ATTACHMENT REPRESENTATIONS OF PERSONALITY-DISORDERED CRIMINAL OFFENDERS

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The relation between attachment representations and personality disorders was examined in a sample of 40 Dutch men held in a forensic psychiatric hospital for the commission of serious crimes. Secure attachment representations were virtually absent in the sample; separation from attachment figures in childhood was related to current insecure attachment as well as to personality disorders. Use of attachment theory in research and clinical work with criminals is discussed.

Half a century ago, Bowlby *(1944)* observed that young criminals had developed an "affectionless" character as a result of accumulated childhood experiences of separations from their attachment figures. After decades of research on nonclinical populations—mostly infants and their parents—attachment theory has recently moved back into the clinical domain, and into the study of life-span developmental psychopathology *(Belsky & Nezworski, 1988)*. The development and validation of an instrument to measure adult representations of past and present attachment experiences—the Adult Attachment Interview *(George, Kaplan, & Main, 1985; Main, Kaplan, & Cassidy, 1985)*—has provided a strong impetus to the clinical application of attachment theory *(Holmes, 1993)*. The conditions thus appear favorable to return to Bowlby's *(1944)* early interest in attachment disorders in criminal offenders.

In this article, attachment theory is applied to the study of a forensic-psychiatric sample of mentally disturbed, hospitalized criminal offenders. In the Netherlands, courts can impose involuntary institutionalization if a severe crime (e.g., physical abuse, rape, child molestation, homicide) is seen as being related to a mental disorder or illness, and if the specific combination of crime and disorder is considered to bear serious risks for future crimes. This sanction is called *Ter Beschikking Stelling* (TBS) *(Derks, Blankstein, & Hendrickx, 1993)*. The average duration of confinement in a forensic mental hospital under this sanction is four years, and it is followed by a period of supervised community treatment. Among the diagnosed disorders in this population of criminal offenders, personality and developmental disorders prevail *(Derks et al., 1993; Feldbrugge & Haverkamp, 1993; Zomer, 1992)*.

INSECURE ATTACHMENTS
AND PERSONALITY DISORDERS

In a previous study, which provided some of the hypotheses for the current investigation, Feldbrugge *(1986)* noted that treatment in forensic units is often stalemated when the patient either avoids or attempts to manipulate the therapist. These patterns seemed to be a repetition of childhood relationships with parents and other attachment figures. If the establishment of a therapist-patient relationship may be considered to be modeled on past attachment relationships, as Bowlby *(1988)* contended, this suggestion fits into the framework of attachment theory, in which two main types of insecure attachment have been described *(Main, et al., 1985)*.

Insecure-*dismissing* persons seem to minimize their attachment concerns and to avoid becoming deeply involved in attachment relationships. Their childhood attachment experiences of rejection may have made them cautious about establishing new and potentially disappointing intimate relationships. They may not be inclined to engage in therapeutic relationships either (absence of contact). Insecure-*preoccupied* persons seem to maximize their attachment concerns and to be ambivalent about attachment relationships. On the one hand, they would like to be less dependent on attachment figures, especially their parents; on the other hand, they still seem to be enmeshed with and angry about past attachment experiences. Their childhood attachment experiences of parental role-reversal and overinvolvement may have influenced their overly concerned view of (old and new) intimate relationships *(Main et al., 1985)*. It can be hypothesized that they will also become angrily overinvolved in and abusive of a therapeutic relationship (abuse of contact).

Mental disorders can play a significant role in the development of criminal behavior *(Monahan, 1992; Tiihonen, 1993)*. Mentally disturbed persons are overrepresented among those who commit violent crimes,

and violent offenders are overrepresented in mentally disturbed populations *(Bourget & Labelle, 1992; Wesseley, Castle, Douglas, & Taylor, 1994; Yarvis, 1990)*. However, studies on the relation between type or severity of mental disturbances and the offenders' reaction to therapy are virtually absent *(Feldman, 1993)*.

Although we expect personality disorders to contribute independently to the explanation of the behavior of mentally disturbed criminal offenders, they may be related to attachment insecurity as well. Disturbed parent-child relationships have been found to play a significant role in the development of personality disorders *(Kernberg, 1978; Millon, 1981)*. Lack of parental warmth may be characteristic of the childhood experiences of schizoid persons, and parental rejection and hostility may be found more often in persons who are paranoid, avoidant, or antisocial. In a recent prospective-cohorts-design study, Luntz and Widom *(1994)* documented the relation between early childhood abuse/neglect and adult antisocial personality disorder *(see also, Oliver, 1988)*. An association between negative childhood experiences—particularly in the context of the relationship with the parents—and the development of personality disorders has been documented *(Millon, 1981)*.

Furthermore, mentally disordered subjects more often display representations of insecure attachment experiences and relationships than do nonclinical subjects. Melges and Swartz *(1989)*, reporting on oscillations of attachment in borderline personality disorders (BPD), noted that the problem of regulation of interpersonal distance is at the core of BPD. Fonagy *(1993)* found a considerable overrepresentation of preoccupied attachment in his group of borderline patients. Livesley, Schroeder, and Jackson *(1990)* investigated attachment pathology in dependent personality disorder, and concluded that insecure attachment is an important causal factor in the development of this type of personality

disorder. Sheldon and West *(1990)* have shown that both desire for and fear of an attachment relationship are more characteristic of the avoidant personality disorder than either lack of social skills or social discomfort. In general, dysfunctional attachments are cardinal features of most *DSM-III-R* personality disorders *(American Psychiatric Association, 1987; West & Sheldon-Keller, 1992)*.

In sum, it is hypothesized that early childhood experiences with attachment and separation influence representations of attachment in adulthood as well as the development of personality disorders. In particular, discontinuous and institutionalized child-rearing arrangements, which imply accumulating experiences of separation from attachment figures, may lead to insecure attachment in adulthood as well as to personality disorders. Both adult attachment and personality disorders may affect the therapeutic relationship during treatment. The more insecure patients are expected to show more—or more severe—personality disorders; and they may cause more problems in therapeutic relationships during treatment. Patients with more severe personality disorders are also expected to create more problems in their relationship with the staff than are less disturbed patients.

METHODS
Subjects

Potential candidates for inclusion in the study were all patients consecutively admitted to either of two Dutch forensic psychiatric hospitals, the Van der Hoeven Kliniek and the Pompekliniek, between January 1991 and July 1, 1993. Only data on native male patients with TBS will be reported. Female patients were excluded because their number was very small and they may represent a different population from male offenders *(Maden, Swinton, & Gunn, 1994)*. Data on patients who were admitted on other legal grounds were also excluded from the analyses because they

too may differ in terms of diagnosis and demographics (e.g., age). Finally, patients from ethnic minorities were excluded because of potential validity problems with verbal measures. Of the native male TBS patients ($N=60$), 20 refused to cooperate before or at some point during the study, or dropped out for external reasons, such as referral to another hospital. Effective nonresponse rate, therefore, was 33%. The age of subjects at intake was 27.6 years ($SD=$ 6.5). Fifty-five percent of subjects were raised in institutional care. Fifty percent had committed a severe violent crime such as murder, and 42% were sentenced because of a sexual crime such as child molestation or rape.

Procedures and Measures

Subjects were interviewed using the Adult Attachment Interview (AAI) and the Structured Interview for Disorders of Personality-Revised (SIDP-R, translated and validated in the Netherlands by Van den Brink and De Jong *[1992]*). Therapists were asked to complete the Dutch Forensic Staff-Patient Interaction Inventory (DFSI) to assess the quality of the patients' interactions with the staff *(Derks & Verhagen, 1991)*. Information about child-rearing history was derived from files that had been prepared in the course of the judicial procedures.

Adult Attachment Interview. The AAI *(George et al., 1985)* is a semistructured instrument containing 15 questions in a set order, and follow-up probes. It asks for general descriptions of attachment relationships in childhood, specific supportive memories, and descriptions of current relationships with parents and other attachment figures. The instrument assesses current mental representation of past attachment experiences *(Main et al., 1985)*, and it meets stringent psychometric criteria, not only in terms of reliability, but also in terms of discriminant and predictive validity *(Van IJzendoorn, 1995)*. In a number of cross-cultural studies, the AAI was found

to be stable over time; independent of interviewer effects or response bias; and unrelated to IQ, general discourse style, and autobiographical memory of nonattachment-related childhood events *(Bakermans-Kranenburg & Van IJzendoorn, 1993)*. Predictive validity has been assessed in more than 20 studies by different research groups in different countries *(e.g., Fonagy, Steele, & Steele, 1991; Van IJzendoorn, 1995)*.

The interviews were carried out by the research staff of both hospitals, who had been trained to apply the AAI by experienced coders. Verbatim transcripts were coded by the first author, who was blind to the other data in the project. A second coder classified 25% of the transcripts independently. These transcripts were randomly selected, and agreement was 88% *(kappa=.75)* on the level of the forced, three-way classifications, and 90% *(kappa=.81)* for the five-way AAI classifications, including the unresolved and the cannot-classify categories *(Main & Goldwyn, 1993)*.

The coding of AAI transcripts generated three main adult attachment classifications: Autonomous (F), Dismissing (Ds), and Preoccupied (E) attachment, and two secondary ones. If problems arose with classifying subjects into one of three main categories, the coder could decide to place them into a so-called cannot-classify (CC) category *(Hesse, 1996)*, and the subjects were then forced into one of the main categories. The unresolved (U) category was used if the interview showed signs of unresolved experiences of trauma, usually involving loss of attachment figures. The unresolved classification was superimposed on the three main classifications and, as with the CC category, unresolved subjects were forced into one of the three main categories *(Main & Goldwyn, 1993)*. As in most studies with the AAI, findings will be reported on the level of the forced, three-way (Ds, F, E) classifications, as well as on the level of the five-way (Ds, F, E, U, CC) classifications *(Van IJzendoorn, 1995)*.

For the purpose of statistical analyses, a continuous AAI insecurity scale was constructed, based on a differential weighting of the classifications. The autonomous subjects were assigned the lowest score (1); the dismissing and preoccupied subjects were ascribed a moderate insecurity score (2); the unresolved and cannot-classify subjects received the highest score (3). In the current sample, there were no (forced) autonomous subjects who were, at the same time, considered as unresolved or cannot classify. Therefore, U and CC categories were additional signs of insecurity over and above the insecure main classifications. The weighting is analogous to the independently constructed infant-insecurity scale by Lyons-Ruth and Block *(1993)*.

Child-rearing characteristics. During criminal proceedings, considerable detail on the personal history and childhood experiences of the subjects was compiled. From these files, information was selected on family-structure, main caregivers (biological parents, adoptive parents, institutions, or a combination of these); disruptions in the continuity of the child-rearing arrangement (e.g., parental divorce); and previous contacts with the mental health circuit.

Structured Interview for Disorders of Personality-Revised. The Structured Interview for DSM-III-R Personality Disorders *(Pfohl, 1989)* is widely used for research and clinical purposes, and its psychometric quality is good. In this study, the SIDP-R was done by teams of two researchers (for a similar procedure, see Mellman et al. *[1992]*). All the interviewers were blind to the attachment classifications. Both interviewers scored the interview independently during the sessions. Each symptom was scored as either present or absent. All interviews were tape-recorded. Average duration of the interviews was three hours. After the interview, the researchers compared scores; average agreement was 87%; average interrater correlation across all personality disorders was .61. In case of disagree-

ment, the relevant fragments of the tape recording were replayed in order to reach consensus. All analyses have been based on consensus scores; both categorical scores (number of disorders) and dimensional scores (number of criteria met for each disorder) were used.

Dutch Forensic Staff-Patient Interactions Inventory (DFSI). Feldbrugge's *(1986)* differentiation of absence and abuse of contact emerged from a post-hoc content analysis of treatment reports. In an attempt to develop a more empirically sound procedure for the assessment of therapeutic relations in a forensic hospital setting, Derks and Verhagen *(1991)* reformulated the statements that inspired Feldbrugge to make this differentiation and developed a preliminary questionnaire. This 76-item instrument was presented to the therapeutic staff of Van der Hoeven Kliniek, who were asked to score their relationship with the patients on each item. Factor analysis of these ratings produced six scales with satisfactory reliability (*alphas* between .66 and .88), which could be interpreted as subdimensions of absence and abuse of contact: angry dominance, rejection, inaccessibility, hostility, lack of empathy, and submission. Combination of the scores for rejection and inaccessibility yielded an overall score for absence of contact; combination of the scores on the other scales yielded an overall score for abuse of contact. The resulting

DFSI-scales (41 items) were used in the present study. Three to five therapists rated the same patient on the DFSI; to enhance reliability, their mean score was used in the analyses. Because alpha reliability of the submission scale in this study was unacceptably low (<.60), this scale was excluded from the analyses.

RESULTS
Adult Attachment Classifications Distribution

In the forensic sample (N=40), the autonomous subjects (5%) were strongly underrepresented compared to the percentage of autonomous subjects in the combined samples of nonclinical subjects (56%), as reported by Van IJzendoorn and Bakermans-Kranenburg *(1996)*. The forensic distribution differed significantly from the nonclinical distribution (χ^2[df=3; N=768]= 45.16; p<.0001), and Haberman's adjusted residuals showed that the differences were located in the percentage of autonomous (F) and of unresolved/cannot classify (U/CC) subjects. The former category was strongly underrepresented and the latter was strongly overrepresented in the forensic sample (see TABLE 1). Compared to the combined low-SES samples, similar differences were found in the forensic sample (χ^2[df=3; N=390]=23.63; p<.0001). Compared to the combined clinical samples, however, the distribution of the forensic sample did not deviate (χ^2[df=3; N=180]=2.36; p=.52).

Table 1

DISTRIBUTIONS OF ADULT ATTACHMENT CLASSIFICATIONS IN THE FORENSIC SAMPLE (N=40) AND IN NORMAL AND CLINICAL POPULATIONS

SAMPLE	AAI CLASSIFICATIONS					FORCED AAI CLASSIFICATIONS			
	Ds	F	E	U/CC[a]	N	Ds	F	E	N
Forensic adults	9	2	8	21	40	17	2	21	40
	(22%)	(5%)	(20%)	(53%)		(42%)	(5%)	(53%)	
Clinical adults	37	8	40	55	140	119	35	137	291
	(26%)	(6%)	(29%)	(39%)		(41%)	(12%)	(47%)	
Nonclinical adults	116	407	71	134	728	202	515	153	870
	(16%)	(56%)	(10%)	(18%)		(23%)	(59%)	(18%)	
Nonclinical low-SES	87	135	29	99	350	137	198	76	411
	(25%)	(39%)	(8%)	(28%)		(33%)	(48%)	(18%)	

Note. Combined sample distributions for clinical and nonclinical subjects have been derived from Van IJzendoorn and Bakermans-Kranenburg *(1996)*.
[a]The unresolved (U) and cannot-classify (CC) categories have been merged for the purpose of comparability with the Van IJzendoorn and Bakermans-Kranenburg *(1996)* data

Table 2

SCORES ON THE CONTINUOUS PERSONALITY DISORDER SCALES (SIDP-R) IN THE FORENSIC SAMPLE (N=40)
ACROSS ADULT ATTACHMENT CLASSIFICATIONS

	TOTAL SAMPLE		Ds		F		E		U		CC		FORCED Ds		FORCED F		FORCED E	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD
	1.2	(1.3)	1.0	(1.2)	1.5	(0.7)	0.9	(0.6)	1.2	(1.4)	1.7	(1.7)	0.8	(1.0)	1.5	(0.7)	1.6	(1.5
	1.5	(1.3)	0.7	(0.9)	1.0	(0.0)	2.8	(1.8)	1.2	(1.0)	1.5	(1.1)	1.1	(1.1)	1.0	(0.0)	1.8	(1.5
ical	1.1	(1.3)	0.7	(0.9)	0.0	(0.0)	1.2	(1.4)	1.0	(1.2)	1.7	(1.6)	0.6	(0.7)	0.0	(0.0)	1.7	(1.5
	3.9	(2.9)	2.3	(2.2)	2.5	(0.7)	4.9	(2.8)	3.4	(3.2)	5.0	(3.1)	2.5	(1.8)	2.5	(0.7)	5.0	(3.3
	1.3	(1.2)	1.0	(0.7)	1.0	(1.4)	1.0	(0.9)	1.0	(0.8)	2.1	(1.6)	0.8	(0.6)	1.0	(1.4)	1.7	(1.3
ic	1.8	(1.9)	1.2	(1.6)	0.5	(0.7)	1.0	(1.1)	2.0	(1.7)	2.9	(2.5)	1.5	(1.6)	0.5	(0.7)	2.1	(2.2
B	3.2	(2.6)	2.1	(1.4)	2.0	(1.4)	3.4	(3.5)	3.7	(2.6)	3.5	(2.8)	2.3	(1.8)	2.0	(1.4)	4.0	(3.0
C	2.8	(2.1)	2.0	(1.7)	1.0	(1.4)	2.9	(2.5)	3.5	(2.5)	3.0	(1.8)	2.1	(1.8)	1.0	(1.4)	3.5	(2.2
e	2.0	(1.7)	1.1	(0.6)	1.5	(0.7)	1.9	(1.8)	2.3	(2.4)	2.5	(1.5)	1.0	(0.8)	1.5	(0.7)	2.8	(1.9
	11.0	(7.0)	7.4	(3.8)	6.0	(2.8)	10.1	(8.3)	12.5	(7.8)	14.1	(6.6)	7.7	(4.3)	6.0	(2.8)	14.1	(7.6
	1.3	(1.2)	1.0	(1.0)	1.5	(2.1)	2.1	(1.4)	1.2	(1.3)	1.0	(0.6)	0.8	(0.9)	1.5	(2.1)	1.7	(1.2
nt	1.6	(1.6)	1.6	(1.1)	3.5	(3.5)	0.9	(0.8)	1.4	(1.7)	1.8	(2.0)	1.2	(1.0)	3.5	(3.5)	1.7	(1.9
e	1.7	(1.2)	1.1	(1.1)	0.5	(0.7)	2.0	(1.2)	1.5	(0.7)	2.3	(1.3)	1.3	(0.9)	0.5	(0.7)	2.1	(1.2
ggr.	1.8	(2.0)	0.7	(0.9)	0.5	(0.7)	2.0	(2.6)	2.4	(2.0)	2.2	(2.2)	1.2	(1.3)	0.5	(0.7)	2.3	(2.4
	6.3	(3.9)	4.3	(3.0)	6.0	(7.1)	7.0	(4.0)	6.5	(3.4)	7.3	(4.5)	4.5	(2.4)	6.0	(7.1)	7.8	(4.1
	1.3	(1.5)	0.8	(0.8)	0.0	(0.0)	0.9	(1.2)	1.4	(1.1)	2.2	(2.2)	0.8	(0.8)	0.0	(0.0)	1.9	(1.9
ating	1.1	(1.1)	0.4	(0.5)	0.5	(0.7)	0.9	(1.0)	1.4	(1.1)	1.5	(1.3)	0.9	(1.0)	0.5	(0.7)	1.2	(1.1
	20.4	(11.3)	13.2	(6.4)	13.0	(7.1)	20.4	(10.0)	21.5	(12.3)	26.5	(12.3)	14.2	(5.7)	13.0	(7.1)	26.1	(12.1

social C symptoms, without antisocial disorder symptoms in childhood.
<.01.

The clinical samples contained subjects with a diversity of clinical syndromes and disorders, such as depression, BPD, and conduct disorders *(Van IJzendoorn & Bakermans-Kranenburg, 1996)*. The forced classifications distribution of the forensic sample did not deviate from the forced distribution of the clinical samples.

Childhood Experiences

Age of subjects at intake, the hospital in which they resided, or the degree to which they had previously experienced psychotherapy of some kind made no difference for the adult attachment classifications. On the continuous AAI insecurity scale, child-rearing history did make a difference, however. Subjects with a history of discontinuous and institutionalized child-rearing experiences were more insecure than subjects with more stable backgrounds and who were raised in families $(F[1,38]=8.83; p=.005)$. In fact, 9 out of 10 extremely anxious CC subjects had been raised in institutions instead of families, whereas both secure-autonomous subjects had been raised in families.

Attachment and Personality Disorders

Not surprisingly, in the forensic sample, the prevalence of the antisocial personality disorder was highest (see TABLE 2). In general, the disorders of the "dramatic" B-cluster were found to have the highest prevalence. Because of comorbidity, the total of 64 personality disorder diagnoses were observed in only 22 subjects (55%). Thus, almost half of the sample did not meet the number of criteria required for diagnosis of any personality disorder. Even though the vast majority met a number of criteria of one or more personality disorders, many subjects remained just below the threshold values required for formal diagnosis. It is important, therefore, to include the dimensional scales for personality disorders in the description of this sample *(McReynolds, 1989; Widiger & Frances, 1985; Zimmerman, 1994)*.

When the subjects with and without one or more personality disorders were cross-tabulated against the attachment classifications, the outcome was significant for the forced classifications ($\chi^2[df=2;N=40]=$ 8.33; exact $p=.014$), but not for the five-way classifications ($\chi^2[df=4; N=40]=3.41$; exact $p=.55$). Preoccupied (E) subjects showed significantly more personality disorders than did subjects in the other forced attachment classifications. Preoccupied subjects more often suffered, in particular, from anxious personality disorders in the C cluster ($\chi^2[df=2; N=40]=7.71$; exact $p=.048$). On a descriptive level, it should be noted that the CC attachment category contained most personality disorders (8 of 11 CC subjects), and this category seemed therefore most disturbed in terms of Axis II *DSM-III-R* diagnoses.

Leaving the small autonomous category out, the dismissing attachment category showed significantly less personality disorder symptoms than did the preoccupied group ($F[1,36]=13.96$; $p=.0006$) using forced classifications. When the five-way AAI classifications were used, the overall test was marginally significant ($F[3,34]=$ 2.58; $p=.07$), but the contrast between the dismissing category and the other categories (E, U, CC) proved to be significant ($t[25]=-3.18$; $p=.004$). The same was true for the separate A, B, and C clusters of personality disorder symptoms: The dismissing category always showed fewer personality disorder symptoms than did the other insecure categories. The CC category seemed to be the most disturbed; in 8 of 14 comparisons, CC subjects showed most personality disorder symptoms, showed the highest cluster scores, and were ascribed most personality disorder symptoms overall. In the majority of comparisons, the small autonomous attachment category appeared to show the lowest number of personality disorder symptoms.

Correlations between the personality disorder scales and the AAI insecurity scale confirmed the trends described above. The

total number of personality disorder symptoms was significantly related to attachment insecurity. In particular, the disorders in the "dramatic" B-cluster were associated with attachment insecurity, as were indicators of the sadistic and self-defeating personality disorders (see TABLE 2).

Adult Attachment Classifications and Staff-Patient Interactions

Staff-patient interactions, as measured by the DFSI scales for angry dominance, rejection, inaccessibility, hostility, and absence of empathy, did not differentiate among the adult attachment classifications. The continuous AAI insecurity scale, however, did correlate with the scales for staff-patient interaction. In particular angry dominance was associated with attachment insecurity ($r=.30$; $p<.05$). The overall scale for abuse of contact was also related to attachment insecurity ($r=.26$; $p<.05$).

Staff-Patient Interactions and Personality Disorders

The dimensional scales for personality disorders were associated with characteristics of staff-patient interactions in the forensic mental hospital. In particular, the total number of "dramatic" personality disorders (cluster B) was related to more abusive staff-patient interactions ($r=.31$; $p<.05$). The number of anxious personality disorders (cluster C), however, was associated with less abusive staff-patient interactions ($r=-.29$; $p<.05$).

Attachment, Personality Disorder, Staff-Patient Interactions: Multivariate View

In two hierarchical multiple regression analyses, the amount of contact abuse and absence of contact was predicted on the basis of child-rearing history (institution vs. family), attachment representation (AAI insecurity scale), and a number of selected dimensional personality disorders (paranoid, antisocial C, dependent, and sadistic). The regression equation for abuse of contact was significant ($F[2,37]=9.52$; $p=.0001$),

and contained dependent and antisocial personality disorders as significant predictors. The percentage of explained variance amounted to 34% (multiple $R=.58$; $R^2=.34$). Lower scores on dependent personality disorder, and higher scores on antisocial personality disorder predicted more abuse of contact in the staff-patient interaction. The hierarchical multiple regression on absence of contact did not yield a significant multivariate regression equation.

DISCUSSION AND CONCLUSIONS
Insecure Attachments

In the present sample, the distribution of attachment classifications deviates strongly from distributions in nonclinical populations. In particular, the autonomous or secure type of attachment is underrepresented—with only two subjects (5%) being classified secure in this group—whereas the unresolved and cannot-classify categories are overrepresented. The forensic distribution, however, does not differ from the distributions usually found in clinical samples without a criminal background. Insecure attachment may be a general mental health risk factor, rather than a specific determinant of severe criminal behavior.

Attachment insecurity is associated with childhood experiences of institutional care. In particular, the CC subjects have almost all been raised in institutional care, and they appear to show most personality disorders compared to the other attachment groups. Hesse *(1996)* suggested that CC subjects show a global breakdown of coherent discourse about attachment experiences, whereas the dismissing and preoccupied subjects display an insecure but systematic strategy to discuss attachment issues. The unresolved subjects show only a local breakdown in the discourse on loss or other trauma.

Insecure Attachments and Personality Disorders

The relation between clinical diagnosis and attachment representation is complicated. In a recent review of clinical attach-

ment studies *(Van IJzendoorn & Baker-mans-Kranenburg, 1996)*, it was noted that clinical status is not associated with a specific insecure adult attachment category. In the present forensic sample, similar trends can be observed. First, the association between dramatic, "externalizing" problems (e.g., cluster B disorders) and dismissing attachment on the one hand, and the association between "internalizing" problems (e.g., cluster C disorders) and preoccupied attachment on the other hand *(Rosenstein & Horowitz, 1993)*, have not been confirmed. In fact, the preoccupied patients appear to be more disturbed than the dismissing subjects in both domains.

Second, the more signs of personality disorders can be diagnosed, the more insecurely attached are the patients. In particular, the cluster B disorders and the sadistic and self-defeating disorders are less frequent in less insecure subjects and more frequent in unresolved or CC subjects. The latter subjects suffer from a dual insecurity that is indicated by a local or global breakdown of a consistent attachment strategy, combined with an underlying insecure attachment representation. The dual insecurity may aggravate the personality disorder problems. It may also be that more severely disordered persons tend to develop this dual insecurity more easily than less disturbed persons when they are faced with potentially traumatic events. It should be noted that, in the current sample, many subjects had experienced maltreatment and abuse that led to the U classification. In normal samples, this classification is more often based on experiences of loss through death of attachment figures such as grandparents or other family members *(Ainsworth & Eichberg, 1991)*.

Therapeutic Relationships

In a forensic mental hospital, the development of a therapeutic relationship between patients and staff may be compared to the development of an attachment relationship, and the staff may try to provide a secure base from which to explore the mental problems of patients *(Bowlby, 1988)*. At the same time, the relationship between patients and staff may be considered as a sensitive gauge for progress in therapy *(Keijsers, Schaap, Hoogduin, & Peters, 1991)*. Patients with abusive relationships in the protected and therapeutic environment of the mental hospital may be unable to establish healthy bonds in real-life circumstances. It is therefore important to note that the patients' attachment insecurity is indeed related to their interactive behavior with the staff. The autonomous subjects systematically show least problematic interactive behavior, followed by the dismissing subjects. The associations are, however, not very strong, and are statistically significant only in the case of abuse of contact in the staff-patient relationship.

The number of personality disorder symptoms is also associated with problems in the therapeutic relationship. It is not remarkable that antisocial personality disorder leads to abuse of contact with the staff. Dependent personality disorder, on the other hand, seems to serve as a buffer against abusive interactions with the staff. The dependent person suffers from lack of initiative in interpersonal relationships, and from lack of self-confidence *(American Psychiatric Association, 1987)*. From the perspective of the staff, it may be easier to deal with patients who lack initiative and are in need of help in making decisions than with those who are inclined to self-asserting initiatives. Antisocial and dependent personality disorders explain about 34% of the variance in staff-patient interactions.

Limitations

Before summarizing the findings of this study, some limitations of the present study should be noted. First, the sample size (N=40) does not allow for a rigorous test of a multivariate model with many free parameters. The complexity of the forensic psychiatric domain nevertheless requires models in which multiple factors operate to ex-

plain staff-patient interactions. Second, triangulation should be preferred over information from a single source, especially in the area of personality disorders *(McReynolds, 1989; Riso, Klein, Anderson, Quimette, & Lizardi, 1994; Zimmerman, 1994)*. Observations of staff-patient interactions by trained, external observers may also increase the validity of their assessment. The DFSI has shown its potential value as a measure for staff-patient interactions, but this instrument should be validated more extensively in future studies. Third, the personality disorder diagnoses should be supplemented with diagnoses of other psychiatric problems to cover the full array of mental disturbances that prevented the patients from being held fully accountable for their criminal acts. Fourth, a comparison group of severe criminals without mental disturbances, if available, would make it possible to disentangle crime and mental illness as correlates of attachment. The prospects of engaging such a group in this type of research, however, seem unlikely.

CONCLUSIONS

In sum, this study shows some of the potentials and limitations of the application of attachment theory in a forensic psychiatric context. First, early attachment experiences such as separation from attachment figures and being raised in institutional care, appear to be related to the current insecurity of attachment representations as well as to personality disorders of forensic psychiatric patients. Second, insecurity of attachment representations is found to be associated with personality disorders, and with more problematic, i.e. more abusive, interactions with the therapeutic staff in the forensic mental hospital. Third, secure attachment representations appear to be virtually absent among mentally disturbed criminal offenders. Fourth, attachment appears to be a less powerful predictor of the quality of the developing staff-patient relationship than are personality disorders.

The current investigation is unique in at least two ways. To our knowledge, it is the first systematic application of modern attachment theory to the forensic psychiatric domain, and it demonstrates the relevance of this theoretical framework. Second, this study is one of the first AAI studies to take on the challenge of explaining variations in the therapeutic process conceptualized as the development of an attachment relationship between patient and therapist. Attachment theory holds great promise for application in clinical settings, and the AAI may supplement available diagnostic tools and help to guide the therapeutic process. Minde and Hesse *(1996)* recently showed how information about attachment may help to determine the course of individual therapy. Residential treatment may be grounded in attachment theory by emphasizing the necessity of a continuous and responsive relationship of therapeutic workers with their patients.

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