

**Chicago Longitudinal Study:
Motivation Mediators**

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Project Director: Arthur Reynolds

Olga Godes

CLS Motivation Variables Overview: The following report describes the motivation variables in the Chicago Longitudinal Study (CLS). Data sources include student reports to a survey administered to them during grades 3-6.

Indicators: Table 1 reports unadjusted descriptive statistics and reveals the following: children who attended CPC programs reported significantly more perceived cognitive competence and less troublemaking behavior during grades 3-4, and significantly more perceived overall competence, cognitive competence, social competence, intrinsic motivation and less troublemaking behavior during grades 5-6 than children who did not attend CPC programs. In addition, the CPC group also reported higher expectations to attend college, but this difference only reached marginal significance. Lastly, the CPC group reported significantly higher levels of school commitment during grades 5-10.

Patterns of interesting gender differences in levels of motivation also emerged. Females reported significantly more overall and cognitive competence than males during grades 6-10. They also reported engaging in significantly less troublemaking behavior than males during grades 6-10, and their expectations to attend college and levels of school commitment were similarly higher than that of males.

School-age program comparisons evidenced significant differences in respect to overall perceived competence, cognitive competence, expectations to attend college, and school commitment, with the group receiving the intervention reporting higher levels of the aforementioned variables.

Correlates: Table 2a lists correlations between select explanatory variables and the following motivation variables averaged for grades 3-6: cognitive competence, social competence, intrinsic motivation, troublemaking behavior, and school commitment. The motivation variables seem to be only weakly associated with various of the risk index factors, but quite strongly related to such educational outcomes as kindergarten and first grade reading achievement, high school completion, and college attendance. Interestingly, engagement in troublemaking behavior during grades 3-6 is quite strongly associated with subsequent incarceration.

Table 2b depicts correlations between various educational outcomes and motivation variables for grades 3-4, 5-6, and 3-6. Possessing high levels of cognitive competence seems to be positively related to kindergarten and 1st grade reading and math achievement (interestingly, stronger correlations exist for the 1st grade measures, than for the kindergarten measures), school retention, high school completion, and negatively related to incarceration. Global measures of perceived competence exhibited similar positive associations with the aforementioned educational outcomes, but they were not as strong, thereby showing the utility of teasing apart the variance due to cognitive competence from the global measure. Engagement in troublemaking behavior was negatively related to kindergarten and first grade reading and math achievement, thereby indicating that children who performed well early on, ended up subsequently engaging in less of troublemaking behavior. It was positively related to grade retention and incarceration.

Table 2c reports correlations solely between the motivation variables. Significant correlations in expected direction between these variables indicate good discriminant and convergent validity.

Subgroup Comparisons: Tables 3a and 3b show the mean rates of cognitive competence and troublemaking behavior in the CLS sample, as they vary by important background characteristics. One of the main trends seems to be that the high risk groups (e.g., mother not employed FT/PT, free/reduced lunch, AFDC receipt) tended to benefit more from the preschool program than their low-risk group counterparts in respect to gains in cognitive competence and less troublemaking behavior (see attached charts). Another trend is that females regardless of being under high risk or not, showed higher perceived cognitive competence and less troublemaking behavior than males.

Table 1 Motivation Variables from the Chicago Longitudinal Study

Measure	Reliability		Total Sample Mean	Males	Females	CPC Preschool		School-age program		CPC Extended Intervention		
	(alpha)	N				Any	None	Any	None	4-6 years	1-3 years	None
Overall Perceived Competence												
Perceived Competence grades 3-4	.69-.76	1227	0	-.12**	.11	-.04+	-.08	.04	-.05	.08+	-.07	-.04
Perceived Competence grades 5-6	.71-.74	1054	0	-.10**	.10	.08**	-.14	.09**	-.12	.19**	-.10	-.14
Perceived Competence grades 3-6	.71-.76	1332	0	-.12**	.12	.04+	-.07	.01	-.01	.05	-.04	-.02
Perceived Cognitive Competence												
Grades 3-4 Perceived Cognitive Competence	.65-.72	1270	-.03	-.12**	.06	.03**	-.12	.03**	-.11	.08**	-.07	-.14
Grades 5-6 Perceived Cognitive Competence	.68-.72	1071	-.01	-.13**	.10	.05**	-.13	.07**	-.13	.14**	-.07	-.17
Grades 3-6 Perceived Cognitive Competence	.65-.72	1394	-.02	-.13**	.09	.03**	-.11	.04**	-.10	.10**	-.08	-.11
Perceived Social Competence												
Grades 3-4 Perceived Social Competence	.50	1270	-.01	-.03	.01	-.02	-.00	-.03	.02	.02*	-.09	.07
Grades 5-6 Perceived Social Competence	n/a	1066	.00	.01	-.02	.04*	-.08	.04+	-.06	.05	.03	-.10
Grades 3-6 Perceived Social Competence	.50	1393	-.01	-.01	-.01	.00	-.04	-.02	-.01	.02	-.05	.00
Perceived Troublemaking Behavior												
Grades 3-4 Troublemaking Behavior	.61	1267	-.03	-.19**	.16	.04*	-.10	.02+	-.06	.03	-.03	-.07
Grades 5-6 Troublemaking Behavior	n/a	1069	.00	-.04**	.05	.01*	-.02	.01+	-.01	.02+	-.01	-.01
Grades 3-6 Troublemaking Behavior	.61	1393	-.03	-.21**	.16	.02	-.11	.01*	-.08	.04+	-.06	-.06
Perceived Intrinsic Motivation												
Grades 3-4 Intrinsic Motivation	.59-.61	1270	.00	-.07**	.08	.01	.00	.01	-.00	.01	.01	-.02
Grades 5-6 Intrinsic Motivation	.57	1071	.00	.11**	-.11	.05*	-.08	.04	-.04	.02*	.07	-.11
Grades 3-6 Intrinsic Motivation	.57-.61	1394	-.00	-.09**	.10	.02	-.02	.01	-.01	.01	.03	-.04
Expectations to Attend College												
If expected to attend college (early)		1163	.81	.77**	.84	.82+	.78	.83**	.77	.83+	.80	.77
If expected to attend college (late)		1102	.85	.82*	.87	.86	.83	.86	.84	.87	.83	.84
School Commitment												
School Commitment grade 5-6	.76-.78	1052	50.72	49.80**	51.89	51.19**	49.87	51.07*	50.23**	51.50	50.47	49.90
School Commitment grades 6-10	.78-.79	1117	49.89	49.19**	50.23	50.21*	49.28	50.02	49.70	50.41+	49.54	49.55
School Commitment grades 5-10	.76-.79	1228	50.67	49.78**	51.49	51.06**	49.93	50.92+	50.33	51.30**	50.42	50.04

Table 2a Correlation Matrix for Motivation Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Family risk index																				
2. Single parent status	.45																			
3. Mother is less than 18	.40	.23																		
4. Mother did not complete HS	.55	.12	.34																	
5. Mother not employed	.69	.18	.07	.18																
6. 4 or more children in household	.12	-.22	-.20	.06	.00															
7. TANF/AFDC participation	.72	.25	.11	.20	.67	-.05														
8. Eligible for free lunch	.54	.12	.06	.16	.33	.02	.40													
9. 60% or greater poverty in school attendance area	.32	.07	-.01	.04	.09	.04	.08	.06												
10. Kindergarten SS Reading (Word Analysis)	-.16	-.02	-.06	-.15	-.08	-.02	-.09	-.09	-.06											
11. Year 1 SS Reading Comprehension	-.20	-.04	-.10	-.19	-.11	-.03	-.13	-.11	-.03	.57										
12. Grade retention (k-year 8)	.13	.04	.04	.11	.10	-.03	.09	.11	-.01	-.31	-.41									
13. Highest grade completed	-.22	-.08	-.06	-.20	-.15	-.03	-.20	-.10	-.00	.23	.29	-.28								
14. High School completion (by Aug. 2003)	-.20	-.07	-.08	-.17	-.13	-.04	-.20	-.08	.01	.20	.22	-.25	.80							
15. College attendance (by Aug. 2003)	-.20	-.09	-.04	-.18	-.13	.00	-.17	-.10	-.02	.15	.22	-.21	.64	.46						
16. Incarceration	.06	-.02	.04	.07	.01	.03	.07	.04	-.04	-.08	-.15	.16	-.35	-.34	-.21					
17. Grades 3-6 Perceived Cognitive Competence	-.09	-.01	.05	-.07	-.06	-.04	-.06	-.09	-.05	.26	.34	-.24	.26	.20	.19	-.20				
18. Grades 3-6 Perceived Social Competence	-.09	-.03	.01	-.08	-.04	.03	-.08	-.07	-.06	.11	.11	-.05	.12	.08	.12	-.06	.33			
19. Grades 3-6 Intrinsic Motivation	.00	.02	.04	.01	.00	-.04	-.00	.00	-.00	.02	.03	-.02	.09	.08	.05	-.08	.43	.16		
20. Grades 3-6 Troublemaking Behavior	-.09	-.09	-.01	-.10	-.10	.01	-.12	-.06	-.05	.16	.24	-.19	.23	.19	.19	-.23	.41	.32	.25	
21. School Commitment (grades 6-10)	-.06	-.04	.03	-.02	-.05	-.01	-.06	-.04	-.05	.17	.26	-.16	.22	.15	.18	-.17	.61	.36	.48	.40

Table 2b Correlation Matrix for Motivation Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Kindergarten SS Reading (Word Analysis)																	
2. Year 1 SS Reading Comprehension	.57																
3. Kindergarten ITBS Math	.59	.47															
4. Year 1 Math Total	.52	.67	.52														
5. Grade retention (k-year 8)	-.31	-.41	-.31	-.41													
6. Highest grade completed	.23	.29	.16	.26	-.28												
7. High School completion (by Aug. 2003)	.20	.22	.13	.22	-.25	.80											
8. College attendance (by Aug. 2003)	.15	.22	.16	.23	-.21	.64	.46										
9. Incarceration	-.08	-.15	-.06	-.09	.16	-.35	-.34	-.21									
10. Perceived Cognitive Competence Grades 3-6	.26	.34	.26	.33	-.24	.26	.20	.19	-.20								
11. Perceived Social Competence Grades 3-6	.11	.11	.13	.14	-.05	.12	.08	.12	-.06	.33							
12. Attitudes toward School Grades 3-6	.09	.16	.10	.12	-.11	.13	.10	.10	-.16	.42	.24						
13. Intrinsic Motivation Grades 3-6	.02	.03	-.02	-.00	-.02	.09	.08	.05	-.08	.43	.16	.52					
14. Troublemaking Behavior Grades 3-6	.16	.24	.16	.22	-.19	.23	.19	.19	-.23	.41	.32	.25	.25				
15. Perceived Competence grades 3-4	.25	.28	.26	.30	-.21	.25	.21	.21	-.16	.75	.50	.35	.32	.47			
16. Perceived Competence grades 5-6	.16	.25	.19	.21	-.15	.19	.14	.14	-.17	.62	.39	.39	.27	.43	.33		
17. Perceived Competence grades 3-6	.17	.23	.19	.22	-.14	.22	.18	.18	-.14	.66	.44	.35	.30	.46	.74	.82	
18. School Commitment grades 5-10	.17	.26	.18	.23	-.16	.22	.15	.18	-.17	.61	.36	.52	.48	.40	.35	.67	.52

Table 2c Correlation Matrix for Motivation Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Perceived Cognitive Competence Grades 3-4															
2. Perceived Cognitive Competence Grades 5-6	.37		.												
3. Perceived Social Competence Grades 3-4	.33	.14													
4. Perceived Social Competence Grades 5-6	.15	.27	.25												
5. Attitudes toward School Grades 3-4	.35	.20	.24	.07											
6. Attitudes toward School Grades 5-6	.18	.42	.09	.17	.20										
7. Intrinsic Motivation Grades 3-4	.37	.18	.16	.04	.46	.17									
8. Intrinsic Motivation Grades 5-6	.19	.40	.02	.17	.19	.53	.29								
9. Troublemaking Behavior Grades 3-4	.38	.24	.29	.24	.23	.14	.21	.11							
10. Troublemaking Behavior Grades 5-6	.17	.29	.18	.23	.06	.16	.08	.19	.31						
11. Perceived Competence grades 3-4	.81	.38	.54	.23	.36	.19	.33	.16	.51	.25					
12. Perceived Competence grades 5-6	.27	.72	.20	.42	.17	.43	.11	.34	.26	.43	.34				
13. Perceived Competence grades 3-6	.59	.65	.41	.38	.29	.37	.25	.30	.44	.39	.74	.82			
14. School Commitment grades 5-6	.34	.77	.18	.45	.22	.67	.20	.65	.29	.45	.36	.67	.61		
15. School Commitment grades 6-10	.26	.63	.19	.42	.19	.52	.17	.49	.23	.41	.32	.67	.47	.78	
16. School Commitment grades 5-10	.31	.77	.18	.45	.22	.67	.20	.65	.26	.45	.35	.67	.52	1.0	.81

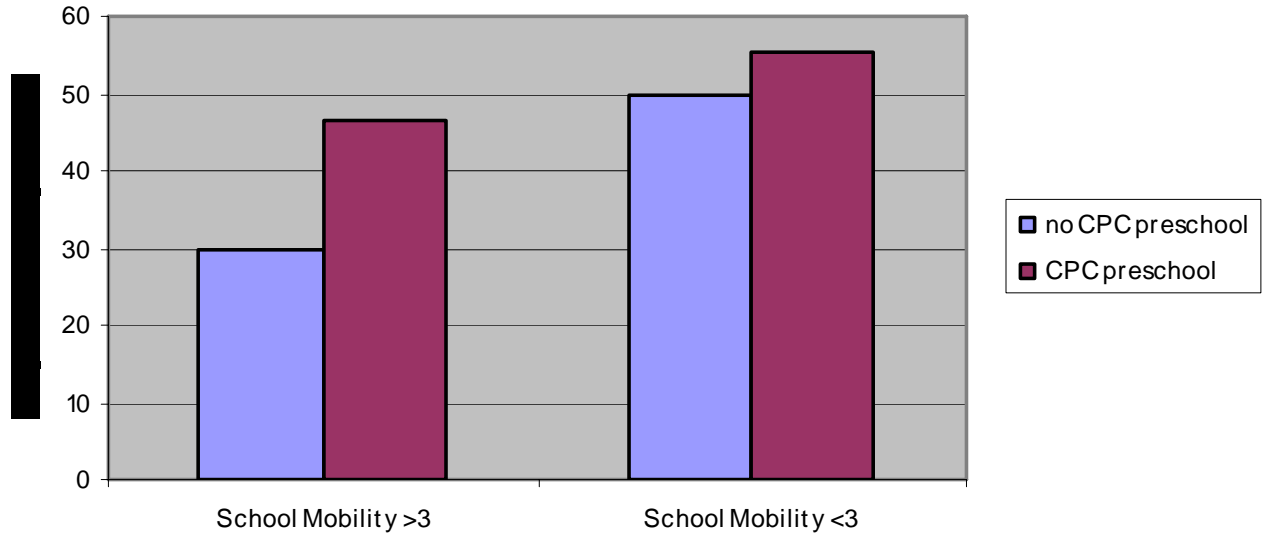
Table 3a. Proportions of CLS Sample with Cognitive Competence above Average during Grades 3-6

Factor Age 0-3	Total Sample N=1413	Mean	Gender		CPC Preschool		School Age		CPC Extended Intervention		
			Males	Females	Any	None	Any	None	4 to 6	1 to 3	0
Black	1233	52.7	47.4	57.8	55.0	48.4	55.6	48.6	57.9	50.0	48.1
Other	93	49.5	35.3	66.8	58.3	33.3	55.8	41.5	63.2	42.3	37.9
Male	650	46.5	--	--	49.5	41.2	49.2	42.6	53.2	42.4	42.1
Female	676	58.3	--	--	60.4	53.9	61.6	53.5	62.7	57.1	52.2
Single-Parent Family	987	52.7	45.9	59.2	55.1	48.1	55.9	48.2	57.6	50.1	47.6
Other Family Structure	304	51.3	49.0	53.6	54.6	45.4	54.6	46.3	59.5	45.6	45.3
Mother Not H.S. Graduate	698	49.3	41.3	57.4	53.2	42.8	53.6	43.8	57.1	47.5	41.0
Mother H.S. Graduate	586	55.6	52.5	58.6	56.9	52.8	57.3	52.9	58.9	52.0	54.5
Mother Not Employed FT/PT	795	51.1	45.5	55.9	54.4	44.2	54.1	46.8	56.8	49.7	42.9
Mother Employed FT/PT	442	56.1	49.1	63.7	59.6	50.0	61.1	48.9	64.1	50.4	50.4
Mother Teen Parent < 18	222	56.8	47.4	67.0	60.7	50.0	64.8	45.7	65.4	58.2	41.5
Mother Not Teen Parent < 18	1077	51.4	46.2	56.4	53.9	46.7	53.7	48.2	56.7	47.5	48.1
Four or More Children	221	49.3	43.6	54.2	50.1	47.0	51.6	46.3	51.7	49.4	45.6
Less Than Four Children	1070	53.0	47.2	58.7	55.8	47.5	56.4	48.0	59.4	49.5	47.4
Free/Reduced Lunch	1124	51.0	43.8	57.1	52.9	46.5	54.1	46.1	56.7	47.7	45.5
No Free/Reduced Lunch	202	62.4	59.3	66.3	68.2	51.4	63.5	60.5	65.9	62.7	55.8
60% K School Poverty	1008	52.4	45.5	58.6	56.0	45.2	56.9	45.9	59.2	49.9	44.4
< 60% K School Poverty	318	52.8	49.1	57.1	52.8	52.9	51.3	55.0	55.3	48.6	54.7
AFDC Receipt	838	51.4	44.4	57.9	54.7	45.1	54.0	47.7	56.3	51.1	43.4
No AFDC Receipt	487	54.2	49.8	58.8	56.2	50.6	58.3	48.5	61.5	46.5	52.3
Four or More Risks	974	50.5	43.3	57.1	53.3	45.2	53.5	46.3	55.6	49.3	43.7
Less Than Four Risks	352	58.0	54.3	62.1	60.7	52.9	61.2	53.2	64.9	50.5	55.2
SEMAT16D < avg.	690	34.5	33.9	35.4	36.5	31.2	36.5	32.0	38.3	33.6	30.9
SEMAT16D > avg.	634	72.1	69.1	73.8	73.4	69.1	73.8	69.2	74.1	71.9	68.1
ITBS6 Read < 88 norms	566	35.0	31.4	40.0	37.5	30.9	38.9	30.4	42.1	32.1	30.3
ITBS6 Read ≥ 88 norms	600	68.2	65.6	70.0	68.4	67.6	68.2	68.1	68.3	68.3	67.8
ITBS8 Read < 88 norms	632	35.6	31.6	40.1	39.2	30.1	40.3	30.1	43.2	34.1	28.7
ITBS8 Read ≥ 88 norms	658	68.1	64.3	70.1	67.7	69.1	67.7	68.8	67.7	67.9	69.1
School mobility (age 4-8), ≥ 3	118	37.3	27.5	51.0	46.3	29.7	48.0	29.4	50.0	44.4	25.5
School mobility (age 4-8), < 3	1179	53.7	48.1	58.9	55.5	50.0	56.0	50.1	58.5	49.8	50.8
Retained ≥ 1 grade	358	34.9	30.1	42.2	37.9	31.0	37.7	32.5	37.9	37.2	29.7
Not retained	968	59.0	55.0	62.0	60.5	55.6	60.4	56.5	62.7	55.0	57.5
Child welfare case history	49	44.9	43.5	46.2	53.6	33.3	44.8	45.0	46.7	49.6	47.1
No child welfare case history	1255	52.7	46.6	58.5	55.4	47.4	56.0	47.9	58.6	49.6	47.1
<i>Did not complete HS</i>	400	40.1	35.5	48.3	46.0	32.1	44.8	34.6	48.9	39.1	31.5
Completed HS	848	59.2	55.7	61.7	60.4	56.6	61.6	55.5	63.1	56.3	56.0
Depression Symptoms	155	42.6	37.2	48.1	48.4	33.9	44.4	40.0	50.1	39.7	34.3
No Depression Symptoms	859	57.2	52.0	61.2	59.5	52.4	60.0	52.9	61.7	54.9	52.0

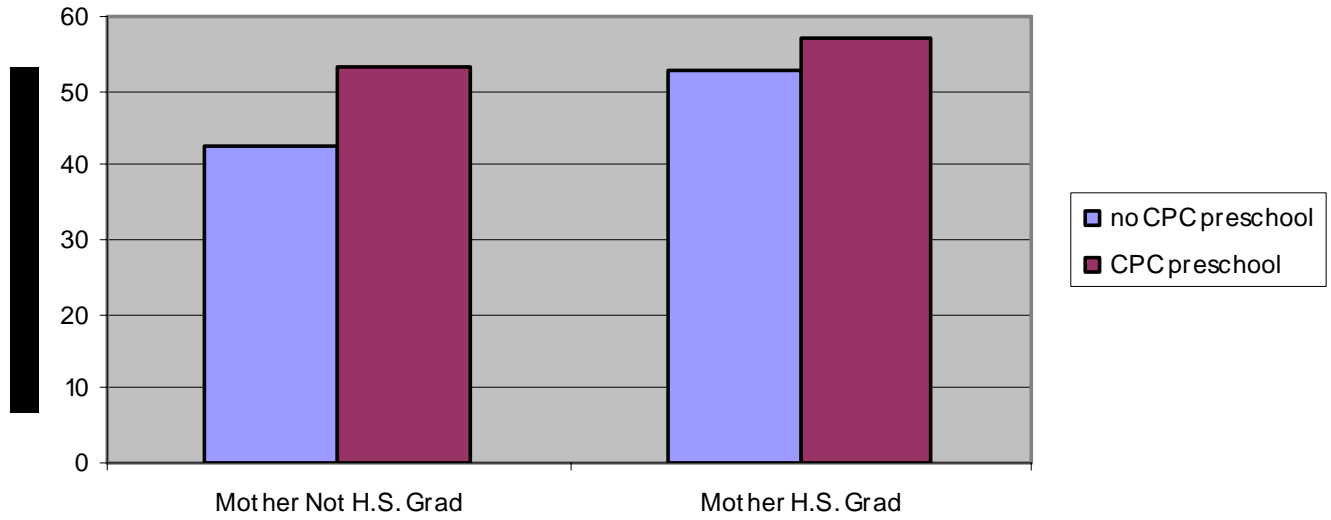
Table 3b. Proportions of CLS Sample with Troublemaking Behavior above Average during Grades 3-6

Factor Age 0-3	Total Sample N=1413	Mean	Gender		CPC Preschool		School Age		CPC Extended Intervention		
			Males	Females	Any	None	Any	None	4 to 6	1 to 3	0
Black	1238	48.8	59.8	38.4	46.8	52.6	48.0	50.0	46.6	51.0	49.7
Other	93	47.3	60.8	31.0	46.7	48.5	50.0	43.9	47.4	53.9	41.4
Male	653	59.9	--	--	57.3	64.3	59.7	60.2	57.3	62.9	59.4
Female	678	37.9	--	--	37.3	39.2	37.1	39.1	37.3	38.3	38.4
Single-Parent Family	991	50.9	63.2	39.0	49.3	53.8	50.0	52.1	49.0	52.6	51.3
Other Family Structure	305	42.6	51.3	34.2	39.8	47.7	41.9	43.8	39.7	46.2	42.7
Mother Not H.S. Graduate	702	52.9	66.1	39.4	50.1	57.4	49.4	57.4	49.2	53.4	57.1
Mother H.S. Graduate	587	44.6	53.6	36.4	43.8	46.4	46.9	41.0	44.5	48.3	57.1
Mother Not Employed FT/PT	798	51.4	62.5	41.7	50.0	54.2	51.4	51.4	50.1	51.6	52.1
Mother Employed FT/PT	444	43.2	53.7	31.9	40.0	48.8	40.9	46.7	39.7	46.1	45.5
Mother Teen Parent < 18	223	48.9	59.0	37.7	45.0	55.4	41.1	59.6	43.6	45.7	62.3
Mother Not Teen Parent < 18	1081	48.9	60.5	37.9	47.5	51.5	49.6	47.7	47.5	52.1	62.3
Four or More Children	221	49.8	63.4	38.3	46.4	55.4	46.8	53.7	48.3	48.1	54.4
Less Than Four Children	1075	48.7	59.8	37.8	47.3	51.6	48.3	49.4	42.9	43.3	50.0
Free/Reduced Lunch	1128	49.4	61.7	38.1	48.0	51.9	49.0	49.9	47.4	51.9	48.7
No Free/Reduced Lunch	203	44.8	51.3	36.7	39.9	54.3	43.3	47.4	42.9	43.3	50.0
60% K School Poverty	1012	49.4	60.5	39.4	47.0	54.3	46.8	53.1	45.2	51.9	52.8
< 60% K School Poverty	319	46.4	58.1	32.7	46.2	46.8	52.1	38.1	51.2	47.3	38.4
AFDC Receipt	842	52.5	64.8	41.2	50.1	57.0	53.0	51.7	50.3	54.4	53.2
No AFDC Receipt	488	42.2	52.0	31.9	41.0	44.4	39.5	46.0	40.5	43.8	43.0
Four or More Risks	978	51.1	63.5	39.8	49.8	53.7	50.7	51.7	49.6	52.4	51.6
Less Than Four Risks	353	41.9	50.8	31.9	38.4	48.4	41.0	43.4	39.1	45.3	42.7
SEMAT16D < avg.	692	63.0	69.4	53.1	60.6	66.9	64.4	61.3	61.7	65.5	60.1
SEMAT16D > avg.	637	33.0	42.2	27.6	33.5	31.8	32.6	33.6	34.7	30.7	32.6
ITBS6 Read < 88 norms	569	58.9	65.7	50.0	57.7	60.7	59.0	58.8	58.4	61.1	56.2
ITBS6 Read ≥ 88 norms	602	38.0	49.8	30.0	37.7	38.9	38.8	36.6	39.6	35.6	38.0
ITBS8 Read < 88 norms	636	59.4	66.1	50.9	58.1	61.5	58.8	60.2	55.8	63.6	57.6
ITBS8 Read ≥ 88 norms	659	38.7	51.4	29.4	37.7	41.0	39.8	36.7	41.2	34.8	39.0
School mobility (age 4-8), ≥ 3	120	58.3	72.9	38.0	43.6	70.8	51.9	63.2	40.9	55.3	68.6
School mobility (age 4-8), < 3	1182	48.0	58.3	38.4	47.1	49.9	48.0	48.0	47.11	50.2	46.0
Retained ≥ 1 grade	362	60.2	67.7	46.9	60.8	59.5	61.5	59.1	60.0	64.9	54.6
Not retained	969	44.4	55.6	35.8	42.5	48.5	44.4	44.4	43.7	44.6	45.5
Child welfare case history	50	58.0	70.8	46.2	42.9	77.3	50.0	70.0	46.7	52.4	78.6
No child welfare case history	1259	48.4	59.1	38.1	46.7	51.5	48.1	48.8	46.7	50.6	48.1
<i>Did not complete HS</i>	403	60.3	67.7	47.7	54.9	67.9	56.5	65.0	51.1	65.2	64.3
Completed HS	850	42.6	52.6	35.5	42.6	42.5	43.8	40.8	44.2	42.3	40.0
Depression Symptoms	158	60.1	73.8	46.2	48.9	76.6	58.7	62.1	49.1	63.1	72.2
No Depression Symptoms	860	44.7	54.1	46.2	44.0	46.0	43.5	46.4	45.0	42.9	46.5

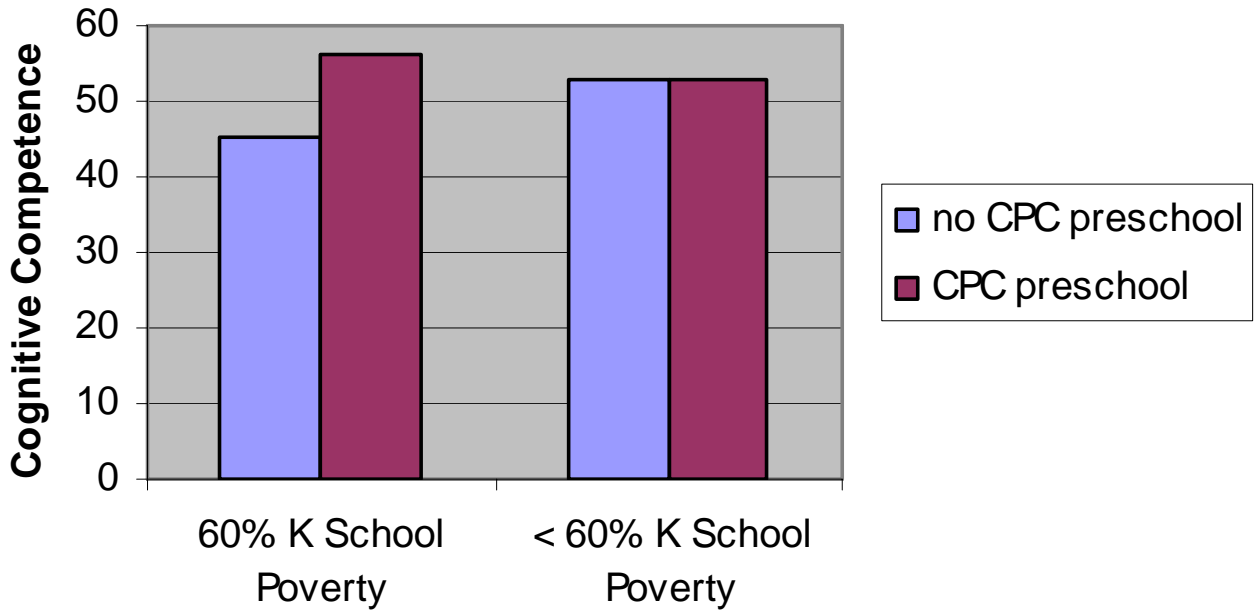
Cognitive Competence as a Function of School Mobility and Participation in CPC Preschool



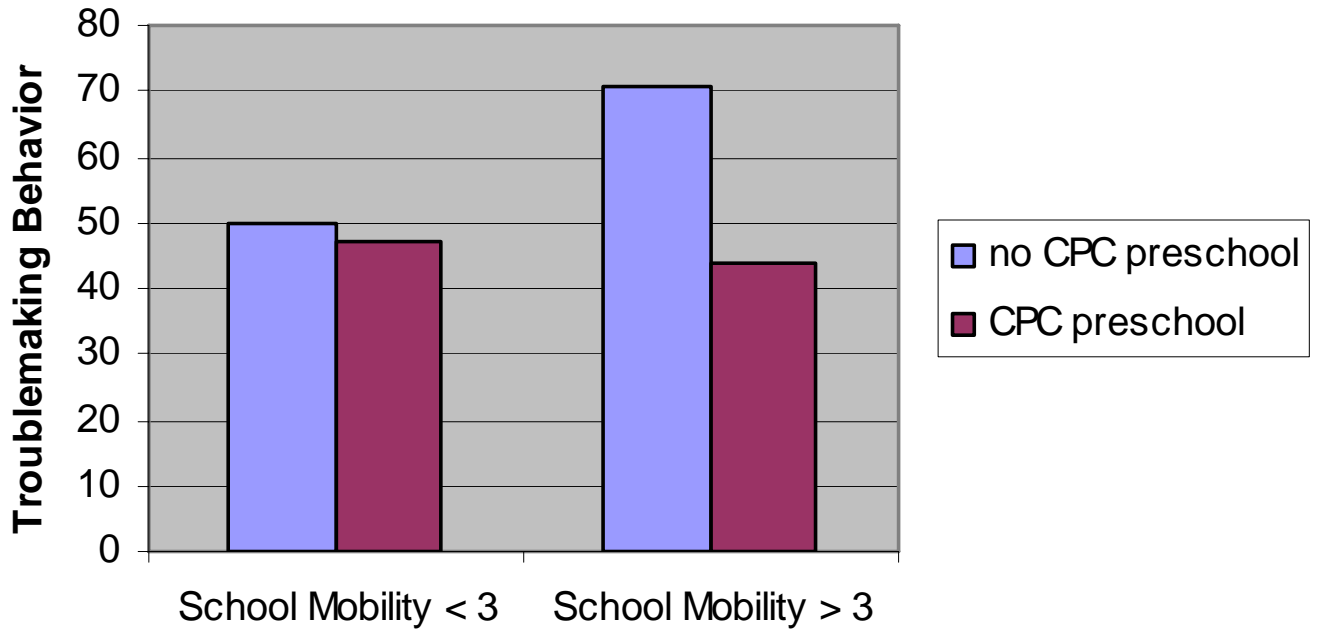
Cognitive Competence as a Function of Mother's Education and Participation in CPC Preschool



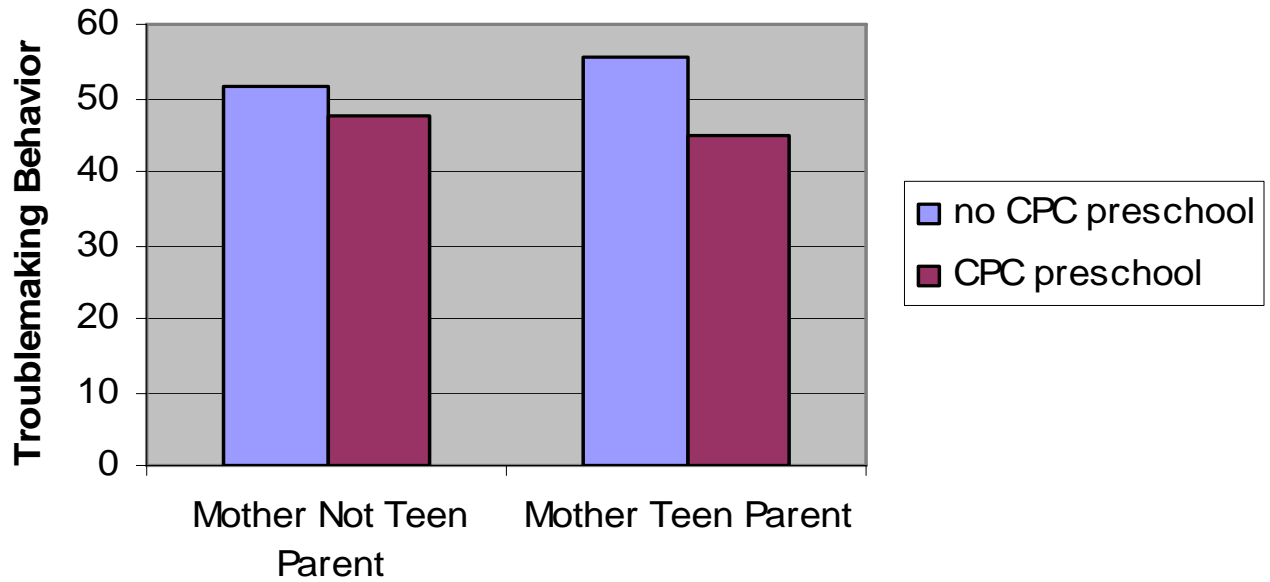
Cognitive Competence as a Function of School Poverty and Participation in CPC Preschool



Troublemaking Behavior as a Function of School Mobility and Participation in CPC Preschool



Troublemaking Behavior as a Function of Mother Being a Teen Parent and Participation in CPC Preschool



Troublemaking Behavior as a Function of Child Welfare Case History and Participation in CPC Preschool

