Different amounts of protest in 4-month-old infants of depressed vs. non-depressed mothers

Gufler, Sandra Rejnholdt; Smith-Nielsen, Johanne; Væver, Mette Skovgaard; Harder, Susanne

Publication date:
2014

Document version
Early version, also known as pre-print

Citation for published version (APA):
Væver, Sandra Gufler, Different
FA C U LT Y  O F  S C I E N C E

infant protesting. None of the 17 depressed interactions group were aborted before the ten minutes had passed due to the

in front of each other at a distance of approximately 50 cm, the infant

enrollment in both groups.

psychiatric
Depression status was measured
Measures

Psychosis and/or presence of co-

in infants of depressed vs. non-

The aim of the present study was to

A significantly heightened

protest when different modalities are measured.

One possible explanation is the use of different measures. However, only across the depressed samples does the measure seem to largely impact the amount of protest. This could be explained by the presence of discordant affect in the infants of depressed mothers, which would result in different amount of protest when different modalities are measured.

Sample characteristics might have affected the results. The depressed women in the present sample can be considered low-risk (Table 1), while Field has often used particularly high-risk samples. Interactions of high-risk infant-mother dyads are quantitatively and qualitatively different (Murray & Cooper, 1997; Field, 1967). Furthermore, it has been argued that there are different types of depressed mothers characterized by different behavior patterns in mother and infant (Cohn, Malas, Tronick, & Lyons-Ruth, 1986; Tronick & Weinberg, 1997; Field, Hernandez-Ref, & Diego, 2005). Infants of under stimulating depressed mothers have been found to spend less time engaged in mutual regulation and in under get a response from the mother while the infants of over stimulating intrusive mothers cry less to screen the mothers off (Cohn et al., 1986; Field et al. 1990). The infants of the disengaged mothers might turn passive and turn to self-regulation in time (Tronick & Weinberg, 1997).

Age could have played a role, since the behavior of the infant might change with the amount of PPD. The infants in the present study are 16 weeks, while infants in the other studies are younger (8-11 weeks, 13-6 weeks, and 14-6 weeks). The differences in age are relatively small, however, an infant might experience many interactions on a daily basis, making the experience on which they base their behavior accumulate quickly.

Finally, the infants of depressed mothers might as a group show both a heightened and a lowered amount of protest. Adopting Beеби’s mid-range model for interpretation would indicate that the different depressed samples are facing different types of regulatory differences. A heightened amount of protest would indicate that the infant is preoccupied with the interactive regulations, while a lowered amount would indicate that the infant has turned to self-regulation (Beebe, Ristor, Sorter, & Knibbaus 2005).

Conclusions
Results show a lowered amount of protest in infants of depressed mothers, while previous studies have detected higher amounts. The relatively small sample size of the depressed group should be taken into account. However, findings of both a higher and a lower amount of protest in infants of depressed mothers might be explained by a model where a mid-range amount is seen as optimal. Operating outside the “mid-range” could be understood as attempts to cope with interactional disturbances by heightening or lowering the response.

References


Auditory recording
Ten minutes of mother-infant face-to-face interaction were recorded. Recordings were aborted if the infant cried extensively (more than 30 seconds in succession). 11 of the 49 recordings (22.4%) of the control group were aborted before the ten minutes had passed. Due to the infat protesting. None of the 17 depressed interactions were aborted.

Vocal coding and reliability
Acoustic analysis and labeling was carried out using PRAAT software for phonetic analyses. The recordings were segmented into speech and non-speech intervals using a semi-automated procedure during which possible segments of speech were first identified based on intensity threshold levels. The segments were then verified and adjusted manually and infant vocalizations were reliably separated into negative (protest) and neutral-positive vocalizations by blind coders. Coders were trained to achieve reliability at minimum kappa (K) ≥ 0.60 for event and ≥ 0.80 for percentage agreement, which is considered acceptable (Cohen, 1988). Inter-rater reliability was calculated for 20% of each recording. Time-based event-based kappa was calculated with sequential analysis software (Bakeman & Quera, 2011). For protest time-based K = 0.76 and the K = 0.84, n = 7. Seven files were consensus-coded because reliability could not be reached.

Ethics
All participants were thoroughly informed about the project and all signed a consent form. All participants in the depressed group were offered thorough feedback after all visits and were offered to participate in short-term cognitive behavioral group therapy.

Data Analysis
Data was analyzed performing an independent sample t-test using IBM SPSS Statistics 19.

Results
Maternal and infant characteristics
Basic characteristics of the mothers are presented in Table 1.

Table 1

Maternal and infant characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Depressed</th>
<th>Non-depressed</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (months)</td>
<td>10.4 (1)</td>
<td>10.3 (1)</td>
<td>0.84</td>
</tr>
<tr>
<td>Gestational age (weeks)</td>
<td>40.3 (1.6)</td>
<td>39.8 (1.6)</td>
<td>0.23</td>
</tr>
<tr>
<td>Birth weight (grams)</td>
<td>3,500 (500)</td>
<td>3,400 (500)</td>
<td>0.23</td>
</tr>
<tr>
<td>Maternal education (years)</td>
<td>16 (2)</td>
<td>16 (2)</td>
<td>0.84</td>
</tr>
<tr>
<td>Maternal employment status (employed)</td>
<td>16/17</td>
<td>16/17</td>
<td>0.84</td>
</tr>
<tr>
<td>Maternal smoking status (current)</td>
<td>2/17</td>
<td>3/17</td>
<td>0.32</td>
</tr>
<tr>
<td>Maternal drinking status (current)</td>
<td>1/17</td>
<td>2/17</td>
<td>0.32</td>
</tr>
<tr>
<td>Maternal psychiatric status (depressed)</td>
<td>17/17</td>
<td>0/17</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Maternal depression status (depressed)</td>
<td>17/17</td>
<td>0/17</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Protest results
On average, infants of non-depressed mothers showed a higher percentage of time in protest (M = 11.56, SD = 4.85) than infants of depressed mothers (M = 3.91, SD = 4.78). This difference was highly significant F(39.92) = 3.61, p < .001.

Discussion
Contrary to previous findings, the results of the present study showed a lowered amount of vocal protest in infants of depressed mothers. Possible interpretations will now be discussed. Figure 1 shows the results from the present and previous studies.