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(DIS)CONTINUITY AND (IN)STABILITY OF MOTHER-TODDLER TOY-PLAY BEHAVIOUR

Abstract

The present study focused on investigating two aspects of (in)consistency in toddlers' interactive toy-play over time. 19 Slovenian mother-toddler dyads were videotaped at their homes when the toddlers were 24 months old, and again at the age of 30 months. The mothers were instructed to play with their children the way they usually did, with the toys they usually used. The initial five minutes of the recordings were coded within 30-second-time periods using the Observational Checklist for Coding Mother/Experimenter-Infant/Toddler Behaviour while Playing with Objects and the Coding Manual. The coding system consisted of variables describing the dyad's behaviour, the mother's behaviour toward the toddler, the toddler's behaviour toward the mother, his/her behaviour toward the toys, and his/her types of play (cognitive and social). The results show that most aspects of the interpersonal behaviour fit the continuity-stability model, while toddlers' play behaviour and types of play generally fit the continuity-instability model of development for dyadic toy-play behaviour.

Key words: toy-play, interactive play, toddlers, behavioural continuity, behavioural stability
Continuity describes consistency at the absolute level of behaviour in a group over time. For example, a continuous behaviour would be one performed by a group of toddlers at approximately the same level when observed at a given time, and again when observed as the group grew older. Stability describes consistency in the relative ranks of individuals in a group with respect to the expression of behaviour over time. For example, a stable behaviour would be one that some toddlers display relatively frequently when observed at a given time, and again perform frequently when they are older. Continuity in a group and stability in individuals are said to be independent (Bornstein, Brown & Slater, 1996). In the present research, we focused on one of several possible types of individual stability, namely, the stability of individual behaviour. This model of stability suggests that a certain behaviour at time one correlates with the same behaviour at time two (Bornstein, 1998; Bornstein & Sigman, 1986). The same behaviour was assessed twice over time, and then checked to see if the rank order of individuals within the group had been maintained.

In this paper, we examine toddlers' interactive object-play with their mothers according to how the behaviour of mothers, toddlers and dyads varies at a group and an individual level during the first half of the third year of a child's life. Much research has been done to investigate the developmental course of play in infancy and toddlerhood, i.e. how patterns of play change with the child's age at a group level (e.g. Belsky & Most, 1981; Bornstein, Haynes, Legler, O'Reilly & Painter, 1997; McCune-Nicolich, 1981; Piaget, 1962), and both universality and cultural variations have been reported (e.g. Bornstein, Haynes, Pascual, Painter & Galperin, 1999; Goncu, Mistry & Mosier, 2000; Tamis-LeMonda, Bornstein, Cyphers, Toda & Ogino, 1992; Zupančič, 1999). Less attention has been paid to the consistency of children's play at an individual level, i.e. the stability of their play behaviour. Therefore, our interest was focused on investigating mother-toddler object-play behaviour, based on a larger study of the development of early solitary and interactive object-play in two

different societies (Zupančič, 1999), including both aspects of (in)consistency in toddlers' interactive object-play behaviour, namely, at a group and an individual level. Four possible models of interactive object-play development, proposed by Bornstein (1998), were tested with respect to specific object-play behaviour during toddler-mother interaction: continuity-stability, discontinuity-stability, continuity-instability and discontinuity-instability.

At a group level, some marked changes (discontinuities) in the form of parent-child communication during the first two years have been well established. Schaffer (1984) describes five different stages of communicative development occurring within this developmental period: from the infants' display of biological rhythms, which the parent comes to respond to and predict (the first two months) and engagement in face-to-face communication (two to four months) to shifting attention to objects (five to seven months), social interaction via objects (eight to sixteen months) and symbolic communication during play (second half of the second year). While children rapidly change their behaviour, parents recognize these changes and adapt their own behaviour in ways they assume are appropriate. Consequently, changes in children's and adults' behaviour affect the form of their interactions. However, it has been found that mothers of six- to twenty-four-month-olds do not entirely differ with respect to their interactive object-play behaviour. Specific types of mothers' behaviour, e.g. kind speech, warmth, degree of interest in play, amount of involvement in play and encouragement of the child to play, amount of verbal expressions, explanations, and intensity of emotional expressiveness, appeared to be remarkably similar in a cross-sectional study by Zupančič and Cecić Erpič (1998). On the other hand, the mothers of toddlers (18- and 24-month-olds) were less disruptive and more sensitive to the child's play intentions and more relaxed and focused on play objects, compared to the mothers of infants (6- and 12-month-olds). In addition, mother-toddler interaction ran more smoothly, the partners responded to each other more and seemed more satisfied during object-play than mother-infant dyads. These differences in dyadic behaviour are presumed to be related to age differences in the children's social reactions regarding objects. Toddlers were more attentive to elements of objects within a context and less to objects as a whole, and sustained object-play longer via the mothers' stimulation, playing more constructively, less in a functional, unoccupied, onlooker mode, and more in a pretend and active social form.

A follow-up study concerning 18- and 24-month-olds in two different cultural communities (Zupančič, Kavčič & Cecić Erpič, 1999) revealed an age increase in the smoothness of mother-toddler play interaction, the amount of toddlers' social speech, and their attentiveness to the elements of the toys within a context, as well as a significant change in the sophistication of their play, especially with regard to their social involvement in play. Nevertheless, many of the specific aspects of behaviour showed continuity, e.g. toddlers' emotional expressiveness towards their mothers, their perseverance with play objects, and their attention to the details of play objects. The continuities and discontinuities determined probably depend on the type of behaviour observed. When focusing on the quantity of a certain behaviour (e.g. the amount of mothers' speech), more continuities are to be expected than in cases where attention is paid to the quality of behaviour (e.g. what the mothers talk about). Youngblade and Dunn (1994), for example, found that after toddlers' second year the form of a caregiver's responses changed as children became more proficient players. The caregiver's discourse also changes as a function of the child's age with respect to the quality of the partner's contribution of pretend conversation (Labrell, Deleau & Juhel, 2000).

At the individual level, moderate stability in mental development from infancy to childhood has been widely established (e.g. Bornstein, 1998; Bornstein & Sigman, 1986; Bornstein, et al., 1996), as well as high to moderate stability in children's temperamental traits (e.g. Thomass & Chess, 1984; Trotter, 1987). Moderate stability in toddlers' language ability was also found throughout the second year of life, with the level of ability at one year significantly predicting the amount and complexity of solitary pretend play at two years of age (Puklek &

Zupancic, 1999). With respect to the mothers' interaction style (communication and object-oriented) during object-play with their infants and toddlers (3 to 18 months of age), Service (1995) demonstrated significant stability in mothers' behaviour as a function of the mothers' characteristics.

In a study by Bornstein et al. (1997), two-year-olds and their mothers showed significant short-time stability in their interactive symbolic play behaviour, which had a medium to large effect size and obtained across play contexts (home and laboratory). The toddlers and their mothers showed substantial individual variation and stability between assessments and settings, and they performed similarly across different interpersonal and environmental contexts. As the authors state, the cross-context consistency and stability of symbolic play in toddlers are consonant with a maturational/structural view of the development of play (Piaget, 1962). As stability "in the mother" as well as stability "in the child" affect the child's developmental outcomes (Bornstein, 1998), and early childhood is a fast-developing and highly variable time (Bornstein, et al., 1997), it is useful to know whether a state of mother-toddler interaction observed in a toddler at a given age is reasonably similar to that observed in the same toddler at another age.

In summary, the present study compared the aspects of play behaviour in mothers, the dyads and toddlers during interactive toy-play at the toddlers' homes, evaluating their rank positions in a peer group with respect to their expression of behaviour during the initial episodes of interactive toy-play over a toddler age period of 24 to 30 months. In other words, the question was whether the toddlers' later behaviour could be predicted from identical earlier behaviour. The continuity of their behaviour was also observed across a six-month time period. As play has been proved to reflect, at least in part, the individual characteristics of mothers and toddlers, as well as the maturational characteristics of toddlers, we predicted that both discontinuities and continuities would be found with respect to specific behaviour.

Method

Participants

Nineteen Slovenian toddlers and their mothers participated in this study. At the time of the first observation, the toddlers were 24 months old, while at the time of the second they were 30 months old. All of them were full-term babies, none of whom showed any developmental delay at the time of sampling, and all had been attending nursery school since 12 months of age (Zupančič, 1997a). The toddlers were equally represented in terms of gender (11 girls and 8 boys; $\chi^2=0.47$, $df=1$, $p=0.491$) and the level of education of their mothers (9 mothers with secondary and 10 mothers with higher education; $\chi^2=0.05$, $df=1$, $p=0.819$). The participants lived in different towns or larger urban areas in Slovenia.

Instruments

- a. Observational Checklist for Coding Mother/Experimenter-Infant/Toddler Behaviour while Playing with Objects (Zupančič, 1997b). The inter-rater reliability (two successive inter-rater observations) is satisfactory: *Kendall Tau b*=0.85 (Zupančič & Ceci Erpič, 1997). The Checklist consists of five-point scales which assess:
 - the mothers' frame behaviour (kind speech, warmth, interest in interactive play, sensitivity, being relaxed, non-disruptive, talkative, involved in play, stimulating, emotionally expressive, giving explanations),
 - the toddlers' frame behaviour (watching the mother, being responsive, giving positive responses, being emotionally expressive towards the mother, interested in interactive play, social speech, satisfaction, seeking proximity),

- the dyads' frame behaviour (smooth interaction, mutual responsiveness, physical and eye contact, dyad satisfaction, mutual vocal communication and play initiative),
 - the toddlers' play behaviour (emotionally expressive towards toys, vocal communication with toys, attentive to play context and separate elements, active, passive, self-initiated and mother-initiated involvement) ,
- and three-point scales which assess:
- cognitive types of play (functional play, immediate imitation, pretend, comprehensive, construction and rule play) and
 - social types of play (contact, unoccupied, onlooker, onlooker with involvement, solitary, parallel and associative play).

In addition, five composite items were constructed: mothers', toddlers' and the dyads' frame behaviour, toddlers' frame behaviour, and active social play. In order to obtain values for each composite, the scores for certain basic items (see Notes for Tables 1 through 6) were averaged, except for the active social play composite, which is a sum of three items.

- b. A manual for coding toddlers' play with objects in independent and interactive conditions (Zupančič, Gril, Cecić Erpič & Puklek, 1999). Each category (five for behaviour, three for play types) for each of the aspects of behaviour included in the Checklist is described with respect to a 30-second time interval.
- c. Free choice of toys: the toys which mother-toddler dyads used during the first observation were approximately as structured as during the second observation ($t=-1.78$, $df=18$, $p=0.092$; Kavčič, in preparation). At both times the toys were, on average, relatively highly structured.

Procedure

After obtaining the mothers' written consent, each dyad was visited at home by two experimenters (at least one of whom was a developmental psychologist). The experimenters first established contact with the toddler and his/her mother until both seemed to feel comfortable in front of the strangers and the camera. Mothers were given instructions to play with their toddlers the way they usually did, with the toys they usually used. They could change toys during play if either the mother or the toddler wished to do so. Interactive mother-toddler toy-play was videotaped for ten minutes, starting at the point when both of the partners showed an interest in interactive toy-play.

The first five minutes of these recordings were coded in 30-second time intervals, using the Observational Checklist and the Manual. Each recording was coded by two trained developmental psychologists (altogether six assessors), who had to reach a consensus regarding the observed behaviour. The score for an individual variable was obtained by adding up the pondered frequencies in each of the five/three categories for the five-point/three-point scales, respectively. Ponder 5 (3 in the case of three-point scales) was assigned to the category "highly intense behaviour" or "behaviour present throughout the 30-second interval" and ponder 1 to category "behaviour not present at all".

Results

(Dis)continuity, i.e. the change or consistency of all the observed aspects of behaviour in a group of 19 mother-toddler dyads over a 6-month time period, was estimated using a t-test for paired samples. In order to examine whether these aspects of behaviour show stability or instability over time, Pearson's correlation coefficient procedure was used.

Table 1. Mothers' frame behaviour

MOTHERS' BEHAVIOUR	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	$t_{df=18}$ (<i>p</i>)	<i>r</i> (<i>p</i>)
Kind speech	38.87	9.54	41.52	7.54	-2.65	-1.39 (0.181)	0.55 (0.015)
Warm	39.21	8.24	42.50	5.87	-3.29	-1.95 (0.067)	0.50 (0.029)
Interested	44.53	7.42	45.13	7.48	-0.60	-0.45 (0.662)	0.69 (0.001)
Sensitive	42.04	9.48	43.76	8.17	-1.72	-1.19 (0.251)	0.75 (0.000)
Relaxed	41.33	9.19	41.54	6.93	-0.21	-0.12 (0.904)	0.58 (0.009)
Non-disruptive	47.12	6.74	48.06	2.63	-0.95	-0.60 (0.558)	0.13 (0.599)
Talkative	37.57	7.59	37.50	7.31	0.06	0.04 (0.968)	0.62 (0.005)
Involved	42.45	8.96	44.25	7.33	-1.81	-1.02 (0.323)	0.56 (0.012)
Stimulating	36.18	8.55	34.79	8.28	1.39	0.95 (0.356)	0.71 (0.001)
Emotionally expressive	24.16	5.79	27.23	5.77	-3.07	-2.25 (0.037)	0.47 (0.042)
Explaining	23.43	6.87	23.08	6.41	0.35	0.17 (0.865)	0.10 (0.671)
Mothers' frame behaviour*	37.90	6.05	38.99	5.75	-1.09	-1.30 (0.209)	0.81 (0.000)

NOTE. * Composite includes all the items above; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

The results show that the mothers' frame behaviour during toy-play with their toddlers was relatively continuous and highly stable during the six-month time interval. This also applied to most of the separate items included in the composite: kind speech, warmth, interest, sensitivity, being relaxed, involvement, stimulating behaviour and amount of speech also showed continuity and stability. Mothers' disruptive/non-disruptive behaviour and the amount of explaining they did were also continuous, with the correlations between the first and second observations positive but low. Mothers' emotional expressions towards their toddlers seemed to be stable, but discontinuous: mothers were more emotionally expressive towards 30-month-old than towards 24-month-old toddlers.

Table 2. Toddlers' frame behaviour

TODDLERS' BEHAVIOUR	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	$t_{df=18}$ (<i>p</i>)	<i>r</i> (<i>p</i>)
Watches mother	14.42	3.44	14.97	3.99	-0.55	-0.44 (0.667)	-0.09 (0.713)
Responsive	39.07	8.99	40.05	7.87	-0.99	-0.45 (0.657)	0.37 (0.123)
Positive responses	37.20	8.41	38.03	7.08	-0.83	-0.41 (0.690)	0.34 (0.155)
Emotionally expressive	18.07	5.37	20.02	5.18	-1.96	-1.32 (0.204)	0.25 (0.307)
Interested	35.75	9.39	38.30	8.11	-2.55	-1.09 (0.292)	0.33 (0.173)
Social speech	25.11	8.12	24.21	5.89	0.90	0.50 (0.620)	0.42 (0.072)
Satisfied	39.20	6.91	37.33	5.95	1.87	1.35 (0.194)	0.57 (0.011)
Seeks proximity	33.33	5.75	31.29	2.11	2.04	1.62 (0.123)	0.31 (0.200)
Toddlers' frame behaviour*	28.27	5.94	29.26	4.45	-1.00	-0.77 (0.450)	0.44 (0.058)

NOTE. * Composite includes these items: watches mother, responsiveness, positive responses, emotional expressiveness, interest and social speech; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

The toddlers' frame behaviour showed continuity and moderate stability (due to the low number of participants, the correlation coefficients are not statistically significant, although they are relatively high) over the six-month time interval. High stability (and continuity) was evident only for the toddlers' satisfaction during toy-play with their mothers.

Table 3. Dyads' frame behaviour

DYADS' BEHAVIOUR	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	$t_{df=18}$ (<i>p</i>)	<i>r</i> (<i>p</i>)
Smooth interaction	45.29	5.74	45.76	3.63	-0.47	-0.44 (0.665)	0.60 (0.007)
Mutual responsiveness	38.38	9.33	38.64	8.35	-0.26	-0.14 (0.893)	0.56 (0.012)
Body contact	19.71	11.80	14.15	4.16	5.56	2.26 (0.036)	0.43 (0.066)
Eye contact	13.67	2.75	14.29	3.59	-0.62	-0.56 (0.583)	-0.16 (0.523)
Dyad satisfied	40.95	6.36	38.16	6.82	2.78	1.73 (0.101)	0.44 (0.063)
Mutual vocal communication	24.95	8.45	26.14	6.84	-1.19	-0.56 (0.581)	0.28 (0.244)
Play initiative	31.03	7.16	25.78	7.37	5.25	2.66 (0.016)	0.30 (0.216)
Dyads' frame	30.49	5.22	29.52	3.85	0.97	0.99	0.60

behaviour*			(0.334)	(0.007)
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NOTE. * Composite includes these items: smooth interaction, mutual responsiveness, body and eye contact and dyad satisfied; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

Likewise, the dyads' frame behaviour showed continuity and stability over the six-month time interval. Changes with the toddlers' age were evident in body contact between play partners (moderate stability) and play initiative (instable). There was more physical contact between mothers and toddlers at the first observation than six months later. When toddlers were 24 months old, they initiated play approximately as frequently as their mothers, while six months later play was initiated relatively more often by mothers than toddlers.

Table 4. Toddlers' play behaviour

PLAY BEHAVIOUR	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	<i>t</i> _{<i>df</i>=18} (<i>p</i>)	<i>r</i> (<i>p</i>)
Emotionally expressive	19.62	3.73	21.44	5.39	-1.82	-1.07 (0.298)	-0.29 (0.220)
Vocal communication	32.05	2.88	31.61	3.01	0.45	0.44 (0.668)	-0.15 (0.528)
Attentive to play context	38.38	8.02	39.27	7.26	-0.89	-0.40 (0.692)	0.21 (0.382)
Attentive to elements	24.26	9.12	18.73	6.75	5.54	1.93 (0.070)	-0.23 (0.354)
Active involvement	48.01	7.40	47.59	7.95	0.42	0.20 (0.843)	0.30 (0.213)
Passive involvement	15.22	10.39	19.51	12.33	-4.29	-1.19 (0.250)	0.05 (0.836)
Self-initiated involvement	41.54	8.06	32.66	10.73	8.88	2.98 (0.008)	0.06 (0.798)
Mother-initiated involvement	21.70	11.75	34.44	11.02	-12.74	-3.56 (0.002)	0.06 (0.794)
Toddlers' play behaviour*	34.52	3.49	34.98	4.19	-0.46	-0.39 (0.699)	0.13 (0.598)

NOTE. * Composite includes these items: emotionally expressive towards toys, vocal communication with toys, attentive to play context and active involvement; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

The results regarding toddlers' composite play behaviour reflect continuity and instability. This was also evident for toddlers' emotional expression towards toys, vocal communication with toys (vocalisation, words and sentences), attention to the play context (to elements of a toy or to different toys connected within the play context), and active and passive involvement in interactive play. Toddlers' attention to separate elements, self-initiated and mother-initiated play was also stable, but not continuous. Toddlers more often initiated play at 24 months of age than 6 months later, when interactive play was initiated more often by mothers than at the time of the first observation. Toddlers tended to be more attentive to separate elements at 24 than at 30 months of age, although this change was not statistically significant.

Table 5. Cognitive play types

COGNITIVE PLAY TYPES	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	$t_{df=18}$ (<i>p</i>)	<i>r</i> (<i>p</i>)
Functional	5.49	5.50	4.42	4.71	1.06	0.62 (0.545)	-0.08 (0.742)
Immediate imitation	0.58	0.90	0.16	0.37	0.42	1.80 (0.088)	-0.12 (0.621)
Pretend	6.92	6.96	8.54	8.47	-1.62	-0.73 (0.472)	0.24 (0.329)
Comprehensive*	16.61	7.12	19.14	6.23	-2.53	-1.19 (0.248)	0.04 (0.860)
Construction	1.92	5.75	0.32	0.95	1.61	1.18 (0.253)	-0.12 (0.631)
Rule play	0.89	3.90	0.00	0.00	0.89	1.00 (0.331)	/

NOTE. * Comprehensive play includes: labelling things or actions, following and giving directions; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

Functional play decreased, while pretend and comprehensive play increased with a toddler's age; however, none of these changes were statistically significant. Construction play was relatively rare, and was observed mainly in dyads who played with blocks. Immediate imitation was already very rare at 24 months, and further decreased by the age of 30 months. There was some simple rule play at 24 months. The results show instability in all the observed cognitive play types during the six-month time interval.

Table 6. Social play types

SOCIAL PLAY TYPES	24 months		30 months		(DIS)CONTINUITY		(IN)STABILITY
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Md</i>	$t_{df=18}$ (<i>p</i>)	<i>r</i> (<i>p</i>)
Contact	0.32	0.58	0.50	1.25	-0.18	-0.53 (0.603)	-0.23 (0.348)
Unoccupied	2.45	2.42	2.15	3.31	0.30	0.40 (0.693)	0.39 (0.100)
Onlooker	2.42	3.01	5.09	3.99	-2.67	-2.30 (0.033)	-0.02 (0.930)
Onlooker with involvement	15.97	7.82	16.45	8.70	-0.47	-0.23 (0.821)	0.41 (0.078)
Solitary	10.33	6.91	7.06	6.28	3.27	1.70 (0.106)	0.20 (0.422)
Parallel	0.05	0.23	0.21	0.92	-0.16	-0.72 (0.482)	-0.06 (0.821)
Associative	0.37	1.38	0.16	0.69	0.21	0.58 (0.570)	-0.06 (0.793)
Active social play*	16.39	8.06	16.82	8.51	-0.42	-0.19 (0.848)	0.35 (0.142)

NOTE. * Composite includes these items: onlooker with involvement, parallel and associative play; *M* = average value; *SD* = standard deviation; *Md* = mean difference; *t* = t-test; *df* = degrees of freedom; *r* = Pearson's correlation coefficient; *p* = statistical significance.

Unoccupied play and onlooker play with involvement showed continuity and relatively high (though not statistically significant) stability. The results reflect instability and discontinuity for onlooker play, which was more frequent at 30 months than six months before. Solitary play was unstable, and decreased slightly over the six-month time interval. Contact, parallel and associative play were rare. Onlooker play with involvement, parallel play and associative play were included in the composite item "active social play". This composite showed continuity and instability over the six-month time interval.

Discussion

The results of the present study show that mothers' behaviour towards toddlers, toddlers' behaviour towards mothers and dyads' behaviour all generally fit the continuity-stability model of interactive object-play development. Therefore, most of the behaviour observed did not change significantly over the six-month time interval. In addition, the rank order of individuals within the group with regard to mothers', toddlers' and dyads' frame behaviour was maintained over time. Most of the correlation coefficients between the same behaviour at the first and second observations were moderate to high in size, although they were not all statistically significant, due to the small sample size. However, there were a few specific aspects of behaviour that could be better described by the discontinuity-stability model (for example, a decrease in body contact, an increase in mothers' warmth and a tendency to increase emotional expression towards their children) or the continuity-instability model (mothers' disruptions and explanations, toddlers' emotional expression, eye contact and mutual vocal communication).

Toddlers' play behaviour fit the continuity-instability model. Most aspects of toddlers' play behaviour during interactive play with their mothers showed consistency over a six-month time period, while their play behaviour at 30 months of age could not be predicted from their behaviour at 24 months of age. However, there was a significant change over time in terms of play initiative. Over the six-month time period toddlers' involvement in interactive play became more mother-initiated and less self-initiated, which may reflect toddlers' increasing ability to accept and respond to a partner's play suggestions. In addition, 30-month-olds tended to pay less attention to individual elements than six months earlier, a decrease that was already observed during the second year of toddlers' lives (Zupancic et al., 1999).

Most of the cognitive as well as social types of play also fit the continuity-instability model. Moderate stability was evident only in unoccupied and onlooker play with involvement. Individual rank positions in a peer group with respect to other types of play (cognitive and social) were not maintained over the six-month time interval. The results show a significant increase in the frequency of onlooker play over time (discontinuity-stability model), which is consistent with the observed increase in mother-initiated play involvement. It should be pointed out that specific play types (e.g. rule play, parallel and associative play) were very rare, since these only begin to emerge during the third year of a toddler's life (Howes, Unger & Seidner, 1989).

In summary, the results show stability of mothers' behaviour towards toddlers, toddlers' behaviour towards mothers and dyads' behaviour, while toddlers' play behaviour and types of play during interactive toy-play with mothers were found to be unstable over the six-month time interval. The stability observed in mothers' and toddlers' interpersonal behaviour is consistent with previous research (Zupančič et al., 1999), and can be explained as a function of the mother's personality (Service, 1995) and the child's mental development (Bornstein, 1998) and temperamental traits (Thomass & Chess, 1984).

The findings of the present study support the hypothesis that certain specific aspects of behaviour show continuity, while other ones show discontinuity, i.e. the continuities and

discontinuities determined seemed to depend on the type of behaviour observed. We expect that more developmental changes in behaviour during interactive mother-toddler toy-play would be obtained in a study focusing on qualitative aspects of behaviour, especially on conversational aspects, since with children's increasing age the verbal component of play becomes more and more important (e.g. Duran, 1995). We also presume that some changes in certain cognitive play types might be found to occur with toddlers' increasing age if specific forms of symbolic play, for example, were observed. But these assumptions need to be tested by further research.

Generalization of these results requires some caution, and some methodological limitations of the present study should be borne in mind. First of all, the results were obtained using a small sample of mother-toddler dyads. In addition, all the participants lived in larger urban settings, and the sample included only mothers with secondary or higher education. The sample was, therefore, not representative with regard to educational background and place of residence, while it was highly representative with respect to toddlers' gender, nuclear family organisation and the existence of one or no siblings at this age. It is also important to remember that the observation period was short, as only the initial five minutes of interactive mother-toddler toy-play were analysed, and thus some of the developmental changes might not have been detected. Therefore, longer observation periods or time sampling would be recommended for future research.

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