

The Role of Ethnicity, Poverty, & Gender in Social Inhibition During Early Childhood

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Abstract

Data from the NICHD Study of Early Child Care and Youth Development (SECCYD) was analyzed to determine how gender, ethnicity, and poverty play a role in social inhibition during the preschool years as well as how these effects affect social competence in the school years. Gender and ethnicity both had a significant effect on early social inhibition, but the groups with higher social inhibition switched from 6 to 54 months. Early social inhibition did predict later social competence, and the gender, ethnicity, and poverty links continued to affect children's social skills into the school years.

Background

In this study, we contribute to knowledge on factors that affect developmental changes in social inhibition (SI). Whereas behavioral inhibition (a la Kagan, Reznick, & Snidman, 1988) includes wariness to unfamiliar objects, situations, and people, SI focuses on such reactions involving peers and adults (see Bengtsgard & Bohlin 2001). Just as early behavioral inhibition predisposes children to later anxiety disorders (Biederman, Hirshfeld-Becker, et al., 2001; Tillfors, 2004), SI is a risk factor for a variety of psychosocial problems including internalizing behavior, poorer social competence, less empathy, and poorer social problem solving (Bengtsgard & Bohlin, 2001; Bohlin, Bengtsgard, & Andersson, 2000). Children who exhibit more social inhibition tend to have relationships with their teachers that are not as close or are conflictual (Rydell, Bohlin, and Thorell, 2005).

This study builds on the research regarding SI by exploring contextual factors that may play a role in SI during early childhood. For example, Fortner-Wood, Jocoy, & Daniels (2006) found that African American and Caucasian mothers' differ in their ratings of their children's SI. Furthermore, we look at the long term implications of the links between these factors and SI in early childhood on social skills in middle childhood.

Methods

Demographics. 1,364 infants were enrolled in the project at one month and followed through elementary school. Of those,

- 51.7% of the infants were male.
- 76.4% of the infants were white/not Hispanic,
- 12.7% were black/not Hispanic, and
- 6.1% were Hispanic.

Demographic information collected at one month was used, e.g. child gender, ethnicity, and family income. Based on 2005 census estimates, the proportions of the sample that are black and white are representative (12.78% and 76.32%; source: <http://factfinder.census.gov>). However, the proportion of African Americans in this sample that are classified as poor is 67% which is significantly larger than the national percentage (24.7% of all blacks are below 100% of the poverty level, 10.7% of all whites; Source: U.S. Census Bureau, Current Population Survey, 2006 Annual Social and Economic Supplement) and 3.9 times the proportion of whites below the poverty line in this sample. Because of this disparity with national proportions and to prevent an unfair weighting of the not poor white group in the sample (865/1274), we created a subsample of four groups of 50 randomly selected cases (not poor black, poor black, not poor white, and poor white). Follow-up analyses were run with the subsample to substantiate the ethnicity x poverty findings with the larger sample.

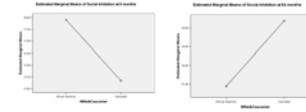
Social Inhibition during infancy and early childhood.

SI was assessed by creating subscales of the mother's responses on SI items from measures of temperament at 1 and 6 months (adapted from Carey and McDevitt, 1978 Infant Temperament Questionnaire) and behavior at 54 months (Children's Behavior Questionnaire, adapted from Rothbart, Ahadi, & Hershey, 1994). Cronbach's alphas for the 1, 6, and 54 month subscales are .55, .55, and .90 respectively.

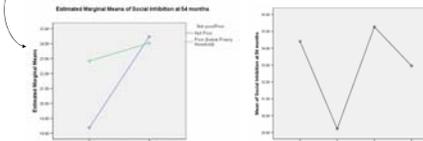
Social Competence during school years. The *Social Skills Rating Scale* was distributed to the children's parents and teachers when they were in fifth grade (Gresham & Elliot, 1990). Total standard and subscale scores (cooperation, assertion, peer competence and self-control; but not responsibility) were used.

Results

Ethnicity & Poverty. Ethnicity explained variability in social inhibition both during infancy and early childhood and the group effect switched over time (see figures).



African American children displayed more social inhibition than their white peers at 6 months [$t(857)=4.46, p=.000$] and less social inhibition at 4 1/2 years [$t(561)=-2.81, p=.005$]. This difference between African American and Caucasian children persists even when the family income-to-needs ratio is controlled [$F(1,530)=4.126, p=.043$] despite the fact that approximately 2/3rds of the African American children in this sample were classified as "poor" at one month.



Furthermore, when the four equal groups of randomly selected participants were compared [$F(1,191)=2.663, p=.049$], LSD post hoc analyses revealed that African American children classified as "not poor" displayed significantly less social inhibition than poor African American children and poor Caucasian children (see figure).

Gender. The effect for gender switched over time as well: Girls were more inhibited than boys at 6 months [$t(864.07)=-5.47, p=.000$] but not at 4 1/2 years [$t(590)=-.023, p=.982$].

This study was conducted by the NICHD Early Child Care Research Network supported by NICHD through a cooperative agreement that calls for scientific collaboration between the grantees and the NICHD staff. For more info see: <http://secc.riti.org>

Stability. SI showed more stability between 1 and 6 months ($r=.23, p=.000$) than between 6 and 54 months ($r=.09, p=.038$). Although these are small relationships, they do support earlier evidence (e.g. Kochanska & Radke-Yarrow, 1992) suggesting early SI is somewhat stable.

SI Predicts Later Social Competence.

As expected, SI during infancy and early childhood was negatively related to mother's and teacher's total ratings of the child's social competence in grade 5 (see table).

5 th Grade Social Skills	SI @ 1m	SI @ 6m	SI @ 54m
SSRS total raw score - Mom	$r=-.13$ $p=.016$	$r=-.14$ $p=.000$	$r=-.08$ $p=.038$
SSRS total raw score - Teacher	$r=-.13$ $p=.021$	$r=-.13$ $p=.000$	$r=-.027$ $p=.28$

Specifically, early SI was significantly and negatively related to mother's ratings of child's assertion, self-control, and peer competence (r s range from $-.10$ to $-.16$). These were confirmed by similar links between early SI and 5th grade teachers' ratings on the self-control and cooperation subscales and between early SI and other measures of social competence.

Conclusions

In general, these results provide mild support for previous evidence of SI as a predictor of later social skills and doing so lends credence to the other findings presented here. Perhaps the most important of these is the discovery of the link between race, poverty, and time on the expression of social inhibition. While the nature of this link needs fleshing out, supplemental analyses conducted for this presentation suggest this interacting influence on preschooler SI explains some variability in later social skills. We are continuing to explore these links with SI in early childhood and how its influence on SI contributes to social competence over time.

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Descriptive Statistics	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Child's Birth Order	1364	1	7	1.83	.026	.949
Mother's Age at Child's Birth	1364	18	46	28.11	.153	5.634
Mother's Marital Status	1362	1	8	1.85	.051	1.895
Mother's Education	1363	7	21	14.23	.068	2.513
Income-to-Needs Ratio - 1 mo	1274	.00	25.08	2.7626	.07463	2.66368
Not poor/Poor	1274	0	1	.24	.012	.429
Social Inhibition at 1 month (avg)	368	6.00	34.00	14.2120	.32402	6.21580
Social Inhibition at 6 months (avg)	910	6.00	32.00	15.7374	.15044	4.53834
Social Inhibition at 54 months (avg)	592	7.00	46.90	23.8970	.36404	8.85740
SSRS SOC SKL Total Standard Score - MOM/ALTCG Grade 5	1020	62	130	107.57	.472	15.078

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Relationships between early SI and 5 th Grade Social Skills Subscales		Total SI at 1 month (3 q)	Total SI at 6 m (6 q)	Total SI at 54 m (10 q)
SSRS ASSERTION RAW SCORE-MOM/ALTCG G5	Pearson r	-.104(*)	-.117(*)	-.124(*)
	Sig. (1-tailed)	.044	.001	.002
	N	270	722	524
SSRS COOPERATION RAW SCORE-MOM/ALTCG G5	Pearson r	-.066	-.033	-.007
	Sig. (1-tailed)	.141	.189	.433
	N	270	722	524
SSRS PEER COMPETENC SCALE-MOM/ALTCG G5	Pearson r	-.108(*)	-.100(*)	-.097(*)
	Sig. (1-tailed)	.039	.003	.013
	N	270	722	524
SSRS SELF CNTROL RAW SCORE-MOM/ALTCG G5	Pearson r	-.158(**)	-.135(**)	.021
	Sig. (1-tailed)	.005	.000	.312
	N	270	722	524
SSRS SOC SKL TOT STD SCORE-MOM/ALTCG G5	Pearson r	-.130(*)	-.144(*)	-.073(*)
	Sig. (1-tailed)	.016	.000	.048
	N	270	722	524

Some additional findings, a couple of different ways to look at : Ethnicity, Poverty, SI and later social skills:

- Further analyses examined the effect of the relationship between ethnicity, poverty, and SI on later social development. In a 2 x 2 ANCOVA looked at effects on 5th grade social skills. Only ethnicity had an effect [$F(1,466)=9.776, p=.002$] (neither poverty nor SI, the CV, were significant).
- Also, a 2 x 2 ANCOVA revealed main effects of both ethnicity (African American & Caucasian) and SI at 54 months (two levels based on mean split) on overall social competence in the 5th grade, even when the family's income-to-needs ratio was controlled. There was, however no interaction effect.