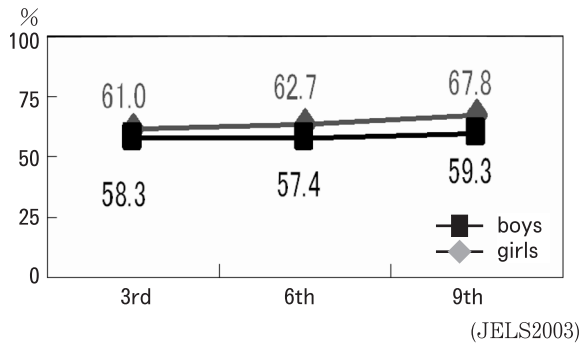


Figure 4 Educational resources "Did your parents bring you to museums or art museums when you were young?"

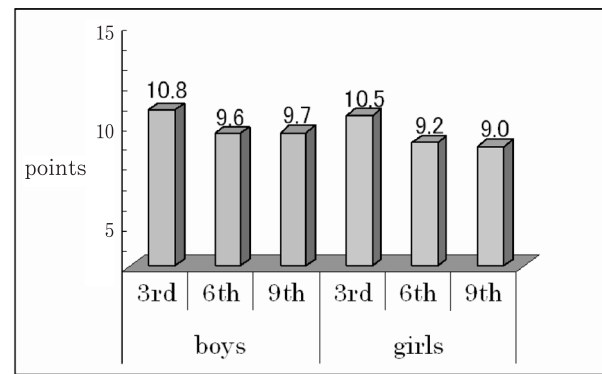


Figure 6 Children's Self-esteem

Table 2 Multiple Regression Analyses of Family Atmosphere

	Model 1	Model 2
	β	β
Gender (1=Boys) ⁽¹⁾	-0.08 ***	-0.06 ***
Parents academic background ⁽²⁾		
Both father and mother	0.05 **	0.02
Only father	-0.00	-0.02
Only mother	-0.01	-0.03
Educational resources in the family		
"Are there lots of books at home?"		0.03
"Do you have your own room for studying"		-0.01
"Do your parents say, 'Study hard.' every day?"		-0.11 ***
"Did your parents help with your study at home?"		0.11 ***
"Did your parents bring you to museums?"		0.07 ***

(1) School grade were controlled. (2) "Neither" is the reference.
***p<.001, **p<.01

(JELS2003)

bring you to museums or art museums when you were young? Girls were more often brought to museum or art museum by parents than boys. In the family, daughters have more close relationship to their parents than boys, and mother may behave together more with their daughters than with sons.

Regarding the children's perception of the family

atmosphere, the results showed that score lowered as the school grade advanced, and girls felt more comfortable than boys in each grade (Figure 5).

Regarding the children's self-esteem, self-esteem lowered as the grade in school advanced and girl's score was lower than boys (Figure 6). These results correspond to the previous studies in Japan.

The relation between family atmosphere and parent's academic background and educational resources in the family were examined. Multiple regression analysis was used (Table 2). Children's perception of family atmosphere was the dependent variable in this study. In the table, significant differences were shown by gender. This means that girls feel their family atmosphere more comfortable than boys. In Model 1, concerning parent's academic background, children whose father and mother both graduate from university feel better about their family atmosphere than children whose neither father nor mother graduated from university. In Model 2, the factor of educational resources in the family was added. The effect of parent's academic background disappeared. Parents say "study hard" every day showed negative effect. "Parents help with children's study" and "Parents bring children to museums or art museums when children were young" showed positive effect on children's perception of family atmosphere.

The relation of family atmosphere and children's self-esteem was examined by correlation analysis. The Pearson correlation coefficient was .28. This showed significant relations. The better the family atmosphere, the higher the children's self-esteem.

4. Conclusion

In this study, the effects of parent's academic background and educational resources in the family were examined. As a result of multiple regression analysis, parent's academic background did not affect the children's perception of family atmosphere directly.

Educational resources in the family, however, affected the children's perception of family atmosphere directly. The children's feeling of warmth, pleasantness and relaxedness at home were significantly related to children's self-esteem. For the children's perception of family atmosphere, educational resources in the family, such as parents telling children to study hard everyday and bringing them to museums, were more important than parent's academic background. The results would suggest that children's perception of family atmosphere is more important for children's self concept than parent's academic background and amount of physical educational resources, such as lots of books and having their own room. It is also suggest that parent's emotional support of their children and having good experiences with children are quite important to their socialization. We believe this will decrease the social problems of young people in Japan.

Note

This report was reprinted from 7 th JELS Report.

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Rethinking Hannah Arendt in the Context of Politics in 1990's Japan: Focusing on Arendt's Critique on Karl Marx

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Abstract

Why was Hannah Arendt reevaluated in 1990's Japan? This question is deeply related to the possibility of reconstruction of “the political”. In order to seek this possibility, I have focused on Hannah Arendt's critique on Karl Marx in 1953. From her critique on Marx I extract two specific features of Arendt's political thought which have an important implication for the rise (or return) of “the political”. One is the relationship between philosophy and politics, and the other is her concept of natality. Both were shaped during the very period between the publication of *The Origins of Totalitarianism* (1951) and that of *The Human Condition* (1958), a turning point in her thinking. Neither the fact that these two features were shaped in this period nor the meaning for her thought has been fully investigated yet. I would like to argue that these two features extracted from her critique on Marx could be key categories to politicize Arendt's political thought. Especially according to the concept of natality, it gives us a key category to avoid falling into educational cynicism, and to take a position responsible both for the past and for the future. This point of view is important for rethinking the citizenship education.

Key words: Hannah Arendt, Karl Marx, Politics, Natality, Education, Citizenship

1 Introduction

There have been a lot of studies about Hannah Arendt. Especially in 1990's, influenced by the impact of recent academic turn, for example, second wave feminism, cultural studies, post-colonial critique, Arendt was reconsidered and reevaluated not only by political theorists, but also several thinkers and researchers of various fields. This is an international trend, and it is also true in Japan.

This reevaluation of Hannah Arendt in 1990's is not a mere academic trend. It is also deeply rooted in the political context. But the question about the relationship between this reevaluation of Hannah Arendt and its political context is still open. In this paper, based on Arendt's concept of “the social”, I will focus on the formation of public education in post-war Japan. This approach will make it possible to examine the specificity of political context in 1990's Japan. This can be comprehended within the light of the breakdown of “the social”, which is partly due to the breakdown of the Cold War, and following the rise of “the political”.

By doing so, I want to make clear why Arendt was reevaluated in 1990's Japan, and then I would like to seek the possibility of reconstruction of “the political”. In order to do this task, I focus on Hannah Arendt's critique on Karl Marx in 1953. From her critique on Marx I extract two specific features of Arendt's

political thought which have an important implication for the rise (or return) of “the political”. One is the relationship between philosophy and politics, and the other is her concept of natality. Both were shaped during the very period between the publication of *The Origins of Totalitarianism* (1951) and that of *The Human Condition* (1958), a turning point in her thinking. Neither the fact that these two features were shaped in this period nor the meaning for her thought has been fully investigated yet. I would like to argue that these two features extracted from her critique on Marx could be key categories to politicize Arendt's political thought.

2 The Political Context in Japan before 1990's—Between “the Social” and the “Political”

(1) The rise of “the social”

The economic system in modern society cannot produce human beings who can act in accordance with this system. So the economic system needs to find a place for the raising of children outside of itself. Modern families and modern schools are among the most important places for bringing up children.

Hannah Arendt calls such places “the social.” According to Arendt, “the rise of the social” took place in the modern age, “society is the form in which the fact of mutual dependence for the sake of life and nothing else assumes public significance and where the activities connected with sheer survival are permitted to appear in

public" (Arendt 1958:46).

Jacques Donzelot, focusing on the theory of power developed under the influence of Michel Foucault, uses the same concept as Arendt's "the social", in order to conceptualize the social expansion of the space for tutelage and protection, such as the family, school, juvenile court, and social workers during the 18th and 19th century (Donzelot 1979). Philippe Ariès also said "[the modern] family and school together removed the child from adult society" (Ariès 1965:413).

Gilles Deleuze gave a foreword to Donzelot's book titled "The Rise of the Social". In this foreword, he said that "the social" does not "merge with the public sector or the private sector, since on the contrary it leads to a new hybrid form of the public and the private" (Deleuze 1979: x).

According to Arendt, Donzelot, and Deleuze, the rise of "the social" in the modern age brought about the subordination of "the public (or the political)" to "the social". As Donzelot said, the modern family and the modern school are an important agent of "the social". Even if modern schools were organized as the institution for public education, the meaning of "the public" here is identical to that of "the social."

(2) The Rise of "the Social" in Post-war Japanese Public Education

Until the early 1950's public education in Japan was not completely organized. Students were not so teacher-dependent, or over protected as they are now. Political debates about how public education should be organized were opened on many diverse topics. But from the late 1950's, public education became depoliticized and regulated by bureaucracy.

The turning point of this change was the 'Asahigaoka Junior High school affair', which happened in Kyoto in 1954. This incident was a conflict between the school board of Kyoto city and the teachers union of Asahigaoka Junior High School, over the students' participation in May Day and their involvement in the political movement against the government. After this incident public education in Japan became subjected to bureaucratic control, and students became considered as apolitical and dependent on school tutelage.

From 1950 to 1974 the rate of students entering high school rose from 42.5 per cent to 90 per cent. Thus the "mass education society" was formed (Kariya 1995:12). As in Western European countries and the United States, Japan's opportunity for secondary education had expanded to all areas of the society during the 1960's.

But there is an important difference in the characteristics of this expansion of educational opportunity between the West and Japan. In the West, this expansion was initiated by the policy of the welfare state. In

Japan, however, the role of the welfare state was less important than in the West, because the problem of social inequality was not so manifested in Japan's public sphere. In Japan the depoliticized triangle of family, school, and private enterprise replaced the welfare state and thus the problems of inequality was repressed.

(3) Defeat of Repoliticization

In the 1970's, legitimacy of the policy taken by the welfare state was confronted with crisis (Habermas 1976). For example, in the West, presupposition that equality could be achieved through the expansion of public education was theoretically doubted by the so-called 'reproduction theory', advocated by Althusser, Bourdieu, Bowles and Gintis (Bowles and Gintis 1986, Kodama 1999).

On the other hand, in Japan such a theory was not fully developed because, as previously stated, manifestation of the problem of inequality was repressed through the depoliticized triangle of the family, school, and private enterprise.

But in practice some teachers and students criticized public education as a device for equality. For example, in 1970 three teachers in Denshukan High School in Fukuoka prefecture were punished by the school board for their political educational practices, such as the class struggle, and the political movement against the Vietnamese War ('Denshukan High School affair').

A multiple network of movements, which tried to support and defend these three teachers, were formed. Although these movements remained in minority, their argument contained the importance of criticizing modern public education and constructing a new post-modern education.

One of these movements is 'Saitama Kyoiku Juku', a group consisting of teachers in the Saitama area. They condemned their own position as an agent of "the social". They did not abandon their position as an agent of "the social", but tried to take this position in order to construct "the public" and "the political" by deconstructing the teachership.

By taking the position as an agent of "the social", they thought they could get the power to educate their students. This power contains both the social power dominant in the modern school, and a form of political power which cannot be reduced to the social power. Their strategy focused on the latter political power. This had ambivalent meaning in the context of Japanese public education after the 1970's.

First, their argument made an important critique to the progressive current that was dominant in the educational thought during postwar Japan (Kodama 1998). This progressive current of education was made up of two elements; the child-centered approach, and protecting children from the public world. In Japan this

progressive current linked with the above-mentioned triangle of family, school, and private enterprise. So progressive current of education in Japan was closely connected to the rise of “the social” in post-war Japan.

In this context, teachers in ‘Saitama Kyoiku Juku’, trying to put the political authority of teachers against the natural authority of parents, might reconstruct “the political” of education.

However, second, teachers’ authority was supported by their position as the agents of modern school. In other words, a paradox formed in which the authority teachers in ‘Saitama Kyoiku Juku’ put against “the social”, was supported by “the social” which they would oppose. Then “the social” in Japan began to break down, particularly during the 1990’s. And so, the strategy adopted by teachers in ‘Saitama Kyoiku Juku’ became more conservative than before. In order to maintain their authority they were forced to defend “the social”, and their argument became educational cynicism, in which teachers exercised their power while knowing they were agents of “the social”. This educational cynicism cannot create a new public concept, but at best could defend the given social order against the break down of “the social” in Japan.

How can we avoid this cynicism without getting back to the progressive current? I would argue that at this point Arendt could be reevaluated in the context of 1990’s.

3 1990’s: Beyond the Cold War Style Thinking

(1) Breakdown of “the Social” and the Rise of “the Political”

In the 1990’s, Japan experienced two major social and political changes.

First, the bubble economy, which had prevented the economic disruption from being manifested, burst in early the 1990’s. Then the legitimacy of the depoliticized triangle of family, school, and private enterprise, which had replaced the welfare state and thus repressed manifestations of the problem of inequality, fell into a crisis. For example, in private enterprise, the Japanese employment system, consisting of lifetime employment guarantee and the seniority-based pay scale, began to change in the face of increased bankruptcies and restructuring. As for schooling, the number of elementary and junior high school truants, and the number of high school students who withdraw from their schools, have been on a steady rise during these ten years. As well as were many social incidents in family, such as domestic violence and child abuse, throughout the 1990’s. Moreover, gay and lesbian movements, as well as queer movements occurred, causing the heterosexual reproduction system based on modern family to come into question.

It is at this point that “the social”, which had been formed as the triangle of family, school, and private enterprise in post-war Japan, began to breakdown, and an alternative to this triangle was to be required. In this situation, there emerged the actual possibility of the rise of “the political” as an alternative to “the social”.

Then what kind form could “the political” take? Two scenarios could be considered. One is to enhance hierarchical authority in the family and state at the expense of the democratic accountability, which Bowles and Gintis calls “neo-Hobbesian” approach (Bowles and Gintis 1986:180). For example, the National Commission on Educational Reform sponsored and organized by Prime Minister Obuchi, reported “17 Proposals For Changing Education” in December 2000. This report states that, “Schools should not hesitate to teach morals”, and “Community services should be performed by all school students”. This proposal was conducted by Ayako Sono, a high powered member of this commission. She is also a famous writer and one of the representative conservative (right wing) intellectuals in Japan. The other scenario is to reconstruct the political significant space, where various social identities are recognized and everyone could appear and meet with each other in a condition of plurality and democratic accountability. Arendt’s political thought has been reevaluated in this latter scenario. For example, Arendt’s concept of “the social” was reinterpreted with regard to Foucault’s concept of bio-power, or Donzelot’s concept of “the social”. Also, the possibilities and limits of Arendt’s image of “the political” or “the public” was to be taken into consideration to investigate the feminist politics, queer politics, politics of educational reform, and so forth (Chiba 1995, Kawasaki 1998, Kodama 1999, Tazaki 2000, Saito 2000)¹⁾.

Second, the Cold War system broke down in 1989, promoting the structural change of political discourse in post-war Japan. Under the Cold War system the in-party had been only one party, the Liberal Democratic Party (LDP, founded in 1955) which had been the representative conservative (right wing) party during post-war Japan. And the out-parties (oppositions) had consisted mainly of progressive (left wing) parties, Social Democratic Party (SDP) and Japanese Communist Party (JCP). The political decision making of international and diplomatic matter under the government of LDP had been dependent on that of the United States of America. Dependent on the USA, the LDP government would not take political responsibility for the

1) In this context, *Feminist Interpretations of Hannah Arendt* (Honig 1995) was translated into Japanese in 2001 by Kiyoko Shimizu and Yayo Okano.

world, especially for Asian countries. On the other hand, Japan's left wing party proposed the political independence from America. But their political thought, not only JCP but also SDP, had been deeply influenced by Marxism, and lacked any realistic political strategy to seize political power and win the national election. So they would not replace the LDP government, but only opposed it. This political system was titled the 'system of 1955', which had stabilized LDP hegemony for thirty five years during post-war Japan (Asada 2000).

Under the Cold War system in Japan, Hannah Arendt had been read by conservative wing intellectuals. They had introduced Arendt's political thought to criticize left wing Marxism. Certainly they were pioneers in finding in Arendt's thought the autonomy of "the political" which could not be reduced to "the social". But nonetheless the specificity of Arendt's political thought had not been fully realized. On the other hand, most progressive (left wing) intellectuals had ignored or taken little consideration to Arendt's political idea. Against Arendt's own thought (as I examine later), Arendt had been introduced and interpreted under the Cold War context in Japan.

But after the breakdown of the Cold War, this situation changed. Japanese government could no longer depend on America, and the LDP began to lose legitimacy. In 1993 a coalition of reformist oppositions won the national election, and Morihiro Hosokawa became Prime Minister of the first non-LDP government in four decades. SDP joined the Hosokawa cabinet (on the other hand, JCP remained opposition), and then the 'system of 1955' broke down. Prime Minister Hosokawa admitted that in the Second World War, Japan committed an act of aggression, suggesting that government has a responsibility for their colonial domination over other Asian countries. He became the first Prime Minister to admit this responsibility.

In this context Arendt was reevaluated to deepen the political responsibility and political judgement. For example, Tetsuya Takahashi, referring to Arendt's notion of political judgment, stressed that judgment to the past, in order to be responsible for Asian people, particularly to "comfort women" who were forced to be sexual slaves during the Second World War (Takahashi 1999, Sato 1999).

(2) Dilemma in the Rise of "the Political"

Hosokawa's cabinet didn't continue for very long. The LDP returned to the government, but lacked the power they had during the 'system of 1955'. This political change since 1993 has not completed and continues to date. And as mentioned earlier, the political transition process of today consists of two scenarios for the rise of "the political" as the alternative to "the social". One

scenario is an enhanced hierarchical authority in the family and state at the expense of the democratic accountability. The other scenario is a reconstructed political significant space, where everyone could appear and meet with each other in a condition of plurality and democratic accountability.

Currently in Japan, the former scenario seems to gain predominance by the LDP government that seeks to reconstruct its political power using the new conservative ideology. But the success of this scenario is unlikely, due to the inability to pay much cost to maintain the authority of family and state at the expense of democratic accountability.

So in order to reconstruct "the political" as the alternative to the "social", we must seek the possibility of the latter scenario. Hannah Arendt should be reintroduced to accomplish this project. It is within this context that politicizing Arendt's political thought could have a specific significance.

But there is a kind of dilemma in pursuing this scenario. Reconstructing "the political" requires political authority and political power, but cannot be identified with the authority of family nor nation-state which new conservative (or neo-Hobbesian) scenario depends on.

Progressives (or left wing) tend to escape this dilemma, refusing to take all kinds of authority and political power. But as Arendt states, "Disintegration often becomes manifest only in direct confrontation; and even then, when power is already in the street, some group of men prepared for such an eventuality is needed to pick it up and assume responsibility." (Arendt 1972:148)

Then what kind of political power should we construct? Or in other words, how can we reconstruct "the political" without falling into the Cold War-like meaningless dichotomy between the progressive (or the left wing) and the conservative (or the right wing)?

The key concept to solve this problem could be found in two specific features of Arendt's political thought. One is her conception about the relationship between politics and philosophy, and the other is her concept of natality. Both were shaped in her critical research on Karl Marx during the period between *The Origins of Totalitarianism* (1951) and *The Human Condition* (1958).

4 Arendt's Critique on Marx

(1) Philosophy and Politics

After the publication of *The Origins of Totalitarianism* (1951), Arendt embarked on a new research project regarding Karl Marx. It was not published, but the fruits of this research remain as three manuscripts; the first draft, the first draft (short manuscript), and the second draft in the Library of Congress in the U. S.²⁾

From these manuscripts I will extract two important features of Arendt's thought. One is the relationship between philosophy and politics, and the other is her concept of natality.

As for the former, I will focus on the first draft (short manuscript) entitled "Karl Marx and the Tradition of Political Thought".

When Arendt was engaging this research project on Karl Marx in the early 1950's, the Cold War system was established, while in America the vigorous attack against Marxism and communism titled "McCarthyism" began. In this situation, criticizing Marx could be accepted as a conservative (or right) wing ideology. But Arendt would not affirm this Cold War style thinking. According to Arendt,

"In the case of Marx, the difficulty obviously was even greater because it concerned from the very beginning politics so that pro and contra fell into the conventional lines of party-politics: whoever spoke for Marx was a progressive, whoever spoke against him was a reactionary." (Arendt 1953 a:1)

So Arendt's purpose in studying and criticizing Karl Marx was to overcome this Cold-War like dichotomy between the progressive and the conservative (reactionary). To pursue this purpose, she focused on Marx's thesis (no.11) on Feuerbach, "The philosophers have interpreted the world, the time has come to change it" (Arendt 1953 a:7). For Arendt, Marx's thesis had two meanings.

First, "under tradition, Marx always understood the tradition of philosophy to which ultimately the one surviving class which was to represent humanity as a whole was to become the heir." (Arendt 1953 a:7) And this "tradition of philosophy" was the "occidental philosophical tradition", which was begun by Plato and Aristoteles (Arendt 1953 a:5).

This "occidental philosophical tradition" begun by Plato and Aristoteles "was made in a time when everything political had come to an end" (Arendt 1953 a:5). In other words, "Plato & Arist. were the end, rather than the beginning of Greek philosophical thought which began its flight when Greek had reached or was near to reach its climax." (Arendt 1953 a:5) For Arendt, "tradition of philosophy" under which Marx thought was

formed as depoliticization of philosophy as a result of the conflict between politics and philosophy in ancient Greece.

Second, Marx's thought was at the turning point of "the broken thread of tradition". Arendt states about Marx that

"The really anti-traditional and unprecedented side of his teachings is his glorification of labor, or his re-interpretation of the class which philosophy since its beginning had always despised and whose human activity it had thought to be so irrelevant that it had not even bothered to interpret and understand it: the working class and labor. Marx is the only thinker in the 19th century who took its central event, the emancipation of the working seriously in philosophical terms. Marx great influence today is still due to this one fact, which also, to a large extent, explains why he could have become so useful for totalitarian domination." (Arendt 1953 a:7)

According to Arendt, Marx knew that the thread of tradition since Plato and Aristoteles was about to break, but Marx would theorize this situation in terms of traditional philosophy. As a result, he couldn't find the alternative way to the tradition of western philosophy. This is why Marx could have become so useful for totalitarian domination.

Arendt thought both the conservative (traditional) and the progressive (including Marxism) were within the tradition of philosophy. On the contrary, Arendt would seek another philosophical tradition. To pursue this, she returned to the "beginning of Greek philosophical thought which began its flight when Greek had reached its climax", when the vital check and balance between politics and philosophy had been maintained.

(2) "Nativity" as a Transcritical Concept

The second key concept to solve this dichotomy between the progressive (or the left wing) and the conservative (or the right wing) is Arendt's concept "natality". Natality means the birth of a new beginning which conserve the world as new, and preventing it from being ruined. Arendt states,

"The miracle that saves the world, the realm of human affairs, from its normal, 'natural' ruin is ultimately the tact of natality, in which the faculty of action is ontologically rooted. It is, in other words, the birth of new men and the new beginning, the action they are capable of by virtue of being born. Only the full experience of this capacity can bestow upon human affairs faith and hope, those two essential characteristics of human existence which Greek antiquity ignored altogether" (Arendt 1958:247)

2) I and my associates translated these whole manuscripts completely into Japanese and published in 2002, September. This is the first publication of these manuscripts in the world. I am grateful to co-translator, Kazuo Sato, Shu Fujitani, Kiri Sakahara, and Ryutaro Inamoto for giving me valuable suggestions. Immediately after that the excerpts of the first draft was placed on *Social Research*, volume 69, no. 2 (Kohn 2003). But it is only a part of these manuscripts.

Patricia Bowen-Moore investigated Arendt's concept of natality. According to Bowen-Moore, there were three sources "influencing Arendt's development of the category of natality", her teachers (Martin Heidegger and Karl Jaspers), her doctoral dissertation on the concept of love in St Augustine, and her experience as Jewess. Bowen-Moore says natality was conceptualized by Arendt as "the supreme capacity" to make beginnings. (Bowen-Moore 1989:6-21)

On the other hand, Frederick M. Dolan criticized Bowen-Moore's thesis. Dolan says in Bowen-Moore's reading "Arendt's perspective on action and the public self to which it gives rise would be grounded in a 'supreme human capacity'". In order to challenge Bowen-Moore's interpretation, Dolan emphasized Arendt's "insistence that the public self is constituted discursively, not on the basis of a mimetic relationship with basic natural properties or attributes of 'man' as a creature". (Dolan 1995:331-332)

Whereas Bowen-Moore finds a positive moment in Arendt's concept of natality from a kind of existentialistic position, Dolan from a post-structuralistic position doesn't value the concept of natality so much as Bowen-Moore. Certainly in this point they oppose each other, but they have a common understanding of natality that it could be conceptualized as "the supreme capacity". But is that true?

I would argue it isn't adequate to interpret natality as "the supreme capacity". If we examine the historical context where natality was conceptualized by Arendt, on which Bowen-Moore didn't fully investigate, then we can find natality is rather a relative and structural category.

Before the publication of *The Human Condition* in 1958, the concept of natality had not been appeared as a key category of Arendt's published work (Schell 2003). So we can suppose the concept of natality was fermented by Arendt during the period between *The Origins of Totalitarianism* (1951) and *The Human Condition* (1958). When we examine Arendt's manuscript on Marx, it become clear that this presumption is correct. At the closing of the second draft, Arendt wrote,

"The metabolism with nature' which is inherent in the human condition ends with death: the body politic and the human artifice which we erect on the earth, on the contrary, always begins a new, because it is ultimately related to the fact of natality, opposed to mortality," (Arendt 1953 c: 16)

So we can conclude that the concept of natality was established by Arendt when the research project on Karl Marx was carried out. This finding is very important

for examining the historical context where natality was conceptualized by Arendt

For example, in "SUMMARY" of the second draft of "Karl Marx and the Tradition of Western Political Thought", Arendt states two assumptions. First, "The thread of tradition is broken: the beginning is no longer with us or: our traditional concepts do not fit our actual experiences." With this assumption Arendt raised a polemical point which is "against liberalism which believes the thread can simply be spun on and on, as it were and against conservatism which believes that we can restore 'values' without actually restoring reality."

Second assumption is that "What broke down when the thread of tradition broke, is primarily our public political sphere.", and with this assumption she raised a polemical point "against psychologism and spiritualism: as though something were the matter with each of us in individual singularity which could be healed by healing all of us through psychoanalysis or through making us behave." (Arendt 1953 b:1)

The concept of natality could be considered to be conceptualized closely connected to these two assumptions and polemical points. To take these two assumptions into consideration, it is reasonable to suppose that Arendt's natality was conceptualized in a highly political context.

Then in this context, natality could be understood not as "the supreme capacity", but as a kind of transcritical concept (Karatani 2001), by which we can get a critical position both to the conservative and to the progressive. So it is the key category in solving the aporia of dichotomy between the conservative and the progressive, or the dichotomy between past and future. I would argue this concept enables us to avoid falling into the earlier mentioned educational cynicism.

According to Tetsuji Suwa, a high school teacher belonging to 'Saitama Kyoiku Juku',

"teachers, belonging to the old culture, always face the 'future'. They, ruled by the old culture, are vocationally forced to teach the future to the 'future' of students. Teachers face 'the subject of the future' who will go beyond the old culture, imposing the old culture upon them" (Suwa 1998:124).

Natasha Levinson, in her article about the educational thought of Hannah Arendt's natality, also argues the importance of "teaching in the 'Gap between past and future'". According to her,

"to teach in this gap is to commit ourselves to teaching about the past—for understanding and guidance, and for the preservation of memory that underlies both—and to motivate students to try to set things right. At the same time we have to resist the temptation of

attempting to determine and control our students' futures" (Levinson 1997: 450).

Both Suwa and Levinson say that school teachers have a responsibility both for the future and for the past. The strategy they put forward is to take a position responsible both for the past and for the future. In this strategy we can find a hint in going beyond the educational cynicism.

5 Conclusion

Focusing on two features of Arendt's critique on Marx, I think we can find out a way to be able to reconstruct "the political" without falling into the dichotomy between the progressive and the conservative.

First, Arendt's conception of the relationship between philosophy and politics taught us to return to the beginning Greek philosophical thought where the vital check and balance between politics and philosophy had been maintained. This point of view is important especially for the University reform now ongoing not only in U. S. but also in Japan. Progressives as well as liberals tend to subordinate universities to the needs of "the social". On the other hand, Conservatives, like Allan Bloom and his teacher Leo Strauss, usually think that universities should be independent and autonomous from both "the social" and "the political".

But either approach would not contribute to reconstructing "the political". According to Arendt, what is required is to make universities a kind of critical space and then to recover the vital check and balance between universities and the public sphere.

Second, Arendt's concept of natality gave us a key category to avoid falling into educational cynicism. And this point of view is also important for educational reform, especially for national curriculum reform and the reform of teacher education of elementary and secondary schools in Japan. Whereas progressives and liberals tend to commit to a kind of child-centered education and curriculum deregulation, conservatives tend to commit to the tradition and moral. But this dichotomy would not bring about a productive effect. What is required is to take a position responsible both for the past and for the future. This point of view is important especially for rethinking the citizenship education (Kodama 2003).

What I have done here is only a first step to politicize Arendt's political thought. These two features of Arendt's thought could be a key category to politicize her thought not only in Japan but also in other countries and all over the world where the alternative order to the Cold War system is required, but has not formed yet.

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Family Environment and Children's Sense of Self-Reliance

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Abstract

It is a big issue when and how a child becomes independent economically from his/her family in which they grow up. Increasing many adolescents, who do not want to be economically independent from their family, becomes a social problem in Japan. Many people think that since domestic economic conditions are affluent, children do not need to become independent economically. The objective of this study is to explain how family environment such as parent's educational background and family atmosphere affect on children's sense of economic self-reliance. This study based on our Japan Education Longitudinal Study (JELS) in 2003 which aimed to investigate many development aspects of children from an elementary school to getting a first job. In this report, the sample and analysis are used 1,438 twelfth grade senior high school students who live in suburbs of Tokyo. The age hoping to become independent, family educational resources, children's perception of their family atmosphere, and self esteem were asked by a questionnaire. As a result, contrary to our expectations, it became clear that students in affluent families had higher sense of self-reliance. They thought that they should achieve economic independence when they finished formal schooling, and their willingness to work was also high. It was evident that not only self-esteem but also family atmosphere and the educational resource materials in the family were important. Therefore, in order to raise children's sense of economic self-reliance, to give sufficient education and occupational information for children in a relaxed atmosphere.

Key words: Sense of self-reliance, gender, family's academic background

1. Introduction

It is a big issue when and how a child becomes economically independent from his/her family. In the 1970s in Japan, the life course was affected by high economic growth. It turned into a very natural thing that immediately after children finish school education, they get job and plan economic independence. Most of the Japanese consider that it is a normal transition process from youth to adult.

Most recently in Japan, however, this transition pattern is challenged. There is an increase in the number of adolescents who do not want to be economically independent from their family and it becomes a social problem (Yamada 1999, Miyamoto 2002, Kosugi ed. 2002, Kosugi 2003). Some people may think that because of the rise of the overall economic standard, the youth feel they have a privilege of not working. Other people may think that since domestic economic conditions are affluent, children do not need to become economically independent. Possibly people will think that the youth are wasting their time.

The objectives of this report are as follows.

- 1) To describe when and how Japanese children perceive to achieve economic independence from their

own family.

- 2) To explain how the influence of family environment affect children's sense of economic self-reliance.

2. Our Data and Questionnaire Items

This report is based on the Japan Education Longitudinal Study (JELS), which aims to investigate many development aspects of children from elementary school to the stage of getting a first job. In this report, the sample is 1,438 twelfth grade senior high school students who live in the suburbs of Tokyo.

The question items used for analysis are as follows.

[Dependent Variable]

- 1) Perceived Independence Age: How old do you think you have to become independent economically from parents? –about 18 years old, about 20 years old, 22-23 years old, 25 years old, 30 years old, 35 years old, not necessary to become independent.

[Independent Variables]

- 1) Career Plan: At present, what kind of career are you planning after graduation from high school? – getting job, entering a vocational school, entering a junior college, entering a university, others.
- 2) Gender: boy, girl

- 3) Rank of Schools: It was divided into four ranks based on the respondents' perceived academic grades in junior high school days: -high (1.26), medium (2.28), low (3.66), vocational (3.54). The numerical value in a parenthesis is average value of five-step evaluation. 1 is the best.
- 4) Parents' Academic Background: Responses are classified into three categories: -both parents are college graduates, either of two parents is a college graduate, others.
- 5) Educational Environment of the Family: -'There are many books in my house (except comics or magazines)' 'There is a study room for myself' 'My parent/s tell me "Study hard," almost every day' 'When I was small child, my parent/s often read child books to me' 'I was brought to museums or art museums by my parent/s'

3. Result

1) Perceived Independence Age and Career Plan

Figure 1 shows the breakdown by perceived independence age of the respondents. The largest proportion was 'about 20 years old' and the ratio was 36.0%. The next was '22 or 23 years old' and the ratio was 32.5%. The third was 'about 18 years old' and the ratio was 14.5%. The addition of 'about 18 years old' and 'about 20 years old' gave only 50.6%. So, only 50.6% thought that they should achieve economic independence by adult age (20 years old).

In Japan, it has been thought that the youth attempts to achieve economic independence by getting a job after finishing school education. In addition, they are usually 18 years old at the time of graduation from high school and 20 years old at the time of graduation from vocational school in Japan. In the case of graduation from university, they usually reach the age of 22 or 23. That means that they should achieve economic independence at 18 years old, if they plan to get a job after graduating from high school. As a consequence, when examining the perceived independence age of Japanese children, it is important to pay attention to their career plan.

The breakdown of respondents according to career plan is shown in Figure 2. The largest proportion was 'to finish a university degree' and the ratio was 35.0%. The next was 'to finish a vocational school course' and the third was 'getting job.'

Do those who planned 'getting a job' think that they should be independent economically at 18 years of age? According to the data, only 31.2% of those who planned getting a job answered that they should be independent at 18 years of age (Figure 3).

So, it is not the right momentum for economic independence for Japanese high school students to get a job

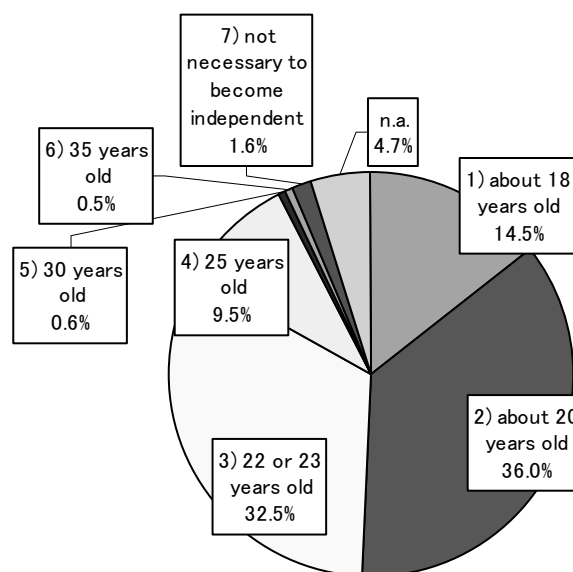


Figure 1 Perceived Independence Age (N=1438)

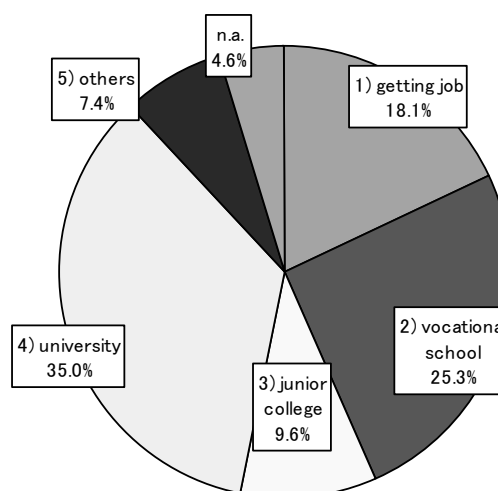


Figure 2 Career Plan (N=1438)

or to greet adult age.

2) Types of Self-reliance

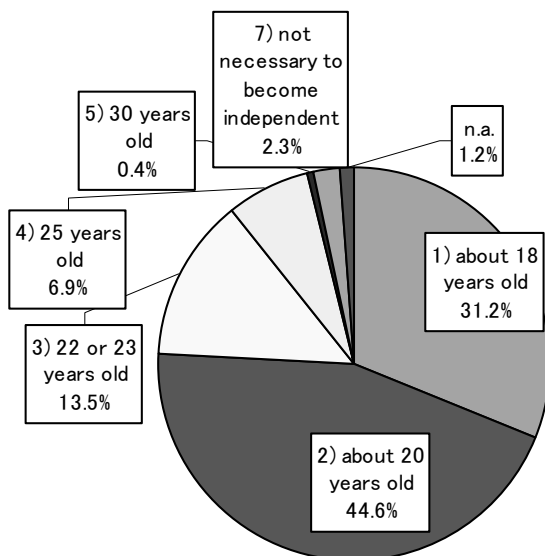
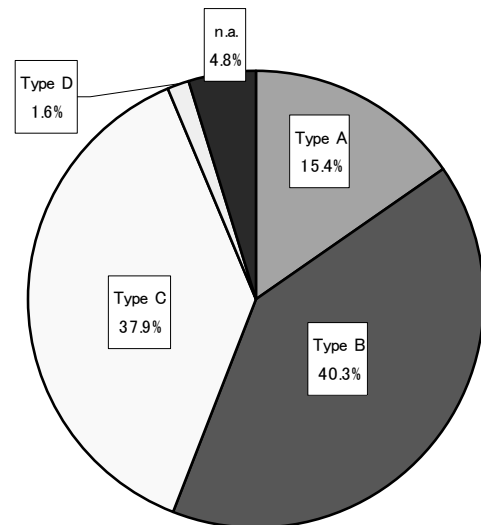
As seen above, the gap may have arisen of their career plan and perceived independence age. The distribution of perceived independence age among their career plan was shown in Table 1. As suspected, their perceived independence age had a little relationship to career plan. However, this discrepancy was not constant, some think that it should be after finishing school education and others were before. It is necessary to pay attention to this discrepancy, since it has been thought that youth attempts to achieve economic independence by getting job immediately after finishing school education in Japan.

Then, respondents were divided into four types from their career plan and perceived independence age. Type

Table 1 Pattern of Sense of Self-Reliance (%)

	1) about 18 years old	2) about 20 years old	3) 22 or 23 years old	4) 25 years old	5) 30 years old or higher	7) not necessary to become independent	n. a.	total	N
1) getting job	31.2	44.6	13.5	6.9	0.4	2.3	1.2	100.0	260
2) vocational school	12.4	45.6	32.7	6.3	0.5	1.1	1.4	100.0	364
3) junior college	8.0	42.8	38.4	7.2	1.4	2.2	0.0	100.0	138
4) university	8.7	23.7	47.7	16.3	1.2	1.0	1.4	100.0	503
5) others	25.2	44.9	15.9	3.7	2.8	4.7	2.8	100.0	107

Type A	Those who think that he/she should become independent before finishing school education.
Type B	Those who think that he/she should become independent at the same time he/she finishes school education.
Type C	Those who think that it is not necessary to become independent for a while even after finishing school education.
Type D	Those who think that it is not necessary to become independent.

**Figure 3** Perceived Independence Age of those who answered 'getting job' (N=260)**Figure 4** Distribution of types (N=1422)

A refers to those who aim at economic independence before finishing school education. Type B refers to those who aim at economic independence at the same time school education is finished. Type C refers to those who do not aim at economic independence for a while even if he/she finish school education. Type D refers to those who think that it is not necessary to become independent. The distribution of types of respondents is shown in Figure 4.

These types are considered as expression of sense of self-reliance. Type A and Type B are groups with the traditional sense of self-reliance. Type C and Type D are the groups that came to attract attention as a social problem recently, and are groups who have a weak sense of self-reliance. The latter two have deviant pattern of independence, and these are referred as Type New.

4. Analysis

Next, we examined how the influences of family environment affect children's sense of economic self-reliance.

1) Relation with Types and Attributions

The distribution of the types among their career plan was shown in Table 2. In 'getting job' and 'others,' the ratio of Type New was high. It was also shown here that getting a job does not become the momentum for economic independence any longer.

According to the rank of schools, Type B tends to be more from high-ranked schools and the ratio of Type New is high in low-ranked schools (See Table 3). According to gender, the ratio of Type New is notably high for 'girls' (See Table 4). Common knowledge say

Table 2 Types by Career Plan (%)

	Type A	Type B	Type New (C & D)	n. a.	total	N
1) getting job	–	31.2	67.7	1.2	100.0	260
2) vocational school	12.4	45.6	40.7	1.4	100.0	364
3) junior college	8.0	42.8	49.3	–	100.0	138
4) university	32.4	47.7	18.5	1.4	100.0	503
5) others	–	25.2	72.0	2.8	100.0	107

Table 3 Types by Rank of Schools (%)

	Type A	Type B	Type New (C & D)	n. a.	total	N
high	19.4	54.6	24.1	1.9	100.0	108
medium	19.3	43.5	34.9	2.2	100.0	579
low	13.6	35.0	43.6	7.9	100.0	420
specialty	9.2	36.5	47.9	6.3	100.0	315

p=0.000

Table 4 Types by Gender (%)

	Type A	Type B	Type New (C & D)	n. a.	total	N
boys	19.0	43.5	32.0	5.5	100.0	600
girls	12.9	38.1	45.5	3.5	100.0	666

p=0.000

Table 5 Types by Parents' Academic Background (%)

	Type A	Type B	Type New (C & D)	n. a.	total	N
parents are college graduates	16.3	47.9	34.4	1.4	100.0	288
either is a college graduates	20.3	44.0	33.4	2.2	100.0	359
others	12.8	35.7	44.3	7.2	100.0	775

p=0.000

Table 6 Types by Family's Educational Environment (%)

		Type A	Type B	Type New (C & D)	n. a.	total	N
1) There are many books in my house (except comics or magazines).	No	13.3	38.1	40.3	8.3	100.0	662
	Yes	17.2	42.2	38.8	1.7	100.0	760
2) There is my own room for study.	No	13.2	34.9	41.1	10.8	100.0	501
	Yes	16.6	43.2	38.7	1.5	100.0	921
3) Parent says to me 'Study hard' almost every day.	No	15.6	40.1	39.2	5.1	100.0	1286
	Yes	14.0	41.9	42.6	1.5	100.0	136
4) When I was small child, parent often read to me.	No	15.7	39.2	38.2	6.9	100.0	849
	Yes	15.0	41.9	41.5	1.6	100.0	573
5) I was brought to a museum or an art museum by parent.	No	16.3	31.1	42.9	9.8	100.0	602
	Yes	14.8	47.1	37.1	1.1	100.0	820

p=0.156

p=0.056

p=0.786

p=0.727

p=0.000

that the sense of economic independence among males is important but not for females. This seems to be discriminatory and gender-bias.

2) Relation with Types and Family Environment

The next factor to consider is about home

environment. In case of 'both parents are college graduates' or 'either of the two parents is a college graduate,' there is a large portion of traditional independence pattern, and in case of 'others' there is a large portion of Type New (See Table 5). About the educational environment of the family, the item of '2) There is my own

room for study' and '5) I was brought to museums or art museums by parent' show significant differences in types (See Table 6).

The factors, such as high educational attainment of parents, a home with a certain educational influence and high academic ability increase a child's sense of self-reliance.

5. Conclusion

As a result, it became clear from the above analysis that the factors, such as high educational attainment of parents, a home with a certain educational influence and high academic ability increase a child's sense of self-reliance. Many people have thought that there is abundance of home or society in the background of the lowness of sense of self-reliance. However, such a view is not supported by the result.

Those who are in a disadvantageous environment rather have low sense of self-reliance. Therefore, we

need to strengthen children's sense of self-reliance by asking them to study hard and providing more career guidance. And the communication of parents and children is important. However, since smooth parent-child communication is not easy to achieve, it is also important that other factors in the environment, such as schools and community centers should be strengthened.

Note

This report was reprinted from 7 th JELS Report.

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The Instability of the School Function and the Transition from School to the Workforce: Changes in the Education System and Jobless High School Graduates

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Abstract

During and after the 1990s, the patterns in youth transition from school to workforce experienced a drastic change that prolonged the Japanese youth period. This raises two issues for research: first, the reason why “freeters” or “mugyousya” have emerged and increased in number, and second, the type of youths that became “freeters” or “mugyousya”. This paper reviews recent sociological studies focused on “kousotsu-mugyousya” (freeters or NEETs graduating from high school), and provides answers to the two research questions. Emphasis is laid on the recent educational change that includes education policies, ideals and practices, and the educational selection/allocation function of schools, as well as recent changes in the youth labor market.

Key words: Youth transition, sociology of education, educational selection, youth labor market

1. The unpredictability of the transition from school to the workforce: The gradual increase in the number of jobless high school graduates

(1) Overview

So-called “*freeters*” began to attract much social attention and academic interest after the mid-1990s. A series of research papers (Tsuburai, 1997; Araya, 2002; Kosugi ed., 2002, etc.), including a systematic survey conducted by the Japan Institute of Labor (the Japan Institute of Labor 2000a, 2000b, 2001), has reached broad consensus on the following aspects of this newly named youth group: the nature of these young non-regular workers; how they relate to business practices, school career guidance, youth culture and job awareness; and their connection with changes of labor policy, educational policy and social structures. While this research was being conducted, I also investigated the background of the emergence of this youth group and its high school graduates (Mimizuka ed., 2000; Yajima/Mimizuka ed., 2001; Mimizuka ed., 2002; Mimizuka, 2003, etc.).

My findings are presented in this paper, as follows. In the current unstable state of transition from school to the workforce, not all young people have experienced a long-term transition phase before entering the workforce. The pattern by which different youth groups make this transition and how they do it is a product of the “educational selection” system that is deeply connected to their family background. Because of a

process change currently taking place in the school-to-workforce transition system, young people placed at the bottom of the educational selection ladder are facing the prospect of a prolonged transition phase. In this paper, I have focused on jobless high school graduates and summarized the mechanism by which their numbers have gradually been increasing.

As mentioned above, the main subject of discussion in this paper is “jobless high school graduates,” although with regard to the increasing numbers of *freeters* (casual workers who do not want to be tied down by their occupation) and the unemployed graduates as a whole, “jobless university graduates” are also subjects of concern. In terms of the number of jobless among these youth groups, 22.9 percent¹⁾ of university graduates fall into the “other (jobless)” category as a result of their career path decisions, and this rate is even higher than that of high school students. Moreover, among those who wish to find employment, the proportion of students attending a 4-year university²⁾ who did not obtain a *naitei*, an unofficial job offer, rose to 7.9 percent. However, compared to jobless high school graduates, jobless university graduates exhibit the following characteristics: 1) they show little alienation

1) From “The School Basic Survey Report on Employment Status of University Graduates and Others in 2001” published by the Ministry of Education, Culture, Sports, Science and Technology, 2002.

2) The 2002 statistics from “The School Basic Survey Report” published by the Ministry of Education, Culture, Sports, Science and Technology (annual publication).

from their original social class; 2) they are “the winners” of academic competition (educational selection); and 3) their jobless state is therefore “by choice,” not “forced upon them.” Of course, these characteristics do not apply to every jobless university student, but their joblessness is often the result of their desire to obtain a job that matches their social class and academic background, and is therefore also “the product of an affluent middle-class upbringing”³⁾. For this reason, my interest and attention are focused primarily on jobless high school graduates⁴⁾.

(2) The gradual increase in numbers of jobless high school graduates

Generally speaking, there have been two career paths that high school students have followed after graduation, leading them to either “continue to higher education” such as university or junior college, or to directly enter the real world by “obtaining employment.” Since the mid-1970s, vocational colleges had emerged as a third career path option and by the 1980s, these three paths dominated young people's choices for the future. Considering this progression as a transition from youth to adulthood, these young people were expected to enter the real world straight after graduating from high school or after finishing university, college or vocational college. After World War II, a large number of junior high school graduates were encouraged to work in industrial areas. They were recruited by industry from various regions throughout Japan and a particular “transition pattern” for young people entering the workforce upon graduation became widespread in Japanese society at this time (Kosugi, 2001). Following the rapid economic growth period, this transition pattern took especially firm root, as there was a continuous and abundant supply of full-time job openings available for new graduates.

In the early 1990s, however, we started to see signs of change and an increasing trend toward so-called “jobless high school graduates” became noticeable as high school students started to make different decisions about their future. “The jobless” here refers to those who do not belong to any of the following groups when they graduate from high school: those who move onto a higher grade or higher education; those who find full-time employment; and those who are either deceased or for whom data are not available. This category designated for statistical purposes by the Ministry of Education was renamed in “*The School Basic Survey News*” in 1999 as “those who belong to none of the following categories.” In other words, “the jobless,” or “those who belong to none of the aforementioned categories” is a group of young people that are neither continuing higher education nor obtaining a job. The jobless rate for high school graduates is gradually increasing.

Rising from a low of 4.7 percent in 1992, by 2003 it had reached 10.3 percent, with the actual number of jobless standing at over 132,000.

(3) The jobless high school graduates: Where do we find them ?

The figures cited above are based on the total number of high school graduates throughout Japan. However, the figures differ from school to school depending on each school's individual attributes. For instance, the jobless rate of evening high school graduates is higher than that of ordinary high school graduates. Comparing the courses that these students study, it can be seen that commercial and general course graduates experience a high rate of joblessness. A difference between prefectures is also apparent. While the level of 28.1 percent jobless in Okinawa can be considered exceptional, the range throughout the rest of Japan varies from 14.1 percent in Tokyo and Kanagawa down to 13.1 percent in Osaka, 12.0 percent in Miyagi, 5.0 percent in Fukui, and 4.9 percent in Gifu, to a low of 3.4 percent in Toyama (based on numbers of graduates as of March 2003). The jobless rate is particularly high among graduates in the designated cities.

However, this does not necessarily mean that the upward trend in jobless numbers is seen only in metropolitan cities, with Tokyo as the “leader.” We should also note that, since 2000, this same trend has been increasingly apparent in regional areas as well (Mimizuka, 2003) and that, in addition to the increase in the jobless rate, the sorts of jobs that people obtain in these regional areas are shifting to a “gray zone” between regular and non-regular employment⁵⁾.

When examining where most of these jobless high school graduates tend to be found, we must not ignore the relationship between the institutional structures that create academic gaps among schools and the jobless rate of the graduates (Omichi, 2000). With regard to male students who study a general course at a public

3) This is a quote from a speech presented by a representative from India at the biannual conference of the Association of Asian Social Science Research Councils (AASSREC), in Canberra, introduced by Professor Ushiogi Morikazu.

4) As I mentioned earlier, this paper focuses on jobless high school graduates in order to analyze the transition from school to the workforce, but I am aware that other subjects, such as jobless university graduates, also need to be examined. Takahashi and Genda (2004), for instance, focus on junior high school graduates and high school dropouts, and Kosugi and Hori (2004) analyze the jobless and freeters separately. The NEET phenomenon needs to be looked at as well. Although these studies all share the same viewpoint regarding the transition changes, the results observed can be expected to differ between each group.

5) Due to the limited space available, any analysis of the increase in regional areas has been omitted. Refer to Mimizuka (2003).

high school in Tokyo, there are hardly any highly ranked schools (with a deviation score of 60) that have a jobless rate of over 5 percent. In contrast, 41 percent of middle-ranked schools (with a deviation score of 48-53) and 66.7 percent of lower-ranked schools (with a deviation score of 47 or below) have a jobless rate higher than 20 percent. Female students are in almost the same situation as males. These findings suggest that the decision to remain jobless is deeply associated with the so-called “school hierarchy” and that the majority of jobless graduates emerge from a general course in middle- or low-ranked schools. This hierarchy among high schools is an institutional structure forming part of the mechanism of human resource selection. We need to closely examine the process by which high school students fall into the jobless category after graduation under the current education selection system.

2. Changes in education systems and jobless high school graduates

(1) Outline

Why has the number of jobless high school graduates been on the rise since the mid-1990s? Until the 1980s, the typical job candidates with high school qualifications were able to move into the workforce supported by the strong pull from the working community and also by the strong push from school (as well as an “adjusting system,” which is to be discussed in 2-(3). that was functioning well, linking these two factors). Since the 1990s, however, these two factors have weakened and caused the adjusting system to malfunction. As a result, a certain number of graduates were unable to achieve a smooth transition from school to the workforce, falling into the “jobless vacuum.”

(2) Changes in pull factors: The labor market for high school graduates

To examine the course of these changes, we must first focus on the pull factors. The first change affecting the pull factors was the shrinking labor market for new high school graduates. There were over 1,500,000 job openings for this group in the early 1990s but, in 2002, this number dropped dramatically to less than 300,000 and later dropped even further down to 240,000. The decline in the job-opening-to-application ratio has also been falling sharply, from 3.32 (1992) to 0.90 (March 2003), resulting in the worst rate of new high school graduates’ *naitei* (unofficial job offers) on record. (This rate dropped from 97.9 percent in 1992 to 86.3 percent in 2002. These statistics are based on data collated at the end of March each year).

Although the bursting of the bubble economy is considered to have had an obvious and direct effect on the shrinking labor market, we cannot explain this

shrinkage using economic factors alone. In particular, we should not ignore the following factors when identifying the cause: 1) Employment shift from high school graduates to university graduates, along with the increasing number of high school students continuing on to higher education. 2) Expansion of the labor market for non-regular work (an increasing tendency to obtain labor through part-time or *arubaito*, casual employment). It is believed that these factors have much more serious and long-term effects than economic factors on the employment problem because while it is possible that the demand for new high school graduates will increase in the future, once the economy improves, it is unlikely that the employment shift and the expansion of the non-regular labor market will reverse.

However, it is important to note that although there is an obvious decline in the number of job openings available for high school graduates, employers are simultaneously experiencing difficulties in filling certain positions, despite the use of advertising. While there is generally high demand for skilled workers and in the manufacturing sector, potential workers are preferring to look for employment in specialized areas, technical fields, office and administrative work, or sales and services. This shows that there is a mismatch between actual job openings and the jobs that young people are interested in, resulting in a number of high school students choosing to remain freeter (jobless) even though there are jobs available for them. This leads, in turn, to consideration of other issues such as high school students’ job awareness (youth culture) and career guidance.

(3) Changes in the adjusting system of pull and push

The system that has traditionally been adjusting young people’s transition from school to the workforce has also changed. The most important function for this system to carry out used to be the job placement practice for new high school graduates. Nakajima (2002) summarized the prevailing practice before the 1990s as follows:

- 1) “Designated school” system: Employers select specific high schools from which to recruit job candidates. In this way, they can build up a solid relationship with the schools and ensure stable employment while also reducing recruiting costs.
- 2) In-school applicant selection system: Schools regulate students’ job applications according to their academic performance, class attendance punctuality, etc. Those who pass the selection criteria are given a school recommendation to apply for a specific position.
- 3) “One student, one company” policy: Employers require that their applicants do not apply for other

jobs. Schools also recommend each student to only a single employer. This system has made it possible to cost-effectively and smoothly select and match jobs to a large number of students in a short period of time. This policy has also helped to offer employment opportunities to as many students as possible.

However, for this practice to function successfully, there needs to be good and ample employment opportunities available for students. Otherwise, the practice is not sustainable and it could even have the reverse effect (Ministry of Education, Culture, Sports, Science and Technology, and Ministry of Health, Labour and Welfare, 2000). For instance, if there are not enough job openings, some students who want to work could not even apply for a job under the conventional selection system used within schools, and their frustration will grow as the number of such students increases. Students in a general course or a relatively new and specialized course would also tend to be excluded from existing recruitment targets and, for these students, the assigned school system is nothing but an institutional structure that limits their employment opportunities.

Nakajima (2002) categorized the transition patterns of new graduates who successfully obtained employment into the following four types: 1) regular employment obtained by school recommendation; 2) regular employment obtained from outside the school; 3) non-regular employment offered outside the school; 4) delayed employment. The number of graduates who followed unconventional employment paths (3) and 4) has doubled from 27.5 percent in the 1989-1992 cohort to 57.7 percent in the 1997-2000 cohort. These figures clearly show that, ever since the transition process for new high school graduates broke down in the 1990s, conventional practice is no longer functioning as an efficient regulator.

(4) Changes in push factors (education ideology and career guidance)

The next step is to examine push factors. Since the establishment of the Special Council of Education in the mid-1980s, the Japanese educational system has experienced considerable changes in educational ideology, systems and organization, and practices. Throughout the 1990s, educational institutions witnessed new trends such as “respect for individuality,” “the determination to live life to the full,” “new perspectives on academic performance” and “cram-free education.” Those slogans are all based on the concepts of “individual-centered principles” or “individualism,” which were introduced at the Special Council of Education (Ichikawa, 2002). Wider subject choices, diversification of assessment criteria, introduction of a double-track system, deregulation of the school selection process, and a drastic

reduction in teaching content (after careful and stringent selection) were also justified on the basis of individualism (Ichikawa, 2002)⁶.

The changes in direction of these educational policies effected a change in teachers’ attitudes toward education guidance. Compared to teachers 20 years ago, teachers today tend to be more lenient with their students, eschewing the old approach of trying to mold students into a certain stereotyped “high school student” role (Kaneko, 2000), and their stance on career advice for students has changed accordingly.

There is a simple theory you can use when it comes to deciding a person’s future: “one chooses the path that has the larger total of values \times possibility.” *Values* here represent the subjective values that a person considers important, and *possibility* refers to the potential paths that a person can actually take. If there is no future possibility of taking a certain path, then the total will be zero regardless of the amount of value, and vice-versa. This theory produces a model that stresses the rational aspect of the mechanism by which students’ decision-making is directed by their interests and desires on the one hand, but restricted by career opportunity structures on the other. When considering the implications of this theory, it can be seen that any decision regarding the future was hugely dependent on the *possibility* when the “conventional employment practice” mentioned earlier was dominant. Thus, under the applicant selection system and the one-applicant-one-company policy, it was rational for a student to choose a position for which he/she was likely to get a school recommendation, and for the school to recommend a student who was most likely to be offered a *naitei* (an unofficial job offer). Furthermore, it is important to note that students’ academic performances were regarded as crucial criteria for applicant selection. This also means that students’ academic achievements restricted their opportunity to obtain a school recommendation. Students had to choose a position that matched their academic level in order to receive a school recommendation. This illustrates just how dominant possibility-centered decision-making was at that time.

In contrast, “subjective value” has played the major

6) The reforms of the 1990s failed to achieve their stated objectives such as introducing “relaxed education” and nurturing “the determination to live life to the full,” and instead led the decline in the average educational standard, resulting in the polarization of children’s academic achievements and an increase in children’s detachment and indifference to school life and lessons. By emphasizing children’s individuality, school lost its leadership role in guiding them and was swept away by the “new perspectives on academic achievement” which focused on children’s voluntary initiatives and experiences by “assisting rather than teaching them.” Because of these developments, some call the 1990s a “lost decade caused by the education reforms” (Kariya, 2001).

role in career guidance in recent years and “career opportunity structures” have been sidelined. These changes have come about through reconsideration of the educational policies of the past, which received severe criticism over the years for their emphasis on a score-based school selection method and career decisions made on the basis of job availability rather than students’ preferences. Instead, in order “to live life to the full,” students are now asked questions such as “What career path do you wish to take?” or “What do you want to do in the future?”, encouraging them to reach their full potential. This approach focuses on “which company they want to work for” (a value) rather than “which company they are most likely to be accepted by” (a possibility).

According to Morota Yuko (2000) who conducted interviews with career advisers in high schools with a high rate of jobless graduates, the following characteristics typify their career guidance methods: 1) emphasis is placed on students’ own desires and decisions (teachers give priority to students’ decisions, encouraging them not to give up on their dreams or hopes), 2) there is a “non-enforcement policy” on student decision-making (meaning that teachers are not to interfere with the students’ own decision-making for their future). These new “theories” on career advice give priority to the students’ own decisions, providing them with a logical excuse to justify their decision to become *freeters*. These theories are also “a good news gospel” for the career advisers, as they are experiencing difficulties in offering appropriate job opportunities to all students in search of employment, due to the sharp decline in job openings for high school graduates. It seems that the era in which the school’s priority was to “guarantee students a career path for the future” will soon become history. The philosophical changes in education and the theoretical changes in career advice have weakened the school function of channeling students’ wishes into alternative career paths and allocating them productive roles in working communities⁷⁾.

3. Family backgrounds, education selection and the number of jobless high school graduates

(1) Who becomes jobless ?

The transition system from the school to the workforce is being subjected to changes in both pull and push factors. As a result of this, the “jobless vacuum” has

been generated in a place between the school and the working community. The next question is how to identify those who fall into the jobless vacuum, since this jobless state is not equally experienced by all types of young people.

Young people choose to become so-called *freeters* when they have enough financial support to at least make ends meet. The emergence of *freeters* suggests that the Japanese household economy is now affluent enough that a high school student no longer needs to work as a major income earner. However, this does not mean that jobless school graduates have relatively affluent family backgrounds. The facts show just the opposite. We should therefore draw a clear distinction between the rise of the Japanese household economy and the social class that most jobless youths come from.

According to my own research conducted with other researchers (2000), the *freeter* rate of high school students, upon graduation, is closely associated with their family’s social class and background. While the *freeter* rate averages only 14 percent if their fathers have white-collar occupations such as specialized and technical professionals and managers, the rate averages 31 percent when they have blue-collar occupations. These figures clearly indicate that young people with a relatively low social background are more likely to become *freeters*.

Analyzing the results of a JIL survey of a random sample of 1,000 *freeters* and 1,000 non-*freeters* (both from the age bracket of 18-29) in metropolitan areas, I have also made the following observations (2001):

- 1) The full-time employment rate upon graduation (excluding students who continued on to higher education) averages 37.5 percent in the 18-19 age group, 58.1 percent for those aged 20-24, and 71.0 percent for those aged 25-29, showing that the younger the group is, the lower their employment rate. In the 18-19 age group, 36.1 percent have part-time or *arubaito* casual employment (considered as *freeters*) and 15.5 percent are jobless, making up more than half of this age group, overall. In other words, there has been a huge increase in the number of young people who entered an atypical labor market such as part-time or *arubaito* employment throughout the 1990s, while the number of those able to find full-time employment upon graduation has declined.
- 2) Those who are forced to enter the atypical labor market are mostly high school graduates, not university graduates (the jobless rates of university students and high school students, upon graduation, are 23.8 percent and 54.0 percent, respectively).
- 3) Among high school graduates, students with a relatively low social background enter the atypical

7) Although discussions on the changes in youth culture should also be included here, since they occurred at the same time as changes in school guidance and career advice, they have been omitted due to the limited space available. Refer to Kosugi Reiko ed. (2002).

labor market or become jobless more often than students from other social classes.

(2) Why?: The mechanism of education selection

The findings outlined above show that students with less privileged family backgrounds are hit hardest by the tightening labor market for high school graduates, and that their opportunity for higher education is limited by their financial circumstances and family situation. Having experienced this double “loss of opportunity,” these young people become jobless and go into to the gap between school and the workplace where they tend to drift aimlessly. The gradual increase in jobless high school graduates is one aspect of the structural phenomenon known as the “reproduction of social class,” and it should be considered as a major factor in the sharp increase in social inequality.

The following two career paths show why the relatively underprivileged are more likely to become jobless after leaving high school, and why they deviate from the standard transition path from the school to the workforce.

- 1) Social class restricts their transition pattern, as a result of their academic abilities and the academic hierarchy in high schools.

Social class → Academic abilities → High school hierarchy → Transition pattern from school to higher education or the workforce

- 2) Social class, supported by its lower-class culture, leads students to take a certain career path for their future.

Lower-class culture → Transition pattern to a certain educational path or workforce

With regard to the first pattern, based on a survey on academic performance administered to about 6,200 public school students in twelve cities around the Kanto area, other researchers, as well as myself, (2002) found that children from higher academic family backgrounds performed better. Children who spend a longer time studying at home (making more effort) also achieve higher results. Further examination of the survey results showed that even when students spend the same amount of time studying at home, those with the higher academic family background still perform better. For instance, among the children who spend up to “15 minutes a day” studying at home, those with a father with a degree scored an average of 79 in math while children whose father had no degree only scored 67. This is a difference of more than 10 percent. Although the gap between academic levels narrows when children study for a longer time, the result still favors the children with the higher academic background. This indicates that social class directly limits children’s academic achievement, regardless of their own effort. This means that families with a high

academic background have a “primary supremacy” in academic performance. Statistical studies also suggest that children with a father with no degree have to spend about 50 minutes studying at home just to catch up to those with a father with a degree, and who do not study. The existence of this primary supremacy implies that the children with a high academic background have an inherent advantage in learning ability.

From a very early stage, there is also a social gap in academic abilities and students with a relatively low social background are more likely to enter low- or middle-ranked high schools due to selection criteria focused on academic achievement. Furthermore, these schools also possess pre-existing conditions involving the pull and push factors which tend to lead students into the jobless vacuum. They traditionally lack a successful track record of finding employment and developing strong ties with employers, and they have been hardest hit by a sharp fall in employment since the 1990s. Many students with a low social background consequently become jobless via low- or middle-ranked schools.

With regard to the second pattern by which social class, influenced by lower-class culture, leads students to choose a certain future career path (lower-class culture → transition pattern to a certain educational path or workforce), many freeters also have siblings or parents engaged in non-regular work and this influences them to accept being jobless or to see the prospect of becoming a freeter as a natural choice. Intensive interviews with freeters carried out by Nagasu (2001) identified the following characteristics of these young people:

- 1) They are people who “work to live”: Work is merely a means to maintain their lifestyle and “money” is important to them. The white-collar work ethic that you only achieve your full potential through work is not easily understood by this group.
- 2) They tend to be focused on the “present.”
- 3) They are familiar with a “non-regular worker” model: Their siblings or parents are sometimes themselves engaged in non-regular work, and knowing these people makes them less reluctant to carry out such work themselves, even though they realize that it is unstable.

4. Conclusion

Despite the fact that Japanese society guarantees equal opportunity institutionally, by law, there is a social gap in terms of the future career path decisions made by high school graduates and jobless youths with a low social background. Changes in the nature of the transition from school to work have not affected all

young people in all social classes equally. It is those with a less privileged background that are most often derailed from a standard career transition path. They are pulled into the gap between school and workplace and squeezed out as jobless.

I would now like to suggest some measures to change these processes, limiting my comments to possible ways of providing support within the education system. Our survey determined that children's academic performance depends on the teacher's pedagogy (their overall teaching method) in the classroom and that different outcomes are achieved with students from different social backgrounds, even under the same teaching regime (Mimizuka et al., 2002). Decisions regarding lessons and curriculum, as well as the core teaching style used, have the potential to narrow the social gaps in academic ability and even in transition patterns. It is essential that in light of this educational assistance should be reviewed and go beyond just those issues raised at the end of the education process (such as career advice or support in finding employment) and that educational guidance and the curriculum should be looked at as a whole. All educational reform and educational assistance needs to take these issues into consideration⁸⁾. Above all else, it is important to discuss Japanese education policies from a "social-class perspective." This issue has been a taboo subject in Japanese society and this has diverted people's attention away from the real problems surrounding the issue. Careful observation and study is needed of those social gaps that affect children's academic achievement, education choice and transition patterns.

Examining the situation inside the school system, alone, cannot give a complete picture of all social policies relating to these problems. I hope that further discussion will be carried out through collaboration

with other disciplines.

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8) Refer to Mimizuka et al. (2002). Pedagogy is a concept that forms the core of an ideology put forward by Basil Bernstein, a British education sociologist, in which pedagogy can be roughly divided into two categories: "visible" and "invisible." Visible pedagogy represents traditional teaching and guidance and assessment methods. Its characteristics include a curriculum that strictly regulates course content and progression, textbook-focused and teacher-oriented lessons, and assessments based on clear criteria such as test results. The use of the word "visible" comes from the idea that students can clearly see the "reasons and objectives of their study." In "invisible" pedagogy, on the other hand, the teacher's intentions and assessment criteria are not so clear-cut. Its characteristics include transversal or cross-subjects in curriculum, children-centered lessons, and diverse and comprehensive assessments based on children's development through participation in a range of activities. Although some aspects of the educational reforms now seem to have been reversed, since the 1990s, the pedagogy involved has basically just shifted from the visible to the invisible.

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Adult Learning Theory in Japan

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Abstract

The research field of adult learning theory is a research field which has rapidly developed in this 6 or 7 years based on the accumulated research of social education practice analysis. For example, just checking the 3 years from 2003 to 2005, many books with a title including adult learning theory were published in succession. As the learning activities by the members of society who play active roles in the real world after school education, the needs for learning theory which supports their learning activities.

In this thesis, firstly the basic framework of adult learning theory (technical interest, practical interest and emancipatory interest) and their meanings to adult learning practice are introduced. Then, workshop theory and modern learning exercise theory are critically analyzed from a viewpoint of the emancipatory interest. Based on the above, the latest themes of today's adult learning theory, such as community of practice etc are introduced.

Key words: adult learning, technical interest, practical interest, emancipatory interest, Workshop, problem setting, reflection of practice, community of practice, Jürgen Habermas, Donald Schon

Introduction

In Japan there are tradition and accumulation of research, which is called as a 'social education practice analysis' including action research by Seiichi Miyahara, associated with practice. I even have an idea that it is about time when the research results of social education practice analysis achieve the contents enough to be introduced to overseas (Miwa, 2004). The research field of adult learning theory is a research field which has rapidly developed in this 6 or 7 years based on the accumulated research of social education practice analysis.

For example, just checking the 3 years from 2003 to 2005, many books with a title including adult learning theory were published in succession. They includes “Learning Theory of Lifelong Learning Society” written and edited by Suzuki and Nagai (2003), “For People Who Learn Lifelong Learning Theory” written and edited by Akao (2004), “Learning of Adults” edited by the Japan Society for the Study of Adult and Community Education (2004), “Learning of Adults and Organization of Lifelong Learning” edited by the Japan Society for the Study of Adult and Community Education (2004) and “Learning in Adulthood” by Merriam and Caffarella (2005).

It can be thought that the backgrounds for increasing interests for adult learning theory include the following facts. As the learning activities by the members of society who play active roles in the real world after school education, the needs for learning theory which

supports their learning activities. Especially, as the members of society begun to participate in formal school educations such as university and graduate school again with strong learning needs, there is an interest of a problem that the adult learning theory based on the conventional school education model seems to be not able to handle such need.

Then, what kinds of research themes are actively discussed in the research field of adult learning theory? This time I'd like to introduce the basic framework of adult learning theory in Europe based on the theory by J. Habermas. Next, I'll examine the issues discussed in adult learning theory by focusing on 2 points; workshop theory and modern learning exercise theory. Based on the above, I'd like to refer to the latest themes of today's adult learning theory 1).

1. Three Interests and Adult Learning Theory

In the adult learning theory in Europe, a classification of three interests including technical interest, practical interest, and emancipatory interest is often used increasingly by following J. Habermas as a framework for the foundation of research of learning theory. J. Mezirow, an American adult education researcher, used the concept of human interest propounded by Habermas as his theoretical framework for adult learning theory and even for adult education itself as it was. Here I'll explain the rough outline of three interests.

First, the technical interest originates in a desire to control the external natural environment and tries to

think things by causal links of cause and effect. Therefore, as a method of learning support, it studies how to produce better learning effects by deploying what sorts of education and tries to create the techniques and methods for that purpose. As a research method of learning theory, it actively tries to introduce a quantitative survey which is represented by a questionnaire survey. In the adult leaning theory the representative theory is a behavioral adult leaning theory (such as a computer aided teaching method) which tries to measure the behavioral change as a result of leaning by applying a stimulus of leaning.

Mezirow, Habermas and other researchers recognize the importance of the technical interest which has supported the development of natural science but harshly criticize the fact that it is applied to not only to natural environments but also, especially, to the fields related to human relations such as adult education and to the development of learning process and that it has begin to be considered by some people to be able to resolve anything.

Next the practical interest originates from the criticism for the technical interest like above. The practical interest has its foundation on the desire of human understanding which wants to understand others and wants to be understood by others. As for the human relations, it tends to value the mutual understanding (semantic understanding) through communication rather than causal links of cause and effect. Mezirow named a learning based on the practical interest as communicational learning.

The theory which represents the adult learning theory based on this practical interest is ‘andragogy’ (Knowles, 2002). Knowles shifted the focus from educators’ education program to adult learners’ leaning needs and described the whole concept of learner-centered adult education which values the learning needs of adult learners and their life experiences and uses the experiences as learning resources.

Habermas expresses a certain level of valuation to the practical interest, however, criticizes it because it is confined in the subjective interest within the framework of common cultures which can be understood each other and does not lead to the transformations of system and society. There are criticisms on Knowles’ andragogy even in the United States and Akao is developing his theory to criticize Knowles’ andragogy (Akao, 2004) in Japan, and these criticisms can be said same as above.

The third interest, or emancipatory interest, originates from the criticism for the practical interest. The emancipatory interest has its foundation on the desire to grow and develop further beyond the current situation. And it emphasizes to make critical reflections on the values of oneself and the society which forms oneself and uses a theory called critical theory as its research

method. Based on the interest in human itself, it has a vision to improve the social environment which surrounds oneself. In the adult learning theories, theories such as the problem-posing literacy education theory by P. Freire, adult leaning theory by J. Mezirow who is criticizing Knowles, and the viewpoint of feminist pedagogy represent the adult learning theory based on the emancipatory interest.

Both Habermas and Mezirow do not think that one of interests must be selected or the emancipatory interest is the best. They think all the three interests are useful interests for the development and leaning of human. However, what they emphasize is that everything of adult learning and adult education practice can not be understood with only the technical interest.

2. From Technical Interest to Practical Interest and Emancipatory Interest

When think of adult learning theory in Japan, empirical researches and quantitative researches such as questionnaire surveys in line with the technical interest are not popular. Hori’s education theory for elderly people (edited by Hori and Miwa, 2006) is one of few examples. When looking through the papers in “Learning of Adults” edited by the Japan Society for the Study of Adult and Community Education (2004), there is no paper based on a quantitative survey.

In other words, the research themes such as the intelligence researches, brainpower researches and development researches of adults, which are considered as important or natural in the adult learning theory in the United States, are massively researched and studied in each specialized field in Japan, however, the current situation can be said that these research results can not be fully subsumed into the adult learning theory or are not tried to be subsumed. I think the reason why the Japanese adult learning theory do not tries to introduce and subsume the research results of quantitative surveys is that it is based more on the practical interest and emancipatory interest than the technical interest. Therefore I also believe that we have to clarify our research interest.

Then, can we promote our confidence that our adult learning theory is free from the problems of the technical interest. Although such an aspect cannot be denied, the things do not go so simple for me. I’d like to take up the workshop theory which really looks like the practical theory and the modern leaning exercise theory which is thought to be based on the emancipatory interest, and I’ll try to examine the problems in them.

3. Workshop Theory and Modern Leaning Exercise Theory

Workshop is defined as “a style of learning and creation to learn or create something in a collaborative

manner in which a participant participate in and experience by oneself rather than a unidirectional knowledge transmission style such as a lecture” (Nakano, 2001).

Workshop is not a lecture style education activity in which a lecturer doesn't teaches directly but it can be said to be based on the practical interest on the point that it tries to value the voluntary learning of participants and mutual understanding and to emphasize the mutual understanding among the participants and collaborative learning. Workshop is utilized in activities such as art activities like play and dance, community building activities, in-house trainings, in-service trainings of school teachers, and environmental education, natural education and social education at schools, or all the fields of adult learning.

The reason why workshop is so popular is that it establishes the mutual understanding and relationship of mutual trust among people instead of the rigid education model. However, the learning in workshop requires the understanding that the technical interest and instrumental knowledge are hidden in the practical interest.

Cranton, a Canadian adult educator, pointed out that workshops have “a common characteristics that they are isolated from practice. These workshops usually planned before the leaders meet their participants” (Cranton, 2004). In workshop the participants are seemingly its main constituent, however the exercises of learning and their process are determined by its lectures and learning supporters in advance, and they are not applied in a flexible manner depending on the actual participants. If they are applied as originally scheduled, the interest of lectures and learning supporters is based on the technical interest.

To make a workshop meaningful, the lectures and learning supporters have to carefully explain the meaning to hold workshop to the participants and obtain their agreements. They also have to advance it by checking the actual conditions of participants regardless of the original schedule.

Next, what I have named as modern learning exercise theory has been a central concept in the learning theory and practical analysis theory of social education in Japan in the past and today. Because it sets its learning exercises and the problems to be solved and develops learning for solving, this can be said that it is based on not only the practical interest but also the emancipatory interest according to the fact that it has an extensity to be lead to further social reformation. However, it is necessary to confirm that the technical interest is hidden in it even though it puts the emancipatory interest at the forefront.

The learning exercises or learning theme in the 1960s mainly consisted of themes such as the transformation of agricultural village society and the urbanization. In

the 1970 s the themes such as antipollution were emphasized during the development of resident movement. Today, however, what is called as the modern learning exercises (health, women, elderly people & aging, declining birthrate, and globalization) become learning exercises. Although the learning exercises have changed depending on the changes in the times as mentioned above, the timeless common trend is that the learning of learning exercises to be solved is emphasized and the participants are required to aim to solve their learning exercises. It can also be said that the learning exercise theory is deeply rooted in the technical interest, because the most of exercises which are required to be solved and thus have to be learned are set by researchers or the planners of lectures in advance and the participants are required to solve the given learning exercises.

Secondly, if the interest is directed to exercise solving, the facts that the standard of evaluation becomes whether an exercise is solved how effectively and the viewpoints such as learning process and reflection of learning process could be neglected have to be noticed as persistence to the technical interest.

Both in the workshop theory and modern learning exercise theory, I think it is cleared that there are problems from the technical interest while they are based on the practical interest and emancipatory interest. I'd like to further examine the two questions (problem solving, insufficient reflection of practice) which I pointed out here in the next section.

4. From 'Problem-Solving' to 'Problem-Setting'

In the workshop theory and modern learning exercise theory which are the mainstream of adult education field, of course, it is not stated that experts or personnel set exercises. Instead, it is emphasized that the main constituents of learning are residents and citizens. However, when the main constituents of learning are residents and citizens, is the leaning theory which persist to the voluntary embracement and problem setting by residents and citizens deployed ?

Schon points out that the interest for the 'problem setting' itself rather than for the problem solving is necessary from the standpoint to criticize 'Technical Rationality'.

From the perspective of Technical Rationality, professional practice is a process of problem *solving*. Problems of choice or decision are solved through the selection, from available means, of the one best suited to established ends. But with the emphasis on problem solving, we ignore problem *setting*, the process by which we define the decision to be made, the ends to be achieved, the means which may be chosen. In real-world practice, problems do not

present themselves to the practitioner as given. They must be constructed from the materials of problematic situations which are puzzling, troubling, and uncertain (Schon, 2001, 39-49).

The perspective that the problem setting cannot be done only based on the technical interest is stated by Hiromu Matsushita who has deeply engaged in the deployment of health learning practice in Matsukawa-cho, Nagano.

The capability of problem solving voluntary as a leading character (which is acted by a learner) cannot be acquired through the method where he/she just solving problems. It may be one based on a capability which can precisely grasp the problem (or capability which can find out the problem) which must be solved by oneself. It is a capability to acquire the solving method through voluntary originality and ingenuity based on that (Matsushita, 1990, 54).

Although Matsushita emphasizes the learning “to grasp actual conditions” in the process to make “life emotions” (daily uneasy feeling, anxiety, displeasure, interrogation, etc.) as learning exercises, this emphasis is based on the importance of precise grasp of problems.

When considering from the perspectives of Schon and Matsushita, I think that the modern learning exercise theory has not carefully examined the ways how residents or citizens “set” problems jointly or voluntary. At least it has easily pronounced as learning problems mainly of residents and citizens.

5. Reflection of Practice and Community of Practice

I pointed out the insufficient reflection of practice as the second problem of the workshop theory and modern learning exercise theory.

The above mentioned process in which the ‘setting’ of modern learning exercise or theme is carried out by the participants of a lecture or local residents or citizens becomes an activity in which the participants jointly find out an exercise in a ambiguous practical situation where the conclusion cannot be seen soon while taking full advantage of something like intuition or artisan skill and then set it as a learning exercise, deploy its practice, and review the results jointly. The adult learning theory which places its focus of interest not on a rapid solving of learning exercise but on how carefully a modern learning exercise is set among participants or between participants and learning supporters and, as for the processes of learning and practice and the outcomes of learning and practice, in which the meaning of learned things and learning support is confirmed each

other among participants, between participants and learning supporters jointly, or among learning supporters rather than learning supporters ‘evaluate’ the learning outcomes can be said that it naturally accompanies a process to promote the reflection (review) of practice and the reflecting practice.

In addition to the reflection of learning and practice by a learner group, today’s adult learning theory promote the practice that considers the review of practice by learning supporters and personnel as an essential thing for competence formation of learning supporters and personnel (Kimata, 2004).

Now, in this paper I have described the achievement level and problems of adult learning theory in Japan as a criticism for easy commitment to workshop, from modern learning exercise theory to setting of learning, and the deployment of reflecting practice based on the adult education analysis theory in Europe.

The reflecting practice cannot be carried out only by an individual and it requires the peers of practice. As for peer making and community building to promote the reflecting practice, Schon points out the necessity of transformation of a rigid organization into a learning organization. Y. Engestrom similarly proposed the concept of expansive learning (1999) and E. Wenger also showed a viewpoint and framework to grasp a cooperative ‘community of practice’ in an organization and its development process (2003).

The adult learning theory takes the exercise setting and the reflecting practice among peers and in a community as important points of argument, and it deploys the accumulation of learning in there as a practical community, and finally it becomes a theory which leads to a way of organizational reformation (Yanagisawa, 2004, etc.).

- 1) The base of this thesis is written in Japanese. Kenji Miwa, “Some Perspectives of Adult Learning Theories in Japan” In, Katsumi Akao, “*For Learners of Lifelong Learning Theory*,” Sekaishissha, 2004.

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The Reform of the Long-Term Care Insurance Scheme in Japan

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Abstract

The purpose of this paper is to analyze the background and content of the reform of the Long-term Care Insurance (LTCI) scheme carried out by the Government based on the Reformed LTCI Law that was approved by the Diet in June 2005. This paper consists of three parts. The first part examines the achievements and problems of the LTCI scheme, paying special attention to a considerable number of unresolved problems that were identified when the policy discussion on this reform began in 2004. It also gives attention to the changes in the policy environments surrounding the LTIC scheme which produced strong pressure within the Government to contain the growth in the LTCI benefit expenditure. In the second part of this paper, basic characteristics of the reform of the LTIC scheme are analyzed in terms of the measures to contain its rising expenditure, the introduction of new service programs, the measures to improve the quality of care services and care management, reorganization of home care support centers, and the restructuring of the system of accreditation and regulation. The third part discusses the following four points concerning the significance and prospects of this reform: the significance and limitations of the new service program that have been introduced and the measures that have been taken to improve the quality of care; prospects for the effectiveness of ‘prevention-centered’ approach; prospects for the enlarged role of the municipalities; the problem of the financial sustainability of the LTCI scheme.

Key words: Long-term Care Insurance, reform, community care, financial sustainability, quality of care, ‘prevention-centered’ approach

Six years have elapsed since the launch of the Long-term Care Insurance (LTCI) scheme in Japan in April 2000¹. In accordance with an additional clause of the LTCI Law, the Government carried out a comprehensive review of this scheme during the fiscal year 2004; in February 2005, it introduced a bill to make a partial amendment to the LTCI Law in the Diet. The Diet approved this bill in June 2005. Some of the amended clauses came into force in June and October 2005, and the others in April 2006.

This paper aims to analyze the background and content of this reform and to assess its likely impacts on the development of long-term care services in Japan.

Achievements and problems of the LTCI Scheme

One of the main aims of the establishment of the LTCI scheme in Japan was to significantly increase the amount of the long-term care services, giving priority to community care services. This goal has certainly been achieved during the first five years of the implementation of this scheme. As shown in Table 1, the total amount of benefits for the LTCI scheme increased by 56.7 percent from the fiscal year 2000 to 2004. During this period, the proportion of benefits for community care services increased from 33.9 to 49.0 percent.

The significant shift in the benefit expenditure from institutional to community care services was enabled by a special arrangement in the LTCI scheme; as per this arrangement, the benefits for community care services are in principle entitlement benefits, while the provision of institutional care services is controlled by prefectures through the mechanism of the LTCI Support Plan.

With the launch of the LTCI scheme, restrictions of entry into the long-term care services market were considerably relaxed with the exception of three types of care facilities. As a result, the supply of long-term care services by profit-making agencies and new types of nonprofit agencies such as those run by “NPO corporations” (small-scale nonprofit organizations incorporated under the 1998 Law to Promote Specific Nonprofit Activities) increased substantially. Considering the case of home help services, it can be observed that, according to a national survey², 26 percent of the total number of service users were receiving services

1) See Campbell and Ikegami (2003) and Hiraoka (2001, 2005) for an analysis of the significance of the establishment of the LTCI scheme and its institutional design.

2) Survey of Care Service Institutions and Agencies conducted by the Division of Statistics and Information, Ministry of Health, Labor and Welfare in 2000.

Table 1 Monthly Average Amounts of LTCI Benefit Expenditure

	FY2000	FY2001	FY2002	FY2003	FY2004
1) Community Care Services (Billion Yen)	99.6	132.7	164.1	196.4	225.5
Index (FY2000=100)	100.0	133.2	164.8	197.2	226.4
2) Institutional Care Services (Billion Yen)	194.0	208.0	221.4	225.7	234.6
Index (FY2000=100)	100.0	107.2	114.1	116.3	120.9
3) Total (Billion Yen)	293.6	340.7	385.5	422.1	460.2
Index (FY2000=100)	100.0	116.0	131.3	143.8	156.7
Proportion of Benefits for Community Care Services 1)/3)	33.9	38.9	42.6	46.5	49.0

Source: Ministry of Health, Labor and Welfare, Annual Report of the LTCI program (in Japanese) (<http://www.mhlw.go.jp/topics/kaigo/osirase/jigyo/03/dl/1.pdf>, 2006.5.28)

Table 2 Number of Group Homes for the Demented Elderly

	Number
2000. 3	266
2000.10	675
2001.10	1,273
2002.10	2,210
2003.10	3,665
2004.10	5,449

Source: Ministry of Health, Labor and Welfare, Report of the 2004 Survey of the Long-term Care Facilities and Agencies (in Japanese), 2006.

from profit-making agencies in October 2000—six months after the commencement of this new scheme. On the other hand, prior to the commencement of this scheme, the provision of these services had been virtually monopolized by the municipalities and “social welfare corporations” (governmentally approved and legally recognized nonprofit organizations authorized to provide institutional and community care services).

It is also interesting to observe how the establishment of this new scheme changed the attitudes of Japanese citizens towards the utilization of long-term care services. Nowadays, long-term care services are considered to be an essential element in the later years of their lives. Ten or twenty years ago, such an attitude was inconceivable to most Japanese³.

In connection with this change in attitude, there has been a considerable progress in the development of new community care programs in Japan. As shown in Table 2, the number of group homes for demented aged individuals increased from 266 in March 2000 to 5,449 in October 2004. Further, as a result of the expansion of formal care services, voluntary activities and service provision by citizens’ groups have increased rather than decreased. There has also been a growing recognition

on the part of the government policy-makers and experts in aged care of the urgent requirement for the development and the implementation of systematic programs of high-quality care for the demented elderly and preventive services for the mildly disabled elderly.

The establishment of the LTCI scheme did not cause grave repercussions in the field of long-term care, nor did it lead to the exclusion of low-income aged persons from using long-term care services or the serious abuse of the frail elderly by profit-making agencies, as was claimed by hard-line opponents of the LTCI scheme during its policy-making process⁴. However, when the policy discussion on the reform of this scheme began in 2004, a considerable number of unresolved problems were identified. The detailed examination of these problems is beyond the scope of this brief paper. We only wish to list these problems⁵ as follows: the existence of considerably long waiting lists for admission into care facilities; defects in the quality of care, particularly in group homes for the demented elderly, the number of which has rapidly increased; the shortage of skilled and experienced care managers; the lack of an effective mechanism of coordination and liaison among different care agencies and professionals; decline in the planning and coordinating function of municipalities; increase in the improper claim of benefits by profit-making agencies.

In general, the expansion of long-term care services and the resultant growth in benefit expenditures were regarded as an indicator of the “success” of the LTCI scheme in the first few years of its implementation.

3) See Hiraoka (2005) for an analysis of the development of long-term care services in Japan in the 1990s and the changes in the attitudes of Japanese citizens towards the formal and informal care of the aged persons.

4) See Campbell (2002), Eto (2000, 2001) for an analysis of the policy-making process of the LTCI scheme.

5) See Hiraoka (2005) for an analysis of these problems.

However, it gradually came to be considered as a “problem” after a revision of the LTCI premiums on a national scale in April 2003 that resulted in national average premiums rising by approximately 13 percent. An increasing number of mayors of municipalities who were responsible for the management of the LTCI scheme began to covet the power to control the amount of services provided to their senior residents through care agencies, so as to be able to contain the growth of LTCI benefit expenditures. With the aim of realizing a “small government” and facilitating the reconstruction of the state finance, the Council on Economic and Fiscal Policy in the Cabinet Office and the Financial System Council in the Ministry of Finance recommended that the reform of the LTCI be carried out in order to contain its rising benefit expenditure. By the time the LTCI Subcommittee of the Social Security Council in the Ministry of Health, Labor and Welfare (MHLW) published its report on the reform the LTCI in July 2004, strong pressures were exerted on the policy-makers in the MHLW to include effective measures for containing the benefit expenditure in the LTCI reform plan.

Characteristics of the reform of the LTCI scheme

The contents of the reform of the LTCI scheme are multi-faceted and fairly complex, and therefore cannot be examined in detail here. We will only enter into a brief discussion of the basic characteristics of this reform.

The most important feature of this reform is the following measures that are to be implemented to contain the rising benefit expenditure: increase in user charges in institutional care services, the introduction of a control mechanism of the amount of care services for some community care services, the reorganization and expansion of “preventive” services, targeting service provision to the moderately or severely disabled elderly.

To avail themselves of institutional care services, users are obliged to incur the total “hotel costs” (accommodation fee) and food expenses in addition to the costs of the care services. Municipalities now have authorities to control the amount of some community care services including group homes for the demented elderly. Tight restrictions are now imposed on the use of community care services by the mildly disabled elderly. Alternatively, they are encouraged to utilize preventive service programs, which include newly introduced programs such as nutrition guidance, oral hygiene management, and athletic training specifically designed for the frail elderly.

However, the containment of the benefit expenditure is not the sole aim of this reform. New service

programs such as small-scale geriatric health care facilities, nighttime home care service, and “small-scale multi-functional home care”⁶ were incorporated into the LTCI scheme.

A new schedule of the payment of remuneration to care agencies was introduced for some services, whereby the amount of remuneration varies with the quality of care (judged by objective criteria such as staff-client ratio, proportion of qualified staff, etc.) provided.

Measures to solve some of the abovementioned problems involved in the LTCI schemes were also introduced.

First, all the care agencies are now obliged to disclose information specified by the government on the contents of the services they provide and their organizational management. It is expected that the disclosure of appropriate information will help the service consumer in choosing the most appropriate providers, thereby contributing to the overall improvement in the quality of long-term care services.

Second, several measures were taken to improve the quality of care management. The standard caseload was reduced from 50 to 35. Care managers are now obliged to hold a multi-agency care conference for drawing up individual care plans. In addition, care management agencies are now obliged to provide training for their care managers.

Third, home care support centers were to be reorganized into “community total care support centers,” the functions of which include guidance and support for care managers working for care management agencies and the management of preventive care services in addition to the provision of information and support to service users. Furthermore, municipalities are expected to play a central role in the establishment and management of a “community total care support system,” the core of which is community total care support centers.

Fourth, for nine types of community care services that were categorized as “locally based services,” the authorities responsible for accrediting and regulating the care agencies and setting the schedule of remunerations for these agencies were transferred from the central government or prefectures to the municipalities. This measure is expected to facilitate an improvement in the planning and coordination functions of the municipalities.

Fifth, in order to exclude corrupt care agencies, the regulatory power of municipalities was strengthened. In addition, all the accredited agencies are now obliged to apply for the renewal of their accreditation every six years.

6) Combination of home help, day care, and flexible short-stay service.

Significance and prospects of this reform

With regard to the significance and prospects of this reform, we would like to discuss four points.

First, it is noteworthy that several new service programs and measures for the improvement in the quality of care were introduced into the LTCI scheme. This is particularly because the reorganization of the system of service provision at the time of the launch of the LTCI scheme was mainly concerned with the expansion of service provision through the deregulation of the long-term care services market and the improvements in the procedure of service utilization. Consequently, the government did not pay sufficient attention to the creation of new service programs and the implementation of measures for improving the quality of care services.

However, in order to establish a new, upgraded system of service provision that is comparable to that identified with Scandinavian countries, more effective measures need to be taken to increase the supply of accommodation designed specifically for the aged and the replacement of large-scale care institutions by smaller ones. This issue was not addressed by this reform.

Second, it is not easy to predict the extent to which a “prevention”-centered approach will achieve its goal of reducing the needs of long-term care services because there is not necessarily concrete research evidence on the effectiveness of these preventive services. Some of these services had originally been provided within the framework of “the geriatric health care” and other programs funded by the central and local governments and were transferred to the LTCI scheme with the amendment of the LTCI Law. Therefore, if these services will not prove to be more cost-effective under this new arrangement, the government may well be criticized for having carried out a reform merely to shift the costs of these services from the public purse to the insured.

Third, it is also important to note that the central government has come to a new understanding of the central role that municipalities play in the planning and coordination of long-term care services. Most of the municipalities have welcomed the transfer of authorities responsible for regulating care agencies and controlling the amount of services and will attempt to exercise the transfer of these authorities effectively. However, the extent to which municipalities will actively engage in the improvement of the functioning of the “community total care support system” through strengthened support for care managers, closer links with local citizens’ groups, and coordinating among care agencies yet remains to be seen.

Finally, it is debatable whether this reform has greatly enhanced the mid- and long-term financial

sustainability of the LTCI scheme. As mentioned earlier, various measures were taken in this reform to contain the benefit expenditure. The MHLW has maintained that if these measures are effectively implemented, the municipalities will be able to curb the future increase in the LTCI premiums to a considerable extent. The Ministry has predicted that if this reform will be successfully implemented, the national average monthly amount of LTCI premiums imposed upon the aged will rise from 3,300 yen in the years 2003-2005 to only 4,990-5,200 yen in the years 2012-2014, whereas in the absence of reforms, it will rise to 6,000 yen. However, it is doubtful that the aged can afford to pay this amount, given the government plan to further reduce pension benefits and impose higher insurance premiums for medical care.

In the policy-making process of this reform, the Ministry of Health, Labor and Welfare planned to reduce the lower age limit of the insured from 40 to 20 (or 30) and to thereby integrate the system of care services for adult handicapped persons into the LTCI scheme. This was regarded as the most effective method to enhance the financial sustainability of the LTCI scheme. However, the ministry was unable to gain the support of the cabinet and the ruling parties for this plan. Politicians in the ruling parties, business leaders, and neoliberal economists were opposed to the imposition of any new levies upon the younger generation and an increase in the burden imposed on enterprises. Some sectors of the disability lobby were also opposed to this plan for fear that the level of care services provided for the severely disabled persons might be reduced if these services were integrated into the LTCI scheme.

* An earlier version of this paper was presented on 1 June, 2006 at the International Federation on Ageing (IFA) 8th Global Conference held at the Bella Center, in Copenhagen, Denmark.

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