

JAPANESE PARENTS' PERCEPTIONS
ABOUT CHILDREN'S MEDICAL PLAY

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Master of Science

by
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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

JAPANESE PARENTS' PERCEPTIONS
ABOUT CHILDREN'S MEDICAL PLAY

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and hereby certify that, in their opinion, it is worthy of acceptance.

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Abstract

Japanese parents' beliefs about medical play, one form of therapeutic play in healthcare settings, were examined. Mothers of 2- to 5-year-old children were recruited and asked to answer yes-no and open-ended questions about two medical play scenarios as well as questions regarding normative play among young children. Qualitative content analysis was used in analyzing the data. The results revealed that all mothers thought normative play was helpful for young children's learning and development. It was common for parents to believe medical play is not helpful because it reminds children of negative feelings such as pain and fear related to immunization. Cultural implications regarding mothers' answers and the limitations of the study are discussed.

Keywords: medical play, Japanese mothers' beliefs, beliefs about play

Japanese Parents' Perceptions about Children's Medical Play

Child life programs have developed in health care settings in North America to meet the psychosocial needs of children and teens during medical experiences. Child life specialists utilize therapeutic activities and play to provide opportunities to maximize development, to promote understanding of health care situations and coping, and to engage children and teens in self-expression (Hart & Rollin, 2011; Jessee & Gaynard, 2009; Koller, 2008; Oremland & Oremland, 2000). In recent years, child life programs have been rapidly expanding to countries such as Kuwait, Japan, Singapore, and the Philippines (Child Life Council, 2012).

One of the countries that is embracing child life is Japan. The first Japanese child life program started in 1999 and currently 25 programs are in operation (M. Aiyoshi, personal communication, February 10, 2012).

The growing number of child life programs in Japan may indicate the acceptance of play-based support programming for children in health care settings. It may be useful to study Japanese parents' beliefs regarding the role of play in influencing child development and well-being in healthcare settings. Knowledge about parent beliefs may help health care practitioners (including child life specialists) adapt their practices in culturally specific ways. Parents' beliefs about play have been found to vary across cultures and to influence their involvement in their children's play (Damast, Tamis-LeMonda & Bornstein, 1996; Parmar, Harkness & Super, 2004). The current study examined Japanese parents' views and opinions regarding the effects of play on child development. The focus was on parents' opinions about medical play, which is play that relates to children's health care experiences.

Medical Play and Adults' Reaction to Play in Health Care Settings

Child life professionals emphasize the use of activities and therapeutic play that help children master developmental milestones and critical life events such as hospitalizations (Koller, 2008; Oremland & Oremland, 2000). One of the forms of therapeutic play that child life specialists utilize to promote coping with health care encounters is called medical play or health care play. This is structured or unstructured play involving the use of real or toy medical materials often specific to a child's medical experience. Individual or group medical play sessions are seen by child life professionals as opportunities for children to 1) express their thoughts, feelings and concerns, 2) become more familiar and comfortable with medical equipment and procedure, 3) increase their understanding of health care experiences, 4) learn and practice new ways of coping with distressing or painful experiences, and 5) reenact health care experiences (Gaynard et al., 1998).

Nevertheless, Jessee and Gaynard (2009) observed that adults in North American “often view children's play in traumatic situations as inappropriate or unnecessary” (p.136). Lane and Mistrett (2008) similarly note that some parents and caregivers may unconsciously act to create barriers to play due to their concerns about safety; their perceptions of their child's disabilities, illnesses, or injuries; or their lack of experience in playing with children with disabilities or health care needs. Kielhofner, Barris, Bauer, Schoestock, and Walker (1983) observed that when engaging in play with their children in the hospital, parents were less comfortable and not as spontaneous as they were at home. This phenomenon might also be common in Japan.

Parental involvement in children's play in the hospital may have a positive effect on children, especially those who are around 2 to 4 years old. Tisza, Hurwitz, and Angoff (1970) found that adults' presence helped to change children's affect and increase the complexity of their play during the first three days of hospitalization. In another study in the hospital setting, the developmental level of children's play was greater when adult caregivers were participating than when they were present but passive (Kielhofner et al., 1983). However, the effects of parental involvement specifically during medical play have not been explored. Though it is usually recommended that trained professionals implement this type of play so that they can react to children's needs, professionals are encouraged to have parents' approval about engaging children in medical play, which helps children to participate comfortably (Petrillo & Sanger, 1980).

Parents' acceptance and approval of medical play may be partly rooted in their beliefs about the meaning of children's play. Similar activities such as those involved in the Teddy Bear Project, where children use real medical equipment on stuffed animals to learn about health and visits to the doctors, has been also implemented by medical students in Japan (Yamaoka, Tamiya & Takeshita, 2009). Increasing use of medical play might have influence on parents' opinions. So that Japanese professionals can support parents' understanding and involvement in play and care for children in healthcare settings, it would be helpful for them to know more about Japanese parents' overall beliefs about the effects of play on child emotional well-being in health care settings. The current study explored such ideas among Japanese parents.

Beliefs about Play

Research indicates that adults' assumptions and beliefs about children's development are culture-bound (Parmer, Harkness & Super, 2004). Moreover, adults' assumptions are related to the ways they manage play and children's play behaviors (Parmer, Harkness & Super, 2004; Partham, 2004). After reanalyzing children's play data from the *Six Cultures* study, Edwards (2000) argued that cultural norms and opportunities influenced children's play through their influence on parents' beliefs about whether play is a good use of children's time and whether adults should encourage work versus play.

In another study, Holloway, Rambaud, Fuller, & Eggers-Pierola (1995) asked low-income single mothers of preschoolers to express their thoughts about child development, mothers' roles in childrearing and appropriate practice at home to prepare children for schooling. Many recognized the emotional and physical benefits of play, although some of them did not see play as being related to learning and emphasized school-like learning opportunities as more important. The mothers' answers also revealed that they were willing to incorporate the information child care professionals provided into their views and tried to implement some of the ways practitioners taught children (Holloway et al., 1995).

Similarly, Folge and Mendez (2006) examined Head Start African American mothers' beliefs about child play. On a self-report rating scale, the mothers indicated a generally positive view of play and appreciation of its significance for child development. One of the study's findings suggested parents with higher education levels tended to have more positive and supportive beliefs about play and those with lower education levels tended to hold beliefs valuing the effectiveness of didactic instruction. Folge and Mendez

suggested that the child's enrollment in Head Start, which provided exposure to the child-centered approach, might have had an effect on the mothers' positive views about children's play. One of the strengths of interviewing parents and self-reports is that speculation about their beliefs and ideas can be avoided. The mothers' answers contributed to the understanding that not only their own cultural background, but also child care professionals' input and mothers' education influenced their opinions and behaviors.

Research on the childrearing ideas of professional caregivers in Japan is also instructive. Tobin, Hsueh, and Karasawa (2009) demonstrated through a cross-cultural ethnographic study of preschools in China, Japan, and the U.S. how adults' beliefs about child development and human nature dictate preschool routines, including how and when play occurs. Interviews with early childhood educators and other informants in Japan indicated that they prioritized social and emotional development over academic preparation in preschool programming, and that they believed that play opportunities in groups are more valuable than individual activities. In order to promote children's social problem-solving skills, teachers were less involved in children's conflicts and class sizes were larger than in the U.S. Unstructured play was greatly encouraged. Although the study has its limitations in that it did not include all the variations of preschool programming in Japan, it suggests that professional caregivers' beliefs about children's play have an important role in determining how they set up environments to facilitate certain types of play.

Past research has thus revealed that parents' and professionals' beliefs about play reflect their culture and experiences. The present study was designed to explore beliefs

about children's medical play among parents in Japan. Child life programming is still new in Japan and Japanese parents' views about medical play in health care settings have not been examined. My results might be able to suggest ways to explain to parents that children are helped through play opportunities in health care settings.

Method

Participants

The current study recruited Japanese parents of 2 to 5-year-old children by accessing five online social network parent support groups and by distributing flyers to parents of children in two child care centers. A Japanese social networking site, mixi (<http://mixi.jp>), hosts many parent community groups. I randomly chose five of them. The groups' names and their number of members were as follows: 1) Kosodate wo toushite seichosuru oya no kai (the group of parents who learn through childrearing), 18,129 members, 2) Funabashi de kosodate (the group of parents in Funabashi city), 1,876 members, 3) Yashiro de kosodate (the group of parents in Yashiro city), 289 members, 4) Kobe, Higashinada, Hyogo ku, Kosodate no kai (In Kobe, Higashinada, & Hyogo area, a group of parents), 1577 members, and 5) Wako de kosodate (the group of parents in Wako city), 797 members. Mixi, Inc. was contacted regarding the study and they did not object as long as their rules and guidelines were followed. The permissions of the five groups' organizers were also obtained. The link to my survey and the purpose of the study were posted on these five parent support groups' bulletin boards to introduce the study. The link was: <http://www.surverymonkey.com/s/5QHKRF6>.

The flyers about the study were distributed to parents of children who are enrolling in Notre Dame Seishin Daigaku Yochien (Notre Dame Seishin University

affiliated preschool) and Kousai Hoikuen (Kousai childcare center). The number of children age three to five at Notre Dame Seishin Daigaku Yochien was approximately 160. The number of children age two to five at Kousai Hoikuen was about 100.

Twenty-six Japanese mothers who had at least one child whose age was 2 to 5 years old ($M = 3.6$, $SD = 1.12$) answered the questions completely or partially. Six mothers' and two fathers' answers were excluded from the data analysis because they did not answer key questions; scenario 1, 2 and question 3. The mothers' ages ranged from 27 to 42 ($M = 32.84$, $SD = 3.74$). The majority of participants ($n = 21$ or 80.8%) graduated from a college or university. Three mothers graduated from high school, one graduated from middle school, and another did not specify educational background. Half of the children of participating mothers attended part-day preschool programs (Yochien), whereas 34.6% of children attended full-day child care programs (Hoikuen). Six children of participating mothers had experienced hospitalization in the past. Most of the mothers ($n = 21$, 80.8%) learned about the survey through the social networking site, Mixi Inc., and 5 mothers were recruited through preschool and child care programs (Table 1).

Procedures

When the parents from the online support group and childcare centers went to the survey website on the SurveyMonkey, they first saw the purpose of the study. This statement explained that their answers would be collected in order to obtain better understanding of parents' thoughts on play in healthcare settings. The survey was open for between two weeks to four weeks. Parents of children aged 2 to 5 who decided to participate in the study accessed the questions by clicking a link on this page. They answered my questions by checking off survey boxes and writing their answers to open-

ended questions. All information for parents, including all questions, was translated to Japanese and then back-translated to English to see the consistency of content across the two languages. The back-translator was a Japanese certified child life specialist who is fluent in both Japanese and English and lives in the United States. Japanese translation was corrected until no difference was found by back-translation.

Respondents' ages, their children's ages, their relationship to the child, their education, child care arrangements, the child's experience of hospitalization, and how they learned about the study were collected. Two specific scenarios, each describing a medical play idea for children with health care needs, and a question about the value of play in general followed the demographic questions. Respondents were encouraged to express all their thoughts.

The first medical-play-related scenario and questions were as follows: "Shiho is a 4-year-old girl who fell and broke her leg yesterday. She got a cast on her left leg and needs to be in the hospital for another 3 days. She is scared, but her pain is under control. One of her nurses would like to help her by creating a cast on her doll with small casting materials and then letting her play with the doll. What do you think about this idea? Do you think it is a good idea for Shiho to play with the doll that has a cast and why?" Participants were asked to choose either "yes," "no," or "I don't know." They were also encouraged to provide their reason for thinking so.

The second scenario involved immunization. The scenario and the question were as follows: "Kenji is a 5-year-old boy. Today, he will get an immunization shot at his doctor's office. About a couple months ago, he had a flu shot and he remembers that it hurt and he cried. The nursing staff at the doctor's office is planning to play with him

with a doll and a needleless syringe before the next immunization so that he will be more comfortable with it. What do you think about this idea? Do you think it would be helpful for him?" The participants again were able to choose their answers from "yes," "no," or "I don't know." There was a space for respondents to explain their reasoning.

The final question targeted parents' general beliefs about play. It posed a question, "Does play contribute to young children's development? Why?" For the first of these questions, participants chose from "yes," "no," or "I don't know." The question "why?" asked parents to provide their reasons for their answers.

Analysis

The responses of parents were analyzed using a qualitative content analysis process. An inductive approach to content analysis is recommended when there is little knowledge about a phenomenon (Elo & Kyngas, 2008). Parents' thoughts about medical play have not been studied.

Parents' responses were analyzed and organized using open coding followed by simple and then more abstract category creation to make sense of the data (Elo & Kyngas, 2008). First, responses were carefully read through by the author several times in order to get an understanding of the materials. Second, meaning units, which could be sentences, or words, were highlighted from each person's response. The meaning units were then coded. For example, one of the mothers who answered that medical play for the girl with a cast would be helpful explained, "Shiho (the girl with a cast) would hold and comfort the doll. We might expect that it might make her realize the cast is not so scary." This meaning unit was coded as, "taking the caregiver's role" and "child would understand the situation better."

As meaning units were identified, they were compared with each other to determine if they should be coded in the same category as a previously identified meaning unit. For instance, another mother's comment, "The fear towards her cast might decrease when she becomes the one putting on the cast," was also coded as "taking a caregiver's role" and "child would understand the situation better," which matched the prior example. Next, a more abstract and inclusive category was created, which I called "the reversed role, taking care of the doll, helps child understand the situation better."

Finally, such overarching categories within the same answer were compared with each other to see if they made sense together as a theme. One group of mothers mentioned that "the doll in the same situation as the girl would help her understand," which became a category. When combined with the other category mentioned above, a theme, "playing with the doll will facilitate children's understanding of their own situation and treatment," was formed. Some categories didn't create larger categories, such as mothers' answers supporting medical play with the doll and reasoning that "the doll can make the girl feel she is not alone." All the responses from Japanese mothers, codes, subcategories and categories were read and checked by a Japanese certified child life specialist to see whether these items are appropriately sorted and make sense as categories. Disagreements were resolved by discussion.

Results

Question 1: Scenario 1

The mothers expressed mixed opinions regarding the case about a girl with a cast. Twelve mothers (46.2%) checked "Yes, it is a good idea," thus showing support for the idea of using a doll with a cast (Figure 1). These mothers wrote that they thought the doll

would help children problem-solve to understand the possible causes of their stress. Their responses fell into three categories: (a) the reversed role, taking care of the doll, helps the girl to understand better (n = 5, 19.2%), (b) creating the same situation helps her to understand it better (n = 3, 11.5%), and (c) the doll as a companion (n = 2, 7.7%). The first two categories have in common a theme that playing with the doll will facilitate children's understanding of their own situation and treatment. The last category involved the idea that the doll will make the girl feel she is not alone. One of the mothers did not leave a comment.

On the other hand, nine mothers (34.6%) expressed their disapproval by checking "no, it is not a good idea (Figure 1)." The majority of the mothers who did not think that the medical play would be helpful referred to negative emotions they thought the child would recall or feel due to the play. Mothers mentioned either (a) the possibility that the child would recall the pain and fear associated with the injury (n = 2, 7.7%), or (b) feel uncomfortable about injuring the doll or having a doll with an injury (n = 4, 15.4%). For instance, one mother answered that the girl would not want to heal if she had a doll with the same problem. The other category that emerged was in regard to the appropriateness of using medical equipment for play: A cast is not a toy (n = 2, 7.7%). Another mother didn't provide her reason.

Five mothers (19.2%) answered that they did not know if it was a good idea for a child to play with a doll with a cast (Figure 1). One of them checked "I don't know," but indicated in her note that the doll might be helpful in understanding the situation. It can be assumed that she was not sure. Another parent thought the child might get too

comfortable with the cast and might take off her own cast. The others provided no explanation.

Question 2: Scenario 2

In response to Scenario 2, in which medical play related to immunization, two mothers (7.7%) checked “yes, it will be helpful” to the question asking whether or not the medical play with a needless syringe and a doll would be helpful (Figure 2). One thought that the play would be helpful for him to understand the situation better. Another mother answered based on her own experience when her child was encouraged to use a syringe with her drink; her child has shown less fear after that.

Fourteen mothers answered that this type of play would not be helpful. Nine mothers checked “I don’t know.” Among the mothers who answered either “no” or “I don’t know,” the majority voiced doubts about the effectiveness of medical play with a syringe. These two groups of mothers accounted for 53.8% and 34.6% of the sample, respectively (Figure 2). Their written responses were analyzed together due to the similar tone of their answers. The responses fell into three categories: (a) not helpful to increase his understanding (n = 4, 15.4%), (b) the play experience would make children know or recall feelings related to the injections (n = 7, 26.9%), and (c) having a doll get a shot would be useless because it would not diminish the pain of the shot (n = 3, 11.5%). Parents, who answered that this type of play will not help the boy to further understand the situation, reasoned that there is too big a difference between a child’s real experience with shots and a doll’s. Many responses in the second category (about discomfort) highlighted that this type of play might provoke uncomfortable memories or feelings such

as fear and pain. Others stated that the pain level of the actual shot would stay the same even if children observed and played with the doll got a shot.

Seven mothers (26.9%) across the answers added their own ideas about what works to decrease children's fear and anxiety. This became an additional category: own ideas work better. Two mothers stated the medical play might work when facilitated at other times. Four mothers thought explaining to the child the reason to have immunization injections is more effective. For example, a mother wrote "it is rather helpful for a 5-year-old to know why a shot is necessary although it hurts." Using a book, explaining verbally multiple times, and using a doll that has the illness that the immunization targets were examples of methods mentioned by these mothers.

The issue of appropriateness of medical equipment use in a play session was also brought up in response to this scenario (n = 3, 11.5%). One of three mothers who thought that a syringe was not appropriate for play also commented that an index finger to pretend like a syringe would be a better way to show the child how the doll get an injection. One mother did not answer at all.

Question 3: Play

All 25 mothers answered this question responded "yes" to the question, "Does play contribute to young children's development?" The responses fell into two categories. The first one is observation of learning and the second is awareness of play's contribution to one or more developmental domains. In the first category, five mothers (19.2%) emphasized how much children learn from different types of play, but no elaboration was given on what children learn or how the learning helps their development.

The other 20 mothers (76.9%) mentioned one or more developmental domains when discussing how play helps children grow. These could be divided into four subcategories: (a) play promotes cognitive development, (b) play promotes/involves social skills, (c) play promotes physical development, and (d) play promotes emotional development and psychological wellness. Seven mothers mentioned multiple developmental domains within the above subcategories, whereas six responses were limited to a single area of development. Eight mothers mentioned children's learning and skill related to cognitive development. Seven mothers wrote that social skills are needed for play and will be maximized through play activities. Five mothers commented that play benefits physical growth. Five mothers wrote that play has effects on psychological wellness or emotional development. Among them, three respondents mainly wrote that children's motivation was increased by play opportunities. One mother who had an experience in health care settings with her child indicated that play had helped her child to sort out feelings brought up through his or her medical experiences.

The other mothers responded with a variety of beliefs that did not belong to any of the above categories. They conceptualized play as opportunities for children to adapt their previous learning, or to gain stimuli (for development). Another mother did not provide a comment.

Answers across the Scenarios 1 and 2

The mothers' answers across the first and second scenarios were explored to identify whether or not answers were consistent across situations. The mothers who answered, "Yes, it is a good idea," to Scenario 1, about a girl with a cast, were likely to respond "no" (n = 4) or "I don't know" (n = 6) to the medical play idea for Scenario 2,

about immunization. Most mothers who didn't agree with the medical play idea in the first scenario did not support the medical idea for the immunization case either (n = 5). The mothers who answered "I don't know" about medical play idea in the first story tended to respond with "no" to the medical idea to the second immunization story (n = 4) (Table 2). Thus, mothers who did not support medical play in the first scenario were consistent in that they also did not support it in the second. In contrast, mothers who did support medical play with the case tended to be inconsistent in that they did not feel this ways about medical play regarding an inoculation.

Children's Hospitalization and Mothers' Responses

Table 3 divides the yes/no responses to Scenarios 1 and 2 by whether or not their children had ever had a hospitalization experience. The mother's experience taking care of their children in the hospital in the past did not seem to have huge impact on their opinion toward medical play. Most mothers should have assisted their children with immunization also. It is apparent that most parents did not seem to support the idea of playing a doll with a syringe regardless the past medical encounters.

Discussion

The aim of this study was to gain knowledge about Japanese parents' opinions regarding medical play in healthcare settings. The mothers who participated in the study expressed various opinions about medical play. Their beliefs are valuable to know because they may be used in the design of new surveys measuring parents' beliefs regarding the effects of medical play.

Among the answers from parents, some similarities were found in responses across the two vignettes. Responses to the first medical play scenario, in which a child

with a broken leg is offered a doll and casting materials, generally indicated that parents were supportive of the idea that medical play allows children to learn about health care situations. In regards to normative play activities, mothers considered play as opportunities for children to grow and develop their skills. In response to the third question (“Does play contribute to young children’s development?”), many mothers described benefits for children’s understanding of medical situations.

In response to the first and second scenarios, 34.6% and 53.8% of the mothers, respectively, checked “no” – indicating that they thought that medical play would not be helpful. Some of these parents explained that they thought that children remember difficult experiences and emotions such as pain and fear and these feelings would be provoked during medical play. Almost 35% of the mothers who responded, “I don’t know whether medical play is helpful,” in response to the second scenario also expressed doubts about medical play. Most seemed to be reluctant or afraid to engage children in this type of play, especially when it involves injection. The benefits of emotional expression or emotional development through play were not discussed much in responses to the third question (“Does play contribute to young children's development?"). Only one parent observed that her child tried to understand her own feelings related to health care experience through playing.

Petrillo and Sangers (1980) pointed out that many parents fear that medical play will stir up children’s feelings. This fear was also manifested in some Japanese parents’ responses in the current study. Petrillo and Sangers proposed that professionals can decrease this parents’ fear by explaining clearly that this type of play is a way of helping

children lessen fears. It gets children familiar with medical tools and provides children with appropriate ways to cope with their feelings.

Cultural practices and values might also have affected how the mothers responded to these scenarios. Tobin et al. (2009) explained that in Japanese everyday theories of interpersonal communication, it is the listeners' responsibility to intuit the unexpressed feelings and thoughts of others. They also suggested that children are not particularly encouraged to express feelings at childcare or in preschools. It follows that the mothers in this study might have felt uncomfortable sensing the fear of the children in these stories and showed empathy by saying that they want to avoid children's reactions to the situations. Secondly, parents might not have thought about emotional expressions through medical play as necessary because emotional expression is not particularly encouraged in Japanese society. The ways Japanese children and adults express and communicate their feelings differ from those in the United States and need to be carefully explored further.

Interestingly, a few parents pointed out that engaging their children in medical play will not be helpful because the physical pain from the injection will stay as painful as it is. Their focus may be more on physical pain rather than psychological fear that the injections may cause. Their concerns are valid and both physical and psychological pains need to be addressed for better coping. The therapeutic intervention, medical play, is designed to address psychological coping related to medical experiences. Professionals may need to specifically explain about psychological effects of medical procedures and benefits of play for children's current and later coping. It is important to note that, often, child life professionals are able to provide tools to minimize physical pain or perception

of pain-related procedures with procedural support, which should be explained to parents also.

Some parents thought medical equipment are not appropriate for children to play with. This was commonly found in the responses to both scenarios, but it was especially the case in regards to the needle-less syringe. Parents were concerned that children might misunderstand or misuse the tools, or that the tools cost too much to be used as children's play materials. The word "play" may have affected their answers. They may have felt medical "play" cannot be a serious session and these medical items are not something to "play" with. Another hypothetical reason about this response is related to cultural value. Japanese culture embraces a concept of "Mottainai," which is a "sense of regret concerning waste when the intrinsic value of an object or resource is not properly utilized" (Daijirin Japanese Dictionary, 2006). Japanese mothers may have thought medical items have to be used for their original purpose only, and not for children's play. This opinion is interesting to further investigate. Utilizing toy medical equipment as substitute may ease their concerns. Furthermore, explaining the safety rules and procedures child life programs adhere to may reassure parents that medical play with real or toy tools will allow children to manipulate them safely.

Parents' comments and alternative ideas to help children cope with medical procedures suggest that some parents are willing to support young children who are dealing with health care experiences. Although mothers expressed reluctance about engaging children in medical play, they did recognize that play benefits children's learning. Murata and Fujiwara (2009) asked Japanese parents whose preschool-age children have experienced hospitalization about their impressions about children's

general play and experience in the hospitals. They did not ask about medical play. Responses revealed parents' strong support for normative play and activities during hospitalization. Parents expressed concerns regarding the lack of opportunities for young hospitalized children to interact with their peers and play like healthy children. They also voiced their needs for psychosocial support for both children's and parents' emotional wellness. Parents' awareness of children's emotional needs related to health care experience is likely to make them open to explanations about the positive effects of medical play.

Limitations and Directions for Future Research

One of the reasons that mothers were not supportive of medical play might be connected to the content of the scenarios. For this study, two short stories were used as examples of health care play; no extensive reading materials were provided. The described health care situations and the types of medical play in the vignettes (utilizing a doll and medical equipment to engage children in pretend play) were relatively specific, but not detailed enough to explain possible variations in types of medical play, the ways they are facilitated, the different timings of play, or the ways professionals respond to children's play and feelings.

Along the same lines, the storylines or wordings of the scenarios could have affected some responses. For example, some emotional expressions, such as "sad" and "cried" were mentioned in the stories; however, the ways these feelings and responses will be taken care of by a facilitator were not mentioned. Medical play is usually carefully facilitated by trained professionals who can respond to children's feelings in appropriate ways, can encourage children to find effective coping strategies, and can

support the process of understanding. In the second scenario, health care play occurs right before the procedure, but in reality, it could have occurred after the procedure based on the child's needs and responses. It could also have been combined with other procedural support. The stories did not indicate these important factors. It is important to point out, however, that these short stories might have encouraged mothers to express their own impressions without being influenced by others. Explaining clearly the purpose of medical play and how it will be facilitated may be key for parents.

One of other limitations of this study is the small number of participants. It is possible that accessing the survey online discouraged many parents from taking part in the study. In 2010, more than 95% of Japanese who are in their 20's and 30's reported that they were able to access the internet in some ways (Japanese Ministry of Internal Affairs and Communications, 2010). Since the current study targeted mothers in this age range, it appears that internet access is not one of the obstacles. However, their actual usage of internet was not examined in the above statistics. Many people might have access to the internet; however, an online survey may not have been feasible for busy parents with young children. Though they may sign up on the online support groups and the message boards, it is possible that most rarely check them. It is also possible that a common understanding today that some internet website links are misleading and link to unwanted sites or record personal preferences for marketing reasons might have affected parents' participation. Parents might have thought the link would be lead to an advertisement and that therefore it was best to avoid such risks by not participating in the study. Finally, there was no incentive offered to participate in the current study.

Mothers' educational background is also important to note. Eighty percent of the participants mentioned that they are either two-year or four-year college graduates, which is higher than average for Japan. About 57 % of the population aged between 25 and 34 are graduates of higher education institutions (Organisation for Economic Co-operation and Development, 2012). The mothers with higher education may have been more willing to contribute their opinions on the topic presented or interested in participating in a study. For these reasons, the results should not be overgeneralized.

Many parents did not have children who have been hospitalized in the past, but children's hospitalization did not seem to impact the responses of mothers in a way that would make them think that medical play would be helpful for the psychosocial needs of children. Most mothers must have experienced helping children cope with immunization injections; however, the responses mainly indicated disagreement with the play opportunity in Scenario 2. This result might have been due to the small sample size; this is something to further examine in the future. One of the mothers whose child had been hospitalized described her observation of her child trying to cope with feelings related to health care experience through play. Parents who have experience their children's hospitalization or other stressful life events may be more aware of play's effects on emotional wellness and development. On the other hand, they may have reasons why they do not believe health-care-related play is effective. It would be important to know these reasons.

Parental beliefs are important to study. Damast et al. (1996) found that the more knowledge mothers have about play development, the more appropriate their interactions during play. My results showed that Japanese mothers with children who are 2 to 5 years

old might or might not support medical play depending on the contexts. When they think the medical situation and reenacting the situation is emotionally upsetting for children, they are less likely to support this activity. On the other hand, the mothers also considered normative play to be a very important part of children's lives and beneficial for children's learning. The results illustrate the importance of professionals clearly explaining to parents the purposes of medical play and the ways it will be facilitated with careful attention and support for feelings that might appear in the sessions.

More research is needed to learn further about parents' perspectives on their children's medical experiences and medical play. The mothers' responses in the current study are a rich resource to design a new survey to measure parents' beliefs about medical play. The Japanese mothers' concerns regarding emotional upset during medical play and their ideas about socially appropriate ways to communicate feelings and expressions of feelings may be important to consider in future studies.

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Appendix A

Posting on the Parent Support Group Bulletin Board

Dear Parents:

My name is Toshiko Nonaka, a graduate student at University of Missouri. I am studying early childhood development.

We would like to invite you to participate in a research study. The purpose of the study is to examine what parents of 2- to 5-year old children think about play, especially when they are hurt or when you take them to the doctor's office. You will be asked to answer several questions and it will take about 10 to 15 minutes. The study is completely anonymous and it won't ask your name, address, or email.

We value your opinions about children's play. Your input will be extremely helpful and meaningful for our study. The questions are located at the website below. If you are willing to participate, please visit: <http://www.surveymonkey.com/s/5QHKRF6> (it is linked to the survey.)

This site will be open till June 30th, 2012. Thank you so much for your time. If you have any questions, please do not hesitate to contact me.

Sincerely,

Toshiko Nonaka
Master's student
University of Missouri
Department of Human Development and Family Studies
Tnhc8@mail.missouri.edu

Advisor
Jean M. Ispa, PhD
Professor, Department Co-Chair
University of Missouri
Department of Human Development and Family Studies

Appendix B

Letter for Parents at Child Care Centers

June 1, 2012

Dear Parents:

We would like to invite you to participate in a research study. The purpose of the study is to examine what parents of 2- to 5-year old children think about play, especially when they are hurt or when you take them to the doctor's office. You will be asked to answer several questions and it will take about 10 to 15 minutes. The study is completely anonymous and it won't ask your name, address, or email.

We value your opinions about children's play. Your input will be extremely helpful and meaningful for our study. The questions are located at the website below. If you are willing to participate, please visit: **<http://www.surveymonkey.com/s/5QHKRF6>**

The site will be open until June 30th, 2012. If you have any questions, please do not hesitate to contact me. Thank you so much for your time.

Sincerely,

Toshiko Nonaka
Master's student
University of Missouri
Tnhc8@mail.missouri.edu

Advisor
Jean M. Ispa, PhD
Professor, Department Co-chair
Department of Human Development and
Family Studies

Appendix C

Top Page of the Survey

University of Missouri
Department of Human Development and Family Studies
Title: **Parents' Perceptions about Children's Play**
Principal Investigator: Toshiko Nonaka
IRB#:

Dear Parents;

If you are a parent of a 2- to 5-year old child, we invite you to participate in a research study. The purpose of the study is to examine what parents of 2- to 5-year old children think about play, especially when they are hurt or when you take them to the doctor's office.

Description of Procedure

You will answer several questions on children's play. It will take around **10-15 minutes**.

Benefits and Risks

There will be no direct benefit to you besides reflecting on your beliefs and attitudes. We hoped that the information gained in this study will provide valuable information about parent beliefs about play when children need a cast or an immunization shot. Your participation in this study is voluntary and you may stop participation at any time without penalty.

Confidentiality

This study will be **completely anonymous**.

Questions or Problems

You may ask questions about the research. Toshiko Nonaka is the primary researcher of this study. Toshiko's contact information is tnhc8@mail.missouri.edu. This research is supervised by Dr. Jean Ispa. She can be reached at IspaJ@missouri.edu in English. You may also contact the Campus Institutional Review Board at (573) 882-9585 or umcresearchcirb@missouri.edu if you have any questions about the rights of research participants.

To participate in this study, you must be a Japanese parent with at least one child aged 2 to 5.

Please click the link below to access the questions.

Appendix D

Questionnaire

Purpose of this survey

Your answers to this survey will contribute to our understanding of what parents of children (age 2 to 5) think about children's play in health care settings, such as doctors' offices and hospital units. Thank you very much for taking the time to fill it out.

Please answer the followings.

Your child's age ()

Your age ()

Your relation to your child: Please check one Father, Mother

Your education: Please check one. I graduated from Middle School, High School, University/College, Graduate school, Prefer not to answer.

How your child spends his/her day: Please check one Hoikuen (Child care), Yochien (Preschool), Home, Other

Your child has an experience of hospitalization: Please check one Yes, No

How did you learn about this survey: Please check one Through Mixi, via letters from Hoikuen/Yochien

Please read the following scenario and answer the questions that follow:

Q1. Scenario 1. "Shiho is a 4-year-old girl who fell and broke her leg yesterday. She got a cast on her left leg and needs to be in the hospital for another 3 days. She is feeling scared, even though her pain is under control. One of her nurses would like to help her by creating a cast on her doll with small casting materials and then letting her play with the doll.

1-1. What do you think about this idea? Do you think it is a good idea for Shiho to play with a doll that has a case? Please check one.

- a. Yes, it is a good idea.
- b. No, it is not a good idea.
- c. I don't know

1-2. Why? Please explain.

[]

Q2. Scenario 2. "Kenji is a 5-year-old boy. Today, he will get an immunization shot at his doctor's office. About a couple months ago, he had a flu shot and he remembers that it hurt and he cried. The nursing staff at the doctor's office is planning to play with him with a doll and a needleless syringe before the next immunization so he will be more comfortable with it.

2-1. What do you think about this idea? Do you think it would be helpful for him? Please check one.

- a. Yes, it is helpful.
- b. No, it is not helpful.
- c. I don't know.

2-2. Why do you think so? Please explain.

[]

Q3. 3-1. Does play contribute to young children's development?

- a. Yes
- b. No
- c. I don't know

3-2. Why?

[

]

Thank you very much for your participation.

Appendix E

Posting on the Parent Support Group Bulletin Board (Japanese)

保護者の皆様

ミズーリ大学修士課程に所属しております野中敏子と申します。乳児・幼児の発達を勉強しています。

研究にご参加いただける方を募っています。この研究の目的は遊び、特にこどもが怪我をしたり、お医者さんに連れて行く際に行う遊びについて2歳—5歳児の保護者の方がどのように思われるかを調べることです。アンケートの質問に答えていただく形での参加となり、10-15分ほどで終わります。アンケートは匿名でお答えいただきますので、お名前、住所、メールアドレスを聞くことはありません。

こどもの遊びについての皆様の意見はとても重要だと考えています。ご回答は研究にとっても役立ち意味のあるものです。アンケートの質問は以下のウェブサイトにあります。ご協力いただける場合は、以下のサイトにアクセスしてください。
<http://www.surveymonkey.com/s/5QHKRF6>

このウェブサイトは2012年6月30日までアクセス可能です。お忙しいなか大変恐縮ですがご協力よろしくおねがいたします。何か質問がありましたら、遠慮なくお申し出ください。

野中敏子
人間発達家族学部修士課程
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担当教授
Jean M. Ispa, PhD
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University of Missouri
Department of Human Development and Family Studies

Appendix F

Letter for Parents at Child Care Centers (Japanese)

保護者の皆様

研究にご参加いただける方を募っています。この研究の目的は遊び、特にこどもが怪我をしたり、お医者さんに連れて行く際に行う遊びについて2歳—5歳児の保護者の方がどのように思われるかを調べることです。アンケートの質問に答えていただく形での参加となり、10-15分ほどで終わります。アンケートは匿名でお答えいただきますので、お名前、住所、メールアドレスを聞くことはありません。

こどもの遊びについての皆様の意見はとても重要だと考えています。ご回答は研究にとっても役立ち意味のあるものです。アンケートの質問は以下のウェブサイトにあります。ご協力いただける場合は、以下のサイトにアクセスしてください。

<http://www.surveymonkey.com/s/5QHKRF6>

このウェブサイトは2012年6月30日までアクセス可能です。何か質問がありましたら、遠慮なくお申し出ください。お忙しいなか大変恐縮ですがご協力よろしくおねがいたします。

野中敏子

人間発達家族学部修士課程

ミズーリ大学

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担当教授

Jean M. Ispa, PhD

Professor, Department Co-Chair

University of Missouri

Department of Human Development and Family Studies

Appendix G

Top Page of the Survey (Japanese)

University of Missouri

Department of Human Development and Family Studies

題目: こどもの遊びについての親の認識

研究責任者: 野中敏子

IRB#: 1 2 0 2 6 8 0

保護者の皆様

2歳から5歳までのお子さんがいらっしゃる保護者の方に研究へのご協力をお願いします。この研究の目的は遊び、特にこどもが怪我をしたり、またはお医者さんに連れて行く際に行う遊びについて2歳—5歳児の保護者の方がどのように思われるかを調べることです。

方法

アンケートの質問に答えていただきます。10分から15分かかります。

メリットとリスク

考えを表現していただく以外の直接のメリットはありません。保護者のこどもの遊び、特にギブスや予防注射にかかわる遊びに対する貴重な意見を収集できることを期待しています。研究への参加は任意で、いつ答えるのをやめていただいてもかまいません。

守秘義務

この研究はすべて匿名です。

ご質問

この研究について質問がありましたらご連絡ください。研究責任者は野中敏子です。野中のメールアドレスは tnhc8@mail.missouri.edu です。この研究はジーン・イSPA教授 (Dr. Jean Ispa) の指導のもと行われています。イSPA教授のメールアドレスは IspaJ@missouri.edu です。また研究参加者の権利について質問はキャンパス倫理委員会 (the Campus Institutional Review Board) 1-(573) 882-9585 または umcresearchcirb@missouri.edu へご連絡ください。

この研究への参加は、2歳-5歳児の日本人保護者に限られます。

下記のリンクからアンケートのページへお入りください。

Appendix H

Questionnaire

調査目的

このアンケートは2-5歳児をもつ保護者の皆様がこどもの遊び、特に病棟や医院で行われる遊びについてどのように考えるかを理解する目的で行われています。時間をとってお答え頂きありがとうございます。

以下の質問に答えてください。

あなたのお子さんの年齢()

あなたの年齢()

お子さんとの関係: ひとつ選択してください __父, __母

あなたの最終学歴: ひとつ選択してください. __中学, __高校, __大学, __大学院, __無回答希望.

お子さんの日中の過ごし方: ひとつ選択してください __保育園, __幼稚園, __自宅, __その他

お子さんの入院経験の有無: __ある, __ない

このアンケートをどのように知りましたか: ひとつ選択してください __Mixiから, __保育園・幼稚園からの手紙

以下のシナリオを読んで、質問に答えてください:

Q1. シナリオ 1. 「しほちゃんは4歳の女の子です。昨日転んで足の骨を折ってしまいました。左足にギブスをしてもらい、痛みは抑えられていますが、しほちゃ

んは怖がっています。看護師のひとりが、しほちゃんの人形に小さなギブスをつくり遊ばせることで、しほちゃんを支援しようと考えています。

1-1. このアイデアについてどのように思いますか？ しほちゃんがギブスをつけた人形で遊ぶことは良いアイデアでしょうか？ 答えをひとつ選択してください。

- d. はい、良いアイデアだ。
- e. いいえ、良いアイデアではない。
- f. 分からない

1-2. なぜそう思いますか？

[]

Q2. シナリオ 2. 「けんじ君は5歳の男の子です。今日お医者さんで予防注射を受けることになっています。2ヶ月ほど前に、インフルエンザの予防接種を受けており、憲次君は痛かったこと、泣いたことを覚えています。看護師はけんじ君と注射の前に人形と針の無い注射器で遊ぶことでもっとなれてもらおうと考えています。」

2-1. このアイデアについてどのように思いますか？ これはけんじ君の助けになるでしょうか？ひとつ選んでください。

- d. はい、助けになる。
- e. いいえ。
- f. 分からない。

2-2. なぜそのように思いますか？

[]

Q3. 3-1. 遊びはこどもの成長・発達に貢献するでしょうか？

d. はい

e. いいえ

f. わからない

3-2. なぜそう思いますか？

[]

ご協力ありがとうございました。

Appendix I

Mothers' Comments

Scenario 1

Answer: "Yes, it is a good idea."

Theme: Playing with the doll will facilitate children's understanding of their situation and treatment.

- Category: The reversed role, taking care of the doll, helps child understand the situation better.

"When she learns her situation objectively, she might realize that it is not such a scary situation. Shiho might encourage the doll. The words she uses for the doll might be the same encouragement for herself and it might be easier for her to accept her own words than others."

"Shiho (the girl with a cast) would hold and comfort the doll. We might expect that it might make her realize the cast is not so scary."

"I think she will understand how well she has been taken care of by actively taking care of the doll with a cast."

"I think she will understand the cast is necessary for the treatment by engaging in dramatic play."

- Category: The doll in the same situation as the girl would help her understand.

"Not understanding what is going on is stressful for adults, too. For children, something unknown cause negative feelings such as stress and anxiety etc., I think. Using a doll is a good way to let her know her situation.

“I think the doll can represent the same situation and it might reduce the fear of children. But, I cannot really tell what part she is fearful about. If she is fearful towards the cast, it might be effective. If she is fearful about getting injured, then I don't know it is a good idea or not.”

“She could see her injury objectively.”

Another category:

- Category: A doll as a companion

“I think the doll might make her feel that she is not the only one who has a cast.”

“I feel that she might feel she is not alone.”

Scenario 1 Answer: “No, it is not a good idea.”

- Category: the possibility that the child would recall the pain and fear associated with the injury

“I think she might recall that she experienced being in pain.”

“When it is still very new in her memory that she had a scary experience getting injured, which led to hospitalization, involving her in this kind of play activity might hurt her feelings.”

- Category: feel uncomfortable about injuring the doll or having a doll with an injury

“I think she might feel uncomfortable making the same situation for the doll as she is scared of the cast. If providing her support, how about drawing her favorite pictures on the cast, having people she likes write messages on the cast, which I believe she would feel supported.”

“I think she would pity the doll.”

“I think it is weird (ill) that you are making the doll injured when the doll doesn't have any injury”

“It might be o.k. to have the doll in the same situation, but I think she might not get motivated to get better. I think it would be better to hand the doll over as it is and say "let's get better and play like this doll.””

- Category: A cast is not a toy

“I appreciate the thoughtfulness doing this to reduce the pain, but it cost too much and takes too much time to make a cast. I think I won't let the nurse do such a job.”

“The cast is not for dress-up play”

Other answer

“I think I need to inform my child about the illness when she/he becomes ill.”

Scenario 1 Answer: “I don't know”

“My child and I don't have any experiences having a cast, I don't know what is scary about a cast.”

“I just think so.”

“By putting a cast on the doll, she might feel comfortable and fear might be reduced, but she might take off the cast by herself.”

Scenario 2

Answer “Yes, it is helpful.”

“I think this idea is good for the same reason for scenario 1 (children learn the

situation better with the doll). But, it is different from the broken bone case. Since this is preventive medicine (to prevent illnesses) vs. reactive medicine (treating the injury), I think it is good to have a doll with illness to explain why he needs to have the pain from the shot now to prevent the illness (the doll has).”

“I think it is helpful. When my child was hospitalized, she got a syringe and she drank juice with it. After that, she doesn't have fear of the syringes anymore.”

Scenario 2

Answer “No, it is not helpful.” And “I don't know.”

- Category: Not helpful to increase his understanding

“It depends on the child. My son would say that a doll and a person are not the same (it would hurt or not) and he will refuse the shot anyway. But generally, it may be an effective way.”

“A 5-year-old child would differentiate there is a needle or not, and children cannot be tricked by playing a doll.”

“He might misunderstand that he might get the immunization without a needle.”

“If it goes well, you can say "the doll didn't cry, so you can do it too." but I think a 5-year-old would look closely and it is over when he realizes there is no needle.”

- Category: the play experience would make children know or recall feelings related to the injections

“He remembers that the immunization shot hurts (in his memory).”

“I think the fear increases as he sees the syringe on the day.”

“He clearly knows it will hurt, it is better to give him shot right away. It might be

better to play with the doll later.”

“I think the play will remind him about the immunization and it is not effective. I think reading a book about why the immunization is necessary might be better.”

“If this child doesn't like the shot in the first place, I wonder engaging in this play is going to give him more fear. It is not that bad as an idea, but I don't think it is a good idea just before the actual immunization.”

“This syringe play would prompt him to recall that it hurt, he will refuse the doctor's visit.”

“I don't know. I think it will prompt him to fear more.”

- Category: Having a doll get a shot would be useless because it would not diminish the pain of the shot

“No matter what you do, when a shot hurts, it hurts. I don't like the shot. That is why I think this way.”

“Playing with the doll will not help reduce the fear. The actual pain will not be decreased, either. I feel it would be better not to play with the syringe. I feel it is important for parents to do something about helping Kenji with getting rid of fear, not nurses or doctors.”

“It won't change that the shot will hurt.”

- Category: A syringe is not appropriate for play

“The syringe is not for children to play with. Although there is no needle, I feel this might teach misuse of the equipment.”

“I feel difficulty the fact it uses the syringe to play.”

“I don't know about playing with the syringe as a toy. How about using a pointing finger for it?”

- Category: Own ideas work better

Other timing is better

“It is obvious that the shot will hurt, it is better to give him shot right away. It might be better to play with the doll later.”

“If this child doesn't like the shot in the first place, I wonder engaging in this play is going to give him more fear. It is not that bad as an idea, but I don't think it is a good idea just before the actual immunization.”

Other tools or other ways to explain

“I think it won't help if an adult is saying "let's do your best, although it hurts" during the play. Depending on what the adults says during the play, it won't be necessarily helpful. I think it is rather helpful for a 5-year-old to know why the shot is necessary although it hurts. I think it depends on how to play.”

“I think the play will make him recall the immunization experiences and it is not effective. I think reading a book about why the immunization is necessary might be better. Reading about why shots are needed with book.”

“In my family, we teach our son that immunization is for fighting with germs inside of the body and for preventing sickness. We teach him it hurts one second, but it is to get stronger. That is why our son doesn't cry with shots, although he doesn't like it. I think it is more effective to repeat the information, "nobody likes the pain and it will be done in a second" for him to remember.”

“I think this idea is good for the same reason for scenario 1 (children learn the situation better with the doll). But, it is different from the broken bone case. Since this is preventive medicine (to prevent illnesses) vs. reactive medicine (treating the injury), I think it is good to have a doll with illness to explain why he needs to have the pain from the shot now to prevent the illness (the doll has).”

Other answers:

“I don't know.”

“Because there are so many immunization shots”

Question 3 “Does play contribute to young children’s development?”

- Category: Observation of learning

“They learn a lot through play.”

“Children learn a lot through play. Pretend play at house center, origami etc.”

“Many experiences through play will help children learn important things in life. Good or bad. Without experiences, they might not actually get them. Studying is important, but I think there is something they can only learn from play. I think the timing and environment for their play is also crucial.”

“I think children learn a lot through play. It needs to be a good fit to each child's characteristics. Playing with older children helps their learning, too.”

“I think, for young children, playing equals learning.”

- Category: Awareness of play’s contribution to one or more developmental domains: : (a) play promotes cognitive development, (b) play promotes/involves social skills, (c) play promotes physical development, and (d) play promotes

emotional development and psychological wellness.

*Some mothers mentioned multiple developmental domains and the others responded with single development area.

“I think children are getting ready to become adults by playing. Physical development (strengthen muscle etc.), psychological development (fostering curiosity etc.), social development (awareness of others’ feelings).”

“I think play often contributes to physical and mental development.”

“Children learn a lot through play. They might not realize it, but they learn how to use objects and how to use words. Play contributes to their learning a lot.”

“Even when children are playing alone, they are repeatedly re-constructing new and gained knowledge. With friends, they get more stimuli, learn how to cooperate, how to be nice to others, and they feel accomplishment by experience of making efforts and motivation from them. I also feel children grow through playing with children of different age groups.”

“Children play and learn letters, numbers, social skills, and how to obey rules. They exercise. Through these, you learn everything you need as a human.”

“Through play, they think a lot and remember.”

“Children can think multiple aspects by playing active roles and passive roles.”

“I believe children learn through play. Play involves social elements for children to learn, such as thinking on their own, using their own body, building relationships with others.”

“Children try to do many things by being creative.”

“Children make efforts to try different things and come up with ideas adults

cannot even imagine. I would like to foster their imagination and creative thinking outside of the box.”

“Children can experience how to interact with others in the society. Play often doesn’t have any limitations; children can imagine freely and express themselves as they like.”

“Children learn rules through play.”

“Through play, children communicate with others, express themselves, gain physical strength and release stress.”

“I think play helps them start (to learn) something new.”

“Through play, children understand the physical aspect of objects and they get motivated to explore more.”

“Pretend play helps children capture the situation objectively. Especially in healthcare settings, children have to bear with pain and have to be patient involuntarily. My child tried to sort out her/his feelings by playing.”

- Category: Play as opportunity

“Children can apply what they learn from play to other situations and occasions over time.”

“Children can receive various stimuli through play.”

Another comment:

“Children only engage in something actively when they think it is fun.”

Table 1

Demographic

Mothers' age	Number	Percentage
25-29	4	15.40%
30-34	17	65.40%
35-39	3	11.50%
40-	2	7.70%

(Age range 27 to 42) (M = 32.85, SD = 3.74)

Mothers' education

2 or 4 year college graduate	21	80.80%
High school	3	11.50%
Middle school	1	3.80%
Other	1	3.80%

Child's age	Number	Percentage
Age 2	6	24%
Age 3	4	16%
Age 4	9	36%
Age 5	6	24%

(M =3.6, SD = 1.12) * One missing data

Childcare enrollment

Part-day preschool	13	50%
Full-day child care	9	34.60%
Home	3	11.50%
Other place	1	3.80%

Hospitalization experience

Yes	6	23%
No	20	77.00%

Recruited from

Mixi, inc (social networking site)	21	80.80%
Preschool/Child Care	5	19.20%

Table 2

Answers across the Scenarios 1 and 2

Number of mothers	Question 1-1 (The girl with a cast) “Yes, it is a good idea.”	Question 1-1 (The girl with a cast) “No, it is not a good idea.”	Question 1-1 (The girl with a cast) “I don’t know.”
Question 2-1 (Immunization case) “Yes, it is helpful.”	1 (3.8%)	0	0
Question 2-1 (Immunization case) “No, it is not helpful.”	3 (11.5%)	1 (3.8%)	1 (3.8%)
Question 2-1 (Immunization case) “I don’t know.”	2 (7.6%)	1 (3.8%)	1 (3.8%)
	4 (15.3%)	1 (3.8%)	0

Note. Numbers above the diagonals are answers of mothers with 2- and 3-year old children. Numbers below the diagonals are answers of mothers with 4- and 5-year old

children. Two parents were excluded due to missing child age and, for one mother, no answers to Scenario 2 questions.

Table 3

Answers of mother who have children's hospitalization vs. no hospitalization

	Answers of mothers whose children have been hospitalized before. (N=6)	Answers of mothers whose children have not been hospitalized before. (N=20)
Scenario 1 (A girl with a cast)		
Answer: "yes, it is a good idea."	2 (33.3%)	10 (50%)
Scenario 1	4 (66.6%)	5 (25%)
"No, it is not a good idea."		
Scenario 1	0 (0%)	5 (25%)
"I do not know."		
Scenario 2 (Immunization case)		
"Yes, it is helpful."	1 (16.6%)	1 (5%)
Scenario 2	1 (16.6%)	13 (65%)
"No, it is not helpful."		
Scenario 2	3 (50%)	6 (30%)
"I do not know."		

Note. A mother who had a child with hospitalization experience didn't answer the questions pertaining to Scenario 2

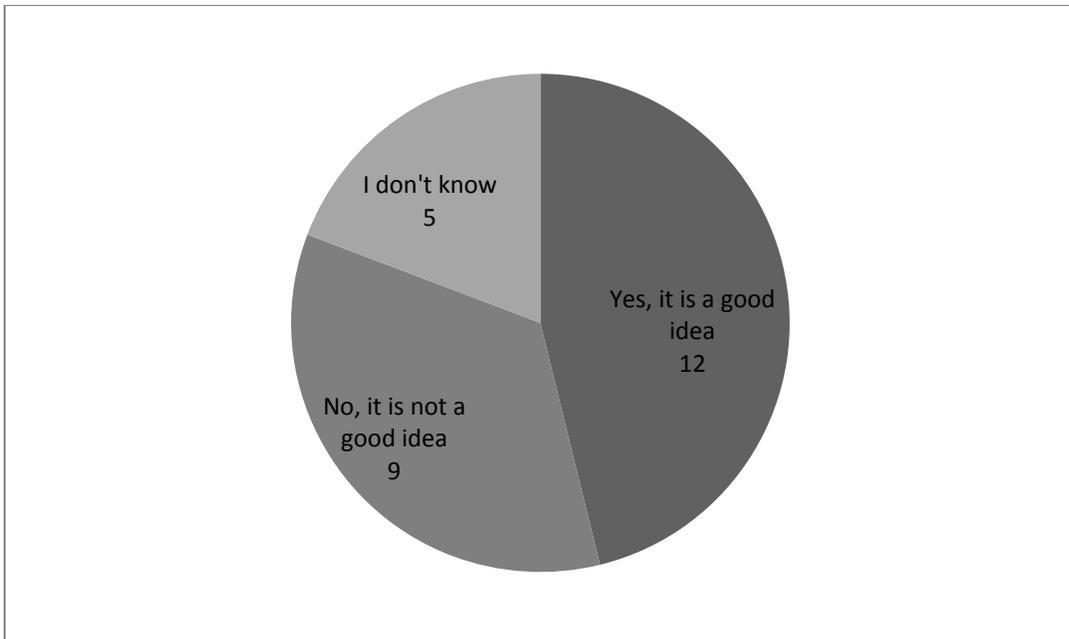


Figure 1. Japanese mothers' responses to the first question, "Do you think it is a good idea for Shiho to play with a doll that has a case?" in the scenario 1. The number of mothers agreed accounted for 46.2%, whereas the mothers who thought it was not a good idea accounted for 36.6%. Five mothers (19.2%) responded "I don't know."

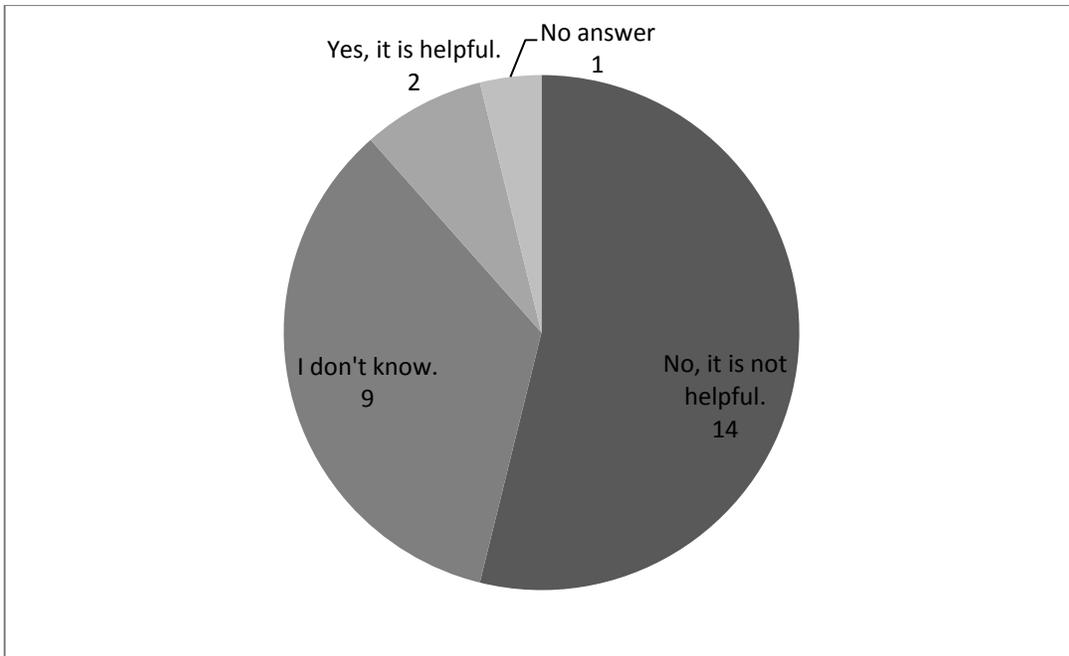


Figure 2. Japanese mothers' responses to the first question, "What do you think about this idea? Do you think it would be helpful for him?" in the second scenario. The number of mothers who thought it was not helpful accounted for 53.8%. The number of mothers who checked "I don't know" accounted for 34.6%. Two mothers (7.7%) responded it would be helpful. Another mother didn't answer the question.