**Siblings’ Involvement in Parental Subsystems, and Parental Role Expectations and Role Behaviors**

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**ABSTRACT.** This study compared the parental roles of siblings in high functioning families with those in low functioning families. The study was conducted with students from universities A and B in the Tohoku region (N = 374; males = 239, females = 130, gender unknown = 5). The average age of the respondents was 19.72 (SD = 1.30). The results yielded two significant findings. First, for high functioning families, significant correlations were observed between role expectations of the participants and their siblings. Furthermore, marginally significant correlations were observed between participants’ self role expectations and siblings’ role behaviors. Second, for low functioning families, significant correlations were observed between participants’ self role expectations and behaviors, as well as between the siblings’ role expectations and behaviors. Significantly higher correlations were observed between participants’ self parental role expectations and behaviors for low functioning families compared to high functioning ones.

**KEY WORDS:** Siblings, Role expectations, Role behaviors, Parental subsystems

**Introduction**

A family is an organized, structured system consisting of members such as the father, mother, and children. It also has specific functions, such as organized communication and role patterns, among its members. The interactions among family members define the boundaries of the family system and its subsystems. Minuchin (1974) suggested that when a “clear boundary” is maintained between the parental and sibling subsystems, the overall family system functions well. Therefore, in a system with a clear boundary, certain information is kept between the mother and father, and they adopt a flexible approach to care for their children. In contrast, when the boundary is broken and one of the siblings is involved in the parental subsystem, problem behaviors tend to arise. In other words, the family system functions well when children can interact in both the parent-child subsystem and the sibling subsystem, but not when the children’s interactions are limited to the parental subsystem.

The psychological state of children involved in the parental subsystem has been investigated by assessing “parentification” (Boszormenyi-Nagy, 1973) and the children’s feeling of being involved in that subsystem (Byng-Hall, 2002; Kawashima et al., 2008; Hooper & Wallace, 2010). The aforementioned studies have indicated that the mental health of
children involved in parental subsystems is impaired. Jurkovic, Morrell, and Thirkield (1998) created the Parentification Questionnaire, but it only assesses the behavior patterns and feelings of children, and not the overall family state. Therefore, these studies have not indicated the best available methods to conduct clinical interventions. The parental subsystem is considered to be the condition in which organized communication and role patterns are maintained between one of the children and one of the parents. Therefore, in order to develop a more comprehensive analysis of the family unit, the interactions within this subsystem require examination.

According to Gross, Mason, and McEachern (1958), the main concept of the role in a family unit is “behaviors of individuals corresponding to expectations, depending on their social positions.” In other words, role patterns are a series of behaviors corresponding to people’s expectations performed within interpersonal relationships. Previous studies have indicated that self-cognition is partly defined by role expectations (Kodaira, 2000), self-presentation is restrained (Matsumoto, 2002), and role performances that match role expectations lead to intimate and long-term friendships (Shimotomooai, 2000). These findings indicate that role expectations restrain individual behaviors, implicit rules are eventually developed, and interpersonal systems are maintained when people follow those rules.

In the sibling subsystem, a specific series of patterns are expected. First, rules are established among siblings through mutual role expectations. Sibling relationships are expected to be maintained by performing role behaviors following the rules, which generates additional role expectations. This type of family system has clear boundaries between the generations and is therefore considered to be functioning properly. On the other hand, when one of the siblings is involved in the parental subsystem, the aforementioned pattern is not observed, because one of the children attempts to maintain a relationship with one of the parents, generating a different series of patterns in the parent-child relationship. Therefore, this type of family system has no clear boundaries between generations and is not expected to function properly. Examining the conditions described above would help quantitatively analyze how conflicts between siblings are created by the involvement of one of the siblings in the parental subsystem, acting as a pseudo-parent (Siewierska, 2010).

A comparative study was conducted that examined the parental roles of siblings in high functioning families and in low functioning families. First, the role expectations and role behaviors of children were examined using the Family Role Scale (Morikawa, 2013). This scale alludes to the Parentification Questionnaire (Jurkovic et al, 1998) for measuring parentification and asks questions about parental and children’s role factors. The former includes items that ask about both emotional and instrumental parental roles played by children. The questions about the instrumental parental roles include items
inquiring about children’s obedience to their parents. This scale was considered suitable for the purpose of this study because it has demonstrated internal consistency in previous studies (parental roles: $\alpha = .723$, children’s roles: $\alpha = .738$). Furthermore, confirmatory factor analysis has indicated the factorial validity of the scale has sufficient fitness to the data ($\chi^2_{(34)} = 76.93$, $p < .001$, GFI = .966, AGFI = .946, RMSEA = .054, AIC = 118.931). Moreover, its construct validity was previously examined using the EICA Parent-Child Relations Questionnaire (Tsujioka & Yamamoto, 1976). The results from that study found significant positive correlations between the “parental roles” and “identification,” which suggested that children may play both the emotional and instrumental roles of parents and have equal status with their parents. On the other hand, “children’s roles” showed significantly positive correlations with “control,” which suggested the presence of vertical parent-child relationships, wherein children always obey their parents. In this study, in order to focus on the parental roles of siblings, only the parental role factors of this scale were used.

FACES III (Family Adaptability and Cohesion Evaluation Scales- III) (Olson, Portner & Lavee, 1985) was also used in order to measure family function scores. This scale was developed on the hypothesis that independent cohesion and adaptability are curvilinear. In the Japanese version of the scale, however, the concepts of cohesion and adaptability were not clearly defined, and the basic hypothesis of the Circumplex Model could not be established (Tamura, 1994; Tateyama, 2006). Other studies reported that when cohesion and adaptability scores were high, the satisfaction levels for relationships between husbands and wives, and the overall mental health and psychosocial development of children were also high (Green, Harris, Forte, & Robinson, 1991; Vandvik & Eckblad, 1993). These findings suggested that the higher the participants’ cohesion and adaptability scores, the higher their family functioning.

A sibling assuming a parental role has been regarded as a problem in previous studies. However, it is possible that if all siblings in a family play parental roles, the sibling subsystem will be maintained, and they would not be involved in the parental subsystem. Therefore, this study attempted to distinguish this condition from the condition wherein only one of the siblings assumes a parental role by evaluating the participants’ self role expectations and behaviors, as well as by observing their natural role patterns.

Based on these previous findings, two research hypotheses were proposed:

H1. Correlations between role expectations and role behaviors among siblings would be higher for high functioning families compared with low functioning ones.

H2. In low functioning families, significant correlations between role expectations and role behaviors would be observed with one of the siblings, compared with high functioning families.

Methods
Survey period and procedures

The questionnaire survey was conducted from September to December in 2012. The questionnaires (N = 520) were distributed in class and 477 were returned (response rate = 92%). Before the survey was administered, participants were informed that the survey would be conducted anonymously, in an open-ended style, and that the results would be processed statistically. The same information was included on the first page of the questionnaire. The survey was conducted with those that agreed to the conditions. This questionnaire was approved by the Ethics Committee of Tohoku University.

Participants

The study was conducted with undergraduate students of universities A and B in the Tohoku region (N = 374; males = 239, females = 130, gender unknown = 5), with only a few missing values for some of the questions. The average age of the respondents was 19.72 (SD = 1.30). Among them, those that could self-report their own and their siblings’ family relationships and had relatively stable parent-child relationships (Ochiai & Sato, 1996) were analyzed.

Construction of the questionnaire

First, data for participants’ genders, ages, family structures, and lifestyles were recorded. Family roles of the participants and their siblings were assessed using the Family Role Scale (Morikawa, 2013). Participants were asked the following questions: “How much does your family expect from you?” and “How much do you meet their expectations?” Participants responded on a four-point scale, ranging from 1 (not at all) to 4 (very much). Participants were also asked “How much does your family expect from your siblings?” and “How much do your siblings meet these expectations?” When participants had many siblings, the sibling whose age was closest to theirs was selected as the subject of the questionnaire.

The Japanese version of FACESIII (Olson et al, 1985; Kusata & Okado, 1993) was used to assess the participants’ family functions. Family functions, consisting of two factors, cohesion and adaptability, were assessed using 20 items. Participants responded to each item using a six-point scale ranging from 1 (not at all) to 6 (very true).

Results

Correlations between roles of each sibling

In order to see the general tendencies in the data, correlations between the roles of each sibling were examined (Table 1). The results indicated a medium correlation between self role expectations and role behaviors (r = .697, p < .001), and a strong correlation between sibling role expectations and role behaviors (r = .790, p < .001). Furthermore, weak to medium correlations were observed between self role expectations and behaviors and sibling role expectations and behaviors. (r = .358–.463, p < .001).

Correlations between roles of each sibling in high and low functioning families
The differences in correlations between the roles of each sibling in high and low functioning families were examined. When the mean value of cohesion and adaptability was over +ISD, the family function was considered high (high group, \( N = 37 \)), and when it was under -ISD, the family function was considered low (low group, \( N = 36 \)) (see Tables 2, 3, and 4). Since strong correlations were observed in both groups, the differences in correlation coefficients were calculated using the absolute value of the \( z \) scores (see Meng, 1992 for details of the statistical process).

| Role expectations (oneself) | Role behaviors (oneself) | Role expectations (sibling) | Role behaviors (sibling) |
|-----------------------------|--------------------------|-----------------------------|--------------------------|
| Role expectations (sibling) | .697***                  | .463***                    | .358***                  |
| Role behaviors (oneself)    | .371***                  | .399***                    | .790***                  |
| Role behaviors (sibling)    |                          |                            |                          |

\( ** p < .01, * p < .05 \)

Table 1 Correlations between one’s own roles and a sibling’s roles

| Role behaviors (oneself) | Role behaviors (sibling) |
|--------------------------|--------------------------|
| High                     | Low                      |
| .385*                    | .782***                  |

\( ** p < .001, * p < .05 \)

Table 2 Correlations between one’s own role expectations and role behaviors in high and low functioning groups
The results indicated that there were significant differences in the correlations between the high and low groups regarding the relationships between self role expectations and behaviors ($z = -2.659, p < .01$). When it came to the sibling scores, significant correlations were observed between role expectations and behaviors in both the high and low groups, $(r = .691, p < .001; r = .846, p < .001)$, whereas significant differences were not observed in correlations between high and low groups. Finally, for the relationship between self and a sibling, a significant correlation was found only in the high group between self role expectations and sibling role behaviors ($r = .303, p < .1$).

**Table 3** Correlations between a sibling’s role expectations and role behaviors in high and low functioning groups

| Role expectations (sibling) | Role behaviors (sibling) |
|-----------------------------|--------------------------|
| High                        | Low                      | $z$ |
| .691***                     | .846***                  | n.s.|

*** $p < .001$

**Table 4** Correlations between one’s own roles and a sibling’s roles in high and low functioning groups

| Role expectations (oneself) | Role behaviors (sibling) |
|-----------------------------|--------------------------|
| High                        | Low                      | $z$ |
| .344*                       | .330*                    | n.s.|
| .053                        | .207                     | - |
| Role behaviors (oneself)    |                          |     |
| .053                        | .207                     | - |

* $p < .05$, † $p < .10$
Discussion

In this study, the roles of siblings in high and low functioning families were compared. In high functioning families, significant correlations were observed between role expectations of participants and their siblings. Furthermore, marginally significant correlations were observed between participants’ self role expectations and sibling role behaviors, as well as between participants’ self role behaviors and those of their siblings. The results indicated that sibling role expectations and behaviors were interrelated, thus supporting H1. In Japan, cohesion and adaptability are not clearly defined (Tamura, 1994; Tateyama, 2006), and the degree of both cohesion and adaptability have been found to have linear relationships with satisfaction in marital relationships and the psychological development of children (Green, Harris, Forte & Robinson, 1991; Vandvik & Eckblad, 1993). This suggests that families with high cohesion and high adaptability function well while maintaining clear boundaries between the generations (Minuchin, 1974). In such families, the sibling subsystem is maintained and the roles of each sibling are correlated. In other words, even though siblings are expected to both play parental roles and conduct parental role behaviors, they are also supposed to share those roles and cooperate with each other. Furthermore, Shimotomooi (2000) has indicated that in order for children to perform role behaviors to meet role expectations, it is necessary for them to maintain friendship while establishing deeper connections with each other.

It has also been observed in sibling subsystems that having role expectations and mutually performing role behaviors might improve the relationship between siblings. This finding coincides with clinical research indicating that when families are high functioning and generation boundaries are maintained, sibling relationships are usually more intimate (Siewierska, 2010).

On the contrary, in low functioning families, significant correlations were observed between the participants’ self role expectations and behaviors, as well as between sibling role expectations and behaviors. Significantly higher correlations were observed between the participants’ self parental role expectations and behaviors in low functioning families compared with high functioning ones. Though participants’ self role expectations were correlated with sibling role expectations, there were no other significant correlations observed between the roles of siblings, thus supporting H2. For this type of family, the correlation between the roles of siblings was weak, whereas the correlation between parental role expectations and behaviors was strong, which suggests that only parent-child relationships were maintained through role expectations and behaviors. In this condition, only one of the siblings was involved in the parental subsystem and played a parental role. This child is considered to be the “parentified” child in the family (Boszormenyi-Nagy, 1973; Minuchin, 1974), and may be more likely to experience depression and anxiety. Moreover, this may hinder their attachment to their parents.
Self-cognition is partly developed through role expectations (Kodaira, 2000), and by increasing self-confidence (Kuramoto & Daibo, 2010). Therefore, children who perform parental role behaviors to meet parental role expectations view themselves as playing parental roles. The parent-child relationship is usually re-examined in adolescence (Miyashita, 1996), but it may be difficult for these children to re-examine their relationship, which might lead them to continue being involved in the parental subsystem after adolescence. In this case, their current mental health may be damaged and future problems might develop, such as difficulties in establishing independence from the original family structure and conflicts between the new family and the original family.

Different situations where children play parental roles were comparatively examined, and the interaction in situations where one of the children was involved in the parental subsystem were also investigated. Since characteristic role patterns were observed in this study, it is possible to intervene by changing role behaviors of children in order to change relationships. However, this study did not measure the total number of siblings in the families because it only included the siblings that were closest in age to the participants. For example, if there were three siblings in a participant’s family, the ones that were excluded from the survey might still be involved in the parental subsystem. Furthermore, it has been indicated that the psychological effects of assuming parental role behaviors are different for men and women (Takami, Sato, & Shiwaku, 2009). Therefore, there could be gender differences in the level of involvement in the parental subsystem. It is recommended that future studies take the number of siblings and their gender into account. Furthermore, clinical problems in this field should be further investigated by examining both the mental health of children and conflicts between siblings in conditions where one of the siblings is involved in the parental subsystem.

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