

# THE IMPACT OF ATTACHMENT PARAMETERS IN CHILDHOOD ON THE PERSONALITY OF ADULTS WITH MENTAL DISORDERS

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received: 3.7.2018;

revised: 4.3.2019;

accepted: 20.3.2019

## SUMMARY

**Background:** Attachment parameters have an effect on later relationship patterns and the development of parameters of self-concept and personality. In the current study the role of attachment parameters on personality dimensions was investigated, especially with respect to personality disorders.

**Subjects and methods:** 134 psychiatric inpatients were examined on attachment and personality parameters using the schedule FEB as a questionnaire on the parental attachment and the SKI as a self-concept inventory.

**Results:** Regression and correlation analyses suggest positive influences of parental care and negative influences of parental overprotection on the development of ego-strength in adulthood. Patients with personality disorders reported to have experienced less maternal care during their childhood and showed a trend towards a reduced ego-strength in adulthood compared to patients with other mental disorders.

**Conclusions:** Relationships of attachment parameters in childhood with personality dimension are exploratory. This approach seems meaningful for a better understanding of the development of personality disorders. Clinicians should be familiar with attachment patterns when treating people with mental disorders in order to adequately include appropriate personality dimensions in the therapy.

**Key words:** attachment – childhood - personality dimensions - personality disorders - neuroticism

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## INTRODUCTION

Attachment parameters have an effect on later relationship patterns and the development of parameters of self-concept and personality (Bowlby 1969, Ainsworth & Bowlby 1991) and should therefore also have influence on the development of personality disorders (PD).

In previous investigations some interesting single findings could be made. A longitudinal study showed relations of the attachment security in middle childhood with the personality dimensions extraversion and openness (Fransson et al. 2013). It could also be shown that insecure or anxious attachment may partially mediate the relationship between childhood traumatic experiences and borderline features among mood disorder patients (Baryshnikov et al. 2017, Cohen et al. 2017). Especially Borderline personality disorders might represent a complex constellation of personality traits and disturbed attachment patterns (Fossati et al. 2012). Furthermore, personality traits that develop on the ground of attachment dimensions could themselves be possible mediators for psychopathological symptoms: for example, a mediation effect of self-directedness between (low) paternal care and bulimic psychopathology could be detected (Fassino et al. 2010). A study with a small sample of patients with alcohol addicted inpatients showed significantly more abnormalities on different personality dimensions in patients with an insecure attachment style than patients with a secure attachment style (Wedekind et al. 2013). In another recent inves-

tigation the results suggested that attachment parameters correlate with the presence of PD, but not with particular PD subtypes when current psychiatric distress is taken into account (Chiesa et al. 2017).

However, most studies included the style of attachment in adulthood, but not attachment patterns in childhood, so that there are still less studies on relationships of these attachment parameters in childhood with personality dimensions/disorders in adulthood. One reason for this could be the reduced availability of empirically evaluated tests that retrospectively assess childhood attachment dimensions. Some tests are only on a semistructured level that have disadvantages in terms of their reliable, reproducible applicability in research. For this purpose, we used the model of Lutz et al. (1995) due to its clearly defined and coherent structure: This model classifies attachment within the dimensions of maternal/paternal care and control (overprotection), respectively.

The aim of this interim analysis was to investigate whether a possible long-term development of attachment schemes on the development of various personality dimensions is exploratory on the basis of psychological instruments, at least from the subjective point of view of those surveyed. Using the model of Lutz et al. (1995) with the four dimensions maternal/paternal care/control we hypothesized (a) that an optimal attachment (high care, low control; Lutz et al. 1995) during childhood positively influences personality dimensions, especially ego-strength and self-confidence, in adulthood. According to the concept of neuroticism (von

Georgi 2006) we further hypothesized (b) that patients with PD have more problems in ego-strength related to unbalanced attachment patterns (e.g., less care and/or more control) in childhood. Thus, psychiatric inpatients were cross-sectionally examined on attachment and personality parameters using questionnaires; correlation and regression analyses were performed with sub-analyses on patients with PD and those with other psychiatric disorders (non-personality disorders = NPD).

## SUBJECTS AND METHODS

### Subjects

The study sample comprised n=134 (85 of them were female; mean age 40.5±12.9 years, range 18-66) inpatients of the Psychiatric Center Nordbaden in Wiesloch, Germany (see table 1). Twenty-three patients were diagnosed with a personality disorder (PD group) according to ICD-10 (WHO, 1992) and with the help of specific tests such as SKID-II (emotionally unstable personality disorder of borderline/impulsive type: n=9/n=8, combined personality disorder: n=3, obsessive-compulsive (anankastic) personality disorder n=1, dependent personality disorder n=1, personality disorder not otherwise specified n=1). Patients gave written informed consent after the procedure had been fully explained. The study was approved by the Ethics Committee of the Chamber of Physicians Baden-Württemberg/Germany.

### Assessment

The schedule FEB ("Fragebogen zur elterlichen Bindung", Questionnaire on the parental attachment, Lutz al. 1995) with the scales „maternal care“, „maternal control“, „paternal care“, „paternal control“ was used to assess attachment parameters. The FEB was constructed on the basis of the Parental Bonding Instrument (PBI) by Parker et al. (1979) which has a good reliability (retest-reability care/control:  $r=0.761/0.628$ , split-half-reability care/control:  $r=0.879/0.739$ ). Parker et al. (1979) had taken literary research that in studies on the measurement of parent behavior and parent attitudes, the two variables care and control (overprotection) prevail. Validation evidence was provided in various validation studies (Parker et al. 1979, Parker 1984). The FEB shows a reability of  $r=0.84 - 0.92$  (Lutz al. 1995).

The instrument SKI ("Selbstkonzept-Inventar"; self-concept inventory, von Georgi & Beckmann 2004) assessed the personality dimensions „ego-strength vs. insecurity“, attractiveness vs. marginality, confidence

vs. reserve, orderliness vs. insouciance, enforcement vs. cooperation. SKI has a good reliability and validity ( $r=0.78-0.90$ , Gebhardt et al. 2014, von Georgi & Beckmann 2004). The Clinical Global Impression scale (CGI; Guy 1976) part 1 was used to estimate the current severity of the symptomatology.

### Statistical analysis

Categorical (group comparison) and dimensional (Spearman correlations) statistical approaches were applied using the Statistical Package of the Social Sciences (SPSS 21 for Windows) software. T-test for the comparison of FEB/SKI scales between the two patient groups. Regression analyses with the FEB scales as predictor variables and the SKI scales as criterion variables were performed with controlling for gender and age. Effect sizes were given according to Cohen (1988):  $f=0.10/0.25/0.40$  weak/medium/strong effect. In addition, Pearson correlations with the FEB and SKI scales were calculated. All p values were two-tailed; the significance level was set at 0.05.

## RESULTS

### Ad hypothesis (a)

A good reability of the FEB was found in the current study sample (Cronbach's Alpha of the FEB was 0.679/0.760, referring to mother/father).

A regression analysis for the *entire sample* (n=134) showed significant correlations of a prediction of the ego-strength by means of attachment parameters, namely paternal care ( $R=0.351$ ,  $p[df=4;93, F=3.268]=0.015$  ( $f=0.37$ );  $\beta=0.239$ ,  $p=0.036$ ; after controlling for gender and age  $p=0.017$ ), whereas other personality dimensions were not predicted by attachment parameters.

A correlation analysis (see table 2) revealed significant positive correlations of ego-strength with maternal and paternal care ( $r=0.230/0.281$ ;  $p=0.014/0.005$ ) and negative correlations with maternal and paternal control ( $r=-0.259/-0.243$ ;  $p=0.005/0.015$ ) and a negative correlation of paternal control with orderliness ( $r=-0.224$ ;  $p=0.022$ ) (this matches with a positive correlation with insouciance, respectively). Furthermore, the following non-significant trends towards a correlation were found: paternal care was related with attractiveness ( $r=0.170$ ;  $p=0.088$ ) and maternal control negatively with enforcement ( $r=-0.155$ ;  $p=0.093$ ) (or positively with cooperation, respectively).

**Table 1.** Data on age, gender and severity of the illness

	PD group (n=23)	NPD group (n=111)	Total sample (n=134)
Mean Age ± S.D.	34.0±12.6*	42.4±12.0*	40.8±12.5
Range (years)	(19.1-66.3)	(18.1-62.6)	(18.1-66.3)
Gender (m:f)	5:18	45:66	51:85
CGI part 1 (score)	5.0±0.9 (3.0-6.0)	4.9±0.7 (4.0-7.0)	4.9±0.7 (3.0-7.0)

\*Mean age differed between the personality disorder (PD) group and the non-personality disorder (NPD) group ( $p=0.003$ )

**Table 2.** Trends and significant correlations between attachment (FEB) and personality (SKI) dimensions within the total sample (n=134)

Attachment (FEB) subscales	Personality (SKI) subscales	Pearson's correlation	p-value
Maternal care	ego-strength (vs. insecurity)	r=0.230*	p=0.014
Maternal control	ego-strength (vs. insecurity)	r=-0.259*	p=0.005
	enforcement (vs. cooperation)	r=-0.155 <sup>+</sup>	p=0.093
Paternal care	ego-strength (vs. insecurity)	r=0.281*	p=0.005
	attractiveness (vs. marginality)	r=0.170 <sup>+</sup>	p=0.088
Paternal control	ego-strength (vs. insecurity)	r=-0.243*	p=0.015
	orderliness (vs. insouciance)	r=-0.224*	p=0.022

FEB = Fragebogen zur elterlichen Bindung (Questionnaire on the parental attachment, Lutz al. 1995);  
SKI = Selbstkonzept-Inventar (self-concept inventory, von Georgi & Beckmann 2004); \* = significant, + = trend;

**Table 3.** Scores of the attachment (FEB) and personality dimensions (SKI) and its differences between patients with personality disorders (PD) and those with other psychiatric disorders (NPD), respectively

	PD group (n=23) (mean values ± standard deviation)	NPD group (n=111) (mean values ± standard deviation)	p-value
Maternal care	15.4±9.2	19.8±9.1	0.047*
Maternal control	17.4±9.4	15.9±7.5	n.s.
Paternal care	12.9±6.8	15.7±9.0	n.s.
Paternal control	17.1±11.5	14.4±8.0	n.s.
Ego-strength (vs. insecurity)	17.1±8.2	20.7±8.3	0.069 <sup>+</sup>
Attractiveness (vs. marginality)	31.9±10.8	31.2±9.8	n.s.
Confidence (vs. reserve)	32.6±9.6	33.1±10.6	n.s.
Orderliness (vs. insouciance)	39.7±8.5	41.5±8.4	n.s.
Enforcement (vs. cooperation)	30.9±7.8	30.4±8.0	n.s.

FEB = Fragebogen zur elterlichen Bindung (Questionnaire on the parental attachment, Lutz al. 1995);  
SKI = Selbstkonzept-Inventar (self-concept inventory, von Georgi & Beckmann 2004); \* = significant, + = trend;

### Ad hypothesis (b)

Comparing the PD group (n=23) with the NPD group (n=111), PD patients differed from NPD patients in so far as they reported to have experienced less maternal care during their childhood (p[df=118; t=2.010]=0.047) and they showed a trend towards a reduced ego-strength in adulthood (p[df=119; t=-1.837]=0.069) (see table 3).

In the PD group (n=23) no prediction of personality dimensions by attachment parameters appeared. Only a non-significant trend (R=0.824, p[df=4;7, F=3.713]=0.063 (f=1.45)) suggests that an increased maternal control predicts a reduced ego-strength ( $\beta$ =-0.731, p=0.024), but also that maternal care could be reciprocal for the ego-strength ( $\beta$ =-0.865, p=0.012). After controlling for age and gender the prediction by an increased maternal care changed to a non-significant trend (p=0.058).

In the NPD group (n=111) a prediction of the ego-strength by attachment parameters was presented (R=0.114, p[df=4;78, F=2.521]=0.048 (f=0.11)): there was a trend towards a prediction of ego-strength in the adult age; through the paternal care during childhood ( $\beta$ =0.232, p=0.068). After controlling for age and gender this prediction changed to a significant result (p=0.022). Furthermore, in the NPD group the ego-strength was positively correlated with the experienced maternal and paternal care in childhood (r=0.249/0.295; p=0.015/0.007) and negatively correlated with maternal (and as a trend also with paternal) control behavior

(r=-0.228/-0.212; p=0.026/0.054). In addition, there were slight trends in other personality dimensions in NPD patients: Paternal care in childhood was correlated positively with confidence (r=0.199; p=0.073), and orderliness (r=0.182; p=0.096), whereas maternal control behavior was negatively correlated with the enforcement in the adult age (r=-0.191; p=0.060).

We found no significant influence of the severity of current psychopathology on the found results (CGI).

### DISCUSSION

Previous research has scarcely investigated relationships of attachment dimensions in childhood with personality dimensions/disorders in adulthood. However, understanding the effects of attachment influences on the personality and on the development of personality disorders is essential for both a general understanding of psychotherapy and the therapeutic approach to each individual patient. This results in corresponding consequences for the therapy, for example with respect to the therapeutic handling of the individual attachment style.

In the current interim analysis of this study the role of attachment parameters during childhood was examined, especially with respect to personality disorders. To our knowledge there are no studies on relationships of attachment dimensions on the axes maternal/paternal care/control (model of Lutz et al. 1995) in childhood with personality dimensions/disorders in adulthood.

**Table 4.** Attachment patterns in patients with personality disorders (PD) compared to those with other mental disorders (NPD = non-personality disorders).

Parental attachment quadrants of the FEB		PD group (n=23)	NPD group (n=111)	Total sample (n=134)
Mother	Loving, restrictive (much care / much control)	0 (0.0%)	10 (9.9%)	10 (8.3%)
	Optimal parenting style (much care / little control)	3 (15.0%)	18 (17.8%)	21 (17.4%)
	Little loving, restrictive (little care, much control)	14 (70.0%)	47 (46.5%)	61 (50.4%)
	Careless parenting style (little care / little control)	3 (15.0%)	26 (25.7%)	29 (24.0%)
	<i>Total</i>	<i>20 (100.0%)</i>	<i>101 (100.0%)</i>	<i>121 (100.0%)</i>
Father	Loving, restrictive (much care / much control)	0 (0.0%)	2 (2.2%)	2 (1.9%)
	Optimal parenting style (much care / little control)	1 (5.9%)	16 (18.0%)	17 (16.0%)
	Little loving, restrictive (little care, much control)	10 (58.8%)	43 (48.3%)	53 (50.0%)
	Careless parenting style (little care / little control)	6 (35.3%)	28 (31.5%)	34 (32.1%)
	<i>Total</i>	<i>17 (100.0%)</i>	<i>89 (100.0%)</i>	<i>106 (100.0%)</i>

We could show that the model according to Lutz et al. (1995) with the basic dimensions maternal/paternal care and control is suitable for describing relevant attachment dimensions and the FEB shows a good reliability. In particular, the ego-strength is predicted by attachment dimensions, which corresponds to the concept of neuroticism (von Georgi 2006).

In the current investigation, protective factors (parental care) as well as risk factors (parental control) on the development of personality dimensions were identified in the total sample and the NPD group: especially ego-strength was predicted by paternal care during childhood. The correlation analysis suggests a positive influence of both paternal and maternal care and a negative influence of parental overprotection on later ego-strength. As well, a high paternal overprotection might be related to less orderliness. In addition, two findings of non-significant correlative trends were found: paternal care and attractiveness; maternal control and cooperation.

The small group of patients with personality disorders showed no significant predictors. However, the first hints were that maternal control can also have an impairing effect in this group. A lack of maternal care could develop resilience factors and lead to a self-perceived increased ego-strength. Conversely, in spite of maternal care, a reduced ego-strength might occur; e.g., if other factors should prevail.

Hypothesis (a) could be confirmed for the personality dimension ego-strength as a central personality construct: ego-strength was predicted by the attachment parameter paternal care in the entire sample. Furthermore we found positive correlations of ego-strength with maternal and paternal care and negative correlations with maternal and paternal control behaviour (NPD group). Further non-significant trends found point in the same direction: paternal care was related to confidence and orderliness, whereas maternal control behavior was reciprocally related to the personality dimension enforcement (NPD group). Thus, optimal attachment (high care, low control) during childhood positively influence ego-strength, and presumably also self-confidence, orderliness, enforcement, in adulthood.

As well, hypothesis (b) can be confirmed that PD patients experienced less maternal care during their childhood and showed a trend towards a reduced ego-strength. As well, paternal care was also low in PD patients: only one patient of the PD group reached the cut-off for paternal care, however due to low sample size significance was not reached in comparison to the NPD group. A significant prediction could not be found, possibly due to the small sample size of PD patients, whereas first non-significant trends could be detected. Concerning the attachment quadrants it is striking that PD patients presented the parental attachment style „little lovingly, restrictive“ (little care, much control) particularly frequently (see table 4).

It has to be taken into account that the results of the regression analyses can not be directly linked to actually held circumstances. Rather, the reported circumstances point to corresponding internal representations. Also, the actual role of the attachment parameters with respect to personality traits or personality disorders can not be derived from the present investigation. Thus, it is possible that attachment parameters are not directly related to diagnoses but represent coping strategies in dealing with an (e.g., invalidating) environment and eventually manifesting in different symptomatology (e.g., on the individual genetic basis).

There are some limitations of the current investigation. First, the significant difference of the mean age between the both groups ( $p=0.003$ ) could represent a bias. However, within the regression analyses we used unstandardized residuals with correction for age and gender as well. Second, concerning the subanalyses of the PD and NPD groups, group sizes represent a statistical limitation. Thus, significant attachment-specific predictors with effect on the current personality dimensions were found only in the larger NPD group of patients. Third, a control group with healthy individuals might have given even more information on interactions of attachment parameters and later personality dimensions. One strength of the study is the naturalistic population and long-term estimations of the patients themselves including the childhood stage.

## CONCLUSION

Altogether, these interim analysis data suggest that relationships of attachment parameters in childhood with personality dimension, or even personality disorders, are explorable. First hints suggest that the parental care (and in particular, paternal care) might predict ego-strength in adulthood. Patients with personality disorders perceived especially a lack of maternal care in childhood and reported a reduced ego-strength in adulthood.

### Acknowledgements:

We wish to thank all patients for participating in this study.

**Conflict of interest:** None to declare.

### Contribution of individual authors:

Stefan Gebhardt: design of the study, data collection, literature searches and analyses, statistical analyses, interpretation of data, first draft, approval of the final version.

Ilka Dammann: design of the study, data collection, literature searches, approval of the final version.

Klaus Loescher: data collection, interpretation of data, approval of the final version.

Richard von Georgi: design of the study, literature searches and analyses, statistical analyses, interpretation of data, approval of the final version.

Helmut Vedder: design of the study, interpretation of data, approval of the final version.

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