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Ritualistic Behavior in Young Children

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The aim of this study was to examine ritualistic behavior at its developmental peak. Children 20–59 months of age were sampled through a national system of daycare centers in Israel ($N = 228$). The order of onset of the ritual behaviors measured was virtually identical to that reported for an American sample (D. W. Evans et al., 1997). Gender and age effects were found for fearfulness but not for ritualistic behavior. Maternal reports of ritualistic behavior were highly correlated with reported fears, and with shy and emotional temperament. Mothers of the children who were in the top 10% in their use of rituals according to maternal report, worried about their child's ritualistic behavior, even though maternal worry was not correlated with ritualistic behavior for the whole distribution.

KEY WORDS: Ritualistic behavior; children; gender differences; fears; temperament.

Ritualistic behavior and habits are common in early childhood, and are given stylized expression in nursery rhymes and children's games in many cultures. Ritualistic behavior is characterized by repetitive elements, and by adherence to rules, imposed by the child on his own behavior and on the behavior of others. Ritual behavior in a toddler's normative development was described by Gesell (Gesell, Ames & Ilg, 1974) as the "Ritualism of the Ritualist". Gesell referred to the behavior of infants who insist that things will be done "just so"; who are particularly sensitive to minute details (e.g. stains, defects), and who engage in repetitive behavior. Repetitive behavior can be normative in early childhood, providing order and predictability for young children who have little control over and little understanding of the contingencies of daily life. Developmental issues of behavioral control, cognitive control, and organization probably contribute to rituality (Leonard, 1989). Ritualistic behavior can derive also from changes in the physical environment or the daily routine, which are experienced by young children as aversive. Through the use of rituals the child tries to enforce consistency on objects and significant others. As children mature and gain more awareness and understanding of causality, temporal relationships, reversible operations, and themselves and others as agents, they need to rely less on repetitive and rule-driven behavior (Piaget, 1950, pp. 167–173). The older child who has mastered some of the rules governing his environment and can act effectively as an agent, should have less need for rituals or repeated behavior. Thus it seems that repetitive behaviors that may be adaptive in earlier years may no longer constitute an age-appropriate response to the environmental challenges facing the older child.

Evans et al. (1997) examined the development of rituals and compulsive-like behaviors by using a parental report, the Childhood Routines Inventory (CRI), on 1488 normal children, 8–72 months old. Their analysis revealed a significant age effect in the total score and in the two factors derived from the CRI—"Just Right," which includes concerns with symmetry, minute defects or stains, etc., and "Repetitive Behavior," which includes eating in a particular order and going to sleep rituals, etc. These behaviors peaked in the 2–4-year old children who performed ritual behaviors more often and more intensively than did the younger or the older children, who were up to 6 years of age. In a study of school age children 8–14 years of age, Zohar and Bruno (1997) found that self-reported obsessive–compulsive behavior in a large community sample declined with age, whereas anxiety increased. Thus, there is some empirical support for the theoretical claim that repetitive behavior is normative in

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toddlers 2–4 years of age, and then declines over latency toward puberty.

Developmentally normal ritualistic behavior may be similar in form to behavior observed in obsessive–compulsive disorder (OCD) (Leonard, Goldberger, Rapoport, Cheslow, & Swedo, 1990). However, normal rituals enrich socialization and help the child connect to others (Erikson, 1977), whereas obsessions and compulsions are hurtful to the self, and lead to social isolation, withdrawal, and regressive behavior (Judd, 1965). Carter, Pauls, and Leckman (1995) argue that the main distinction between normative ritual behavior and obsessive–compulsive behavior is in the child's perception of the acceptability and controllability of the behaviors. Thus, behaviors that arise from OCD will cause interference and distress to the child, and the child will tend to be secretive about them, whereas similar behaviors that are part of normative development may be articulated rules by which the child governs his own behavior or that of others. Leonard et al. (1990) found that there were no significant differences between the premorbid ritual behavior of children with early onset OCD and that of normal children, and concluded that normative developmentally appropriate rituals do not predict obsessions and compulsions. Further evidence for this claim was found by Zohar and Bruno (1997), who showed that obsessive–compulsive behaviors are common in children of 8–9 years of age, and are not strongly associated with anxiety. These same behaviors are rare in children 13–14 years of age, and highly correlated with state and trait anxiety.

Fears and anxieties are also normal aspects of child development. The situations in which fears and anxieties arise in children change according to the child's age and his cognitive maturation. Gender, cultural background, past experience and the child's confidence in his attachment figures affect fear and its expression. Situational factors which are connected to the presence and the availability of familiar people also affect fears and anxieties (Bowlby, 1973).

As children develop language and concepts, their range of feared stimuli increases, plateaus, and then with growing knowledge and control of their environment the number of feared stimuli declines, as does the general level of fearfulness (Bauer, 1976; Miller, 1992). Longitudinal studies of fears in adolescents show an interesting pattern: specific fears are not stable in individuals, but fearfulness or state anxiety is (Poulton et al., 1997). Thus, although the foci of fears might rely on specific environmental cues and on developmental phase, individual differences in fearfulness in late childhood and adolescence are quite stable.

The aim of this study was to examine the levels of ritualistic behavior in young children 2–5 years of age. This is the developmental phase found by Evans et al. (1997) to include the peak of such behavior. An additional aim was to examine the association of ritualistic behavior with fearfulness and temperament as reported by mothers, and with behavior problems as reported by daycare teachers.

METHOD

Participants

The children were recruited through a national system of daycare centers, which has progressive fees, and serves a wide range of the population. The children attend the daycare centers from 07:30 until 16:00 every day. Twenty daycare centers were included, all in the greater Tel Aviv area, selected to include the full range of Israeli society, and 60% of parents approached agreed to participate in the study. Unfortunately, no information on declining parents was available. In the sample that resulted, 228 children were included: 115 boys and 113 girls. Mothers and fathers had completed high school; mothers had a mean of 3.2 years of university education, and fathers 2.6. Mothers were on average 34 years of age, fathers 37. Number of siblings in the families ranged from 0 to 4, with a mean of 1.04. Children were 20–57 months of age, with a mean of 39 months ($SD = 8.1$). Virtually all the children in the study were born in Israel.

Procedure

Questionnaires were given to consenting mothers, who were asked to seal their responses in an envelope with the child's name and hand it to the daycare personnel. The daycare teacher then answered questionnaires for that child, erased the child's name from the parents' envelope, and sealed the parent's and her responses in a second envelope. In this way, parents and daycare teachers had no way of knowing each other's responses, and the child's anonymity was preserved.

Instruments

Maternal Report

Temperament. Childhood temperament was assessed using Buss and Plomin's (1984) 20-item scale for maternal report (EAS), which reduces to four scales: emotionality,

activity, sociability, and shyness. Each item is rated on a 5-category scale from *not at all characteristic* to *very characteristic*. Each temperament scale is composed of 5 items. The EAS has been validated against observer ratings, and has a 7-day interval test-retest reliability of .6–.8 (Buss and Plomin, 1984). Cronbach alpha lower-bound reliability for the temperament scales in this study were respectively .73, .83, .70, and .54. The lowest reliability was for the Shyness subscale.

Fears. A fear inventory was compiled for this study. Items were taken from the Ollendick (1983) self-report for school age children, reworded for parental report; additional items were derived from Bauer (1976) and Miller (1992). Items were added to measure night terrors, which were typical of the youngest children in the Bauer (1976) semiprojective study. The fear inventory was piloted on 20 mothers of young children, and two items were omitted from the final version. Altogether, 23 items were included in the final version, each naming a potential fear. Responses for each item were on a 4-point intensity scale, from 1 (*very afraid*) to 4 (*not afraid at all*). Age of onset of each behavior endorsed was noted, as well as the current status of the behavior. Cronbach alpha lower-bound reliability for the entire scale was .79. Factor analysis using principal component analysis with varimax rotation provided a four-factor solution, which accounted for 40% of the variance; the factors were selected to have an eigenvalue of 1.5 or more; salient items loaded 0.45 or more. The first factor to emerge was the fear of fictional characters, monsters, and animals (Monsters). The second factor to emerge was fear of strangers and strange situations (Strangers). The third factor to emerge was fear of harm and death (Harm). The fourth factor dealt with night terrors and reactivity to sudden noises (Night Terrors). The factor structure and some of the psychometric qualities of the fears inventory are shown in Table II. The Fears Inventory for Young Children (FIYC) is available from the corresponding author upon request.

Ritualistic Behavior. Ritualistic behavior was assessed using the Child Routine Inventory (CRI, Evans et al., 1997). This instrument was translated into Hebrew for this study by a process of translation, back translation, and comparison, and was piloted on 20 mothers of young children. This is the first report on the use of the CRI in Hebrew. The CRI produces three measures: current rituals as reported for each child (potential range 0–19), overall intensity or frequency of rituals as reported for the child (potential range 19–95), and age (in months) of onset of each ritualistic behavior. For the intensity scale, the Hebrew CRI had a Cronbach alpha lower-bound reliability estimate of .83. Scale reliability was assessed for items that loaded on to the original Evans et al. solution for the intensity scale. The "Just Right" scale (including items 1, 3, 4, 6, 11, and 16) had a Cronbach alpha lower-bound reliability of .74, and the "Repetitive Actions" scale (including items 2, 5, 8, 9, 10, 12, and 17) had a scale reliability of 0.69. Confirmatory factor analysis attempting to reproduce the Evans et al. two-factor solution to the CRI produced a poor fit. Exploratory factor analysis restricting the factors to an eigenvalue greater than 1 produced a six-factor solution, accounting for 59.4% of the variance. However, none of the factors corresponded to the "Just Right" or "Repetitive Actions" described by Evans et al., nor did they suggest clarifying conceptual distinctions; therefore, the complete questionnaire was used as a single scale.

Daycare Personnel Report

Behavior Problems. The Hebrew CBCL for 2–3-year olds (Auerbach, Yirmiya, & Kamel, 1996) was completed by the daycare teachers. The CBCL was chosen because of its excellent validity and reliability, and because for this age group, there are not many instruments available that are not maternal reports. Thirty-five daycare teachers, one or two from each center, completed the CBCL 2/3. Particular care was taken to choose, from each center, the teacher who knew the participating child best. Each teacher completed 5–7 CBCLs.

Data Analysis

Missing Data

All questionnaires with 3 items or fewer missing were used, and mean scores were substituted for missing values. Responses for 14 subjects for whom the data were too incomplete were not used in the analyses. The responses of these 14 did not differ significantly from those included in the analyses on any of the study variables.

RESULTS

Ritualistic Behavior

The CRI provides information on when each behavior was first noticed in the child. The mean ages of onset for the ritualistic behaviors described in the CRI for the Israeli sample are shown in Table I, and are compared to the age of onset reported by Evans et al. (1997) for the American sample. The ages of onset in the present sample

Table I. Age of First Occurrence of Ritualistic Behavior

	CRI item	Mean age (Study sample)	Mean age (Evans et al., 1997)
Q2	Been very attached to one favorite object?	18.79 (7.78)	13.85 (9.11)
Q7	Preferred the same household schedule or routine every day?	20.00 (10.92)	15.43 (11.06)
Q5	Had persistent habits?	20.45 (8.87)	15.80 (11.44)
Q11	Had strong preferences for certain foods?	21.37 (9.47)	17.14 (10.78)
Q19	Prepared for bedtime by engaging in a special activity or routine?	23.08 (9.76)	17.43 (11.17)
Q10	Repeated certain actions over and over?	24.13 (9.53)	18.09 (10.46)
Q12	Liked to eat food in a particular way?	20.78 (8.52)	18.68 (10.84)
Q16	Seemed very aware of certain details at home (such as flecks of dirt, imperfections in toys and clothes)?	26.42 (9.27)	19.58 (11.28)
Q1	Preferred to have things done in a particular order or in a certain way?	23.43 (7.78)	21.10 (10.92)
Q3	Seemed very concerned with dirt, cleanliness, or neatness?	24.02 (8.31)	21.75 (10.44)
Q4	Arranged objects or performed certain behaviors until they seem "just right" to him?	24.61 (8.52)	22.45 (10.45)
Q17	Strongly preferred to stick to one game or activity rather than change to a new one?	24.90 (8.92)	22.96 (12.18)
Q6	Lined up objects in straight lines or in symmetrical patterns?	25.40 (8.34)	23.65 (10.03)
Q9	Insisted on having certain belongings around the house "in their place"?	25.88 (7.83)	23.92 (10.89)
Q8	Acted out the same thing over and over in pretend play?	27.48 (7.83)	24.14 (10.79)
Q15	Collected or stored objects?	26.70 (9.18)	25.26 (12.03)
Q13	Seemed very aware of, or sensitive to how clothes feel?	22.72 (12.10)	25.29 (12.65)
Q14	Had a strong preference for wearing (or not wearing) certain articles of clothing?	28.29 (8.23)	25.92 (12.32)
Q18	Made requests or excuses that would enable him/her to postpone going to bed?	27.07 (9.32)	26.19 (11.68)

Note. Ages of onset in the two samples are correlated $r = 0.84$, $p < .001$. Mean difference between American and Israeli ages of onset: 3 months.

range between 19 and 28 months; they are higher than the ages of onset of the Evans et al. sample. For 18 of the 19 behaviors, the age of onset was later than in the Evans et al. sample; the mean difference was 3 months. A sign test shows this difference to be highly consistent ($p < .001$). The rank order of the onset of the items is highly preserved, and the correlation between ages of onset in the present sample and in the sample of Evans et al. is 0.84 ($p < .001$).

The number of current ritualistic behaviors for each child has a potential range of 0–19. The mean for the entire sample was 10.2 and the *SD* 5.2. For each ritualistic behavior item, the mother was asked whether the behavior worried her. For most items, over 98% of the mothers reported that they were not worried about the behavior. Two items that were endorsed as being worrisome by more mothers were "the child preferred certain foods" (10.1%) and "the child asked for things or made excuses to put off going to bed" (15.2%). The total worry expressed by each mother about the child's ritual behavior had a potential range of 0–19, and the mean of the sample was .57 with an *SD* of 1.1. There was no correlation between the number of current ritual behaviors and total maternal worry, nor was either of these variables correlated with the child's age.

The level of ritual behavior was assessed by the intensity 5-point scale of the CRI. The potential range was between 19, no ritual behavior, and 95—very intense for all 19 ritual behaviors. The mean intensity of ritual behavior was 55.4 with an *SD* of 11.1; the frequency of ritual behavior was not correlated with age in months or with maternal worry about ritual behavior.

No gender differences were found for any of the ritualistic behavior scores derived from the CRI.

Fears and Fearfulness

The FIYC produced information on overall intensity of fearful responses in the child, on the age of onset of each fear, and whether each fear was current (Table II). The overall intensity scale was reduced by factor analysis to produce four orthogonal factors: Monsters, Strangers, Harm, and Night Terrors. Significant correlations were found between age in months and the Monster and Harm subscales of the FIYC (.33 and .26 respectively, $p < .001$).

A gender difference was found for fear intensity on the total fear frequency scale, with girls reported to be more fearful (two-tailed; $t = 2.41$, $df = 203$, $p < .02$). Comparing the subscales of the fear inventory, girls were also reported to be more fearful of Strangers than were boys (two-tailed, $t = -2.9$; $df = 217$; $p < .004$). No gender difference was found for the three other fear subscales.

Table II. FIYC Factor Structure

Factor	Item	Item loading	Scale *M* (*SD*)
Monsters, $\alpha = .75$	(2) Afraid of certain stories	.73	
	(15) Afraid of certain TV characters	.71	
	(21) Afraid at children's plays	.66	
	(10) Afraid of an imaginary monster	.68	
	(20) Afraid of clowns or mimes	.59	8.7 (3.1)
Strangers, $\alpha = .60$	(17) Afraid of the doctor	.62	
	(1) Afraid of strangers	.67	
	(19) Afraid of being outside the home in crowded places	.62	
	(18) Preferred avoiding strange situations	.47	7.9 (2.6)
Harm, $\alpha = .45$	(11) Afraid of thieves, criminals, or terrorists	.45	
	(16) Was very afraid that he or another family member would be injured or sick	.59	
	(23) Was afraid of injections	.57	
	(3) Fear of death (his own or others)	.46	6.0 (1.9)
Night-Terrors, $\alpha = .55$	(6) Woke up crying, did not identify you, was difficult to wake and soothe?	.51	
	(4) Alarmed at sudden noises	.55	
	(12) Had difficulty falling asleep due to fears	.47	
	(13) Was afraid of flushing the toilet	.49	
	(7) Was afraid of the dark	.46	9.2 (2.4)

Note. Total variance accounted for 40%, analysis restricted to item loading of 0.45 or more.

Ritualistic Behavior, Fears, Behavior Problems, and Temperament

Intercorrelations for the study variables are shown in Table III. Ritualistic behavior for the entire sample was positively correlated with the four fear subscales and with the temperament dimensions of emotionality and shyness. There was no correlation between ritualistic behavior and behavior problems as measured by the CBCL. Externalizing behavior problems were negatively correlated with the fear subscale Strangers.

To investigate the consequences of ritualistic behavior further, the extremes of the distribution were selected. The top 10% ($n = 20$) and bottom 10% ($n = 22$) of the distribution for ritualistic behavior were contrasted using multivariate analysis of variance and univariate follow-up tests. Table IV below shows the F-values for the fear inventory and its subscales, temperament dimensions, and behavior problems as measured by the CBCL. Children high in ritualistic behavior were significantly more fearful than the children low in ritualistic behavior; they were also shyer and more emotional in temperament.

DISCUSSION

In this study, we explored ritualistic behavior of children 2–5 years of age through independent report of mothers and daycare personnel. We also examined the association of ritualistic behavior with age, fears, temperament, and behavioral problems.

Table III. Correlations of Ritualistic Behavior, Fears, Behavior Problems, and Temperament ($N = 228$)

		Rituals	Monsters	Strangers	Night-Terrors	Harm
Fears	Monsters	.17*				
	Strangers	.21**	.27**			
	Night-Terrors	.15*	.32**	.27**		
	Harm	.22**	.36**	.28**	.27*	
Temperament	Activity	−.02	−.13*	−.25**	.01	.01
	Sociability	−.05	.05	−.15	.11	.12
	Emotion	.21*	.13	.20**	.20**	.20**
	Shyness	.14*	.17*	.53**	.09	−.01
CBCL	Internalizing	.09	.06	.15*	.09	−.04
	Externalizing	−.06	.00	−.16*	−.03	.00

*$p < .05$.
**$p < .005$.

Table IV. Contrast of Top and Bottom 10% of the Distribution of Ritualistic Behavior Intensity

	Low ritualistic behavior group ($n = 22$)	High ritualistic behavior group ($n = 20$)	F-value	Significance
Maternal worry	.22	1.25	6.1	.002
Monsters	9.18	12.19	6.8	.014
Harm	6.23	8.58	6.1	.019
Strangers	8.65	11.89	11.5	.002
Night-Terrors	12.07	14.95	2.3	.14
Emotion-EAS	2.58	3.39	11.8	.002
Shyness-EAS	1.98	2.69	13.7	.001
Internalizing CBCL	6.09	9.38	1.6	.21
Externalizing CBCL	6.32	5.5	.18	.66

Note. Multivariate analysis of variance resulted in an overall $F = 3.09$, $df = 1, 34$, $p = .012$.

The ages of onset of the individual ritualistic behaviors in this Israeli sample were on average about 3 months later than that for American children (Evans et al., 1997). However, the order of appearance of the behaviors was highly conserved. It is not clear if the delay in onset of behaviors reported by Israeli mothers relative to American mothers reflects a real difference between Israeli and American children. The sample of Evans et al. included children who were much younger than this sample, which may have shifted the distribution of reported age of onset down for American children. Alternately there may be different memory or reporting biases in the two cultures. However, the extraordinary conservation of the order of appearance of behaviors in the two cultures suggests that the CRI has developmental validity, and that the behavior items must be closely linked to cognitive and physiological developmental processes.

The empirical study of childhood ritualistic behavior is quite new, even though many developmental theorists have discussed its nature, course, and function. Most theorists agree that childhood ritualistic behavior serves an adaptive end, by introducing order and predictability into an environment that is experienced by the child as essentially chaotic and uncontrollable. Although there was no test of this claim in this study, the results were consistent with the theory. Mothers of young children in Israel viewed the children's overall ritual behavior as normative. The level of ritualistic behavior and number of ritualistic behaviors currently in the child's repertoire were not correlated with maternal worry about ritualistic behavior. The daycare personnel may not have been aware of the child's ritualistic behavior, and there is no association between ritualistic behavior and their report of behavioral problems.

Although ritualistic behavior was viewed as normative, it was associated with fearfulness and with the temperament dimensions of shyness and negative emotion. However, like all correlational results, the interpretation is not straightforward. One possibility is that mothers who were more fearful and anxious themselves viewed their children in a more worried and fearful way. An alternate interpretation is that children who were more ritualistic in their behavior actually were more fearful and more given to shy and emotional temperament. If this is the case, it suggests that the function of the ritualistic behavior for the child may be an attempt to neutralize fears that arise in childhood. Fear of strangers, fear of imaginary characters such as monsters, fear of harm and death, and night-terrors all correlated significantly with overall frequency of ritualistic behavior. These fears were more salient for the child who by temperament was more prone to shyness and negative emotion.

Fear of Strangers and Strange Situations is a scale of the FIYC, which showed an interesting pattern of correlations with temperament scales. To fear strangers, a child must identify significant others, and then discriminate between the familiar and the unfamiliar. Although it is not necessary to fear strangers in order to form an attachment to one's primary caretaker, it is necessary to recognize them. In that sense, Fear of Strangers and Strange Situations may be of importance to normative development. Some empirical support for this notion can be gleaned from the fact that this FIYC subscale was positively correlated with Internalizing behavioral problems and negatively correlated with Externalizing behavioral problems, as reported by the daycare personnel. It is possible that children who are afraid to approach others may be more afraid of negative social evaluation and thus may be less likely to manifest externalizing behavioral problems. Links between behavioral inhibition in infancy and social phobia (Chavira & Stein, 1999) are consistent with this interpretation of the data.

The fear subscales in this sample were associated with age. Over this phase of development, children are

still probably developing the conceptual skills necessary to fear a growing number of stimuli. Ritualistic behavior was not correlated with age. These 3 years from 2 to 5 are probably the peak of ritualistic behavior, and leveling off must start later, probably over the school years. Evans et al., using a cross-sectional design, found that the drop in CRI scores started at around age 6. In a cross-sectional study of Israeli school children (Zohar & Bruno, 1997), it was found that compulsive ritualistic behavior declined from age 8 to age 14. In the current sample of young children this process has not yet started.

Girls were reported to be more fearful than boys. A gender difference was detected for the overall FIYC intensity scale, as well as for the fear subscale Strangers. These gender differences are consistent with other reports that girls were more fearful, more anxious, and more prone to anxiety disorders than boys (Zohar, 1999). In school age children, girls reported more fears than boys (Ollendick, 1983; Spence & McCathnine, 1993). In a cross-sectional study of fears in children 7–18 years old (Burnham & Gullone, 1997), girls reported higher levels of fear than boys did at each age level; however, level of fearfulness receded from age 7 onward. In Israeli school children, girls had higher state and trait anxiety, and the difference was more pronounced in the 14-year-old children than in the 8-year-old children (Zohar & Bruno, 1997). In this study, the gender difference was detected in young children.

Further clarification for the role of ritualistic behavior in early childhood may be found by comparing the upper and lower 10% of the overall frequency of ritualistic behavior. Contrasting the extremes of the distribution showed that children in the high ritualistic behavior group were significantly more fearful on all four fear sub-scales. They were temperamentally shyer and more prone to negative emotion. These findings are consistent with the correlations found for the complete sample, and thus not surprising. However, mothers were more worried about ritualistic behavior of the high than of the low ritualistic behavior group. This contrast shows that although on the whole, ritualistic behavior in children 2–5 years of age is viewed as normative, those children reported by their mothers as being the highest in ritualistic behavior do appear somewhat worrying to adults around them.

Several developmental researchers have shown that there are children whose temperamental constellation set them on a developmental course that separates them from other children. Kochanska (1993, 1995) showed how children's temperament evoked and structured parental practice and affected the process underlying moral development. Kagan (1997) showed that infants, who by temperament were more distressed by novel stimuli as babies, were more likely to become shy and subdued as children (Kagan, 1997). Toddlers who were extremely shy and inhibited in temperament at age 2 developed less social competence by the age of 4 (Fox et al., 1995). Longitudinal research on inhibited babies shows that they are more likely to develop anxiety disorders as children (Rosenbaum, Biederman, & Bolduc-Murphy, 1993). It is possible that the children 2–5 years of age who at the top of the distribution of ritualistic behavior, in this study, were seen as shy, emotional, and fearful are on a developmental course, which will have implications for their later social development. These children were not aggressive in peer play, and those of them who were fearful did not act out; if anything, they internalized. It is possible that this constellation of behavior may cause their problems to be overlooked by adults because they do not show overt problems. These children may also be more prone to develop childhood obsessive–compulsive disorder, anxiety disorders, or affective disorders. It is also possible that this constellation of ritualistic behavior, fearfulness, shyness, and emotional temperament, and internalizing behaviors may be a transitory developmental phase, leaving no residue. Controlled prospective studies are needed to determine the predictive power of the high levels of ritualistic behavior in young children.

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