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ABSTRACT

This study assessed the associations of maternal attachment classification with mother and daughter depression and affect regulation, with the hypothesis that affect regulation might mediate between attachment and depression both within and between generations. Twenty-five dysthymic mothers, 25 non-depressed mothers, and their adolescent daughters, ages 15 to 20 recruited from Ann Arbor, Michigan, and surrounding communities were interviewed using the Adult Attachment Interview. Self-report measures of depression (Center for Epidemiological Studies-Depression Scale) and affect regulation (Affect Regulation Scale) were also administered. Results indicated that most dysthymic mothers were insecure, and most depressed daughters had insecure mothers. A moderate curvilinear relationship was found between mothers' and daughters' depression. Dysthymic mothers used fewer adaptive affect regulation strategies than non-depressed mothers. Depression in both mothers and daughters was correlated with high use of maladaptive strategies and with a lower tendency to use successful strategies more often than unsuccessful strategies. There was no association between affect regulation and attachment, even though depression was associated with both attachment and affect regulation. Results suggested that maternal insecurity may be a stronger influence than actual symptoms of depression on daughter depression, both independent of and in interaction with the mother's own depression. The proposed mediating role of adaptive versus maladaptive affect regulation was not supported; however, other dimensions of affect regulation, such as defense mechanisms, may perform this mediating role. (Contains eight references and nine tables.) (Author/KDFB)

Attachment and Affect Regulation in Depressed Mothers and Their Adolescent Daughters

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ABSTRACT

This study assesses the associations of maternal AAI classifications with maternal and daughter depression and affect regulation, with the hypothesis that affect regulation might mediate between attachment and depression both within and between generations.

Although interesting and robust patterns were found between depression and both attachment and affect regulation, the proposed mediating role of adaptive versus maladaptive affect regulation was not supported. Because of the substantial body of literature pointing to the importance of affect regulation in both depression and attachment, however, it is proposed that there may be other dimensions of affect regulation (e.g. defense mechanisms) which may perform such a mediating role.

Twenty-five dysthymic mothers, 25 non-depressed mothers, and their adolescent daughters (ages 15-20) were interviewed using the Adult Attachment Interview (AAI; George, Kaplan & Main, 1984). The daughter AAIs are currently being coded. Self-report measures of depression and affect regulation were also administered.

Results showed that most dysthymic mothers were insecure, and most depressed daughters had insecure mothers. A moderate curvilinear relationship was found between mothers' depression and daughters' depression.

Dysthymic mothers used fewer adaptive affect regulation strategies than non-depressed mothers. Depression in both mothers and daughters was correlated with high use of maladaptive strategies and with a lower tendency to use successful strategies more often than unsuccessful strategies. Interestingly, there was no association of affect regulation with attachment, even though depression was associated with both attachment and affect regulation.

Research on depression in mothers has often assumed that the symptoms themselves are the source of disruption to parenting. This study suggests that maternal insecurity may be a stronger influence on daughter depression, both independent of and in interaction with the mother's own depression.

SUBJECTS

- Subjects were 25 dysthymic mothers, 25 non-depressed mothers, and their daughters, ages 14.75 to 20.5 years.
- Subjects were recruited from Ann Arbor, MI and surrounding communities through newspaper ads, flyers, and a letter sent to all parents of daughters in the 10th-12th grades of a small-town high school.
- Mothers and daughters were each paid $30.
- The two groups of mothers and daughters were not different in age, race, education or marital status **(Table 1)**
- All mothers were screened over the phone by a trained clinical social worker.

- Diagnostic criteria were based on DSM-IV
- The screening interview was based on the SCID-IV
-

SCREENING CRITERIA FOR DYSTHYMIC GROUP

See **Table 2** for breakdown of reasons subjects were excluded from the study.

1. Mothers will currently meet the DSM-IV criteria for dysthymia and will have a history of dysthymia for at least half of the daughters' lifetimes.
2. Mothers will have had no more than four DSM-IV major depressive episodes in the daughters' lifetimes, and no major depressive episodes within the first two years of their depression.
3. Mothers will have no history of psychiatric hospitalizations in the daughters' lifetimes, or serious or disruptive medical illnesses in the first five years of the daughters' lifetimes.
4. Mothers will not have any history of mania or psychosis, or a history of substance abuse during the daughters' lifetimes.
5. Mothers will not meet criteria for any other Axis I disorders, such as anxiety or eating disorders, in the daughters' lifetimes. Although they may experience symptoms of other disorders, dysthymia should be their primary diagnosis.

PREDICTIONS

Depression

1. Daughters of dysthymic mothers will be more depressed than daughters of non-depressed mothers.

Attachment

2. Dysthymic mothers will be insecure more often than non-depressed mothers, and as a group will score lower on coherence.
3. Depressed daughters will be more likely to have insecure mothers than non-depressed daughters.

Affect Regulation

4. Dysthymic mothers will report:
   a) lower frequency and success of adaptive strategies
   b) higher frequency of maladaptive strategies and
   c) lower frequency-success correlations than non-depressed mothers.
5. Depression in daughters will be associated with:
   a) lower frequency and success of adaptive strategies
   b) higher frequency of maladaptive strategies
   d) lower frequency-success correlations.
6. Daughters' affect regulation frequency and success scores and frequency-success correlations will be associated with their mothers' scores.
7. Insecure mothers will report:
   a) lower frequency and success of adaptive strategies

b) higher frequency of maladaptive strategies and
c) lower frequency-success correlation than secure mothers

8. Affect regulation may mediate between attachment in mothers and depression in mothers and daughters.

MEASURES

Adult Attachment Interview (AAI)

The AAI (George, Kaplan & Main, 1984) is a semi-structured interview about subjects' memories of their childhood relationships with their parents and their current understandings of the influence of these relationships on them as adults. The coding system (Main & Goldwyn 1984; 1991) categorizes subjects into one of four groups: Free/Autonomous (Secure), and Preoccupied, Dismissing, or Unresolved (all insecure).

Coding was done by four trained coders who had previously established 80% reliability with expert coders. In addition to classifications, each subject's transcript was also coded on a 7-point scale for coherence. In discourse terms, a transcript is judged highly coherent if the rater finds the subject to be truthful, succinct, complete, relevant, clear, and orderly. Coherence has been previously shown to be the strongest AAI scale predicting secure versus insecure classifications (Fonagy, Steele & Steele, 1991).

Affect Regulation Scale (ARS)

The ARS (Schaffer, 1994) asks subjects to rate 102 coping strategies or experiences for the frequency with which they occur when subjects are upset or anxious, and the degree to which each item helps them to feel better (success). The scale was developed and validated in a series of three studies using both clinical and non-clinical subjects. Five factors have been derived from these items: Activities, Contemplation, Oral/ Somatic behaviors, Interpersonal thoughts and behaviors, and Sexual and Aggressive fantasies and behaviors. Correlations of these factors with success, patient status, attachment security, and expectations of being able to make oneself feel better suggest that the Activities, Contemplation and Interpersonal factors represent more adaptive strategies for affect regulation, while the Oral/Somatic and Sexual/Aggressive factors are associated with more psychopathology and with lower efficacy in comforting subjects.

For the purposes of hypothesis testing, the Activities, Contemplation, and Interpersonal factors were combined into a measure of adaptive strategies, and the Oral/ Somatic and Sexual/Aggressive factors were combined into a measure of maladaptive strategies. These scores were analyzed for frequency, success and the correlation of frequency and success.

Center for Epidemiological Studies - Depression Scale

This self-report depression measure (CES-D; Radloff, 1977) has twenty items rated 0-3 addressing depressive symptoms. This measure is particularly appropriate for assessing dysthymia since it does not ask subjects to compare their current feelings with how they usually feel. The CES-D's validity has been demonstrated in large epidemiological studies and with patients who are already known to be depressed (Weissman, et al, 1977; Myers & Weissman, 1980).

FINDINGS

Hypothesis 1. Daughters of dysthymic mothers were more depressed than daughters of non-depressed mothers only when two outliers (high-scoring daughters of non-depressed mothers) were omitted: **$t(46)=1.74$, $p<0.05$**

Figure 1. A curvilinear relationship was found between mother and daughter depression scores (using all subjects), where mothers with very low and very high scores tended to have daughters with high depression scores. **$R^2=0.11$, $F_{regression}=5.95$, $p<0.02$**

Hypothesis 2: Dysthymic and non-depressed mothers were not significantly different from each other. However, dysthymic mothers were predominantly insecure - 72% (significantly different from chance), while non-depressed mothers were 52% insecure (not different from chance) (**Table 3**). **$\chi^2(1)_{dysth.}=10.67$ $p<0.002$, $\chi^2(1)_{non\text{-}depr.}=1.15$, ns**

Hypothesis 3: Daughters scoring in the clinical range on depression were more likely to have insecure mothers (**Table 4**). **$\chi^2(1)_{non\text{-}depr.}=5.12$, $p<0.03$**

Hypothesis 3: Depression in daughters was negatively related to maternal AAI coherence, (especially when three earned secure mothers were omitted) (**Figure 2**).

Hypothesis 4:

- Dysthymic mothers used fewer adaptive strategies and more maladaptive strategies than non-depressed mothers (**Table 5**).
- Dysthymic mothers reported less success with adaptive strategies than non-depressed mothers: **$t(48)=2.43$, $p<0.01$**.
- Dysthymic mothers and their daughters had lower frequency-success correlations than non-depressed mothers and their daughters (**Table 6**).

Hypothesis 5: Depression in daughters was associated with much higher frequency of maladaptive strategies (**Table 7**).

Hypothesis 6: Mothers' and daughters' scores on affect regulation were not correlated.

Hypothesis 7: There was no relationship between maternal attachment security and maternal or daughter affect regulation.

Hypothesis 8: Regression Analyses.

- Affect regulation did not appear to mediate between insecure attachment in mothers and depression in daughters.
- Attachment and affect regulation contributed independently and in interaction to predict maternal depression (**Table 8**).
- Daughters' use of maladaptive strategies was the strongest predictor of daughter depression (**Table 9**).
- The interaction of maternal AAI coherence and maternal depression was the second strongest predictor of daughter depression.

CONCLUSIONS

WITHIN GENERATIONS

MOTHERS

- Maternal attachment and affect regulation contributed independently and in interaction to predict maternal depression (Table 6).
- Most secure, dysthymic mothers were earned secure.
- A substantial fraction (40%) of insecure mothers were not depressed.

DAUGHTERS

- Daughters' use of maladaptive strategies was the strongest predictor of daughter depression (Table 7).

INTERGENERATIONAL PATTERNS

- The interaction of maternal AAI coherence and maternal depression was the second strongest predictor of daughter depression.
- A curvilinear relationship was found between mother depression and daughter depression.
- The only intergenerational pattern for affect regulation was the correspondence of mothers' and daughters' frequency-success correlations.

WHAT'S NEXT?

- Although the adaptive/maladaptive dimensions of affect regulation did not relate to maternal attachment, it is likely that there are dimensions of affect regulation which do relate to attachment, such as *defenses and unconscious processes.*
- The daughter AAIs are in the process of being coded, so it will be possible to investigate *intergenerational correspondence of attachment classifications* between mothers and their adolescent daughters.
- All subjects have consented to follow-up in the next 3-7 years, so it may be possible to *follow these subjects longitudinally*.

Table 1

Demographic information for mothers and daughters

Subjects	Age years (SE)	Race Caucasian	African-American	Other[a]	Education years (SE)	Marital Status Married	Divorced	Single
Mothers								
Depressed	44.52 (1.05)	22	1	2	15.48 (0.35)	13	12	0
Non-depressed	45.15 (0.85)	23	2	0	15.33 (0.45)	16	9	0
Daughters								
Depressed mothers	17.49 (0.37)	22	1	2	-	0	0	25
Non-depr. mothers	17.26 (0.26)	20	2	3	-	1	0	24

[a] One depressed mother and her daughter were from India; Two daughters of non-depressed mothers were of mixed race, both with Caucasian mothers and African-American fathers. One daughter identified herself as Native-American/Caucasian (her mother was Caucasian) and one mother identified herself as Native-American. S.E. = Standard error of the mean.

Table 2.

Breakdown of reasons for excluding subjects*

Reasons	Percent
Exclusion Criteria	
Daughter too young or too old	20%
Financial hardship	3%
Mother's history of psychiatric hospitalization	3%
Lengthy separation from daughter before age 5 or daughter did not live with mother through age 16	3%
Daughter adopted	1.5%
Diagnostic Criteria – Mothers	
Not depressed enough to qualify as dysthymic, but too depressed to qualify for non-depressed	18%
Other Axis I diagnoses (panic, eating disorder, bipolar, psychotic, post-traumatic stress disorder)	12.5%
Substance Abuse	7%
Major Depressive Disorder without dysthymia	4%
Other Reasons	
Mother not interested	8%
No longer needed non-depressed subjects	7%
Daughter said no**	6%
Could not reach subjects	4%

Figure 1.

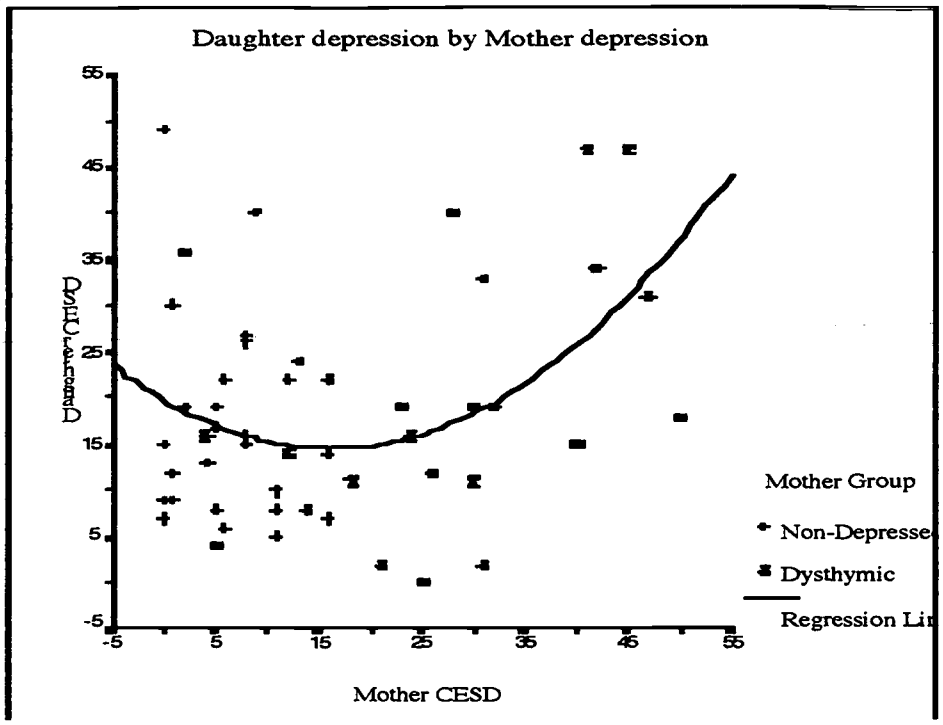

Table 3

Distributions of mother AAI attachment classifications for dysthymic and non-depressed mothers.

	Mothers' Attachment Classifications[a]					
Mothers	**F**	**Ds**	**E**	**U**	Insecure Combined	**Total**
Dysthymic	7	1	8	9	18	25
Non-Depressed	12	5	5	3	13	25
Total	19	6	13	12	31	50

[a]F=Secure (Free/Autonomous); Ds=Dismissing; E=Entangled; U=Unresolved.

Note: $\chi^2(3)_{\text{four groups}}=7.67$, $p<0.05$; $\chi^2(1)_{\text{two groups}}=2.12$, p=ns; two-tailed tests; 71% (5/7) of dysthymic, secure mothers qualified as "earned secure", compared with 42% (5/12) of non-depressed secure mothers.

Table 4

Frequency table of mother AAI security and daughter clinical and non-clinical depression groups.

	Moth ers		
Daughters	**Secure**	**Insecure**	**Total**
Clinical	6	20	26
Non-Clinical	13	11	24
Total	19	31	50

Figure 2

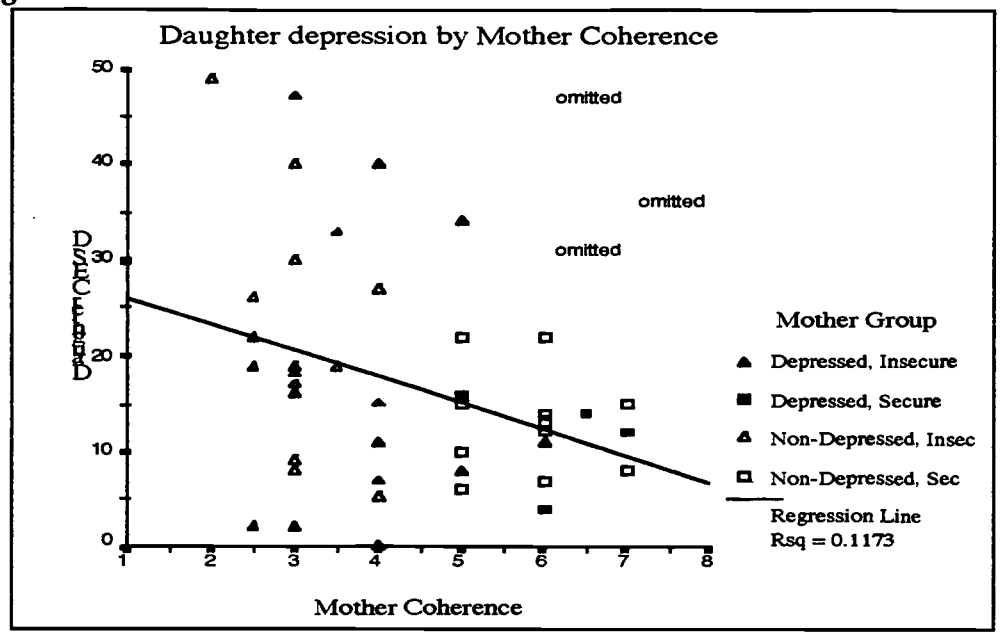

Table 5

Comparison of dysthymic and non-depressed mothers on the ARS frequency scales.

	Mothers	
FREQUENCY	**Adaptive** mean (SE)	**Maladaptive** mean (SE)
Dysthymic Mothers	0.7755 (0.049)	0.7705 (0.043)
Non-Depressed Mothers	0.9671 (0.036)	0.4354 (0.046)
Student's t (df)	3.16 (48)	-5.36 (48)
p	< 0.002	< 0.0005

[1]This finding was not significant when two outlier daughters of non-depressed mothers were included.

Table 6

Comparison of depressed and non-depressed mothers and their daughters on the ARS frequency-success correlation.

	Mean Correlations of Frequency and Success	
	Mothers	**Daughters**
Depressed Mothers	0.5571 (0.039)	0.6650 (0.031)
Non-Depressed Mothers	0.7871 (0.023)	0.7464 (0.019)
Student's t (df)	5.11 (48)	2.07 (46)
p	< 0.0005	< 0.03

Table 7

Correlations of daughter depression with daughter Affect Regulation Scale adaptive and maladaptive frequency scores.

	Daughters			
FREQUENCY	Adaptive	Maladaptive	Oral Passive /Somatic	Sexual /Aggressive
CES-D	0.10	0.62**	0.56**	0.49**

N=50; **p<0.001

Table 8

Final logistic regression equation predicting mother depression group.

Dependent Variable: Mother Depression Group

Predictors, N=50	B	S.E.	Wald	df	p	R
Interaction of Coherence and Maladaptive	4.4424	1.3269	11.2087	1	< 0.001	0.36
Coherence	-2.3603	0.8169	8.3493	1	< 0.005	-0.30
Interaction of Adaptive and Maladaptive	-11.9347	4.5132	6.9929	1	< 0.01	-0.27
Intercept	5.2090	2.4921	4.3691	1	< 0.04	
$\chi^2(2)=35.054$, p<0.0001	84% correct				two-tailed tests	

Table 9

Regression equation predicting daughter depression from all variables.

Dependent Variable: Daughter CES-D

Source	df	SS	MS	F
Regression	4	3643.00	910.75	11.11***
Residual	45	3687.50	81.94	
Total	49	7330.50		***p< 0.0001

next page ....

Variable	B	SE B	beta	Adj R^2 Alone	Sequential Change R^2	Partial T
Da. Frequency Maladaptive	24.41	4.91	0.56	0.3876	0.3876	4.97***
Mo Cohernce-(CES-D)^2 Interaction	0.001	0.0006	0.26	0.1085	0.0222	2.01*
Mo. Success Interpersonal	-4.34	2.68	-0.19	0.0800	0.0130	-1.61+
Mo Frequency-Success Corr.	20.40	7.92	0.33	-0.0208	0.0741	2.58**
Intercept	-5.59	7.75				-0.72
$R^2 = 0.50$		Adjusted $R^2 = 0.45$				

***p< 0.0001; **p< 0.02; *p< 0.05; +p< 0.12; two-tailed tests

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