Leveraging the Community-Based Health Platform:
Participation and Engagement in Early School Readiness Models

Symposium Organizer: Elizabeth B. Miller, *New York University*

Decades of research have documented extensive disparities in cognitive and socio-emotional school readiness for young children growing up in poverty. Existing social science interventions in early childhood such as Early Head Start and the Nurse-Family Partnership Program have shown promise in promoting children's school readiness and improving parenting for children in the earliest years. However, to be the most effective for population impact and deliver on their potential to reduce school readiness gaps, participation and engagement of parents, who are the target of these intervention efforts, is critical (Mendelsohn et al., 2005; Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). Interventions that are based in community health or pediatric models bridge the gap between education and public health and can maximize the potential for take-up of services. Pediatric community-based health care as an educational delivery platform allows for population-level accessibility, with early and frequent contact with families at low marginal cost as it builds on existing infrastructure. This universal strategy then allows for follow-up targeted interventions to address the challenge of heterogeneity of risk through providing more intensive services for those with greater need, with potential for synergies related to identification and engagement, impact, and efficiencies in delivery.

This symposium explores three parenting and early school readiness models primarily based in pediatrics or other community-based settings that have high levels of participation and sustained engagement to promote parenting competence and children's educational school readiness at the population level. The first paper uses data from the Video Interaction Project (VIP; Mendelsohn et al., 2005) to examine how increased participation results in greater impacts on child mental health. The second paper uses data from the Early Steps Multisite Study and use of the Family Check-Up (FCU; Shaw et al., 2006) to explore heterogeneity in responsiveness to the FCU treatment based on neighborhood and family (e.g., parental depression, anti-social behavior, and child maltreatment) risk in relation to reductions in children's behavior problems. The third paper uses data from SMART Beginnings, an integrated model in pediatric primary care that combines elements of both VIP as a universal primary prevention strategy, and FCU as a targeted secondary/tertiary prevention strategy, to examine predictors of program participation.

All three papers examine which families participate and are actively engaged with the respective programs, and how such participation and engagement may in turn influence treatment effects in children's educational outcomes and in parenting. Such a synthesis across programs, both individually and as part of a tiered approach, has not fully been explored in the domain of primary care interventions, which is a unique contribution of this symposium. By understanding which families actively take part in these programs, and how such participation affects outcomes, we can improve intervention design and implementation to have the most effective research-based practice to promote children's school readiness and parenting practices at the population level beginning at birth.

References

Mendelsohn, A. L., Dreyer, B. P., Flynn, V., Tomopoulos, S., Rovira, I., Tineo, W., … Nixon, A. F. (2005). Use of videotaped interactions during pediatric well-child care to promote child development: A randomized, controlled trial. *Journal of Developmental & Behavioral Pediatrics, 26*(1), 34-41.

Shaw, D. S., Dishion, T. J., Supplee, L., Gardner, F., & Arnds, K. (2006). Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the Family Check-Up in early childhood. *Journal of Consulting and Clinical Psychology, 74*(1), 1-9. doi:10.1037/0022-006X.74.1.1

Effects of Parent Participation on Intervention Impacts on Child Socioemotional Development

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Background

More than half of U.S. children living in low-income families—those below 185% of the poverty line—have delays in at least one area of school readiness, with one in five of these children scoring more than one standard deviation below average on socioemotional skills (Isaacs, 2012). These socioemotional and mental health issues are linked to socioemotional problems in children and teacher ratings of behavioral problems in the classroom (Briggs-Gowan & Carter, 2008), academic achievement throughout elementary school (e.g., Caprara et al., 2000; Elias & Haynes, 2008), and absences, tardiness, and grade promotion in adolescence (Gall et al., 2000). Family interactions are critical to children's socioemotional development and academic trajectory, and early experiences in the home are an important modifiable factor in mitigating income-related disparities in these areas. Thus, encouraging and enhancing responsive parenting has increasingly become a focus of primary prevention efforts, with demonstrated impacts on not only parenting, but children's socioemotional well-being as well.

Although research has indicated that primary preventive interventions that focus on the parent-child relationship improve children's socioemotional functioning, there is also a great deal of evidence that participation in such programs is often low, especially among at-risk families. For instance, only half of parents enrolled in The Incredible Years attend at least one session (Baker, Arnold, & Meagher, 2011). Such low engagement limits intervention impacts, with attendance and participation linked to parenting behavior and attitudes, as well as the parent-child relationship across a number of interventions (Huebner, 2002; Spoth & Redmond, 1996; Dadds & McHugh, 1992). Reid and colleagues (2004) also demonstrated that parents' attendance in and attitude toward The Incredible Years program was related to children's prosocial behavior. However, few other studies have examined the role of parent engagement on program impacts on children's socioemotional outcomes, especially among primary prevention interventions.

Purpose

The current study sought to examine this question by determining how attendance for sessions of the Video Interaction Project (VIP) affected children's socioemotional well-being in early elementary school. VIP is a preventive parenting intervention based in pediatric primary care that promotes responsive parenting and school readiness by encouraging parents to talk, read, and play with their children (Mendelsohn et al., 2013). The program consists of a parent coach who meets individually with parents and their child at each pediatric well-child visit from birth to age 5. At each visit, the interventionist discusses child development and milestones, videotapes the parent and child interacting together with a toy or book, and then reviews the video with the parent to highlight and reinforce responsive parenting practices. Parents take home a copy of their video as well as a developmentally-appropriate toy or book. VIP has been

shown to improve parenting skills and child outcomes; in particular, findings at both age 3 and 4.5 indicate a reduction in attention/hyperactivity symptoms for those families who participated in an average of 3 sessions per year. Given these prior results, the aims of this study were to examine 1) longitudinal impacts of VIP on attention/hyperactivity problems in early elementary school, and 2) whether parent attendance led to differential impacts on these outcomes.

Research Design

Families were enrolled in a randomized controlled trial between 2005 and 2008. Enrollment took place in the newborn nursery of a large, urban, public hospital, with inclusion criteria being full-term singleton birth with no significant prenatal or perinatal complications, a mother who was the primary caregiver and spoke English or Spanish, and plans to receive pediatric care at the institution. The RCT involved a factorial design, with families randomized to either the VIP treatment group or control at birth (n = 450), and again at 36 months of age (n = 297). Of the 282 families who were assessed in 2nd grade, a subsample of 139 were administered the Pediatric Symptom Checklist-17 (PSC-17; Jellinek, Murphy, Robinson, Feins, Lamb, & Fenton, 1988), creating the current analytic sample. Analyses for aim two included 103 of these families who were randomized to the VIP treatment condition at one or both time points. Parents were categorized into VIP0-3, VIP3-5, VIP0-5 groups, and Control0-5 groups, and attendance in VIP was operationalized as the proportion of possible visits that were completed by the family. Children's attention/hyperactivity symptoms were measured in 2nd grade using the Attention Problems subscale of PSC-17, which asks parents about symptoms of inattention, distractibility, and hyperactivity. Hierarchical multiple linear regression analysis was used to determine whether attendance at VIP sessions predicted children's attention/hyperactivity symptoms.

Results

Overall treatment group category was a significant predictor of children's scores on the Attention Problems subscale, $\beta = -.334$, $p < .05$ (see Table 1). The overall model including treatment group was significant, $F(8, 120) = 2.28$, $p < .05$, and the treatment group variable explained an additional 3% of the variance in attention/hyperactivity symptoms over sociodemographic variables alone, $\Delta R^2 = .03$, $p < .05$. Across VIP treatment groups, parents' attendance at VIP sessions contributed significantly to the regression model predicting Attention Problems scores, $F(8, 90) = 2.31$, $p < .05$, explaining 5% of variation in scores and significantly improving the model over sociodemographics alone, $\Delta R^2 = .05$, $p < .05$. Both VIP attendance, $\beta = -2.35$, $p < .05$, and marital status, $\beta = -2.70$, $p < .05$, were significant predictors of children's socioemotional symptoms (Table 2).

Conclusions

This study is one of the first to indicate the importance of parent engagement in long-term impacts for primary prevention programs. Our results indicate that not only was there a treatment effect of VIP on children's attention/hyperactivity symptoms, but that the number of VIP sessions attended affected impacts across a various areas of socioemotional well-being. These findings underscore the importance of determining who benefits from preventive

interventions and which parents are more or less likely to engage in such programs, in order to maximize impacts on both parent and child outcomes.

References

Baker, C., Arnold, D., & Meagher, S. (2011). Enrollment and attendance in a parent training prevention program for conduct problems. *Prevention Science, 12(2)*, 126-138.

Briggs-Gowan, M. J., & Carter, A. S. (2008). Social-emotional screening status in early childhood predicts elementary school outcomes. *Pediatrics*, *121*(5), 957-962.

Brookings Institute. (2012). *Starting school at a disadvantage: The school readiness of poor children*. Washington, DC: Julia B. Isaacs.

Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). Prosocial foundations of children's academic achievement. *Psychological science*, *11*(4), 302-306.

Dadds, M., & McHugh, T. (1992). Social support and treatment outcome in behavioral family therapy for conduct problems. *Journal of Consulting and Clinical Psychology, 71*, 764-772.

Elias, M. J., & Haynes, N. M. (2008). Social competence, social support, and academic achievement in minority, low-income, urban elementary school children. *School Psychology Quarterly*, *23*(4), 474.

Gall, G., Pagano, M. E., Desmond, M. S., Perrin, J. M., & Murphy, J. M. (2000). Utility of Psychosocial Screening at a School-Based Health Center. *Journal of School Health*, *70*(7), 292-298.

Huebner, C. (2002). Evaluation of a clinic-based parent education program to reduce the risk of infant and toddler maltreatment. *Public Health Nursing*, 19(5), 377-389.

Jellinek, M. S., Murphy, J. M., Robinson, J., Feins, A., Lamb, S., & Fenton, T. (1988). Pediatric Symptom Checklist: screening school-age children for psychosocial dysfunction. *The Journal of pediatrics*, *112*(2), 201-209.

Mendelsohn, A., Cates, C., Weisleder A., Berkule, S., & Dreyer, B. (2013). Promotion of early school readiness using pediatric primary care as an innovative platform. *Zero to Three, 34(1)*, 29-40.

Reid, M., Webster-Stratton, C., & Baydar, N. (2004). Halting the development of conduct problems in Head Start children: The effects of parent training. *Journal of Clinical Child and Adolescent Psychology, 33,* 279-291.

Spoth, R., & Redmond, C. (1996). A theory-based parent competency model incorporating intervention attendance effects. *Family Relations, 45*, 139-147.

Tables

Table 1. Hierarchical Linear Regression predicting attention/hyperactivity symptoms from sociodemographics and VIP treatment group.

	β	t	R	R^2	ΔR^2
Step 1			.36	.13	
Child Gender	-.13	-1.43			
Child Birth Order	.12	1.20			
Maternal Literacy	.13	1.42			
Maternal Psychosocial risk	.01	.13			
Marital Status	-.25	-2.64*			
Country of Origin	-.06	-.64			
Socioeconomic Status	.07	.79			
Maternal Age	-.04	-.38			
Step 2			.41	.17	.04*
VIP Treatment Group	-.21	-2.37*			

* $p < .05$

Table 2. Hierarchical Linear Regression predicting attention/hyperactivity symptoms from sociodemographics and VIP attendance.

	β	t	R	R^2	ΔR^2
Step 1			.35	.12	
Child Gender	-.04	-.41			
Child Birth Order	.13	1.23			
Maternal Literacy	.11	1.14			
Maternal Psychosocial risk	.03	.31			
Marital Status	-.29	-2.70**			
Country of Origin	.07	.65			
Socioeconomic Status	.12	1.20			
Step 2			.41	.17	.05*
VIP Attendance	-.23	-2.35*			

* p < .05; ** p < .01

Factors that Discriminate Intervention Response to the Family Check-Up:
Family and Neighborhood Risk

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Background and Purpose

Several promising preventive interventions initiated during early childhood have shown success in promoting school readiness by promoting positive parenting skills, including improvements in child cognitive and behavioral functioning (e.g., Early Head Start, Video Interaction Project). However, less is known about factors that promote engagement and treatment response to such interventions. Using one such validated parenting program during early childhood, the Family Check-Up (FCU; Dishion et al., 2008; Shaw et al., 2006), the current paper provides data on factors that promote or moderate treatment response. Such data are critical to tailoring and refining interventions to meet the needs of specific child and family contexts. Using an experimental trial of low-income families enrolled in Women, Infants, and Children programs (WIC) across rural, suburban, and urban settings, the first study reports on specific constellations of family risk and adjustment variables assessed at baseline (child age 2) that discriminate treatment response on child conduct problems at ages 3, 4, and 5. The second study examines neighborhood deprivation as a discriminator of intervention response on the same children's report of aggressive behavior at age 9.5 as reported by teachers at school, and whether neighborhood deprivation effects can be attenuated by improving positive parenting in early childhood. Based on the brevity of the FCU (i.e., M = 3-4 sessions per year), we expected families characterized by more serious forms of contextual risk to demonstrate less improvement in children's early behavior problems relative to those with lower levels of family adversity. Similarly, we expected those families living in communities characterized by higher levels of neighborhood deprivation to show fewer reductions in aggression during middle childhood.

Setting and Participants

731 families with children (i.e., even % of girls and boys) enrolled in WIC Programs in Pittsburgh, PA (urban), Eugene, OR (suburban), and Charlottesville, VA (rural) were recruited for participation in the Early Steps Multisite trial as children were approaching age 2. Sample eligibility criteria including having risk present in at least two of the following three domains: socioeconomic (i.e., low income and no more than two years of college), family (e.g., maternal depression, substance use), and child (e.g., conduct problems). Thus, the sample represented a high-risk community sample of low-income toddlers.

Intervention

Families were randomly assigned to the early childhood version of the FCU (Dishion et al., 2008) before their baseline assessment at child age 2. Families were eligible to receive the FCU annually from ages 2 to 5 and again annually from ages 7.5 to 9.5. Over 90% of families had at least one FCU by the time the child was age 5. The FCU is an evidence-based approach for reducing the incidence of conduct problems developed to address some of the limitations of traditional parent training by incorporating motivational interviewing and thereby increasing parents' motivation to engage in services that improve the quality of their parenting practices. Following assessments, parent consultants conduct an initial interview that explored parent concerns and stage of change, as well as provide information about the upcoming feedback session. In the feedback session, the parent consultant presents a narrative about the family's areas of strengths and challenges, seeking to promote reflection on behavior change. Families then have the option of participating in follow-up treatment sessions to enhance parenting skills and/or address challenges that compromise parenting quality (e.g., parent well-being, social support).

Research Design and Data Collection

An RCT design was utilized with families in the control and intervention groups assessed annually from ages 2 to 5 and ages 7.5 to 9.5. The FCU followed assessments each year for families in the intervention group. All families participated annually in 2-3 hour home-based assessments, with the FCU also typically taking place in family's homes. For Study 1, the following risk factors were assessed at the age 2 assessment: family income, number of children in household, parental depression, child gender, parental education, single parent status, parental criminal behavior, history of child abuse and mental health treatment. The dependent measure was primary caregiver reports of aggressive and oppositional behavior from the Achenbach Child Behavior Checklist at child ages 3, 4, and 5. For Study 2, a composite measure of dyadic positive engagement was derived from 50-55 minutes of videotaped structured tasks at the age 2 and 3 home assessments (e.g., free play, clean-up, teaching, meal preparation tasks). Neighborhood deprivation was derived from geocoded census-based data when children were age 2 based on 8 items (e.g., % of households < poverty level, % of adults with < high school education). Teachers reported on the Achenbach Teacher Report Form's Aggression factor at child age 9.5.

Findings and Conclusions

For Study 1, latent class analysis was used to identify subgroups of families with differential responsiveness to the FCU using the age-2 risk factors described above. Surprisingly, comparisons revealed that intervention effects were *stronger* for families characterized by higher levels of family risk, including child neglect, legal problems, and parental depression and other mental health issues (ds = .63-.82, Table 3), and lower for those families living in poverty but without other contextual issues (ds = .01-.08). For Study 2, using structural equation modeling,

as expected direct effects of the intervention were only apparent for low-income families living in moderate versus extreme levels of neighborhood deprivation. However, for those living in the most deprived neighborhoods, when parents improved the quality of their parent-child interaction between ages 2 and 3 intervention effects on teacher-reported conduct problems were evident at age 9 (Figure 1). Findings from Study 1 suggest that a screening process would help identify families more likely to respond to the FCU and that the FCU may not be the most optimal intervention for all children at risk for later conduct problems. For Study 2, the findings corroborate previous research regarding the adverse influence of neighborhood effects, but also suggest that intervening successfully with such families may need to be initiated in early childhood when parent-child interactions might be more malleable to change.

References

Dishion, T. J., Shaw, D. S., Connell, A., Wilson, M. N., Gardner, F., & Weaver, C. (2008). The Family Check Up with high-risk families with toddlers: Outcomes on positive parenting and early problem behavior. *Child Development*, *79*, 1395-1414.

Shaw, D.S., Dishion, T. J., Supplee, L. H., Gardner, F., & Arnds, K. (2006). Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. *Journal of Consulting and Clinical Psychology*, *74*.

Tables and Figures

Table 3

Parent-Rated Aggressive/Oppositional Behavior: Intervention Effects Within Each Latent Class

Class	N	Est. (SE)	Model-Estimated Effect Size
Class 1 very high income, low-risk	181	-.001 (.014)	$d = -0.01$
Class 2 low income, very high maternal depression, high single parenthood	105	-.034 (.026)	$d = -0.30$
Class 3, low income, high single parenthood, otherwise low-risk	323	-.009 (.014)	$d = -0.08$
Class 4 high behavior problem, very high number of kids, high neglect, high maternal depression	29	-.092 (.075)	$d = -0.82$
Class 5 high law problems, very high neglect, extremely high mental health treatment**	93	-.070 (.026)	$d = -0.63$

Note. Note that descriptors (e.g., low, high) are relative to the rest of the sample. "Est." is the coefficient of latent slope regressed on dummy-coded intervention status (see Figure 1). "Model-Estimated Effect Size" reflects the total effect across age 2 to 5 span, as described in Methods section. Negative effect sizes indicate advantage of intervention over control. Pairwise tests indicated significant differences in effects between class 1 and class 5 ($p<.05$) and between class 3 and class 5 ($p<.05$).
[†]$p<.10$, *$p<.05$, **$p<.01$, by *z*-tests.

Figure 1: Multiple Group Structural Equation Model Results
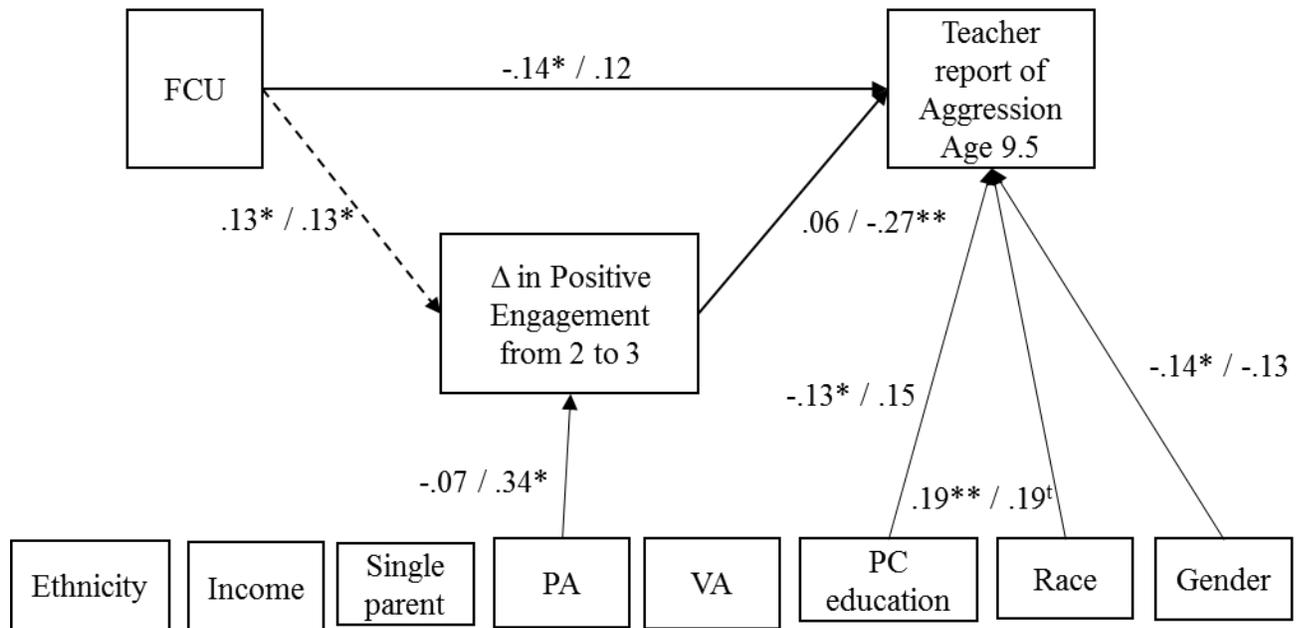
Note: Standardized β weights are reported. Information on the left side of the / indicates results for moderate deprivation group and the right side indicates results for the severe neighborhood deprivation group. Dashed line indicates a constrained pathway. Analyses included the following covariates: child gender, race, and ethnicity, PC's education and income, and site location. Only pathways from covariates that were significant for either group are shown for visual simplicity.

$^t p <.10$, $^* p < .05$, $^{**} p < .01$

Predictors of Participation in SMART Beginnings: A Randomized, Tiered Model of Intervention

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Background and Purpose

Large disparities in school readiness exist early in life between lower and higher SES children (Shonkoff & Phillips, 2000). Early childhood and home visiting programs designed to ameliorate these disparities have shown promise by targeting parents as children's key sources of self-regulatory and educational support. However, to be maximally effective for population impact and deliver on their potential to reduce school readiness gaps, participation and engagement of parents, who are the target of these intervention efforts, is critical (Mendelsohn et al., 2005; Shaw, Dishion, Supplee, Gardner, & Arnds, 2006). As part of a new, comprehensive strategy designed to close the gap in school readiness, we utilize the pediatric primary care setting as an education intervention delivery platform. School readiness interventions based in pediatric primary care allow for population accessibility at low cost due to early and frequent contact with families (13-15 recommended visits from birth to 5 years), maximizing the potential for engagement in services at a setting parents trust.

Past research on predictors of participation in early childhood parenting programs suggest that *higher-risk* samples, as indicated by sociodemographic factors such as maternal age and minority group status, lower income and education, and psychosocial factors, such as maternal depression and parenting stress, are associated with *lower* levels of participation and engagement (see Reyno & McGrath, 2006 for a meta-analysis). However, much less is known about predictors of participation in pediatric parenting programs, especially among a predominantly low-income sample.

Using data from SMART Beginnings, a tiered intervention for school readiness in low-income families being tested in pediatric primary care, we explore predictors of participation and take-up of intervention services. Such knowledge can substantially improve intervention design and implementation with the goal of improving parent and child outcomes at the population level beginning at birth.

Intervention Design

SMART Beginnings is the first randomized controlled trial of 400 families integrating the use of two proven interventions in pediatric primary care designed to enhance early development

and school readiness of children in poverty through positive parenting practices and reduction of psychosocial stressors: 1) a universal primary prevention strategy designed to build on the Reach Out and Read program, the Video Interaction Project (VIP; Mendelsohn et al., 2005), provided for all families randomly assigned to the intervention group; and 2) a targeted home-based secondary/tertiary prevention strategy, the Family Check-Up (FCU; Shaw et al., 2006), for intervention families with psychosocial risks.

The trial is taking place in two distinct urban contexts – Bellevue Hospital in New York City (NYC) and the Children's Hospital of Pittsburgh. The sites were chosen because of their diversity of sociodemographics, with primarily immigrant Latino families at Bellevue, and African-American families at Pittsburgh. To date, all 200 participants in NYC and 150 participants in Pittsburgh have been randomized to two treatment conditions: the VIP intervention or the control group which receives routine primary care.

The focus of this paper is participation and engagement in VIP, which occurs at each well-child visit. VIP universally provides all randomly-assigned parents with an interventionist who video-records the parent and child and reviews the video with the family to support positive parenting.

Participants

Mothers were recruited in the hospital nursery at each site shortly after delivery. Sample exclusion criteria included medical (e.g., low birth weight, preterm birth, multiple births, significant neurological or genetic abnormalities) and communication factors, (e.g., mother does not speak English or Spanish, or has an intellectual or mental disability), as well as if the baby will not receive pediatric care at the intervention sites. Though the sample is predominantly low-income, participants differ widely by site in race/ethnicity, marital status, and SES as indicated in Table 1.

Research Design, Data Collection, and Analysis

This paper analyzes predictors of participation in the VIP component of SMART Beginnings. Our primary outcome variable is therefore participation in the program for those assigned to the intervention group. We first sum the total number of completed VIP visits for each family and calculate their number of eligible visits based on each family's progression through VIP. We then create a ratio of completed VIP visits/total number of eligible VIP visits as our indicator of program participation. A ratio of 1 means the family attended 100% of their eligible VIP visits while a ratio of 0.5 means the family attended only 50%. See Table 2 for participation rates at both sites.

In line with prior research, our primary predictors of participation include maternal race/ethnicity, maternal age, parity, maternal education, TANF and SSI receipt, maternal depression, and parenting self-efficacy. These predictors were collected as part of the baseline survey administered to all treatment and control families in the hospital at birth.

Because our outcome is bounded between 0 and 1, we use both OLS and more sophisticated binomial generalized linear models to estimate predictors of participation. We do this in step-wise format in which we first regress demographic predictors on participation, then

add indicators of SES, and finally include psychosocial factors. We run these regressions by each site separately, and then together including site fixed effects and clustered standard errors by site.

Results and Conclusions

As SMART Beginnings is still in data-collection, results reported here are preliminary. Similar to prior research on parenting programs, the initial findings suggest that demographic, SES, and psychosocial variables are associated with program participation, but not always in the expected direction. While multivariate analyses show that first-time mothers, older mothers, and those with lower levels of baseline depression have *higher* levels of program participation as expected, we also find that more educated mothers and those with higher parenting self-efficacy have *lower* levels of participation. The latter findings may imply that the VIP intervention is, by some indicators, effectively targeting more challenging to engage families. As we continue conducting more in-depth analyses and incorporate predictors of engagement in FCU, our findings can help improve intervention design and implementation to have the most effective research-based practice to promote children's school readiness and parenting at the population level beginning at birth.

References

Mendelsohn, A. L., Dreyer, B. P., Flynn, V., Tomopoulos, S., Rovira, I., Tineo, W., … Nixon, A. F. (2005). Use of videotaped interactions during pediatric well-child care to promote child development: A randomized, controlled trial. *Journal of Developmental and Behavioral Pediatrics, 26*(1), 34–41.

Reyno, S. M. and McGrath, P. J. (2006). Predictors of parent training efficacy for child externalizing behavior problems – a meta-analytic review. *Journal of Child Psychology and Psychiatry, 47*(1)*,* 99–111. doi:10.1111/j.1469-7610.2005.01544.x

Shaw, D. S., Dishion, T. J., Supplee, L., Gardner, F., & Arnds, K. (2006). Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood. *Journal of Consulting and Clinical Psychology, 74*(1), 1-9. doi:10.1037/0022-006X.74.1.1

Shonkoff, J.P., & Phillips, D.A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development.* Washington, DC: National Academy Press.

Tables

Table 1

Descriptive Statistics of SMART Beginnings Analytic Sample by Site

	NYC (N = 200) Mean / Proportion of Sample	SD	Pitt (N = 153) Mean / Proportion of Sample	SD
Target Child Characteristics - Baseline				
Gender - Female	0.49		0.56	
Race				
Asian	0.02		0.00	
African-American	0.08		0.91	
White	0.01		0.05	
Latino	0.84		0.02	
Other	0.06		0.03	
Primary Caregiver Characteristics - Baseline				
Race				
Asian	0.03		0.00	
African-American	0.08		0.82	
White	0.02		0.12	
Latino	0.84		0.05	
Other	0.03		0.02	
Marital status				
Married	0.32		0.03	
Cohabitating partner	0.49		0.37	
Non-cohabitating partner	0.11		0.35	
Biological father is current partner	0.98		0.96	
Years of education (continuous)	11.60	3.60	12.38	1.67
HS grad	0.56		0.84	
Some college	0.32		0.41	
Family Household Characteristics - Baseline				
Income-to-needs ratio	1.03		0.67	
Overcrowding	1.40		0.83	
Language of baseline interview - Spanish	0.61		N/A	
Scales - Baseline				
EPDS	3.15	3.91	3.75	4.04
GLS	55.66	8.62	58.57	8.94
PSE	27.84	3.49	29.22	1.59
CHAOS	3.17	3.27	3.59	3.81

Table 2

Intervention Participation in SMART Beginnings Analytic Sample by Site

NYC - Number of VIP visits (Complete and partials)

	N	%	Cumulative %
Completed 100% of eligible VIP visits	58	63.74%	63.74%
Completed 90-99% of eligible VIP visits	0	0.00%	63.74%
Completed 80-89% of eligible VIP visits	12	13.19%	76.92%
Completed 70-79% of eligible VIP visits	6	6.59%	83.52%
Completed 60-69% of eligible VIP visits	1	1.10%	84.62%
Completed 50-59% of eligible VIP visits	4	4.40%	89.01%
Completed 40-49% of eligible VIP visits	2	2.20%	91.21%
Completed 30-39% of eligible VIP visits	1	1.10%	92.31%
Completed 20-29% of eligible VIP visits	3	3.30%	95.60%
Completed 10-19% of eligible VIP visits	1	1.10%	96.70%
Completed 1-9% of eligible VIP visits	0	0.00%	96.70%
Completed 0% of eligible VIP visits	3	3.30%	100.00%
Total	**91** [a]		

a = 10 families VIP inactive

Pitt - Number of VIP visits (Complete and partials)

	N	%	Cumulative %
Completed 100% of eligible VIP visits	63	84.00%	84.00%
Completed 90-99% of eligible VIP visits	0	0.00%	84.00%
Completed 80-89% of eligible VIP visits	6	8.00%	92.00%
Completed 70-79% of eligible VIP visits	4	5.33%	97.33%
Completed 60-69% of eligible VIP visits	2	2.67%	100.00%
Completed 50-59% of eligible VIP visits	0	0.00%	100.00%
Completed 40-49% of eligible VIP visits	0	0.00%	100.00%
Completed 30-39% of eligible VIP visits	0	0.00%	100.00%
Completed 20-29% of eligible VIP visits	0	0.00%	100.00%
Completed 10-19% of eligible VIP visits	0	0.00%	100.00%
Completed 1-9% of eligible VIP visits	0	0.00%	100.00%
Completed 0% of eligible VIP visits	0	0.00%	100.00%
Total	**75** [a]		

a = 2 families VIP inactive