Measuring Lay Theories of Parenting and Child Development

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Abstract

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Keywords: keywords

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Measuring Lay Theories of Parenting and Child Development

Methods

Participants

Material

Procedure

Data analysis

Results

Discussion

Study 1: Demographic Factors

Approaches to parenting are known to differ across cultures and groups. For example, ... To better understand whether the parenting attitudes captured by our survey reflect group differences, we examined average scores on the PAQ subscales based on demographic factors. We administered the PAQ to 680 parents who were members of a local children's museum and subsequently asked them to provide information about their gender, level of education, age, ethnicity, and the number of children they have. Figure X displays the distributions of demographic factors. To quantify any possible group differences, we conducted separate linear mixed-effects regressions for each subscale with the following structure:

```
score ~ age + education + ethnicity + gender + number of children + (1 | subject) + (1| item)
```

Study 2: Relation to parenting behaviors

One way of assessing the ecological validity of the PAQ is to ask whether the parenting attitudes assessed by the current measure are related to actual parenting behaviors. For

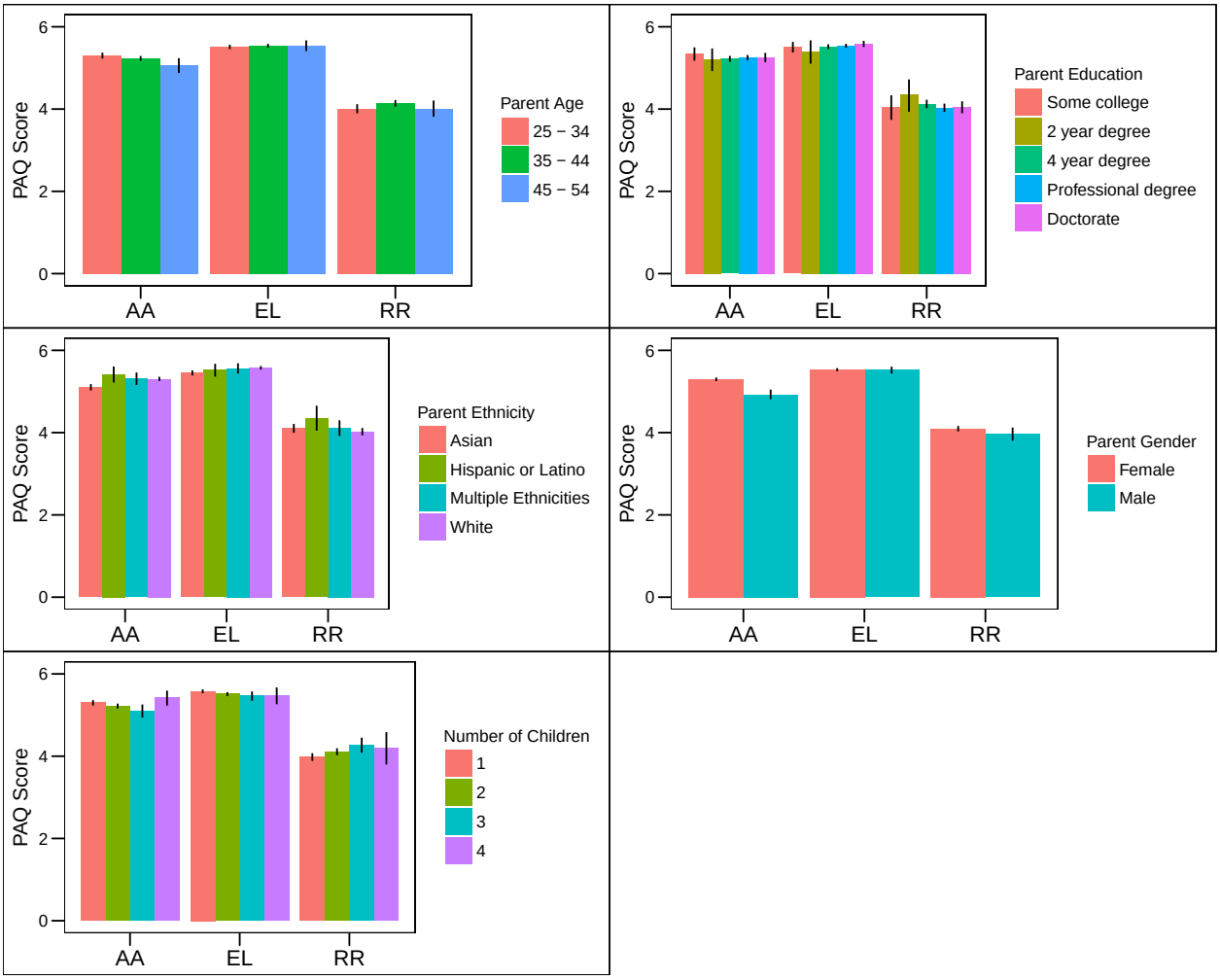

Figure 1

example, do parents who strongly agree with items on the Early Learning subscale read to their children more often? Do parents who strongly endorse items on the Rules and Respect subscale give more time-outs? To assess this, we asked parents on mturk to rate the frequency with which they engaged in a number of parenting behaviors after having filled out the PAQ.

***NOTE: use bayesian stats, including ordinal logit model here?

Affection and Attachment.

```
## Generalized linear mixed model fit by maximum likelihood (Laplace
##   Approximation) [glmerMod]
```

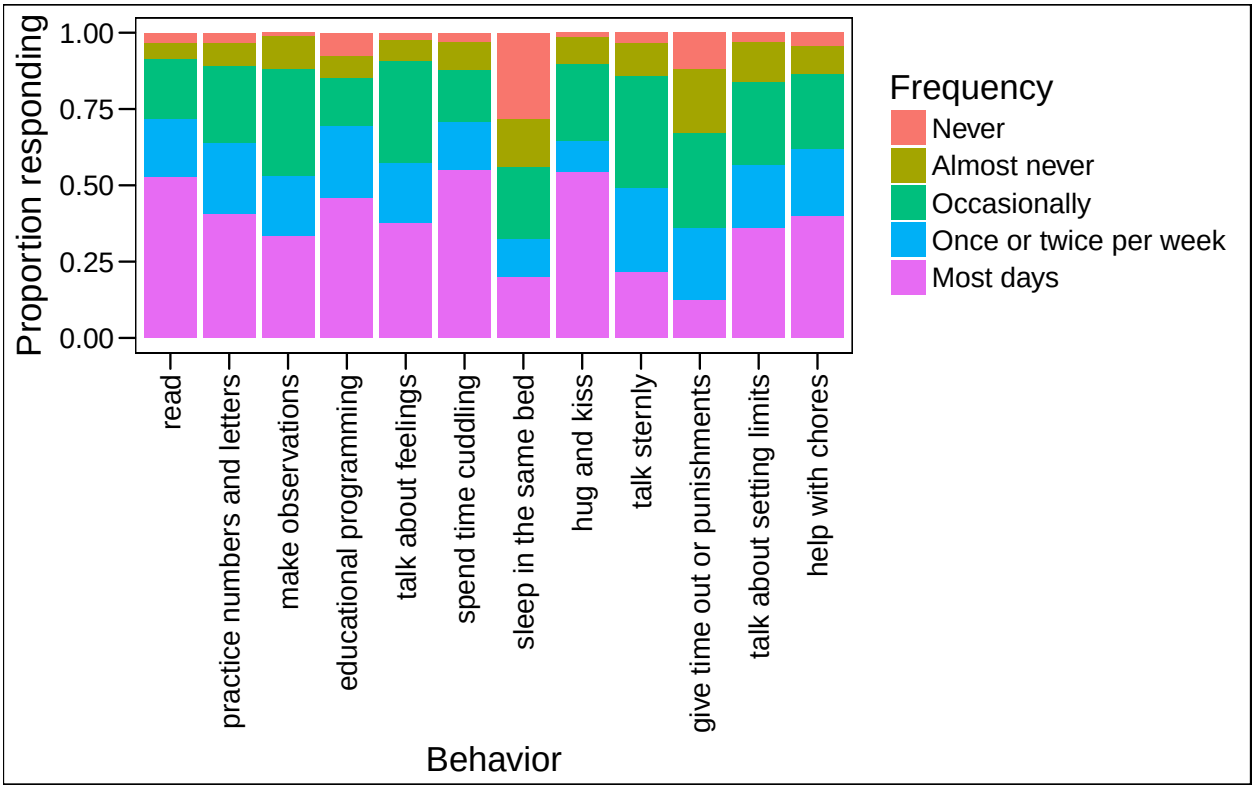

Figure 2

```
##  Family: binomial  ( logit )
## Formula:
## rating_bin ~ AA + RR + EL + child_age + (1 | sid) + (1 | short_sent)
##    Data: d_aa
##
##      AIC      BIC   logLik deviance df.resid
##    777.2    809.9   -381.6    763.2      785
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -5.6545 -0.4463 -0.1969  0.5350  3.0713
##
## Random effects:
```

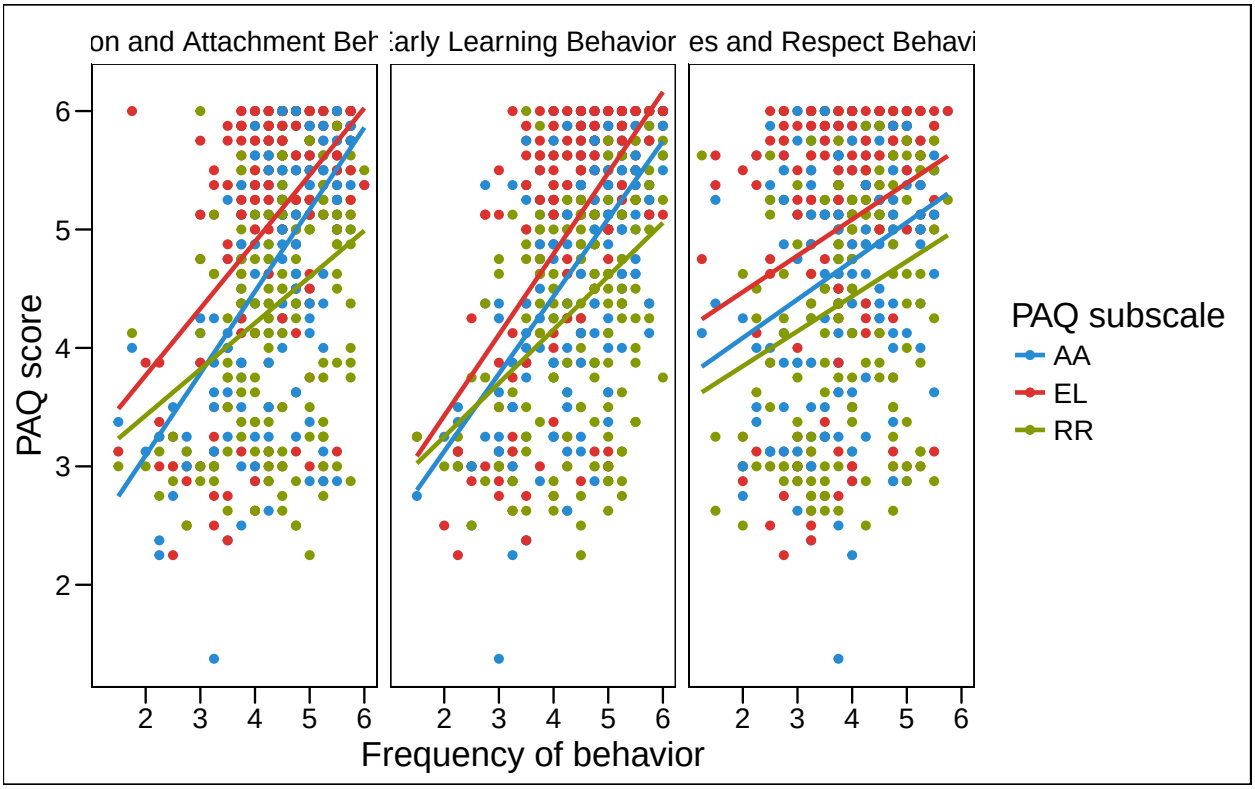

Figure 3

```
##  Groups     Name        Variance Std.Dev.
##  sid        (Intercept) 1.262    1.123
##  short_sent (Intercept) 2.678    1.636
## Number of obs: 792, groups:  sid, 205; short_sent, 4
##
## Fixed effects:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)  4.90594    1.14315   4.292 1.77e-05 ***
## AA          -0.97914    0.22194  -4.412 1.03e-05 ***
## RR           0.01263    0.15873   0.080    0.937
## EL          -0.10770    0.21141  -0.509    0.610
## child_age   -0.01160    0.00986  -1.176    0.240
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##           (Intr) AA     RR     EL
## AA        -0.191
## RR        -0.179 -0.100
## EL        -0.172 -0.673 -0.298
## child_age -0.143 -0.082 -0.207  0.095
```

Early Learning.

Rules and Respect.

```
## Generalized linear mixed model fit by maximum likelihood (Laplace
##   Approximation) [glmerMod]
##  Family: binomial  ( logit )
## Formula:
## rating_bin ~ AA + RR + EL + child_age + (1 | sid) + (1 | short_sent)
##    Data: d_rr
##
##      AIC      BIC   logLik deviance df.resid
##    883.9    916.4   -434.9    869.9      760
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -4.6250 -0.6407  0.3210  0.5723  1.8340
##
## Random effects:
##  Groups     Name        Variance Std.Dev.
##  sid        (Intercept) 1.847    1.3590
```

```
##  short_sent (Intercept) 0.964    0.9819
## Number of obs: 767, groups:  sid, 204; short_sent, 4
##
## Fixed effects:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)  4.19556    0.98437   4.262 2.02e-05 ***
## AA          -0.22895    0.22913  -0.999   0.3177
## RR          -0.16977    0.16965  -1.001   0.3170
## EL          -0.16866    0.23191  -0.727   0.4671
## child_age   -0.01906    0.01052  -1.812   0.0701 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##           (Intr) AA     RR     EL
## AA        -0.131
## RR        -0.251 -0.121
## EL        -0.259 -0.708 -0.266
## child_age -0.191 -0.105 -0.167  0.084
```

Study 3: Uptake of new information about parenting and child development

Parents' existing lay theories about parenting and child development may be an important consideration for crafting interventions on parenting behaviors. There have been frequent efforts to intervene on parenting behaviors, for example, public service announcements telling parents to read to their children; courses aimed at helping fathers engage with their children; messages aimed at encouraging parents and teachers to give children opportunities for free play. There is evidence that existing lay theories can interact

in surprising ways with this type of messaging in other domains. How do parents' lay theories impact how they uptake new information?

7.70% of the data is excluded due to reading time exclusion.

```
## [1] 2.528026e-06
```

The average accuracy for control questions was 0.76(CI = `signif(ms$ci_lower[ms$q_type == "con"], digits = 2)`:`signif(ms$ci_upper[ms$q_type == "con"], digits = 2)`) and the average accuracy for experimenter questions was 0.81(CI = `signif(ms$ci_lower[ms$q_type == "con"], digits = 2)`:`signif(ms$ci_upper[ms$q_type == "exp"], digits = 2)`). There was no significant difference in accuracy between conditions, t = -4.83, p = 0.00.

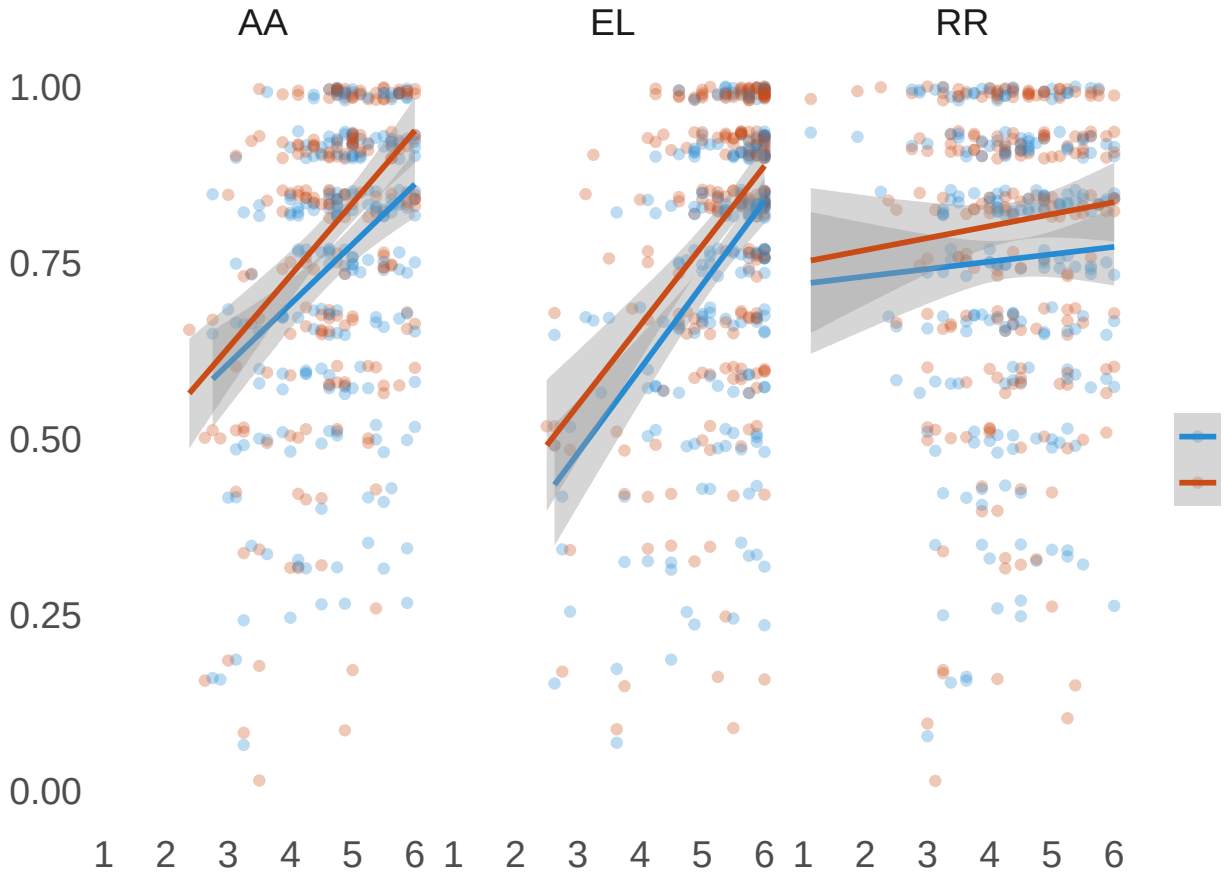

Figure 4

Set up a dataframe for analysis with exclusions.

Model with affection and attachment.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	1.643	0.250	6.559	0.000
q_typeexp	0.487	0.345	1.413	0.158
scale(AA)	0.036	0.118	0.304	0.761
scale(RR)	-0.180	0.094	-1.917	0.055
scale(EL)	0.617	0.119	5.200	0.000
q_typeexp:scale(AA)	0.335	0.118	2.842	0.004
q_typeexp:scale(RR)	0.019	0.096	0.194	0.846
q_typeexp:scale(EL)	-0.201	0.116	-1.730	0.084

References

		Estimate	SE	t value	p value	
Affection and Attachment	Intercept	5.42	0.22	25.14	$< .001$	***
	Parent Age	-0.05	0.03	-1.78	0.08	.
	Hispanic or Latino	0.33	0.10	3.44	$< .001$	***
	Multiple Ethnicities	0.25	0.08	3.13	0	**
	White	0.22	0.05	4.71	$< .001$	***
	Parent Education	0.01	0.01	1.54	0.12	
	Number of children	-0.05	0.03	-2.08	0.04	*
	Male	-0.36	0.06	-6.25	$< .001$	***
Early Learning	Intercept	5.27	0.18	29.91	$< .001$	***
	Parent Age	0.04	0.02	1.62	0.11	
	Hispanic or Latino	0.10	0.08	1.26	0.21	
	Multiple Ethnicities	0.14	0.07	2.15	0.03	*
	White	0.14	0.04	3.73	$< .001$	***
	Parent Education	0.02	0.01	2.36	0.02	*
	Number of children	-0.06	0.02	-2.66	0.01	**
	Male	-0.03	0.05	-0.66	0.51	
Rules and Respect	Intercept	3.85	0.34	11.33	$< .001$	***
	Parent Age	0.00	0.04	0.03	0.98	
	Hispanic or Latino	0.17	0.15	1.14	0.25	
	Multiple Ethnicities	-0.03	0.13	-0.20	0.84	
	White	-0.13	0.07	-1.83	0.07	.
	Parent Education	-0.01	0.01	-1.11	0.27	
	Number of children	0.11	0.04	2.75	0.01	**
	Male	-0.12	0.09	-1.32	0.19	

Table 1

Results of separate linear regressions of demographic factors on PAQ scores for each subscale.