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Psychology & Health

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title-content=t713648133>

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Online Publication Date: 01 May 1998

To cite this Article Van Ijzendoorn, Marinus H., Bakermans-kranenburg, Marian J., Falger, Paul R. J., De Ruiter, Corine and Cohen, Leo(1998)'Type a behavior pattern in mothers of infants: An exploration of associations with attachment, sensitive caregiving, and life-events',*Psychology & Health*,13:3,515 — 526

To link to this Article: DOI: 10.1080/08870449808407307

URL: <http://dx.doi.org/10.1080/08870449808407307>

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TYPE A BEHAVIOR PATTERN IN MOTHERS OF INFANTS: AN EXPLORATION OF ASSOCIATIONS WITH ATTACHMENT, SENSITIVE CAREGIVING, AND LIFE-EVENTS

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(Received 9 April, 1996; in final form 20 November, 1996)

In the present study, 83 lower- to upper-middle class mothers of first-born, 12-month-old infants were interviewed with the Adult Attachment Interview (George, Kaplan, and Main, 1985), and completed the Groninger Intelligence Test (Luteijn and Van der Ploeg, 1982). Eighteen months after the beginning of the study, 67 mothers (81% of the original sample) were interviewed with the Structured Interview (Rosenman, 1978), and were observed during a brief, semi-structured play session at home with their child – at that time a 2.5-years-old toddler. They also completed a checklist about major life-events that had occurred during the past 18 months. A large majority of these mothers of young children (81%) showed Type A behavior patterns. The job of parenting, indeed, appears to be stressful. Attachment and Type A behaviors, however, did not seem to be related, probably because the influence of attachment is restricted to the regulation of emotions in intimate relationships. Yet, Type A behavior predicted a more sensitive parenting style than Type B did. All mothers who experienced negative life-events or serious health problems in the recent past showed Type A behavior patterns. Our findings show that the Structured Interview can be applied in a valid manner to mothers of young children passing through a demanding phase in their lives. Further research is needed to uncover the causes of the high prevalence of Type A behaviors in young mothers.

KEY WORDS: Type A behaviors, mothers, adult attachment, sensitive parenting, life events.

The Type A behavior pattern has originally been defined as aggressive involvement in a chronic, incessant struggle to achieve more and more in less and less time (Friedman and Rosenman, 1959). The pattern includes impatience, hostility, a sense of time-urgency, and feelings of insecurity, and it has been suggested to stem from absence of basic trust in others and lack of security in relationships with caregivers, early in life (Powell, 1992; Williams, Barefoot, and Shekelle, 1985). Type A behaviors are important because of their status as a risk factor in the development of coronary artery disease (CAD; Booth-Kewley and Friedman, 1987; Haynes and Matthews, 1988), in particular in the general population before age 50 (Matthews, 1988). In recent years, hostility has been found to be a strong predictive component of Type A behavior, and it has been suggested that

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hostility would not only predispose to increased risk of CAD but also to increased cancer morbidity and mortality (Smith, 1992; Smith and Anderson, 1986).

More recently, interest in Type A behaviors has broadened to include negative affective states, in particular anxiety and depression (e.g., Watson and Clark, 1984; Watson and Pennebaker, 1989), as possible consequences of Type A behaviors that over the course of the adult life-span may have become dysfunctional (Suls and Wan, 1989). In future heart patients, dysfunctional Type A behaviors in adult men may lead to manifestations of mental and physical exhaustion that highly correlate with uncontrollable stressors at work prior to a non-fatal cardiac event (i.e., myocardial infarction) (Falger and Schouten, 1992), or sudden cardiac death (Appels and Otten, 1992). In women, either heart patients or hospital controls, holding a job and simultaneously taking care of the house-hold in particular were most strongly associated with elevated exhaustion scores (Appels, Falger and Schouten, 1993).

If we consider Type A behaviors as inadequate regulations of hostile and angry emotions, most probably going back to early childhood, it may be fruitful to explore its associations with attachment (Thoresen and Pattillo, 1988). In attachment theory, children's relationships with their primary caregivers are seen as the social context in which they learn to regulate their emotions in stressful situations (Cassidy, 1994; Sroufe and Waters, 1977). In secure relationships with sensitive caregivers, children learn to communicate their feelings of anxiety, anger, and sadness openly, and they receive (parental) support in regulating these so-called negative emotions. Insecure relationships, however, do not provide enough opportunities to process negative feelings in constructive ways, and insecure children may, therefore, develop hostile-avoidant or angrily-involved strategies of dealing with emotions, when under stress (Ainsworth, Blehar, Waters, and Wall, 1978; Main, 1990). Woodall and Matthews (1989) documented the associations of Type A behaviors in children with a less supportive family climate. In recent studies on attachment from infancy to adulthood, it has been shown that early attachment patterns are relatively stable over time, at least in stable circumstances (Beckwith, Cohen and Hamilton, 1995; Hamilton, 1994; Waters, Merrick, Albersheim and Treboux, 1995), and that insecure adolescents and adults indeed appear to be more hostile and angry than secure persons (Dozier and Kobak, 1992; Kobak and Sceery, 1988).

Although several studies on Type A behaviors in women have been carried out (e.g., Haynes and Feinleib, 1980; Kelly and Houston, 1985), few of these studies have focused on women in their roles as mothers of young children. An important exception is Forgays' (1992) study on Type A behavior and parenting stress in mothers of infants. She showed that Type A mothers reported higher levels of child-related stress and personal stress than Type B mothers. Nonpaid employed mothers appeared to be more stressed in their role as a mother than paid employed mothers (Forgays, 1992). In the current study, we will describe Type A behavior patterns in mothers of infants, and relate these patterns to major life-events, including the birth of a second child. Because of the stressful nature of the maternal role in general, we expect mothers to be especially vulnerable to life-events that may disrupt the established routines of child-rearing and family life.

To our knowledge studies on the consequences of parental Type A behaviors for parenting are still scarce. In a path finding study on elementary school children, Matthews (1977; Matthews, Glass, and Richins, 1977) found that Type B mothers tended to push their Type A children harder than their Type B children, and that Type A mothers were less demanding with their Type A children than Type B mothers were. With younger children, parents may be more able to dominate the parent-child interactions, and the occurrence of sensitive, less demanding parenting may be more dependent on Type B behavior

in the adult than in the infant, comparable to mothers' apparent dominance in shaping the quality of the infant-mother relationship (Van IJzendoorn, Goldberg, Kroonenberg, and Frenkel, 1992). Forgays (1992) suggests that parental Type A behaviors may very well be functional in the competitive employment sphere, but that these may hamper the patient, stress-free, and sensitive parenting that will optimally foster the emotional development of a young child. Sensitive parenting has been defined as the parents' ability to perceive accurately the children's signals and communications, and to respond to them appropriately and promptly (Ainsworth *et al.*, 1978).

In sum, we will explore the idea that in mothers of young children Type A behaviors may be related to insecure adult attachment. Furthermore, we will focus on the relations between Type A behaviors and sensitive parenting. Finally, the associations between major life-events and Type A behaviors will be studied. Our hypothesis is that the Type A behavior pattern is not a rigid trait, but is amenable to environmental influences. In particular, periods of extreme stress may urge a Type B individual to adapt to a Type A mode of emotion regulation (Rosenman, 1978). We expect a rather high prevalence of Type A behavior patterns in mothers of infants, which may provide a unique window on the associations of Type A behaviors with attachment, sensitive caregiving, and particular life-events.

METHOD

Subjects

The present study was part of a larger study on the stability and validity of the Adult Attachment Interview (Bakermans-Kranenburg and Van IJzendoorn, 1993). Eighty-three mothers of first-born, 12-month-old infants were interviewed with the Adult Attachment Interview (AAI; George, Kaplan, and Main, 1985), and completed the Groninger Intelligence Test (Luteijn and Van der Ploeg, 1982). The mothers were between 19–33 years of age (mean age: 27.3), and their mean educational level was 3.7 (SD = 0.9, min = 2, max = 6) on a scale ranging from 1 (=less than 6 years of schooling) to 6 (=at least 16 years of schooling). Forty of them were mothers of girls. They were all living in the Netherlands. Eighteen months after the beginning of the study 67 mothers (81% of the original sample) were interviewed with the Structured Interview (Rosenman, 1978), and were observed during a play session at home with their child – at that time a 2.5-year-old toddler. They also completed a checklist about major life-events that had occurred during the past 18 months. In 26 families, a second child had been born. The mothers who did not participate in these second assessments were significantly younger ($M = 25.9$ yrs.; $SD = 3.0$) than the participating mothers ($M = 27.6$; $SD = 2.4$), but they did not differ in educational level, working status, and IQ.

Measures

Structured interview. The Structured Interview (SI) was developed by Friedman and Rosenman (Rosenman, 1978) and was validated, in middle-aged males, in the Western Collaborative Group Study (Rosenman *et al.*, 1975). It contains 22 questions, 7 of which consist of one or two sub-questions, in which subjects are asked how they usually respond to everyday situations, ones that should elicit impatience, hostility, and competitiveness from Type A individuals (Rosenman, 1978). During the interview, observable behavior, such as particular speech and psychomotor characteristics (e.g., talking very

rapidly, frequent sighing, or laughing nervously), is also assessed (Dembroski and Costa, 1988). Together, the answers and observations allow the interviewer to classify the subject as "Type A" (Type A1 or A2) or "Type B" (B3 or B4). These classifications represent a continuous scale in which A1 refers to a "fully developed" behavior pattern and B4 refers to one in which this pattern is "absent, the opposite of A1" (Rosenman, 1978). This distribution is, by definition, bimodal, that is, it contains roughly equal percentages of Type A's and Type B's. The intermediate position, X, is used in case of strong doubt. In the present study, subjects were classified in one of three categories: Type A1, Type A2, or Type B3. Subjects with high SI-scores were classified as Type A1, subjects with low to very low SI-scores as Type B3, and Type A2 subjects were in between.

The SI was translated into Dutch (Appels, Jenkins, and Rosenman, 1982), and adapted for females by Falger (1991). This adaptation consists mainly of separate questions about the respondent's roles as mother and housekeeper, in addition to the standard questions about Type A-eliciting everyday situations, which were mentioned above. In order to conduct these interviews, four female interviewers were trained by the third author.

In addition to the original SI classifications, several components of Type A behavior (i.e., "Time Urgency", "Hostility", and "Insecurity"), were scored separately. The latter component most probably constitutes the cognitive fundament of Type A behaviors, whereas time urgency and hostility are overt behavioral manifestations (Powell, 1992). The present scoring system with respect to these components was adapted from the Videotaped Structured Interview (Friedman and Powell, 1984), and is to a large extent similar to that used in a recent European study in cardiac patients (Oehman, Burell, Ramund, and Fleischman, 1992). The third author was trained in scoring these interview contents by Nancy Fleischman, senior-interviewer of the Western Collaborative Group Study and consecutive studies on Type A behavior modification.

The significant contrasts among scores on these separate components (see Table 1) point to the construct validity of the original SI: Type A1 subjects had the highest, and Type B3 subjects the lowest mean scores on each of the three scales Insecurity, Time-Urgency, and Hostility. Rosenman (1978) and Powell (1992) hypothesized that subjects classified as Type A2 are individuals who may be Type B by nature but who were urged to behave as Type A's by the hectic pace of modern life.

Adult Attachment Interview

The Adult Attachment Interview (George *et al.*, 1985) is a semi-structured interview that probes for general evaluations of the subject's childhood and the past relationship with his or her parents, and for specific evidence that may support or contradict these evaluations. On the basis of subjects' answers to the interview questions, three patterns are distinguished, reflecting three qualitatively different representations of attachment (Main and Goldwyn, 1993). *Autonomous* adults are able to describe their attachment-related experiences coherently, whether these were negative (e.g., parental rejection or over-involvement) or positive. Also, they consider attachment relationships important for the development of their own personality. *Dismissing* adults devalue the importance of attachment relationships for their own lives, or idealize their parents without being able to provide supporting evidence for their positive evaluations of their relationship with parents. *Preoccupied* adults are still overinvolved and preoccupied with their past attachment experiences and are, therefore, not able to describe these coherently. Both dismissing and preoccupied adults are considered to be insecure. Several studies point to the reliability

and discriminant validity of the AAI (for an overview, Van IJzendoorn, 1995; Van IJzendoorn and Bakermans-Kranenburg, 1996). The interviews were conducted by female interviewers and the verbatim transcripts were coded by the first and second authors. Percentage of agreement on 16 cases was 81% ($k = .72$).

Sensitive Parenting

Maternal sensitivity was assessed on the basis of video-taped observations of mother-child interactions during a semi-structured play session at home. The experimenter brought a small case with children's construction material ('DUPLO') with her and instructed mother and child to play with it for ten minutes. Then she asked them to clean up the material together, which activity was also videotaped. The mothers' sensitivity towards her child during play and cleaning-up was rated by two coders, using scales for 'Respect for the Child's Autonomy' and 'Hostility Towards the Child' (Erickson, Sroufe, and Egeland, 1985). Intercoder reliabilities were $r = .70$, and $r = .84$ ($n = 35$), respectively. After reversing the Hostility scale, the two scales were combined into one measure, i.e. 'Sensitivity'. A high score on Sensitivity indicates more appropriate parenting responses to the children's signals.

General Health Questionnaire

We administered a Dutch translation of the General Health Questionnaire (GHQ-28, Goldberg and Hillier, 1979), which was validated for the Netherlands (Ormel and Giel, 1984). The 28 four-point Likert-type items concern somatic symptoms, anxiety, insomnia, social dysfunctioning, and symptoms of depression. The validity of the GHQ-28 as a screening instrument for the presence or absence of functional non-psychotic psychopathology has been firmly established (Goldberg and Huxley, 1980; Romans-Clarkson, Walton, Herbison, and Mullen, 1988). In our sample, this questionnaire showed good internal consistency (Cronbach's $\alpha = .87$).

Life-Events

A written checklist with 25 life-events was administered to explore whether important changes or experiences had taken place in the period between assessment of the subjects' attachment representation and that of their Type A patterns, one and a half year later. As mentioned above, during that interval 26 mothers had given birth to a second child. Other events included changes in the relationship with their partners, getting a job or giving it up, suffering from serious illness, or a miscarriage, etc. Also, all of these events that occurred in subjects' lives were evaluated by them as positive, neutral, or negative.

Groninger Intelligence Test (GIT)

Three subtests of the Groninger Intelligence Test (GIT; Luteijn and Van der Ploeg, 1982) were administered to assess verbal IQ. The GIT is comparable with the Wechsler Adult Intelligence Scale. On the basis of the Vocabulary, Analogical Reasoning, and Fluency

subtests, a total IQ score was assigned to each subject ($M=117$; $SD=15.5$; $N=67$). The entire GIT consists of more subtests than were used here, and the subset we selected tended to overestimate the total IQ score (Luteijn and Van der Ploeg, 1982).

RESULTS

Type A pattern in relation to age, education, work status, IQ and health. Table 1 shows that 18 mothers (27%) were classified as Type A1, 36 mothers (54%) were classified as Type A2, and only 13 mothers (19%) were classified as Type B3. Younger, less educated, and less intelligent mothers appeared to be classified more often as Type B3. The number of hours that these mothers worked outside their homes was not related to their Type A behaviors. Type B3 mothers did not report any health complaints, whereas Type A1 and Type A2 mothers did. The *a priori* contrast between Type B3 and Type A patterns with respect to the number of health complaints was significant: $t(36)=3.97$; $p<.001$. The correlation between the Total SI scale and the GHQ-28 score was .23 ($p<.05$).

Type A patterns in relation to adult attachment and parental sensitivity. Table 2 shows that the cross-tabulation of Type A patterns with Adult Attachment classifications was not significant: $X^2(N=67; df=4)=2.84$; $p=.58$. Although more Type B3 participants were expected to be classified in the secure-autonomous category, this was not supported by the data. Because age and IQ were strongly associated with Type A behavior patterns, analyses of covariance with age and GIT IQ as covariates, and the four SI scales as dependent variables, were performed on the Adult Attachment categories. The analyses with Insecurity, Time-Urgency, Hostility, and Total SI scores yielded no significant differences. Type A behavior patterns were, however, significantly associated with sensitive parenting. Although mothers exhibiting the more relaxed B3 pattern were expected to show most sensitivity in the interactions with their infants, they, in fact, appeared to be the least sensitive parents (see Table 1). Controlling for IQ or age differences did not change this association. The correlation between the Total SI scale and sensitivity

Table 1 Distribution of Type A behavior patterns, and associations with age, educational level, working status, health, IQ, sensitivity and Structured Interview Scales (SI)

Variables	Type A behavior patterns			F	df	p
	A1 (n=18)	A2 (n=36)	B3 (n=13)			
Age	29 (1.9)	28 (2.4)	26 (2.6)	5.8	2,64	.005
Education	4.1 (0.7)	3.9 (0.8)	3.2 (0.7)	5.3	2,64	.008
Work (hrs./wk.)	8 (8.7)	7 (8.7)	5 (8.2)	0.7	2,63	.51
GIT IQ	120 ^a (10.2)	119 ^a (12.7)	108 ^b (12.8)	4.2	2,64	.02
Health	.22 ^a (0.43)	.28 ^a (0.45)	.00 ^b (.00)	2.0	2,64	.15
Sensitivity	5.1 ^a (1.01)	4.9 ^a (0.87)	4.0 ^b (1.06)	6.1	2,64	.004
SI Scales						
Insecurity	49 ^a (23.4)	34 ^b (22.6)	20 ^b (15.3)	7.2	2,64	.002
Time-Urgency	146 ^a (27.8)	108 ^b (21.8)	62 ^c (20.1)	48.8	2,64	.000
Hostility	113 ^a (24.4)	76 ^b (18.9)	43 ^c (12.5)	49.6	2,64	.000
Total SI	309 ^a (10.1)	218 ^b (35.2)	126 ^c (33.5)	75.1	2,64	.000

Note: $N=67$; a, b, c: significant Student-Newman-Keuls post-hoc contrasts.

amounted to $r = .43$ ($p < .001$). Insecurity, Time-Urgency, and Hostility also correlated significantly with sensitivity ($r = .23$, $r = .41$, and $r = .37$, respectively). Thus, Type A1 and Type A2 behavior patterns appeared to be associated more often with sensitive parenting of infants than the Type B3 pattern.

Type A patterns in relation to life-events. Thirty-nine percent of the mothers gave birth to a second child during the past 18 months. Type A behavior patterns were not related to this major event in family life: X^2 ($N = 67$; $df = 2$) = 3.35; $p = .19$ (see Table 3). Nevertheless, the adjusted standardized residuals indicated that Type A1 participants tended to be overrepresented in the group of families with two children compared to families with only one child, and that the Type A2 pattern tended to be underrepresented in the group with two children (see Table 3).

Eighteen percent of these mothers had experienced one or more major life-events other than the birth of a second child during the last 18 months. All of them reported negative life-events, such as miscarriage ($n = 4$), divorce ($n = 1$), or their husband's losing a job ($n = 2$). Type B3 behavior pattern was absent among mothers who experienced such major life-events. The association between Type A behavior patterns and these negative life-events was significant: X^2 ($N = 67$; $df = 2$) = 8.62; $p = .01$ (see Table 3).

Table 2 Association between Type A behavior patterns and adult attachment representation ($N = 67$)

Adult Attachment Representation	Type A behavior patterns			Total
	A1	A2	B3	
Dismissing	1 (-1.3)	6 (0.4)	3 (0.9)	10
Autonomous	11 (0.0)	23 (0.5)	7 (-0.6)	41
Preoccupied	6 (1.1)	7 (-0.9)	3 (-0.1)	16
Total	18	36	13	67

Note: X^2 ($N = 67$, $df = 4$) = 2.84; $p = .58$; adjusted standardized residuals in brackets.

Table 3 Associations between Type A patterns and life-events ($N = 67$)

Life-events	Type A behavior pattern			Total
	A1	A2	B3	
Second child ¹				
no	8 (-1.5) ³	25 (1.8)	7 (-0.5)	40
yes	10 (1.5)	11 (-1.8)	6 (0.5)	27
Other life-events ²				
no	11 (-3.8)	31 (1.4)	13 (2.3)	55
yes	7 (3.8)	5 (-1.4)	0 (-2.3)	12

Note: 1) X^2 ($N = 67$, $df = 2$) = 3.35, $p = .19$.

2) X^2 ($N = 67$, $df = 2$) = 8.62, $p = .01$.

3) adjusted standardized residuals in brackets.

DISCUSSION AND CONCLUSIONS

In this sample of lower- to upper-middle class mothers of infants, only 19% of the participants was classified as Type B3, the less stressful behavioral style of coming to grips with the hectic pace of modern life. In the general US population, in middle-aged males, the prevalence of the Type B3 behavior pattern is estimated to be 25–50% (Haynes and Matthews, 1988; Matthews and Haynes, 1986). In the Netherlands, similar prevalence rates with respect to Type B behavior (48% and 49%) were found in two control series of a case-control study on first myocardial infarction in middle-aged males (Falger, 1989), and among controls in a case-control study on first myocardial infarction in same-aged females (Falger, Appels and Schouten, 1992). Perhaps more relevant with respect to the present study population, in an early study on life events, psychological distress, and Type A behaviors in college-age male and female students, 50% of these adults were assessed as clearly showing Type A behaviors (Suls, Gastorf, and Witenberg, 1979). Also, compared to Type B students, Type A students reported more life events having occurred over the last six months. With Type A students, reported life events seen as undesirable, unexpected, and ambiguous in terms of perceived control were positively and significantly correlated with increased distress. Moreover, in two different studies using same-aged male and female subjects with similar prevalence rates of Type A behavior pattern it was positively associated with social insecurity (Suls, Becker and Mullen, 1981), and, prospectively, with non-cardiac illness symptoms, after controlling for negative affect (Suls and Marco, 1990).

The rather small percentage of Type B mothers in the present study may be thought remarkable. This percentage cannot be explained by the demanding combination of two careers – motherhood and employment – because the number of hours spent working outside the home was not related to Type A behavior patterns in this group of homemakers and part-time working mothers. Type B3 mothers were somewhat younger, less educated, and less intelligent than their Type A counterparts. If Type B3 mothers worked outside the home, they may have chosen less exacting jobs, and they may maintain more modest achievement goals regardless of the number of working hours. The surprisingly large percentage of Type A mothers indicates that the demands of motherhood itself may be experienced as a stressful job. Mothers appear to experience stress even when motherhood is *not* combined with a full-time career outside the home. As Forgy (1992) contended, homemakers may be more stressed by the demands of child-rearing because this is their whole life.

Mothers' attachment security was unrelated to Type A behaviors. Although the quality of emotion-regulation may be considered the core of both constructs, Type A patterns and adult attachment classifications lacked meaningful empirical overlap. Thoresen and Pattillo (1988) speculated that especially the dismissing attachment category would represent the hostility and anger components that are characteristic of Type A1, and, to a lesser extent, of Type A2 individuals. Dismissing adults, however, have been shown to idealize their childhood attachment experiences, as well as their own psychological health, and to present themselves in a more favorable light than an expert observer would diagnose them (Dozier and Lee, 1995). The SI, as employed in the present study, may not have captured subtle signs of Type A behaviors in dismissing participants who may be inclined to keep a low emotional and behavioral profile during the interview. A videotaped SI (Friedman and Powell, 1984) is probably superior in registering these behavioral signs that are associated with dismissing attachment, since videotaping allows for much

more refined scoring systems than the audiotaped interview (Oehman *et al.*, 1992). In theorizing about the associations between attachment and Type A behaviors, we may to some extent have neglected an important dimension of attachment, namely its focus on intimate relationships (e.g., with children, parents, partners, or therapists), since the SI in its original form is mostly concerned with situations of everyday living (Rosenman, 1978). Thus, the predictive value of the attachment construct may be less impressive outside the domain of intimate relationships and associated emotions (Thompson, 1995).

Type A behavior patterns are related to degree of sensitive parenting. Contrary to our expectations, however, Type B3 mothers appeared to be less sensitive than Type A mothers. Following Forgays (1992), we expected that a more relaxed style of coping with problems in general would be conducive to a calm, relatively stress-free, and sensitive caregiving style. Harralson and Lawler (1992) reported that increased authoritarian control in parents was related to Type A behaviors, and in several retrospective studies Type A's appeared to look back upon a harsher childhood, with more rejecting parents, than Type B participants did (Friedman, 1984).

The current study is one of the few observational studies on Type A behaviors and caregiving behavior, and its outcome may be better compared with similar studies. Matthews (1977; Matthews *et al.*, 1977) found a more complicated picture than our hypothesis suggests. They noted that Type B mothers and caregivers seem to adapt their style of interacting more to their perception of environmental demands and the child's characteristics than Type A mothers do. When a child was perceived as Type A, Type B mothers were inclined to push it harder than Type A mothers would. Experimental evidence suggests that Type B's are in general more responsive to variations in the environment than Type A's are (Burnam, Pennebaker, and Glass, 1977; Margolis, McLeroy, Runigan, and Kaplan, 1983). In the current study, sensitivity was assessed during a semi-structured videotaped play session, including cleaning up the attractive play material. Although we did not inform participants about the precise goal of this procedure, Type B mothers may have perceived this situation as a competitive setting in which the performance of the dyad would be evaluated by experts and compared to that of other mother-toddler pairs. Type B's may be less able to deal in a natural way with this perceived competition than Type A's would. Observations during longer periods of unstructured interaction at home would provide a test of this interpretation. Another explanation may be that it is Type A's, rather than Type B's who are associated with a higher level of interpersonal awareness. Type A's would therefore be more sensitive to subtle attachment-related signals of their children than Type B's (this suggestion was provided by one of the anonymous reviewers of this paper).

The Structured Interview (SI) was originally validated for adult males (Rosenman, 1978), and it has rarely been used in samples of mothers. With minor adaptations, the SI seems to be suitable for mothers of young children, and several findings from the present study support its validity in this specific group. Type A behaviors are related to life-events such as miscarriages, divorce, and serious illness in the family. The 12 mothers in our sample who had experienced stressful life-events during the past 18 months were all classified as Type A's. This finding fits into a developmental model of Type A behavior, which includes genetic as well as environmental factors across the life-span (e.g., Falger, 1989; Margolis *et al.*, 1983). It should be noted, however, that the birth of a second child did not impact upon the mothers' Type A behavior patterns. The validity of the currently used SI for mothers was also supported by the fact that Type B3 mothers reported significantly less health complaints than Type A mothers did. This finding is in line with

previous contentions that Type A behavior patterns are also predictive of other diseases than CAD (Siegel, 1984). In their prospective study, Suls and Marco (1990) showed that Type B3 college students had fewer and less serious illness across a period of 18 months than their Type A counterparts. Lastly, in the present study the construct validity of the SI in mothers was illustrated by the strong positive associations between the SI scales for Insecurity, Hostility, and Time-Urgency, and the three Type A classifications. In these mothers, Type A classifications appeared to be based on the same components as in males. We should note, however, that the same coder coded the SI classifications and the SI scales, which may have inflated the correlations.

In sum, a large majority of our mothers of young children showed Type A behavior patterns. The job of parenting indeed appears to be stressful. Attachment and Type A behaviors, however, did not seem to be related, probably because the influence of attachment is restricted to the regulation of emotions in the private domain of intimate relationships. In a brief, semi-structured play session at home, Type A behavior predicted a more sensitive parenting style than Type B did. Although Type B mothers may be more sensitive in long, unstructured play sessions in the natural setting, they may feel more easily overwhelmed by situations in which they perceive performance components than Type A mothers would. Contrary to Type A participants, Type B mothers did not experience negative life-events or serious health problems in the recent past. Our findings show, moreover, that the theory and current interview measures of Type A behaviors can be applied fruitfully to mothers of young children passing through a demanding phase in their lives. Further research is needed to uncover the causes of the high prevalence of Type A behaviors in mothers, and to describe their parenting behaviors in unstructured natural settings.

Note

This research was supported by a PIONEER award (no. PGS 59-256) from the Netherlands Organization for Scientific Research (NWO) to Marinus van IJzendoorn. We gratefully acknowledge the help of Marianne de Wolff, Stella van Rijsoort, Marcel de Haas, Carmen Joosten, Connie Kruse, and Mariska Zwinkels in collecting and coding data. Leo Cohen initiated this project.

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