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### Relationships Among Temperament Characteristics of Adolescents Born Prematurely and Maternal Temperament Characteristics

Andrea D. Clements

*East Tennessee State University, clements@etsu.edu*

Kellye Lingerfelt

*East Tennessee State University*

Wallace E. Dixon Jr.

*East Tennessee State University, dixonw@etsu.edu*

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# Relationships Among Temperament Characteristics of Adolescents Born Prematurely and Maternal Temperament Characteristics

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# Relationships Among Temperament Dimensions Of Adolescents Born Prematurely And Dimensions Of Maternal Temperament

Andrea D. Clements, PhD, Kellye Lingerfelt, Wallace E. Dixon, Jr., PhD  
East Tennessee State University

## ABSTRACT

Although temperament is believed to have strong physiological underpinnings which have been supported by findings of temperament stability over time in individuals, patterns of temperament characteristics in parents and their children have been largely unexplored. As a part of a longitudinal study of preterm infants born in the early 1990s, temperament in mothers and prematurely-born infants was measured when the children were 14 or 15 yrs of age. Several relationships of interest have been identified which do not support a purely hereditary transmission of temperament characteristics, but nevertheless seem intuitively logical. Mothers completed the Adult Temperament Questionnaire (ATQ) and prematurely-born adolescents completed the Early Adolescent Temperament Questionnaire (EATQ). Adolescent depression was strongly negatively related to maternal surgency/extroversion ( $r = -0.918, p = .028$ ) and maternal sociability ( $r = -0.938, p = .018$ ). Maternal sociability was also negatively related to adolescent frustration ( $r = -0.899, p = .038$ ) and adolescent inhibitory control ( $r = -0.925, p = .025$ ). The only relationship that suggested a possible hereditary component was between maternal surgency/extroversion and adolescent surgency/extroversion ( $r = 0.879, p = .050$ ).

## CONTACT

Name: Andrea D. Clements, PhD  
Organization: Dept. of Psychology, ETSU  
Email: clements@etsu.edu  
Phone: (423)439-6661

## INTRODUCTION

In our research we have attempted to explore the utility of maternal *temperament* measurement for the prediction of pregnancy and birth complications, preterm birth, and child behavior. All of these outcomes have been shown to be related to prenatal stress. The benefit of using temperament rather than stress as a predictor is that temperament is a more stable individual difference characteristic, whereas stress is transient.

Temperament is defined by Rothbart and Derryberry (1981) as “constitutionally based individual differences in reactivity and self-regulation, with constitutional referring to the relatively enduring biological make-up of the individual, influenced by heredity, maturation, and experience. Reactivity refers to the arousability of emotional, motor, and attentional responses, assessed by threshold, latency, intensity, time to peak intensity, and recovery time of reactions. Self regulation refers to processes such as attention that can serve to modulate reactivity.”

This study seeks to specifically assess the relationship between dimensions of maternal temperament and dimensions of prematurely-born adolescent children.

## METHODS AND MATERIALS

Medical charts from 250 mother-infant pairs were reviewed for preterm infants (<38 weeks gestational age) during 1993 and 1994 at a teaching hospital in southern Appalachia as part of a study of medical management of preterm labor and birth. In 2008, we attempted to locate these mother-infant pairs. Twenty-eight were located and agreed by phone to participate. Temperament data are reported on the first six responses received.

Participants were located by using telephone books, and internet search engines. Telephone numbers were located, and all potential participants were contacted by telephone. The study was explained and survey packets containing temperament questionnaires were mailed to those who were willing to participate. Each packet contained the Adult Temperament Questionnaire (ATQ), the Early Adolescent Temperament Questionnaire (EATQ) and an addressed, stamped envelope.

If surveys were not returned within three weeks, participants were contacted by telephone. They were asked if they had returned the questionnaires or if they needed replacement packets. Replacement packets were sent to those who requested them.

## RESULTS

**Representativeness of Sample.** The six questionnaires returned were compared to the 28 participants who received packets, and to the 250 original cases in terms of demographics. No statistically significant differences were found except that the final sample ( $n=6$ ). There were no significant differences among samples in terms of maternal age, gender proportions, birthweight, gestational age at birth, or birth method. There were no multiple births in our final sample, as compared to 21% and 18% in the other samples. Smokers were also overrepresented in our final sample (50% as compared to 21.4% and 24.8%; see Table 1).

Table 1. Demographic Characteristics of Samples

	Final Sample <i>n</i> =6		Contacted in 2008 <i>n</i> =28		Original Sample <i>n</i> =250		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Gender	Female	3	0.50	16	57.1	124	49.6
	Male	3	0.50	12	42.9	126	50.4
Birth Method	Vaginal	2	0.37	13	46.4	141	56.4
	C-Section	4	0.67	15	53.6	101	40.4
	No Answer	-	-	-	-	8	3.2
Multiple Births	Yes	0	0	6	21.4	45	18.0
	No	6	1.00	22	77.6	204	81.6
	No Answer	-	-	-	-	1	0.4
Smoked During Pregnancy	Yes	3	0.50	6	21.4	62	24.8
	No	3	0.50	18	64.3	141	54.4
	No Answer	-	-	4	14.3	47	18.8

	Final Sample <i>n</i> =6	Contacted in 2008 <i>n</i> =28	Original Sample <i>n</i> =250
	Mean(SD)	Mean(SD)	Mean(SD)
Mother's Age	26.67 (4.761)	26.04 (4.146)	25.24 (6.152)
Weeks Gestation	36 (1.265)	34.29 (2.706)	33.65 (2.911)
Weight in Grams	2881.83 (178.065)	2166.82 (578.993)	2113.82 (645.261)

**Maternal and Child Temperament.** Adolescent depression was strongly negatively related to maternal surgency/extroversion ( $r = -0.918, p = .028$ ) and maternal sociability ( $r = -0.938, p = .018$ ). Maternal sociability was also negatively related to adolescent frustration ( $r = -0.899, p = .038$ ) and adolescent inhibitory control ( $r = -0.925, p = .025$ ). The only relationship that suggested a possible hereditary component was between maternal surgency/extroversion and adolescent surgency ( $r = 0.879, p = .050$ ).

Further, high maternal discomfort, low maternal associative sensitivity, and low maternal sociability were predictive of child negative affect (See Table 2).

Table 2. Prediction of Child Negative Affect from Maternal Temperament Dimensions

	Beta	<i>t</i>	<i>p</i>
Maternal Associative Sensitivity	-.590	-245.139	.001
Maternal Sociability	-.506	-216.339	.003
Maternal Discomfort	.052	24.566	.033

## DISCUSSION

Click here to insert your Discussion text. Type it in or copy and paste from your Word document or other source. Click once on the dashed border to highlight then drag the bottom edge up to fit. Or change the font size to fill the box.

Double-click on the dashed border, select 'Colors and Lines', and change the border to solid or whatever style/color you like. Or 'No Line' to remove the border altogether.

Double-click the border and select 'Text Box', then check "Resize AutoShape to Fit Text" to have the box automatically re-size to your text.

Click on the border once to highlight and select a different font or font size that suits you. This text is in Arial 32pt and is easily readable up to 6 feet away. Try to stay between 28pt – 40pt for best viewing.

## CONCLUSIONS

Click here to insert your Conclusions text. Type it in or copy and paste from your Word document or other source.

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## REFERENCES

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