



Adult attachment representation and computer-assisted language measures: what can we learn from the therapeutic cycle model for the Adult Attachment Interview and vice verse?

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Abstract

In this study, we examined the relationship between adult attachment representation, coded with the Adult Attachment Interview (AAI), and its linguistic components, assessed by computer-assisted language measures for emotion-abstraction patterns. $N=40$ subjects completed AAI transcripts; $n=20$ were classified as “secure”, $n=10$ as “dismissing”, and $n=10$ as “preoccupied”. The AAI coding focuses on the structural quality of discourse. Our basic assumption was that comparing different adults’ state of mind with respect to attachment, security is indicated by undistorted free cognitive and emotional processes, insecurity, that is, dismissing and preoccupied, is marked by significant interference from cognitive or affective sources. The aim was to test whether linguistic measures can contribute to a construct validity of the attachment categories. Further, we were expecting that different topics in the AAI-questions (e.g. separation, illness, metacognition) would activate different linguistic variables and could contribute to a thematically relevant construct validity for the language measures. The results showed that, on the one hand, the text analytic approach has been found to be useful to differentiate between the complex attachment categories on an objective level. On the other hand, the semistructured AAI with 18 questions

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seemed to be a suitable instrument to contribute to a construct validity of the disparate language measures. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

The present study is based on the attachment theory developed by Bowlby [1–3] as an integrative model of emotional and cognitive development in life cycle. According to this theory, the degree of integration or connection between semantic and episodic memory systems affects flexible or rigid access on attachment relevant information. Methodologically, the study refers to an approach using objective computer-based measures to operationalize the verbalization of emotions and cognitions [4,5] in the context of process-oriented psychotherapy research. The differing skill of individuals to verbalize, integrate and reflect upon feelings connects the methods described below.

2. Methods

2.1. Adult Attachment Interview (AAI)

The AAI was devised by George et al. [6] and is a tool for assessing the adults' inner working models, which organize attention, behavior and language in contexts relevant to attachment. It is a semi-structured interview with 18 questions on early attachment experiences. Topics are, for example, the general description of relationship with each parent during childhood and specific description of relationship using concrete adjectives (mother/father); memories about tenderness, illness, rejection, separation during childhood; the effect of childhood experiences on personality development (metacognitive perspective). The complete interview has to be transcribed verbatim before raters score the verbal information only. The scoring of the AAI relies rather more on the structural organization of the narrative and the coherence of the overall narrative [7] and less on the content of the adult's descriptions. Three major categories of attachment representation are classified: "secure-autonomous", "insecure-dismissing", or "insecure-preoccupied" [8].

Secure-autonomous (F) subjects talk freely about positive and negative emotional experiences. Their narrative is coherent, open and fresh. Responses are clear, relevant and succinct. They give the impression of having an active and lively consciousness and show the ability to reflect their own statements (metacognitive monitoring). *Dismissing* (Ds) subjects avoid talking about emotional experiences. They provide incoherent, incomplete or contradictory accounts and show lack of recall. They tend to idealize or devalue attachment figures. Characteristically, they deactivate attachment-related information. *Preoccupied* (E) subjects give incoherent, inconsistent and endless accounts of their

childhood. They present a lot of detailed memories and appear to be emotionally overinvolved with past conflicts. They tend to hyperactivate attachment-related information and often use pseudo-analytic jargon.

Our study is based on verbatim transcripts and anonymous Adult Attachment Interviews which were evaluated according to Kobak's [9] Q-sort method and categorized into one of the three attachment representations. The Attachment Q-Sort is considered a reliable and valid alternative method to the coding system of Main and Goldwyn [8]. Kobak [9] created a total of 100 typical items which, using an expert's rating, can be assigned to the prototypical ideal Q-sorts "secure", "dismissing", and "preoccupied".

2.2. The Therapeutic Cycle Model and emotion-abstraction patterns

The Therapeutic Cycle Model (TCM [4]) has been developed using computer-assisted transcript analysis tools. It makes use of two change agents, "affective experiencing" and "cognitive mastery", measured as emotional tone (ET) and abstraction (AB) in the verbal expression of patient and therapist. Four emotion-abstraction patterns are defined and interpreted as follows: *Relaxing* (A): Little ET and AB. Patients or subjects talk about material that is not relevant to their central issues. *Reflecting* (B): Little ET and much AB. Subjects present topics with a high amount of abstraction and without intervening emotions. *Experiencing* (C): Much ET and little AB. Subjects find themselves in a state of emotional experiencing, raising, for example, conflictual themes. *Connecting* (D): Much ET and much AB: Subjects have found emotional access to conflictual themes and they can reflect upon them. This state marks a clinically important moment [4,5].

2.3. Hypotheses

This pilot study should give us first indicators of how the language of subjects with unlike attachment representations might differ with respect to their verbal styles, assessed by objective language measures. Our two-tailed hypotheses were: There are differences between the three attachment groups in terms of the variables: (1) emotional tone with positive and negative valence, (2) abstraction and (3) emotion–abstraction patterns A, B, C, D. To test our hypotheses, we analyzed the subjects' complete AAI transcripts. The intention was to test whether the language measures can contribute to a relevant construct validity of the defined attachment categories.

In a second step, we analyzed the transcripts, using each of the 18 AAI-questions as a scoring unit. We were expecting that different topics in the AAI (e.g. separation, illness, metacognition) would activate different linguistic variables. If so, exploratory analyses could contribute to a thematically relevant construct validity for the language measures.

2.4. Participants

The study was based on $N=40$ verbatim transcripts from Adult Attachment Interviews with a non-clinical sample which were categorized into one of the three attachment representations [9]. The drawing of the sample was completed when 20 subjects were classified as "secure", 10 as "dismissing" and 10 as "preoccupied". Of those subjects, 25

were female and 15 male. On average, the subjects were 33.2 years old (ranging between 23 and 45) at the time of the interview. All subjects belonged to middle-class families. They have given informed consent. The data were treated anonymously.

3. Results

3.1. Relationships between attachment representation and the linguistic measures

According to our hypotheses for the emotional tone (see Table 1), there were significant differences between all attachment groups ($p < 0.05$). The group “preoccupied” verbalized emotions most frequently. Compared to the group “dismissing”, the difference is highly significant ($p < 0.01$; effect size = 1.62), compared to the group “secure”, it is less significant ($p < 0.05$; effect size = 0.85). The group “dismissing” verbalized the least emotions; the difference to the group “secure” is, however, not significant. The effect size is moderate (0.34). With the differentiation of positive and negative emotional tone, it was revealed that the differences found were largely due to differential use of negative emotion words. For positive emotional tone, there are only weak effects in the individual comparisons (> 0.35).

For abstraction (see Table 1), the differences between all groups reveal statistical trends but are not significant ($p < 0.10$). Subjects in the group “dismissing” use abstraction the least. The group “preoccupied” shows the most abstraction. Here also, the difference between the extreme groups was most evident ($p < 0.05$).

For the emotion-abstraction patterns (see Table 1), the most distinct differences between all attachment groups were found for pattern A (relaxing, $p < 0.05$) and D (connecting, $p < 0.05$). While the group “secure” again lies in the middle, the groups “dismissing” and

Table 1
Differences in the linguistics measures within the attachment categories

Linguistic measures	Attachment categories						Statistics							
	Ds ($n = 10$)		F ($n = 20$)		E ($n = 10$)		Ds/F		Ds/E		F/E		Ds/F	
	<i>M</i>	S.D.	<i>M</i>	S.D.	<i>M</i>	S.D.	ES	ES	ES	p'	p'	p'	p'	p
ET	0.039	0.005	0.042	0.008	0.048	0.006	0.34	1.6	0.85	0.35	0.005***	0.047**	0.02**	
AB	0.016	0.005	0.019	0.008	0.025	0.008	0.29	1.1	0.69	0.50	0.023**	0.08*	0.07*	
pos. ET	0.020	0.003	0.022	0.005	0.024	0.005	0.35	0.89	0.38	0.48	0.11	0.40	0.33	
neg. ET	0.019	0.005	0.020	0.004	0.024	0.003	0.21	1.3	1.1	0.48	0.006***	0.01**	0.01**	
Pattern A	0.42	0.17	0.36	0.22	0.19	0.12	-0.33	-1.45	-0.83	0.38	0.010**	0.08*	0.045**	
Pattern B	0.20	0.11	0.18	0.09	0.21	0.09	-0.16	0.12	0.27	1.0	0.06*	0.59	0.84	
Pattern C	0.21	0.07	0.21	0.08	0.22	0.14	-0.07	0.00	0.05	0.87	0.49	0.53	0.77	
Pattern D	0.17	0.10	0.24	0.20	0.39	0.21	0.32	1.31	0.65	0.49	0.008***	0.06*	0.038**	

Ds = dismissing, F = secure, E = preoccupied, *M* = mean, S.D. = standard deviation, ES = effect size; p' : p Mann–Whitney–*U*-Test, p : p Kruskal–Wallis-Test; ET = emotional tone, AB = abstraction, Pattern A = relaxing, Pattern B = reflecting, Pattern C = experiencing, Pattern D = connecting.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

“preoccupied” show contrary results. The group “dismissing” has the highest values in pattern A; the group “preoccupied” has the highest values for pattern D. Both groups are significantly different for pattern A ($p < 0.05$; effect size -1.45) and highly significant for pattern D ($p < 0.05$; effect size 1.31). The differences for the groups “dismissing” and “preoccupied” show statistical trends. In pattern B, (reflecting), the group “secure” is least represented. The difference to the group “preoccupied” shows a statistical trend. For the pattern C, there are no differences between the groups.

3.2. Linguistic measures and AAI-questions

The ANOVA analysis showed highly significant differences regarding the intensity of appearance of all language measures depending on thematically corresponding AAI-questions ($p < 0.001$). For each variable, we were ranking the AAI-questions and we found the following results:

(1) AAI-questions with focus on positive emotions “wish for a child” and “transmission of own attitudes towards the child” activated more frequently the language measure *positive emotional tone* ($p < 0.001$) (Fig. 1).

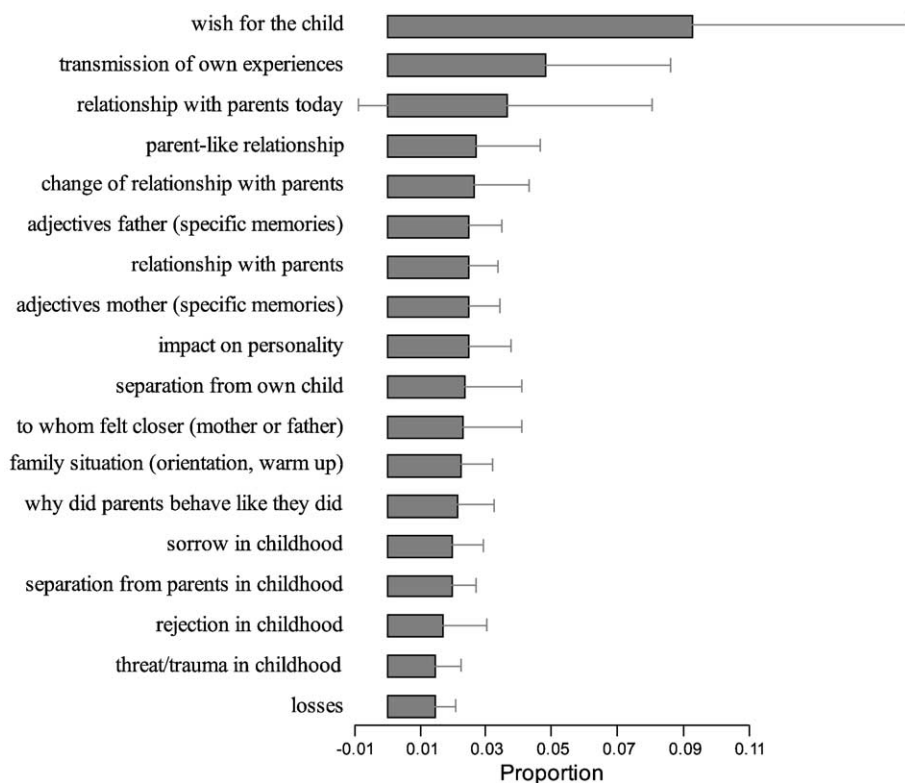


Fig. 1. AAI-questions and positive emotional tone.

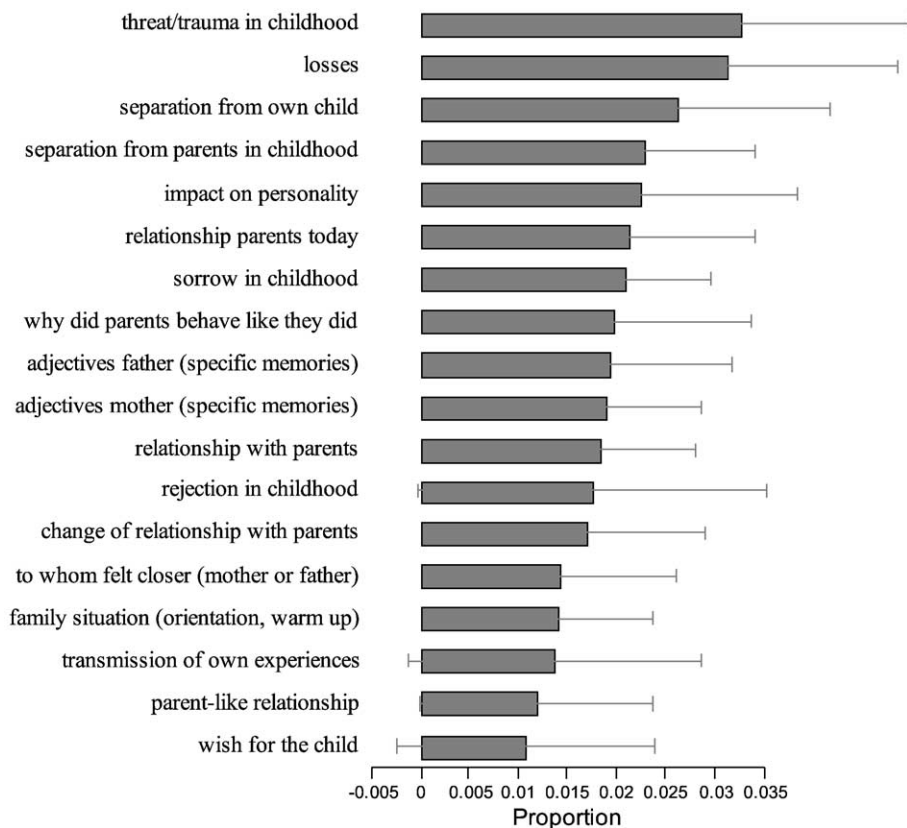


Fig. 2. AAI-questions and negative emotional tone.

(2) AAI-questions with focus on negative emotions “threat/abuse”, “loss of a significant other through death”, “separation from own child” activated more frequently the language measure *negative emotional tone* ($p < 0.001$) (Fig. 2).

(3) AAI-questions with focus on a metacognitive perspective “transmission of own attitudes towards the child” and “effect of childhood on personality” activated more frequently the language measure *abstraction* ($p < 0.001$).

4. Discussion

4.1. What did we learn from the Therapeutic Cycle Model for the Adult Attachment Interview?

The results of this pilot study indicate that the use of a text analytic approach seems useful to differentiate between the complex attachment categories. It can be seen as another contribution to the construct validity of the attachment categories. The quantitative range of

language measures in the attachment categories corresponds with the subjects' strategies to cope with attachment relevant information. According to their *defensive* strategy, dismissing subjects have the *lowest* means; according to their *hyperactive* strategy, preoccupied subjects have the *highest* means; and according to their *flexibility*, the secure subjects have the most “*balanced*” means, which is consistent with other data in attachment research [10,11]. The data of the secure subjects show us that the balanced use of word concepts might be more adequate than an exaggerated or understated one. At first glance, we could expect that secure subjects will have the highest values. The fact, however, that preoccupied subjects show the highest proportion of “connecting” may be due to a phenomenon we called “pseudo-psychological language”. They may appear pseudo-analytical to cope with conflicts coming up [8]. We interpret this finding as a linguistic style of “pseudo-insight” on a surface level. Simply relying on language measures, preoccupied subjects appear to be “more successful patients”. A closer look at the transcripts segments reveals interesting additional information [12]. The next step should be to test, using a larger sample as well as with clinical and non-clinical subjects, whether the results reported here can be confirmed. The study offers plausible support for the criteria postulated by Main and Goldwyn [8] as well as Kobak [9] for differentiating between attachment typologies with computer-based measures on another level of transcript analysis.

4.2. What did we learn from the Adult Attachment Interview for the Therapeutic Cycle Model?

The fact that the “secure” group is located in the middle value-range between the two extreme groups (“dismissing” and “preoccupied”) is a substantial finding for clinical research and confirmed these persons' ability to balance “emotional experiencing” and “cognitive mastery”, which could be described as an “insightful” process. The somehow reflective, but hyperactivated and incoherent linguistic style of the preoccupied subject seems not to be associated with insight (connecting). As a conclusion, we can say that further analyses of selected “connecting-passages” reveal interesting information. The semistructured AAI with 18 questions seems to be a suitable instrument to contribute to a construct validity of the disparate language measures *emotional tone* and *abstraction* and the interplay of both variables. The segment analysis showed consistently plausible correspondences between thematic focus of the question and linguistic category.

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