Table S1. *Observed Prevalence (n[%]) of Prenatal Cannabis Use*

Prenatal Cannabis Use	Total Sample (N = 11,523)
Before Knowing of Pregnancy	686 (5.95%)
After Knowing of Pregnancy	245 (2.12%)
Before or After Knowing of Pregnancy	696 (6.04%)

Table S2. *Observed Prevalence (n[%]) of Familial Risk Factors/Confounders for Prenatal Cannabis Exposure (PCE) in Biological Mothers*

Familial Factors	No PCE (N = 9,512)	PCE (N = 547)
Maternal Age, mean (SD)	29.60 (6.08)	25.33 (5.84)
Paternal Age, mean (SD)	31.90 (6.89)	28.22 (7.56)
Parental Education, mean (SD)[a]	16.62 (2.77)	15.43 (2.49)
Partner Education, mean (SD)[a]	16.37 (3.07)	14.84 (2.72)
Planned Pregnancy	5,983 (63%)	147 (27%)
Prenatal Vitamin	9,019 (95%)	514 (94%)
Birth Weight, mean (SD)	6.59 (1.47)	6.54 (1.42)
Nausea	1,338 (14%)	105 (19%)
Doctor Visit, mean (SD)	15.84 (7.68)	15.09 (6.46)
Months Breastfed, mean (SD)	8.00 (8.91)	5.29 (7.09)
Maternal Immediate Family Alcohol Use	1,654 (17%)	202 (37%)
Paternal Immediate Family Alcohol Use	1,962 (21%)	203 (37%)
Maternal Immediate Family Drug Use	712 (7%)	161 (29%)
Paternal Immediate Family Drug Use	995 (10%)	184 (34%)
Maternal Immediate History Depression	3,211 (34%)	285 (52%)
Paternal Immediate Family Depression	2,017 (21%)	149 (27%)
Alcohol Use During Pregnancy	2,120 (22%)	317 (58%)
Tobacco Use During Pregnancy	1,009 (11%)	311 (57%)
ADHD T-scores, mean (SD)	53.11 (5.45)	55.73 (7.35)
Rule Breaking T-scores, mean (SD)	52.29 (4.44)	56.56 (7.01)
Neighborhood Safety, mean (SD)[b]	3.91 (1.01)	3.43 (1.19)

Note. Characteristics of individuals from biological mothers with prenatal cannabis exposure (PCE). Notation: proportion and percentages reported are relative to the total sample size for the given category for "No PCE" or "PCE." Missingness was accounted for in the model through dummy coded variables. [a] Educational level values are equal to: 14 = GED or Equivalent, 15 = Some College, 16 = Associate's Degree: Occupational [b] Neighborhood safety summary scores were calculated, original scores ranged from 1 (Strongly Disagree) to 5 (Strongly Agree) with higher scores indicating that they believe their neighborhoods are safe.

Table S3. *Observed Prevalence (n[%]) of Familial Risk Factors/Confounders for Prenatal Cannabis Exposure (PCE) in Non- Biological Mothers*

Familial Factors	No PCE (N= 1,312)	PCE (N= 149)
Maternal Age, mean (SD)	30.52 (6.50)	25.30 (7.01)
Paternal Age, mean (SD)	33.17 (7.40)	28.38 (8.38)
Parental Education, mean (SD)[a]	16.95 (2.85)	15.75 (2.50)
Partner Education, mean (SD)[a]	16.98 (2.87)	15.11 (2.88)
Planned Pregnancy	884 (67%)	21 (14%)
Prenatal Vitamin	1,143 (87%)	72 (48%)
Birth Weight, mean (SD)	6.68 (1.52)	6.58 (1.56)
Nausea	133 (10%)	23 (15%)
Doctor Visit, mean (SD)	14.71 (5.95)	11.39 (5.62)
Months Breastfed, mean (SD)	8.31 (8.35)	3.11 (6.31)
Maternal Immediate Family Alcohol Use	168 (13%)	62 (42%)
Paternal Immediate Family Alcohol Use	226 (17%)	48 (32%)
Maternal Immediate Family Drug Use	94 (7%)	92 (62%)
Paternal Immediate Family Drug Use	97 (7%)	58 (39%)
Maternal Immediate History Depression	317 (24%)	63 (42%)
Paternal Immediate Family Depression	287 (22%)	35 (23%)
Alcohol Use During Pregnancy	306 (23%)	100 (67%)
Tobacco Use During Pregnancy	114 (9%)	104 (70%)
ADHD T-scores, mean (SD)	52.84 (4.98)	54.79 (6.50)
Rule Breaking T-scores, mean (SD)	52.37 (4.13)	54.22 (5.90)
Neighborhood Safety, mean (SD)[b]	4.11 (0.95)	3.89 (1.06)

Note. Characteristics of individuals from non- biological mothers with prenatal cannabis exposure (PCE). Notation: proportion and percentages reported are relative to the total sample size for the given category for "No PCE" or "PCE." Missingness was accounted for in the model through dummy coded variables. [a] Educational level values are equal to: 15= Some College & 16= Associate's Degree: Occupational

[b] Neighborhood safety summary scores were calculated, original scores ranged from 1 (Strongly Disagree) to 5 (Strongly Agree) with higher scores indicating that they believe their neighborhoods are safe.

Table S4. *Familial Risk Factors/Confounders Associated with Prenatal Cannabis Exposure (PCE) in Biological Mothers*

Familial Factors	OR (SE)	95% Wald CI [Lower, Upper]	*p*
Maternal Age	0.93 (0.02)	[0.91, 0.96]	<.0001***
Paternal Age	0.99 (0.01)	[0.96, 1.01]	.302
Parental Education	0.99 (0.03)	[0.94, 1.05]	.753
Partner Education	1.01 (0.02)	[0.96, 1.06]	.737
Planned Pregnancy	0.60 (0.14)	[0.46, 0.80]	.001**
Prenatal Vitamin	1.19 (0.27)	[0.70, 2.03]	.520
Birth Weight	1.04 (0.05)	[0.95, 1.14]	.447
Nausea	1.18 (0.15)	[0.87, 1.59]	.292
Prenatal Care	0.99 (0.01)	[0.97, 1.01]	.196
Months Breastfed	0.99 (0.01)	[0.98, 1.01]	.357
Maternal Immediate Family Alcohol Use	1.06 (0.15)	[0.80, 1.42]	.681
Paternal Immediate Family Alcohol Use	1.11 (0.15)	[0.83, 1.49]	.493
Maternal Immediate Family Drug Use	1.57 (0.17)	[1.12, 2.21]	.009**
Paternal Immediate Family Drug Use	1.66 (0.16)	[1.20, 2.29]	.002**
Maternal Immediate History Depression	1.20 (0.14)	[0.91, 1.59]	.202
Paternal Immediate History Depression	0.92 (0.16)	[0.67, 1.26]	.600
Alcohol Use During Pregnancy	3.56 (0.13)	[2.76, 4.61]	<.0001***
Tobacco Use During Pregnancy	4.18 (0.13)	[3.24, 5.39]	<.0001***
ADHD T-scores	0.97 (0.01)	[0.95, 0.99]	.011*
Rule Breaking T-scores	1.09 (0.01)	[1.06, 1.12]	<.0001***
Neighborhood Safety	0.81 (0.05)	[0.73, 0.90]	<.0001***
Race	1.15 (0.06)	[1.02, 1.30]	.021*

Note. * $p < .05$, ** $p < .01$, *** $p < .0001$. Prenatal cannabis exposure (PCE)

Table S5. *Familial Risk Factors/Confounders Associated with Prenatal Cannabis Exposure (PCE) in Non- Biological Mothers*

Familial Factors	OR (SE)	95% Wald CI [Lower, Upper]	*p*
Maternal Age	0.92 (0.04)	[0.86, 1.00]	.039*
Paternal Age	1.00 (0.03)	[0.94, 1.07]	.997
Parental Education	1.00 (0.07)	[0.87, 1.14]	.951
Partner Education	0.88 (0.06)	[0.79, 0.99]	.027*
Planned Pregnancy	0.32 (0.39)	[0.15, 0.69]	.004**
Prenatal Vitamin	0.72 (0.53)	[0.26, 2.05]	.543
Birth Weight	1.07 (0.11)	[0.86, 1.33]	.557
Nausea	2.43 (0.55)	[0.83, 7.08]	.105
Prenatal Care	0.93 (0.05)	[0.85, 1.03]	.169
Months Breastfed	1.02 (0.03)	[0.97, 1.07]	.384
Maternal Immediate Family Alcohol Use	0.73 (0.42)	[0.32, 1.66]	.451
Paternal Immediate Family Alcohol Use	0.32 (0.42)	[0.14, 0.73]	.007**
Maternal Immediate Family Drug Use	6.38 (0.43)	[2.77, 14.71]	<.0001***
Paternal Immediate Family Drug Use	2.57 (0.37)	[1.23, 5.35]	.012*
Maternal Immediate History Depression	0.49 (0.49)	[0.19, 1.27]	.142
Paternal Immediate Family Depression	1.87 (0.45)	[0.78, 4.52]	.164
Alcohol Use During Pregnancy	5.17 (0.44)	[2.19, 12.22]	.0002**
Tobacco Use During Pregnancy	16.18 (0.40)	[7.42, 35.26]	<.0001***
ADHD T-scores	0.98 (0.03)	[0.92, 1.04]	.438
Rule Breaking T-scores	1.09 (0.04)	[1.01, 1.17]	.028*
Neighborhood Safety	1.23 (0.17)	[0.88, 1.72]	.222
Race	1.08 (0.17)	[0.78, 1.50]	.653

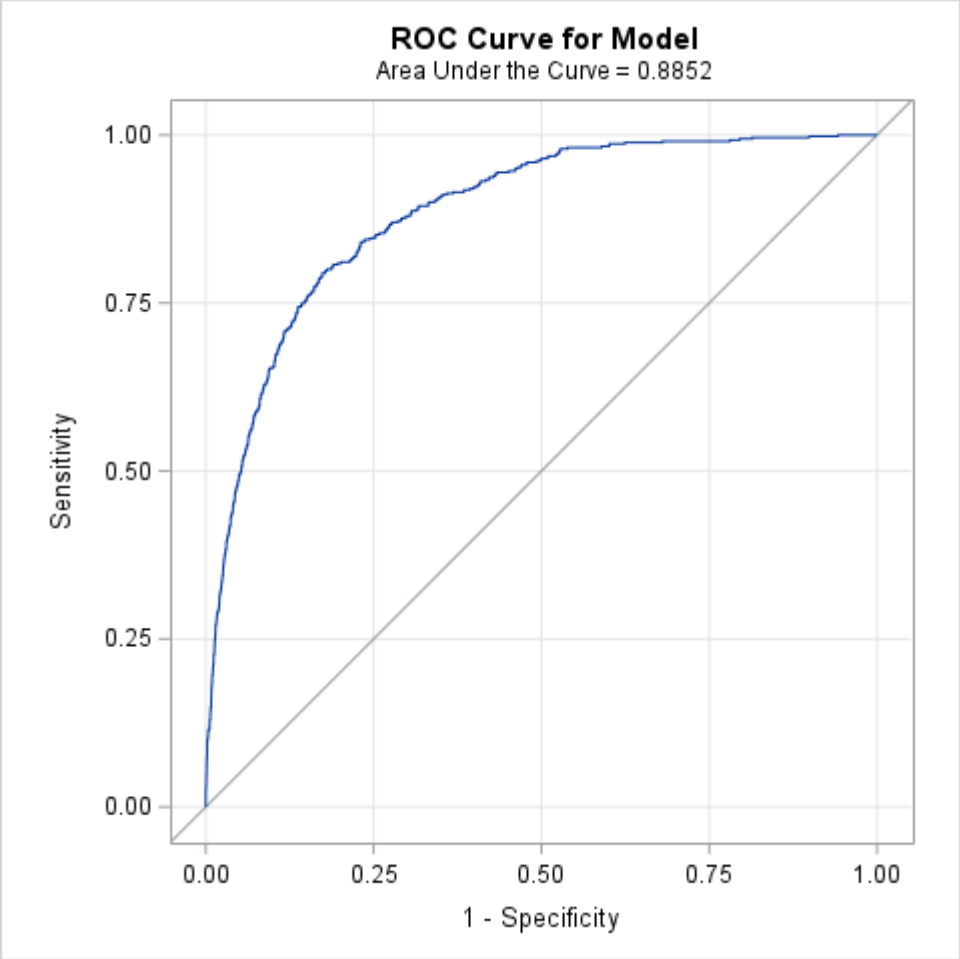
Note. *$p < .05$, ** $p < 0.01$, *** $p < .0001$

Table S6. *Post-Hoc Analysis: Familial Risk Factors/Confounders Associated with Behavioral Disinhibition*

Familial Factors	**β Est. (SE)**	**95% Wald CI [Lower, Upper]**	***p***
Biological Mom	0.07 (0.03)	[0.01, 0.13]	.022*
Maternal Age	-0.01 (0.003)	[-0.02, -0.004]	.002**
Paternal Age	0.003 (0.003)	[-0.003, 0.01]	.320
Parental Education	-0.001 (0.01)	[-0.01, 0.01]	.915
Partner Education	-0.002 (0.004)	[-0.01, 0.01]	.614
Planned Pregnancy	-0.07 (0.02)	[-0.11, -0.02]	.005**
Prenatal Vitamin	0.004 (0.05)	[-0.10, 0.10]	.932
Birth Weight	0.001 (0.01)	[-0.02, 0.02]	.887
Nausea	0.14 (0.04)	[0.07, 0.21]	<.0001***
Prenatal Care	-<0.0001 (0.002)	[-0.004, 0.003]	.750
Months Breastfed	-<0.0001 (0.001)	[-0.003, 0.001]	.463
Maternal Immediate Family Alcohol Use	-0.01 (0.04)	[-0.08, 0.06]	.708
Paternal Immediate Family Alcohol Use	0.04 (0.03)	[-0.02, 0.10]	.183
Maternal Immediate Family Drug Use	-0.03 (0.05)	[-0.14, 0.08]	.575
Paternal Immediate Family Drug Use	0.18 (0.05)	[0.07, 0.28]	.001**
Maternal Immediate History Depression	0.18 (0.03)	[0.12, 0.23]	<.0001***
Paternal Immediate Family Depression	0.10 (0.03)	[0.04, 0.16]	.002**
Alcohol Use During Pregnancy	0.03 (0.03)	[-0.02, 0.09]	.225
Tobacco Use During Pregnancy	0.11 (0.04)	[0.03, 0.19]	.010*
ADHD T-scores	0.05 (0.003)	[0.04, 0.05]	<.0001***
Rule Breaking T-scores	0.02 (0.004)	[0.01, 0.03]	<.0001***
Neighborhood Safety	-0.06 (0.01)	[-0.09, -0.04]	<.0001***
Race	-0.04 (0.01)	[-0.05, -0.02]	<.0001***

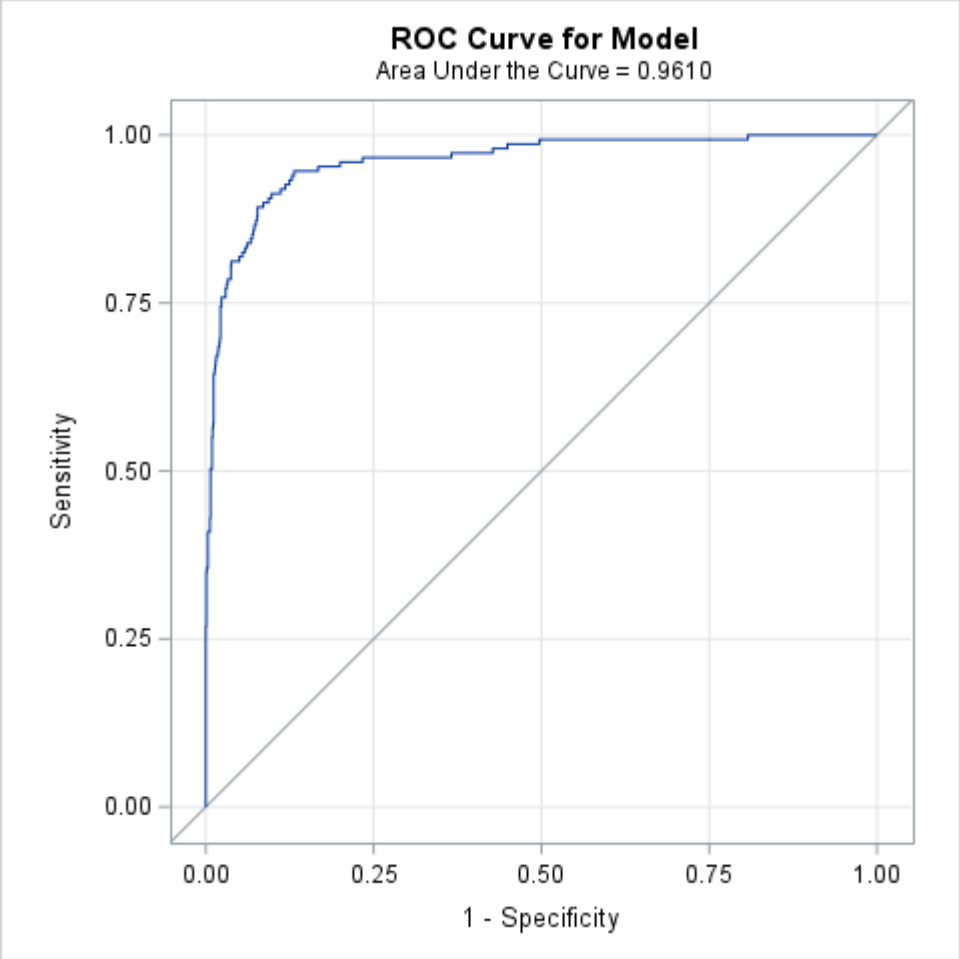
Note. *$p < .05$, ** $p < .01$, *** $p < .0001$.

Figure S1. *ROC Curve of Model Predicting Prenatal Cannabis Exposure (PCE) in Biological Mothers*



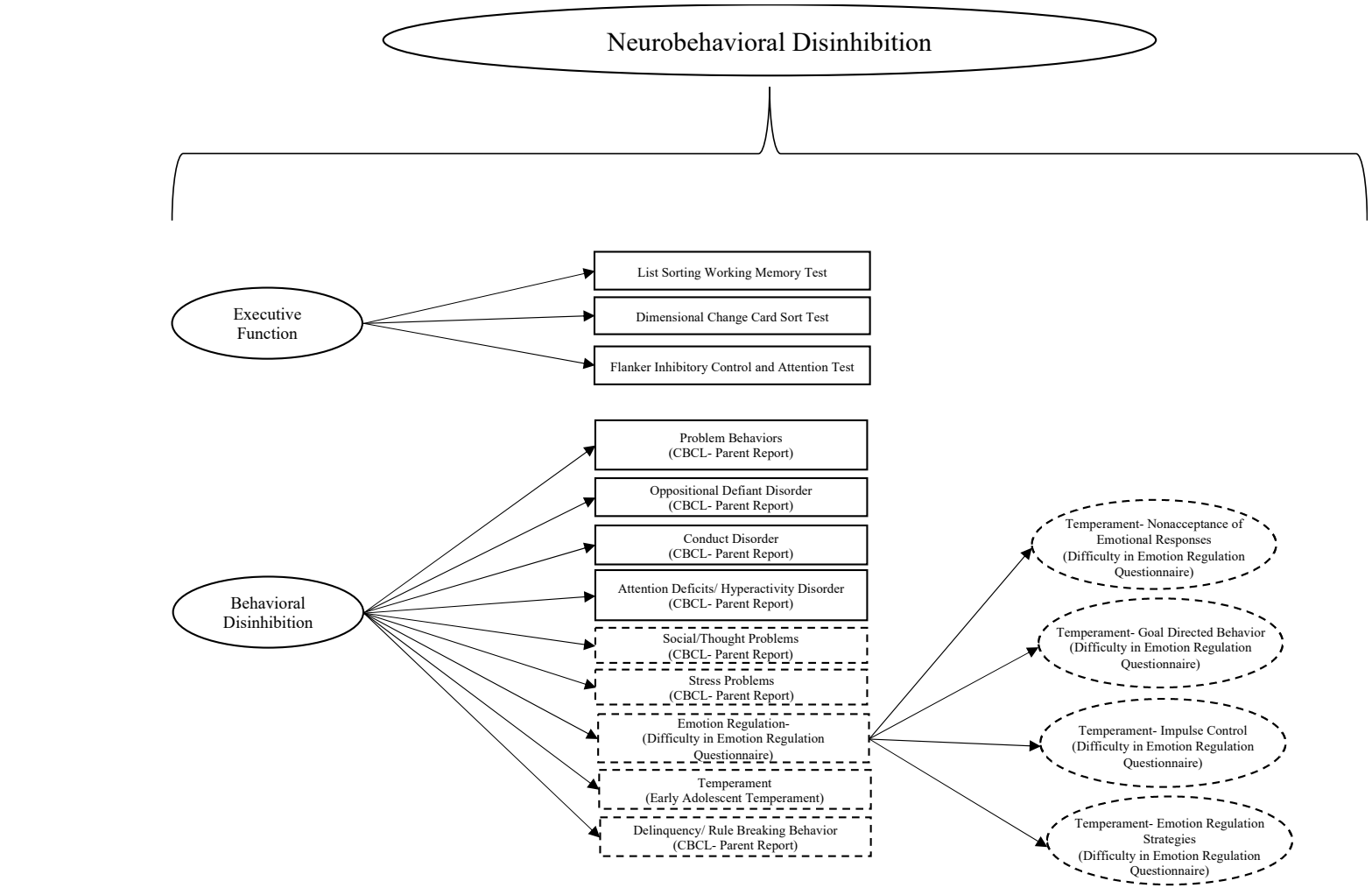
Note. Logistic regression using 23 familial risk factors to predict PCE robustly captured mothers who 'did smoke' versus 'did not smoke' (area under the ROC curve = 0.89) younger maternal age, unplanned pregnancy, maternal immediate family drug use, paternal immediate family drug use, prenatal alcohol and tobacco use, lower neighborhood safety, lower ADHD T-scores, and higher rule breaking T-scores predicted greater odds of PCE.

Figure S2. *ROC Curve of Model Predicting Prenatal Cannabis Exposure (PCE) in Non- Biological Mothers*



Note. Logistic regression using 23 familial risk factors to predict PCE robustly captured mothers who 'did smoke' versus 'did not smoke' (area under the ROC curve = 0.96) when relying on non-biological mother reports only. Younger maternal age, unplanned pregnancy, no paternal immediate family alcohol use, maternal immediate family drug use, paternal immediate family drug use, prenatal alcohol and tobacco use, lower partner education, and higher rule breaking T-scores predicted greater odds of PCE.

Figure S3. *Factor Model of Executive Function and Behavioral Disinhibition*



----- Indicates constructs that were not originally included within the BD factor and are part of the ND extension.
Lower order items for the Temperament – Difficulty in Emotion Regulation Questionnaire sub factors are not shown

Figure S4. *Path Model of Mediation for Executive Function*

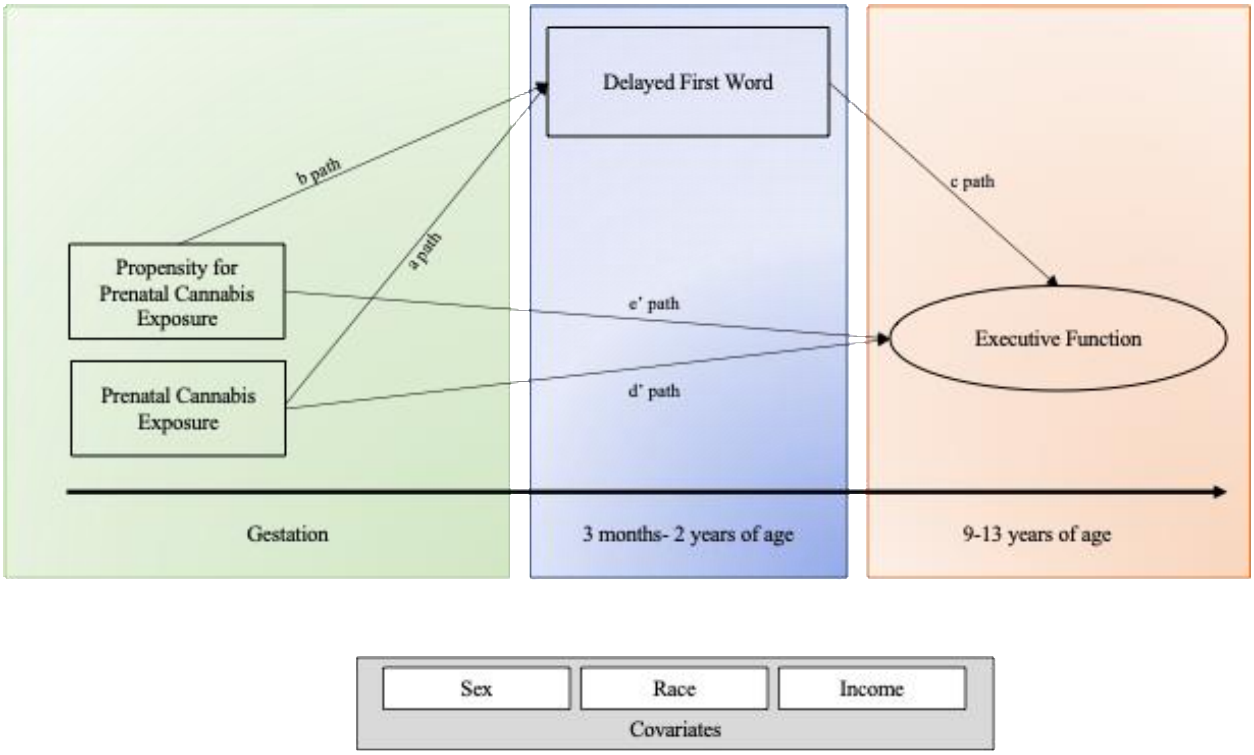


Figure S5. *Path Model of Mediation for Behavioral Disinhibition*

