

# Mothers' Perceptions of the Sexual Development and Behavior of their Children and Persons with Autism in General

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In order to ascertain and evaluate mothers' perceptions of the sexual development and behavior of their children with autism, we conducted a questionnaire survey on participants in meetings held in Nagasaki. From among 172 persons who consented to participate in the survey and responded to the self-administered questionnaire, we selected 71 mothers of sons with autism (aged 6 years or over) as the study subjects. The questionnaire included items on children's sexual behaviors, the appearance of secondary sexual characters/sexual development, the mothers' perceptions of the children's sexual development and behavior, and assessments of their own child and persons with autism in general with respect to masturbation, romantic relationships, and marriage. According to the severity of the children's autism, subjects were classified into severe and non-severe groups and the above-mentioned items were compared between the two groups. No significant difference was observed between the two groups in terms of the age at first appearance of secondary sex characters; however, the age at which interest in the opposite sex was first shown was significantly earlier in the non-severe group ( $p = 0.031$ ). Among 58 children aged 120 months or over, 29 (50.0%) were masturbating and the proportion of such children was significantly larger in the severe group ( $p = 0.014$ ). Regarding problem sexual behavior, no significant difference was observed in the frequency of worried mothers between the two groups ( $p = 0.80$ ), while "talking about sex in public" was more frequent in the non-severe group ( $p = 0.018$ ). Approximately 80% of the mothers in both groups had positive views about masturbation both for their own child and for persons with autism in general; however, the proportion of mothers showing positive views about romantic relationships or marriage was significantly smaller in the severe group ( $p < 0.0001$ ). The present study demonstrated that mothers' perceptions of sexual development and behavior in their children with autism vary according to the disease severity. This finding indicates the necessity for healthcare professionals to actively concern themselves with the mothers.

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## Introduction

As the concept of normalizing mentally disabled individuals is becoming widely accepted, the sexuality of mentally disabled persons is beginning to be perceived as a basic human right, but is not yet accepted as the norm.

As Diamond<sup>1</sup> states "sexuality involves all human structures, such as emotions, thoughts and actions, and that while it impacts society, it is also affected by society," sexuality is a concept that encompasses the entire life and personality of humans as sexual beings. However,

in the present study, we define sexuality as sexual development and behavior.

With respect to sexual development in mentally disabled children, a study on 328 mentally disabled children showed that they did not differ from healthy children with respect to physiological development, such as voice mutation, pubic hair growth, breast development, and menarche.<sup>2</sup> Another study comparing physical development, sexual behavior and sexual psychology between 90 children with autism and 95 children with delayed mental development revealed that problem behavior, such as masturbating in public, touch-

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ing people of the opposite sex, and watching people taking baths, was significantly more common in persons with autism.<sup>3</sup> Further research on 100 parents of persons with autism found that these parents were uneasy about their children's inappropriate sexual behavior, such as touching their genitals, masturbating, and touching people of the opposite sex in public.<sup>4</sup> A study on 630 guardians of children with mental disabilities reported that mothers of boys with mental disabilities most often worried about their children's behavior.<sup>5</sup>

Many studies have found that all humans are sexual regardless of whether they are mentally disabled or not. However, as documented by Hammar et al.,<sup>6</sup> during the process of sexual maturation in puberty, children with mental disabilities probably put stress on most family members who are not mentally prepared.

Parents' perceptions of sexual development and behavior in their mentally disabled children probably has an effect on children's sexuality; however, to our knowledge, no study has been conducted by field worker in Japan on this issue.

The objective of the present study was to clarify the sexual development and behavior of persons with autism and to assess parents' perceptions of their children's sexual development and behavior with the hypothesis that sexual development and behavior should follow the same course as physiological, psychological, and social development.

## Subjects and Methods

### *Subjects*

From April 2004 to March 2006, a questionnaire survey of sexual development and behavior in mentally disabled persons was conducted on participants of meetings jointly held by the Nagasaki Branch of the Autism Society Japan and four public health centers in Nagasaki. Prior to the survey, the survey objectives, methods, and ethical considerations were explained orally, and consenting participants were asked to put their completed form in a box. A total of 172 family members of mentally disabled persons responded to the survey. From these respondents, 71 mothers of sons with autism aged 6 years or over were selected as study subjects based on a previous study<sup>5</sup> and our preliminary studies,<sup>7,9</sup> which suggested a high frequency of problem sexual behavior in males with autism. Publication of the study results was approved by the Ethical Committee of Nagasaki University Graduate School of Biomedical Sciences.

### *Questionnaire*

The questionnaire consisted of questions about children and questions about mothers. The questions about children included their age, diagnosis, category of mental disability care handbook if issued, activities of daily living, sexual development including the appearance of secondary sexual characters and masturbation, behavior and consciousness including interest in the opposite sex, and problem sexual

behaviors. The questions about mothers included their age, perception of the sexual development and behavior in their own children and in mentally disabled persons in general, their degree of satisfaction with their marital relationship, and social support.

According to the severity of children's autism, categorized in the mental disability care handbook, the subjects were classified into two groups. The children in the severe group were those categorized as A1 (IQ of approximately 20 or less) or A2 (IQ of approximately 20-35), and children in the non-severe group were those categorized as B1 (IQ of approximately 35-50) or B2 (IQ of approximately 50-70) and those who were not issued a mental disability care handbook.

The degree of satisfaction with the marital relationship was assessed with Moroi's marital quality scale.<sup>10</sup> The following six statements, "We have a good marriage," "My friendship with my partner is very happy," "Our marriage is strong," "My relationship with my partner makes me happy," "I really feel like part of a team with my partner," and "I think I am happy considering everything in my marriage," were evaluated according to the following responses: mostly agree (4 points); agree more than disagree (3 points); disagree more than agree (2 points); and mostly disagree (1 point). The points were totaled and subjects were classified into a low marital happiness group (< 18 points) and a high marital happiness group (18 points).

To ascertain the subjects' perceptions of the sexuality of persons with autism, in the case of their own child and people with autism in general, we asked them to indicate whether they "agree," are "uncertain," or "disagree" with the following three statements: "It is natural for persons with autism to masturbate just like persons without autism," "It is natural for persons with autism to have romantic relationships just like persons without autism," and "It is natural for persons with autism to marry just like persons without autism."

### *Statistical analysis*

Continuous data, such as children's age, were summarized by quartiles with minimum and maximum values, and their distributions were compared between the severe and non-severe groups using the Wilcoxon rank-sum test. Fisher's exact test was used to compare the frequency of categories of respective items, such as social support, between the severe and non-severe groups. All *p*-values presented are two-sided. UNIVARIATE, FREQ and NPARIWAY in the SAS<sup>®</sup> system were used for the calculations.

## Results

A total of 41 (57.7%) children were classified into the severe group, while 30 (42.3%) children were classified into non-severe group. The age range of children in the severe group was 81-305 months with 1st, 2nd, and 3rd quartiles of 134, 170, and 209 months, respectively. In the non-severe group, the age range was 81-240 months with 1st, 2nd, and 3rd quartiles of 119, 135, and 166 months, respectively. The children in the severe group were significantly older than

those in the non-severe group ( $p = 0.0016$ ).

No significant difference was observed between the severe and non-severe groups in terms of sexual development, except for the age at which interest in the opposite sex was first shown. The age at which children in the severe group began to show interest in the opposite sex was significantly late, by about 24 months, when compared to those in the non-severe group ( $p = 0.031$ ) (Table 1). Furthermore, the proportion of children aged 120 months or over who were masturbating was significantly higher in the severe group (23/36) than in the non-severe group (6/22) ( $p = 0.014$ ).

Mothers of children in the severe group were significantly older than the mothers of children in the non-severe group ( $p = 0.0013$ ); the former ranged in age from 35 to 56 years with 1st, 2nd, and 3rd quartiles of 42, 45, and 49 years, respectively, while the latter ranged

in age from 30 to 56 years with 1st, 2nd, and 3rd quartiles of 38, 40, and 43 years, respectively.

The distributions of marital happiness scores in mothers in the severe and non-severe groups were quite similar ( $p = 0.90$ ). In the former group, the scores ranged from 6 to 24 with 1st, 2nd, and 3rd quartiles of 13, 18, and 20, respectively. In the latter group, scores ranged from 6 to 22 with 1st, 2nd, and 3rd quartiles of 15, 18, and 19, respectively.

No significant difference was observed between the severe and non-severe groups with respect to the proportion of subjects receiving social support (Table 2), although the proportion of positive responses to the first two questions in Table 2 was slightly higher in the severe group than in the non-severe group, and the proportion of positive responses to the last two questions was higher in the non-

**Table 1.** Distribution of age at first appearance of characteristics related to sexual development in persons with autism by group

Factors	Severe group		Non-severe group		$p$ -value <sup>a</sup>
	$n$ <sup>b</sup>	Age (months)	$n$	Age (months)	
Secondary sex characters					
Pubic hair	25	(132, 144, 156) <sup>c</sup> 120-178 <sup>d</sup>	10	(132, 156, 156) 132-180	0.42
Underarm hair	15	(144, 156, 156) 132-230	7	(144, 156, 172) 132-192	0.71
Beard, mustache, whiskers	19	(144, 156, 180) 132-192	8	(156, 156, 174) 144-204	0.60
Voice mutation	20	(144, 151, 159.5) 132-180	11	(132, 144, 156) 132-180	0.25
Penile development	18	(132, 138, 144) 96-178	7	(138, 144, 144) 132-150	0.34
Ejaculation	9	(132, 144, 156) 132-180	3	(144, 156, 168) 144-168	0.39
Showing interest in the opposite sex	10	(144, 144, 157) 96-180	12	(96, 120, 144) 60-156	0.031

<sup>a</sup>Based on two-sided Wilcoxon rank-sum test.

<sup>b</sup>Number of subjects.

<sup>c</sup>Each triplet gives the 1st, 2nd and 3rd quartiles.

<sup>d</sup>Minimum-maximum.

**Table 2.** Classification of subjects by group and responses to questions regarding social support

Questions	Severe group			Non-severe group			$p$ -value <sup>a</sup>
	$n$ <sup>b</sup>	Yes	No	$n$	Yes	No	
Are you supported by family members?	41	39 (95.1) <sup>c</sup>	2 (4.9)	30	26 (86.7)	4 (13.3)	0.23
Is there a person you can consult with about private matters?	41	39 (95.1)	2 (4.9)	29	27 (93.1)	2 (6.9)	1.00
Do you participate in a self-help group?	41	34 (82.9)	7 (17.1)	30	29 (96.7)	1 (3.3)	0.13
Is there a specialist who advises you about your child?	40	25 (62.5)	15 (37.5)	29	23 (79.3)	6 (20.7)	0.19

<sup>a</sup>Based on Fisher's exact test (two-sided).

<sup>b</sup>Number of subjects who responded to the respective questions.

<sup>c</sup>Number of subjects with percentage in parentheses.

severe group than in severe group. Note that all subjects received at least one form of social support mentioned in Table 2.

Table 3 presents the frequency of mothers' responses to questions related to children's problem sexual behavior in the severe and non-severe groups. No significant difference was observed between the two groups except for "chasing girls" and "talking about sex in public," which were more frequent in the non-severe group than in the severe group; the difference for "talking about sex in public" was significant ( $p=0.018$ ) while the difference for "chasing girls" was marginally significant ( $p=0.058$ ).

In Table 4, the severe and non-severe groups were compared in terms of the responses to three questions regarding mothers' perceptions of sexual development and behavior in their own child and persons with autism in general. For Question 1, of the 40 mothers in the severe group, 31 (77.5%) mothers responded "Agree" both for their own child and for general people, while 23 of the 28 (82.1%) mothers in the non-severe group responded "Agree"; however, the difference was not significant ( $p = 0.76$ ). For Question 2, the proportion of mothers who responded "Agree" both for their own child and for people with autism in general was significantly lower (7/40 or 17.5%) in the severe group than in the non-severe group (22/29 or 75.9%) ( $p < 0.0001$ ). Similarly, for Question 3, the proportion of mothers who responded "Agree" both for their own child and for people with autism in general was significantly lower (0/40) in the severe

group than in the non-severe group (13/30 or 43.3%) ( $p < 0.0001$ ).

Based on the observation that mothers' perceptions of sexual development and behavior in their own child with autism and persons with autism in general differed significantly between the severe and non-severe groups, except for Question 1 (Table 4), in comparison of the responses to Questions 1, 2 and 3 between low and high marital happiness groups, the subjects were first stratified by the severity of children's autism as shown in Table 5. With respect to Question 1, the proportion of mothers in the severe group who responded "Agree" both for their own child and for people with autism in general was 13/17 (76.5%) and 17/20 (85.0%) in the low and high happiness groups, respectively. In the non-severe group, the proportion of mothers who responded "Agree" both for their own child and for people with autism in general was 9/11 (81.8%) and 12/14 (85.7%), respectively. The differences were not significant in both the severe group ( $p = 0.68$ ) and the non-severe group ( $p = 1.00$ ), and the Mantel-Haenszel estimate of the odds ratio (the ratio of odds calculated for the low happiness group and high happiness group for the frequency of "Agree" both for their own child and for autistic people in general) was 0.63 (95% confidence interval [CI] = 0.170-2.343). Similarly, no significant difference was observed between the low and high happiness groups in terms of responses to Question 3. In the severe group, no mothers responded "Agree" both for their own child and for people with autism in general in the low happiness group (0/17

**Table 3.** Frequency of problem sexual behaviors by group

Behavior	Severe group			Non-severe group			<i>p</i> -value <sup>a</sup>
	<i>n</i> <sup>b</sup>	Yes	No	<i>n</i>	Yes	No	
<b>Aggressive sexual behavior</b>							
Touching people of opposite sex	32	12 (37.5) <sup>c</sup>	20 (62.5)	27	6 (22.2)	21 (77.8)	0.26
Chasing girls	35	4 (11.4)	31 (88.6)	27	9 (33.3)	18 (66.7)	0.058
Collecting women's underwear	35	2 (5.7)	33 (94.3)	29	1 (3.5)	28 (96.5)	1.00
Attempting to disrobe young children	34	0	34 (100)	28	2 (7.1)	26 (92.9)	0.20
<b>Passive sexual behavior</b>							
Not minding when people touch the body	30	3 (10.0)	27 (90.0)	27	3 (11.1)	24 (88.9)	1.00
Almost became the target of misbehavior	33	1 (3.0)	32 (97.0)	29	1 (3.5)	28 (96.5)	1.00
Almost got inside a stranger's car	34	0	34 (100)	29	1 (3.5)	28 (96.5)	0.46
<b>Socially unacceptable behavior</b>							
Masturbating in public <sup>d</sup>	24	8 (33.3)	16 (66.7)	5	0	5 (100)	0.28
Talking about sex in public	34	1 (2.9)	33 (97.1)	28	7 (25.0)	21 (75.0)	0.018
Taking clothes off in public	33	3 (9.1)	30 (90.9)	29	3 (10.3)	26 (89.7)	1.00
<b>Others</b>							
Looking at pictures of naked people	33	6 (18.2)	27 (81.8)	28	1 (3.6)	27 (96.4)	0.11
Watching pornography	34	1 (2.9)	33 (97.1)	28	2 (7.1)	26 (92.9)	0.58
Reading comic books with sexual content	34	4 (11.8)	30 (88.2)	28	2 (7.1)	26 (92.9)	0.68
Having gained access to internet dating sites	34	0	34 (100)	28	1 (3.6)	27 (96.4)	0.45

<sup>a</sup>Based on Fisher's exact test (two-sided).

<sup>b</sup>Number of subjects who responded to the respective questions.

<sup>c</sup>Number of subjects with percentage in parentheses.

<sup>d</sup>Asked mothers with children aged 120 months or older.

**Table 4.** Classification of subjects by group and responses to questions about sexual development and behavior in their children and persons with autism in general

<i>Q1: Do you agree that for people with autism and similar mental disorders it is as natural to masturbate as it is for those without autism or similar mental disorders?</i>									
Severe group					Non-severe group				
For own child	For people with autism in general				For own child	For people with autism in general			
	Agree	Uncertain	Disagree	Total		Agree	Uncertain	Disagree	Total
Agree	31	1	0	32	Agree	23	2	0	25
Uncertain	3	4	0	7	Uncertain	2	1	0	3
Disagree	1	0	0	1	Disagree	0	0	0	0
Total	35	5	0	40	Total	25	3	0	28

  

<i>Q2: Do you agree that for people with autism and similar mental disorders it is as natural to fall in love as it is for those without autism or similar mental disorders?</i>									
Severe group					Non-severe group				
For own child	For people with autism in general				For own child	For people with autism in general			
	Agree	Uncertain	Disagree	Total		Agree	Uncertain	Disagree	Total
Agree	7	0	0	7	Agree	22	1	0	23
Uncertain	17	8	0	25	Uncertain	5	0	0	5
Disagree	2	6	0	8	Disagree	1	0	0	1
Total	26	14	0	40	Total	28	1	0	29

  

<i>Q3: Do you agree that for people with autism and similar mental disorders it is as natural to marry as it is for those without autism or similar mental disorders?</i>									
Severe group					Non-severe group				
For own child	For people with autism in general				For own child	For people with autism in general			
	Agree	Uncertain	Disagree	Total		Agree	Uncertain	Disagree	Total
Agree	0	0	0	0	Agree	13	0	0	13
Uncertain	5	13	0	18	Uncertain	8	6	1	15
Disagree	6	13	3	22	Disagree	1	1	0	2
Total	11	26	3	40	Total	22	7	1	30

or 0%) and in the high happiness group (0/20 or 0%). However, in the non-severe group, the proportion of mothers who responded "Agree" was 6/11 (54.6%) and 7/15 (46.7%) in the low and high happiness groups, respectively. This difference was not significant ( $p = 1.00$ ), and the Mantel-Haenszel estimate of the odds ratio was 1.09 (95% CI = 0.320-3.714). In contrast, although not significant, the proportion of mothers responding "Agree" to Question 2 both for their own child and for general people was much smaller in low marital happiness group than in high marital happiness group both in severe group—1/17 or 5.9% and 5/20 or 25.0%, respectively in severe group ( $p = 0.19$ ), and 7/11 or 63.6% and 14/15 or 93.3%, respectively in non-severe group ( $p = 0.13$ )— and the Mantel-Haenszel estimate of the odds ratio was 0.34, which was significantly smaller than 1 (95% CI = 0.117-0.968).

## Discussion

With respect to age at the first appearance of secondary sex characters in mentally disabled males, Ohi<sup>2</sup> and Katouda<sup>11</sup> reported that no physiological differences existed between mentally disabled and normal males except special in cases. The findings of the present study are in agreement with these previous findings, and showed no difference according to severity of disability.

During puberty, physiological and psychological changes occur, and children begin to desire more independence from their parents and show interest in the opposite sex. Ously and Mesibov investigated the sexual interests and experiences of mentally disabled persons with and without autism and found that while many persons with autism were interested in sex, only a few of them actually had sex.<sup>12</sup> In the present study, the non-severe group began to show interest in the opposite sex much earlier than the severe group. This might be due to the difference between the two groups in terms of the development of communication and language skills, which are considered necessary for expressing interest in the opposite sex.

For healthy children, masturbation is an essential step in their sexual maturation process from puberty to adulthood. Masturbation, as one of the sexual behaviors representing sexual release, is considered important for psychological and social development, especially for mentally disabled persons who cannot express themselves verbally.<sup>13</sup> Since previous studies have found that masturbation is the most common sexual behavior for mentally disabled persons, the present study used masturbation as an indicator of sexual behavior.<sup>2,4,13-16</sup> Studies by Van Bourgondien et al.,<sup>14</sup> DeMyer<sup>16</sup> and Hattori et al.<sup>3</sup> have reported that 75%, 68%, and 40% of persons with autism masturbated, respectively. In the present study, 50% of the children with autism masturbated, and the proportion was significantly larger in the severe group than in the non-severe group.

**Table 5.** Classification of subjects by group, marital happiness score, and responses to questions about sexual development and behavior in their children and persons with autism in general

*Q1: Do you agree that for people with autism and similar mental disorders it is as natural to masturbate as it is for those without autism or similar mental disorders?*

Severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	13	0	0	13	Agree	17	1	0	18
Uncertain	1	3	0	4	Uncertain	1	0	0	1
Disagree	0	0	0	0	Disagree	1	0	0	1
Total	14	3	0	17	Total	19	1	0	20

  

Non-severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	9	0	0	9	Agree	12	1	0	13
Uncertain	1	1	0	2	Uncertain	1	0	0	1
Disagree	0	0	0	0	Disagree	0	0	0	0
Total	10	1	0	11	Total	13	1	0	14

*Q2: Do you agree that for people with autism and similar mental disorders it is as natural to fall in love as it is for those without autism or similar mental disorders?*

Severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	1	0	0	1	Agree	5	0	0	5
Uncertain	9	3	0	12	Uncertain	7	4	0	11
Disagree	0	4	0	4	Disagree	2	2	0	4
Total	10	7	0	17	Total	14	6	0	20

  

Non-severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	7	0	0	7	Agree	14	0	0	14
Uncertain	3	0	0	3	Uncertain	1	0	0	1
Disagree	1	0	0	1	Disagree	0	0	0	0
Total	11	0	0	11	Total	15	0	0	15

*Q3: Do you agree that for people with autism and similar mental disorders it is as natural to marry as it is for those without autism or similar mental disorders?*

Severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	0	0	0	0	Agree	0	0	0	0
Uncertain	4	3	0	7	Uncertain	1	8	0	9
Disagree	1	7	2	10	Disagree	5	5	1	11
Total	5	10	2	17	Total	6	13	1	20

  

Non-severe group					High marital happiness score (18 or more)				
Low marital happiness score (17 or less)					High marital happiness score (18 or more)				
For own child	For people with autism in general			Total	For own child	For people with autism in general			Total
	Agree	Uncertain	Disagree			Agree	Uncertain	Disagree	
Agree	6	0	0	6	Agree	7	0	0	7
Uncertain	2	1	0	3	Uncertain	5	3	0	8
Disagree	1	1	0	2	Disagree	0	0	0	0
Total	9	2	0	11	Total	12	3	0	15

Persons with autism are said to have a tendency to exhibit socially unacceptable behavior because they cannot properly process sexual urges.<sup>6</sup> Similar to surveys of parents of children with autism, which have documented problem sexual behavior, such as masturbating, touching the genitals in public, and touching people of the opposite sex,<sup>4,12,14,15</sup> mothers in the present study perceived such behavior as troublesome. Additionally, in the present study the proportion of children with autism who chase girls and talk about sex in public was significantly larger in the non-severe group than in the severe group while those who masturbate in public were only in the severe group, suggesting a difference in the types of problem sexual behavior between the severe and non-severe groups.

Kido et al. reported that guardians of mentally disabled children recognized two aspects of their children's sexuality, i.e., biological and social.<sup>5</sup> In the present study, mothers' perceptions of the sexual development and behavior of their own child and persons with autism in general were assessed in terms of masturbation, romantic relationship, and marriage. No difference was observed between the severe and non-severe groups with respect to views on masturbation. In both groups, approximately 80% of mothers had positive views of masturbation both for their own child and persons with autism in general, which suggests that the mothers had realistic views about masturbation. On the other hand, their views of romantic relationships and marriage significantly differed between the two groups. The proportion of mothers who had positive views regarding romantic relationships or marriage for both their own child and persons with autism in general was significantly smaller in the severe group than in non-severe group, suggesting that mothers in the severe group view children developing through sexual development negatively, while mothers in the non-severe group seemed to have hope for their children's futures.

In the present study regarding the association between mothers' marital happiness and perception of sexual development and behavior in mentally disabled persons, no difference was observed between low and high marital happiness groups in terms of views on masturbation or marriage, while the proportion of mothers with positive views of romantic relationships both for their children with autism and person with autism in general was significantly lower in the low marital satisfaction group than in the high marital satisfaction group. Although masturbation might be accepted as a physiological necessity, mothers might be against marriage for children with autism. Since perceptions of romantic relationships might fall between masturbation and marriage, the present results regarding romantic relationships might support that mothers' perceptions of sexual development and behavior in their children depends on whether they are happy or are satisfied with their relationships with their husbands.<sup>17</sup>

In the present study, all mothers received social support, and hence evaluation of the effects of social support on mothers' perceptions of sexual development and behavior in their children with autism

was impossible.

The present study demonstrated that mothers' perceptions of sexual development and behavior in their children with autism vary according to the disease severity. However, support of mentally disabled persons with respect of their sexuality has been poor, and therefore, we, the healthcare professionals, should actively concern ourselves with the mothers.

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