

Supplementary Summary A. Variable names and labels for study predictors and associated questions as related to study outcomes

Observed Predictor Label	Predictor Name	Questions (as related to outcomes)	
Maternal Regulatory Attempts (MRA)		ENE-O	Overall Touch
Verbal Comfort	V-Comf	1A	3A
Physical Comfort	Phy-Comf	1A	3A
Maternal Initiated Distraction	M-INI-Dis	1A	3A
Maternal Joined Distraction	M-JNT-Dis	1A	3A
Maternal Verbal Orientation to Delay	M-VO2D	1A	3A
Positive Commands	Pos-Comd	1A	3A
Negative Commands	Neg-Comd	1B	3B
Punitive Reactions	Pun	1B	3B
Minimizing	Min	1B	3B
Physical Restraint	Phy-RST	1B	3B
Positive Emotional Reactions	Pos-Aff	1A	3A
Negative Emotional Reactions	Neg-Aff	1B	3B
Maternal Mind-Mindedness (MM)		Questions	
Appropriate Mind-Related Comments	AMM	1A	2A
Non-Attuned Mind-Related Comments	NMM	1B	2B
Toddlers' Regulatory Strategies (TRS)		Questions	
<i>Independent Regulatory Strategies (IRS)</i>			
Toddler Initiated Verbal Distraction	T-INI-VDis	2A	4A
Toddler Initiated Non-Verbal Distraction	T-INI-nonVDis	2A	4A
Toddler Initiated Verbal Keys	T-INI-Vkeys	2A	4A
Toddler Initiated Verbal Self-Control	T-INI-Vctrl	2A	4A
Toddler Initiated Verbal Desire	T-INI-Vdes	2A	4A
Toddler Self-Comfort	T-SComf	2A	4A
<i>Dependent Regulatory Strategies (DRS)</i>		Questions	
Toddler Verbal Distraction-Bids to Mom	T-VDis-2M		
Toddler Joined Verbal Distraction	T-JNT-VDis	2B	4B
Toddler Joined Non-Verbal Distraction	T-JNT-nonVDis	2B	4B
Toddler Verbal Keys- Bids to Mom	T-Vkeys-2M	2B	4B
Toddler Verbal Self-Control- Bids to Mom	T-Vctrl-2M	2B	4B
Toddler Verbal Desire- Bids to Mom	T-Vdes-2M	2B	4B
Toddler Physical Comfort Seeking	T-ComfSk	2B	4B
<i>Note.</i> All variables are count, observed in 10s intervals as level-1 explanatory variables. Physical Restraint (None = 0, Low=1, High=2), Positive Emotional Reactions (1= Positive, 0 = Negative or Neutral). Negative Emotional Reactions (1 = Negative, 0 = Positive or Neutral).			

Supplementary Summary B. Variable names and labels for study outcomes				
Observed Outcome Label	Outcome Name	Computed Category Label	Category Name	Questions
Expression of Negative Emotion				
Expression of Negative Emotion – Intensity	ENE-I	Overall Expression of Negative Emotion	ENE-O	1 and 2
Expression of Negative Emotion – Predominance	ENE-P			
Delay of Gratification				
Touch	Touch	Overall Touch	Overall Touch	3 and 4
Attempted Touch	Attempted Touch			
Note. ENE-O is the average score of ENE-I and ENE-P observed in 10s intervals. ENE-I (Intensity) and ENE-P (Predominance – longest lasting intensity level) were scored every 5s for each10s interval (0 = no expression of negative emotion, 3 = severe expression of negative emotion). Overall Touch is sum of Touch and Attempted Touch observed for each 10s interval. Attempted Touch is toddlers’ restrained attempts to touch the toy.				

<i>Table H1. Variable names and labels for study covariates</i>				
Covariate Label	Covariate Name	Computed	Included in Questions	Variable Level
Lagged Maternal Verbosity	Verb	Total Comments per 10s	1 & 3	Level 1
Linear Elapsed Time	ET	10s	1 - 4	Level 1
Quadratic Elapsed Time	ET ²	(10s) ²	1 - 4	Level 1
Toddler Gender	Gender	0 = Girls, 1 = Boys	1-3 (Not 4)	Level 2
Toddler Expressive Language	Vocab	Vocabulary Production (maternal-report)	Only 4	Level 2
<i>Note.</i> Level-1 indicates that variable was observed in 10s intervals. Level-2 indicates variable was observed at dyad level.				

<i>Table 20. Overview of Research Questions: Predictors X Outcomes</i>				
	Outcome 1		Outcome 2	
	ENE-O		Overall Touch	
Predictors	Positive associations hypothesized	Negative associations hypothesized	Positive associations hypothesized	Negative associations hypothesized
MRA/MM	Question 1A	Question 1B	Question 3A	Question 3B
TRS - Independent	-	Question 2A	-	Question 4A
TRS - Dependent	-	Question 2B	-	Question 4B
<i>Note.</i> MRA = Maternal Regulatory Attempts, MM=Mind-Mindedness, TRS = Toddlers’ Regulatory Strategies. ENE-O = Overall Expression of Negative Emotion calculated as mean Intensity and Predominance in 10s, Delay of Gratification is indicated by Overall Touch (Sum of Touch and Attempted Touch in 10s). Higher Overall Touch scores indicate lower delay of gratification or ability to wait.				

<i>Supplemental Summary C. Decision Tree for Model Specifications and Presentation</i>				
Model 1: Random Intercept Fixed Slope	Model 2: Random Intercept Random Slope			Model to Report
Does X predict Y?	Does X still predict Y?	Does X-Y slope vary over dyad?	Does freeing slope significantly reduce misfit? Yes if $X_D^2 < .05$	
YES	YES	$U_{lj} < 0.5$	$p < .05$	Model 2
YES	YES	$U_{lj} < 0.5$	$p > .05$	Model 1
YES	YES	$U_{lj} > 0.5$	$p < .05$	Model 2
YES	YES	$U_{lj} > 0.5$	$p > .05$	Model 1
YES	NO	$U_{lj} < 0.5$	$p < .05$	Model 2
YES	NO	$U_{lj} < 0.5$	$p > .05$	Model 1
YES	NO	$U_{lj} > 0.5$	$p < .05$	Model 2
YES	NO	$U_{lj} > 0.5$	$p > .05$	Model 1
NO	X becomes significant	$U_{lj} < 0.5$	$p < .05$	Model 2
NO	X becomes significant	$U_{lj} < 0.5$	$p > .05$	Model 2
NO	X becomes significant	$U_{lj} > 0.5$	$p < .05$	Model 2
NO	X becomes significant	$U_{lj} > 0.5$	$p > .05$	Model 2
NO	NO	$U_{lj} < 0.5$	$p < .05$	Model 2
NO	NO	$U_{lj} < 0.5$	$p > .05$	Model 1
NO	NO	$U_{lj} > 0.5$	$p < .05$	Model 2
NO	NO	$U_{lj} > 0.5$	$p > .05$	Model 1
<i>Note.</i> U_{lj} = Variance component associated with X-Y slope, X_D^2 = Chi square difference. Non-significant estimates and unexpected directionality are in red.				

Table 21

Question 1A. Do Lagged Maternal Regulatory Attempts and Lagged Mind-Mindedness predict toddlers' Overall Expression of Negative Emotion (Continuous:0-3)

Lagged Maternal Variables in Question 1A	Variable Label	Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
		Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Verbal Comfort	V-Comf	Yes	No (Pos)	Yes	No	No	No (Pos)
Physical Comfort	Phy-Comf	No	No (Pos)	No	No	No	No (Pos)
Initiated Distraction	M-INI-Dis	Yes [†]	Yes (Neg)	Yes	Yes	Yes	Yes (Neg)
Joined Distraction	M-JNT-Dis	No	Yes (Neg)	No	No	No	Yes (Neg)
Verbal Orientation to Delay	M-VO2D	No	Yes (Neg)	No	Yes	Yes	Yes (Neg)
<i>Positive Commands</i>	<i>Pos-Comd</i>	<i>No</i>	<i>No (Pos)</i>	<i>Yes[†]</i>	<i>No</i>	<i>Yes</i>	<i>No (Pos)</i>
Positive Emotional Reactions	Pos-Aff	Yes	Yes (Neg)	Yes	Yes	Yes	Yes (Neg)
Appropriate MRC	AMM	No	Yes (Neg)	No	No	No	Yes (Neg)

Note. MRC = Mind-Related Comments; 1A predictors were hypothesized to be negatively associated with outcome; **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = p -value for slope coefficients with Non-Robust standard errors were < .05. All results report p -values for models estimated with robust standard errors. [†] = p < .10. Non-significant estimates and unexpected directionality are in red.

Table 26

Question 1B. Do Lagged Maternal Regulatory Attempts and Lagged Mind-Mindedness predict toddlers' Overall Expression of Negative Emotion (Continuous:0-3)

Lagged Maternal Variables in Question 1B	Variable Label	Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
		Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Negative Commands	Neg-Comd	No	Yes (Pos)	No	Yes	No	No (Neg)
Punitive Reactions	Pun	Yes	Yes (Pos)	Yes [†]	No	No	Yes (Pos)
<i>Minimizing</i>	<i>Min</i>	<i>No</i>	<i>Yes (Pos)</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes (Pos)</i>
Physical Restraint	Phy-RST	Yes	Yes (Pos)	Yes	Yes	Yes	Yes (Pos)
Negative Emotional Reactions	Neg-Aff	Yes[†]	Yes (Pos)	Yes	Yes	No	Yes (Pos)
Non-Attuned MRC	NMM	No	Yes (Pos)	No	Yes	No	Yes (Pos)

Note. MRC = Mind-Related Comments; 1B predictors were hypothesized to be positively associated with outcome; **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = p -value for slope coefficients with Non-Robust standard errors were < .05. All results report p -values for models estimated with robust standard errors. [†] = p < .10. Non-significant estimates and unexpected directionality are in red.

Table 31: Question 2A. Do Lagged Toddlers' Regulatory Strategies predict toddlers' Overall Expression of Negative Emotion (Continuous:0-3)

Lagged Toddler Variables in Question 2A	Variable Label	Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
		Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Independent Regulatory Strategies							
Initiated Verbal Distraction	T-INI-VDis	No	Yes (Neg)	No	Yes [†]	No	Yes (Neg)
Initiated Non-Verbal Distraction	T-INI-nonVDis	Yes	Yes (Neg)	Yes	Yes[†]	Yes	Yes (Neg)
<i>Initiated Verbal Keys</i>	<i>T-INI-Vkeys</i>	<i>No</i>	<i>No (Pos)</i>	<i>Yes[†]</i>	<i>Yes</i>	<i>Yes</i>	<i>No (Pos)</i>
Initiated Verbal Self-Control	T-INI-Vctrl	-	-	-	-	-	-
Initiated Verbal Desire	T-INI-Vdes	Yes [†]	No (Pos)	Yes	No	No	No (Pos)
Self-Comfort	T-SComf	Yes	Yes (Neg)	Yes	Yes	Yes	Yes (Neg)

Table 36: Question 2B. Do Lagged Toddlers' Regulatory Strategies predict toddlers' Overall Expression of Negative Emotion (Continuous:0-3)

		Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
Lagged Toddler Variables in Question 2B	Variable Label	Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Dependent Regulatory Strategies							
Verbal Distraction-Bids to Mom	T-VDis-2M	Yes [†]	No (Pos)	Yes	Yes	Yes	No (Pos)
<i>Joined Verbal Distraction</i>	<i>T-JNT-VDis</i>	<i>No</i>	<i>Yes (Neg)</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes (Neg)</i>
Joined Non-Verbal Distraction	T-JNT-nonVDis	Yes	Yes (Neg)	Yes	Yes	Yes	Yes (Neg)
Verbal Keys – Bids to Mom	T-Vkeys-2M	No	Yes (Neg)	No	Yes	Yes	Yes (Neg)
Verbal Self-Control- Bids to Mom	T-Vctrl-2M	No	No (Pos)	Yes	Yes	No	Yes (Neg)
Verbal Desire – Bids to Mom	T-Vdes-2M	No	No (Pos)	No	Yes [†]	No	Yes (Neg)
Toddler Physical Comfort Seeking	T-ComfSk	No	No (Pos)	No	Yes	Yes	No (Pos)

Note. All Toddlers' Regulatory Strategies were predicted to be positively associated with outcome. 2A strategies are toddler initiated and don't involve mother, 2B strategies involve mother or are in response to mother. **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = *p*-value for slope coefficients with Non-Robust standard errors were < .05. All results report *p*-values for models estimated with robust standard errors. † = *p* < .10. Non-significant estimates and unexpected directionality are in red.

Table 41: *Question 3A. Do Lagged Maternal Regulatory Attempts and Lagged Mind-Mindedness predict toddlers' Overall Touch (Count)*

Lagged Maternal Variables in Question 3A	Variable Label	Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
		Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Verbal Comfort	V-Comf	No	Yes (Neg)	No	No	No	Yes (Neg)
<i>Physical Comfort</i>	<i>Phy-Comf</i>	No	<i>Yes (Neg)</i>	<i>Yes</i> [†]	<i>Yes</i> [†]	<i>Yes</i>	<i>Yes (Neg)</i>
Initiated Distraction	M-INI-Dis	Yes	Yes (Neg)	Yes	No	Yes	Yes (Neg)
Joined Distraction	M-JNT-Dis	No	Yes (Neg)	No	No	Yes	Yes (Neg)
Verbal Orientation to Delay	M-VO2D	No	No (Pos)	No	No	No	No (Pos)
Positive Commands	Pos-Comd	Yes [†]	Yes (Neg)	No	No	No	Yes (Neg)
Positive Emotional Reactions	Pos-Aff	Yes* [†]	No (Pos)	Yes [†]	Yes	Yes	No (Pos)
Appropriate MRC	AMM	No	Yes (Neg)	No	Yes	No	Yes (Neg)

Note. MRC = Mind-Related Comments; 3A predictors were hypothesized to be negatively associated with outcome; **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = p -value for slope coefficients with Non-Robust standard errors were < .05. All results report p -values for models estimated with robust standard errors. [†] = p < .10. Non-significant estimates and unexpected directionality are in red.

Table 46: *Question 3B. Do Lagged Maternal Regulatory Attempts and Lagged Mind-Mindedness predict toddlers' Overall Touch (Count)*

Lagged Maternal Variables in Question 3B	Variable Label	Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
		Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Negative Commands	Neg-Comd	Yes [†]	Yes (Pos)	No	No	Yes	Yes (Pos)
Punitive Reactions	Pun	No	No (Neg)	No	No	No	Yes (Pos)
Minimizing	Min	No	No (Neg)	No	Yes	No	No (Neg)
Physical Restraint	Phy-RST	Yes [†]	Yes (Pos)	Yes [†]	Yes	Yes	Yes (Pos)
Negative Emotional Reactions	Neg-Aff	No*	Yes (Pos)	No	Yes	Yes	Yes (Pos)
Non-Attuned MRC	NMM	No	No (Neg)	No	No	No	No (Neg)

Note. MRC = Mind-Related Comments; 3B predictors were hypothesized to be positively associated with outcome; **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = p -value for slope coefficients with Non-Robust standard errors were < .05. All results report p -values for models estimated with robust standard errors. [†] = p < .10. Non-significant estimates and unexpected directionality are in red.

Table 50 *Question 4A. Do Lagged Toddlers' Regulatory Strategies predict toddlers' Overall Touch (Count)*

		Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
Lagged Toddler Variables in Question 4A	Variable Label	Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Independent Regulatory Strategies							
Initiated Verbal Distraction	T-INI-VDis	Yes	Yes (Neg)	Yes	No	No	Yes (Neg)
Initiated Non-Verbal Distraction	T-INI-nonVDis	Yes [†]	Yes (Neg)	Yes	No	No	Yes (Neg)
Initiated Verbal Keys	T-INI-Vkeys	Yes [†]	Yes (Neg)	No	No	No	Yes (Neg)
Initiated Verbal Self-Control	T-INI-Vctrl	-	-	-	-	-	-
Initiated Verbal Desire	T-INI-Vdes	No	No (Pos)	No	Yes	No	No (Pos)
Self-Comfort	T-SComf	Yes	Yes (Neg)	Yes	No	Yes	Yes (Neg)

Table 55 *Question 4B. Do Lagged Toddlers' Regulatory Strategies predict toddlers' Overall Touch (Count)*

		Model 1 - Random Intercept Fixed Slope		Model 2 - Random Intercept Random Slope			
Lagged Toddler Variables in Question 4B	Variable Label	Does X significantly predict Y?	Is directionality as hypothesized?	Does X predict Y?	Does X-Y slope vary over dyads?	Does freeing slope significantly reduce misfit?	Is directionality as hypothesized?
Dependent Regulatory Strategies							
Verbal Distraction-Bids to Mom	T-VDis-2M	No	Yes (Neg)	Yes	No	No	Yes (Neg)
Joined Verbal Distraction	T-JNT-VDis	No	Yes (Neg)	No	No	No	Yes (Neg)
Joined Non-Verbal Distraction	T-JNT-nonVDis	No	Yes (Neg)	No	No	No	Yes (Neg)
Verbal Keys – Bids to Mom	T-Vkeys-2M	No	No (Pos)	No	No	No	No (Pos)
Verbal Self-Control- Bids to Mom	T-Vctrl-2M	No	Yes (Neg)	No	No	No	Yes (Neg)
Verbal Desire – Bids to Mom	T-Vdes-2M	No	No (Pos)	No	Yes	Yes	No (Pos)
Physical Comfort Seeking	T-ComfSk	Yes[†]	Yes (Neg)	Yes	Yes	Yes	Yes (Neg)

Note. All Toddlers' Regulatory Strategies were predicted to be positively associated with outcome. 4A strategies are toddler initiated and don't involve mother, 4B strategies involve mother or are in response to mother. **Bold** font indicates largest slope coefficient. *Italics* font indicates X became significant predictor in model 2. * = *p*-value for slope coefficients with Non-Robust standard errors were < .05. All results report *p*-values for models estimated with robust standard errors. † = *p* < .10. Non-significant estimates and unexpected directionality are in red.