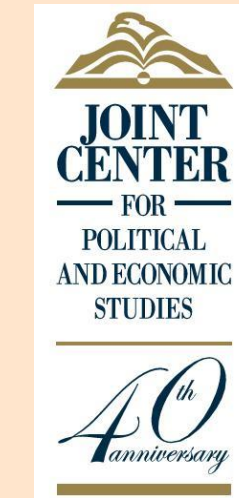


Two To Tango: Enhancing Paternal Involvement to Improve Pregnancy Outcomes



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Introduction

Men are important to maternal and child health.¹ A large body of research exist on a father's influence on child health and development, but little is known regarding the role of the expectant father in pregnancy outcomes.² A growing body of literature suggest that marital status, maternal psychosocial stress, and ethnicity are important risk factors for adverse pregnancy outcomes and partner support can modify that risk.³

This study employed the Life Course Perspective to investigate pre and peri-natal measures and predictors of paternal involvement on pregnancy outcomes contingent upon a father's 1) *social factors* 2) *race/ethnicity* 3) *human capital*.

Four Basic Factors of the Life Course Perspective

- 1) Historical times and events experienced over a life time (i.e. a relationship, marriage, an ethnic or racial slur, the loss of a job);
- 2) The developmental impact of a succession of life transitions or events is contingent on when they occur in a person's life (i.e. the impact of marriage or the decision to have children);
- 3) Lives, and social-historical influences are expressed through a network of shared relationships which can influence decisions to marry, have children or even return to school;
- 4) Individual-life influences constructed through choices and actions taken within the opportunities and constraints of history and social circumstances particularly related to a man's decision to marry and have children.

Researchers have disagreed about what it means to be an involved father. Three dimensions of father involvement are described as a multidimensional, frequently evolving concept, both culturally and scholarly.

Three Dimensions of Father Involvement (Lamb et al.)

- 1) Engagement (i.e., the extent to which fathers experience direct contact and shared interactions with their children in the context of caretaking, play, or leisure);
- 2) Availability (i.e., a father's presence or accessibility to the child);
- 3) Responsibility (e.g., the extent to which a father arranges for resources to be available to the child, including organizing and planning children's lives).

Hypotheses

H1: Paternal involvement is a more important predictor of pregnancy outcomes than social factors or human capital.

H2: Paternal involvement does not mediate the effects of social factors, ethnicity (W, AA, or H), or human capital on pregnancy outcomes.

Methods

Using Binomial Logistic Regression, a secondary analysis of the Early Childhood Longitudinal Study, Birth Cohort was conducted via SPSS 15.0 to calculate odds ratios with 95% confidence intervals.

Approximately 10,600 African American, Hispanic and non Hispanic White resident and biological fathers of children born in the United States (2001-2002) were observed.

The logistic function, the logarithm of the odds:
 $Z = a + b_1X_1 + b_2X_2 + b_3X_3$
 Z is the natural logarithm of the odds (logit)
 a is the regression constant
 b is the regression coefficient

Study Variables

Independent	Dependent
Social Factors Index <ul style="list-style-type: none"> Marital Status Relationship Status 	Pregnancy Outcomes <ul style="list-style-type: none"> Birthweight <ul style="list-style-type: none"> Adverse ($\leq 2,500g$) Optimal ($\geq 2,500g$)
Ethnicity <ul style="list-style-type: none"> African American White American Hispanic American 	APGAR Score (1-10) <ul style="list-style-type: none"> Adverse (≤ 6) Optimal (≥ 7)
Human Capital Index <ul style="list-style-type: none"> Income Education Work Status 	Paternal Involvement Index <ul style="list-style-type: none"> Discuss pregnancy pre birth See ultrasound Listen to baby's heartbeat Feel baby move Attended childbirth classes Purchased things for the child In delivery room Saw baby in hospital

Results

Independent Variables

Social Factors Index
 (Mean = 29.3, S = 9.75, Range 1-40)

- Married (66%)
- Unmarried (34%)
- Relationship Status
 - argued about chores (24%)
 - argued about money (22%)

Ethnicity

- White (56%)
- African American (12%)
- Hispanic (4%)

Human Capital Index

(Mean = 8.7, S = 8.55, Range 1-29)

- Income (Mean = \$28,654)
- Employment ($\approx 42\%$ worked full time)
- Education (HS Grad 13%, BA 11%, PhD, MD, 3.5%)

Paternal Involvement Index

(Mean = 7, S = 1.0, Range 1-8)

- Discuss pregnancy pre birth (93%)
- See ultrasound (95.6%)
- Listen to baby's heartbeat (94%)
- Feel baby move (55.5%)
- Attended childbirth classes (44.4%)
- Purchased things for the child (51.7%)
- In delivery room (95%)
- Saw baby in hospital (98.3%)

Dependent Variables

Pregnancy Outcomes

- Birthweight
 - Adverse (26.2%) ($\leq 2,500g$)
 - Optimal (73.4%) ($\geq 2,500g$)

APGAR (1-10)

- Adverse (2.5%) (≤ 6)
- Optimal (77%) (≥ 7)

Table 1
Direct and Mediating Effects Predicting Social Factors^a, Race/Ethnicity^b, Human Capital^c, and Paternal Involvement^d on Pregnancy Outcomes (Birthweight)^e:

Predictor Variables	Social Factors	White	Ethnicity African American	Hispanic	Human Capital	Paternal Involvement
b	.015	-.158	-.383	1.85	.016	.200
SE	.002	.060	.064	.204	.003	.028
Model 1 Direct Effects	Wald	48	7.0	84	82	36.5
Sig	.000	.008	.000	.000	.000	.000
Exp(B)	1.016	.854	.558	6.3	1.01	1.22
95% CI	1.01, 1.02	.76, .96	.49, .63	4.2, 9.5	1.01, 1.02	1.15, 1.3
Predictor Variables	Social Factors	White	Ethnicity African American	Hispanic	Human Capital	Paternal Involvement
b	.005	.23	-.598	1.84	.014	.005
SE	.005	.091	.101	.27	.005	.005
Model 2	Wald	.951	.064	35.3	47	6.9
Sig	.330	.80	.000	.000	.009	.009
Mediating Effects Controlling for Paternal Involvement	Exp(B)	1.00	1.02	.550	6.34	1.04
95% CI	.995, 1.0	.85, 1.2	.45, .67	3.7, 10.7	1.01, 1.08	

^aThe odds ratio (Exp(B)) for the independent variable relative to the target category and for a one-unit change in the variable (continuous variable).
^bEthnicity (White, African American, and Hispanic) are independent measures of fathers relative to the reference category (0).
^cBirthweight: $\leq 2500g = 0$ (adverse); $\geq 2500g = 1$ (optimal).

n = 10688
 R² = .006
 -2*Log Likelihood (Full Model) 4207.286
 Chi-Square (-2*Log-L Ratio) 2.629; df 8; p value .955
 p-value = .001; p-value = .01; p-value = .05

Results

Table 2
Direct and Mediating Effects Predicting Social Factors^a, Race/Ethnicity^b, Human Capital^c, and Paternal Involvement^d on Pregnancy Outcomes (APGAR)^e:

Predictor Variables	Social Factors	White	Ethnicity African American	Hispanic	Human Capital	Paternal Involvement
b	.030	-.228	-.489	1.09	.037	.325
SE	.006	.163	.168	.50	.008	.064
Model 1 Direct Effects	Wald	23.5	1.95	8.5	4.6	22.5
Sig	.000	.163	.004	.031	.000	.000
Exp(B)	1.03	.796	.613	3	1.03	1.4
95% CI	1.01, 1.04	.57, 1.09	.44, .85	1.1, 8.1	1.02, 1.05	1.2, 1.5
Predictor Variables	Social Factors	White	Ethnicity African American	Hispanic	Human Capital	Paternal Involvement
b	.011	-.232	-.628	1.3	.044	.044
SE	.015	.24	.25	.72	.016	.016
Model 2	Wald	.002	.93	6.3	3.1	7.2
Sig	.964	.33	.012	.077	.007	.007
Mediating Effects Controlling for Paternal Involvement	Exp(B)	1.0	.79	.534	3.5	1.0
95% CI	.97, 1.0	.49, 1.3	.32, .87	87, 14.6	1.01, 1.07	

^aThe odds ratio (Exp(B)) for the independent variable relative to the target category and for a one-unit change in the variable (continuous variable).
^bEthnicity (White, African American, and Hispanic) are independent measures of fathers relative to the reference category (0).
^cAPGAR: (1-10) $\leq 6 = 0$ (adverse); $\geq 7 = 1$ (optimal).

Conclusion

This study revealed that paternal involvement in pregnancy is a more important predictor of optimal pregnancy outcomes than social factors or human capital but not race/ethnicity.

Including men in reproductive health initiatives, enhancing family planning and attention to the preconception health and care of men are necessary for improving pregnancy outcomes.

Literature cited

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