

# Harnessing technology to enhance social capital among low-income mothers

## **John Padilla**

Director, Workforce & Employment  
New Haven MOMS Partnership  
jepadilla424@outlook.com

## **Dr. Megan V. Smith**

Departments of Psychiatry &  
Child Study Center  
Yale University School of Medicine  
Division of Chronic Disease Epidemiology  
Yale School of Public Health  
megan.smith@yale.edu



# Maternal Mental Health: Overview of the Epidemiology

- **20.6** million children live with an adult with a mental illness.<sup>1,2</sup>
- Children of depressed as compared to non-depressed parents are more likely to develop psychiatric illnesses, and are at greater risk for social, cognitive, and medical difficulties.<sup>2</sup>



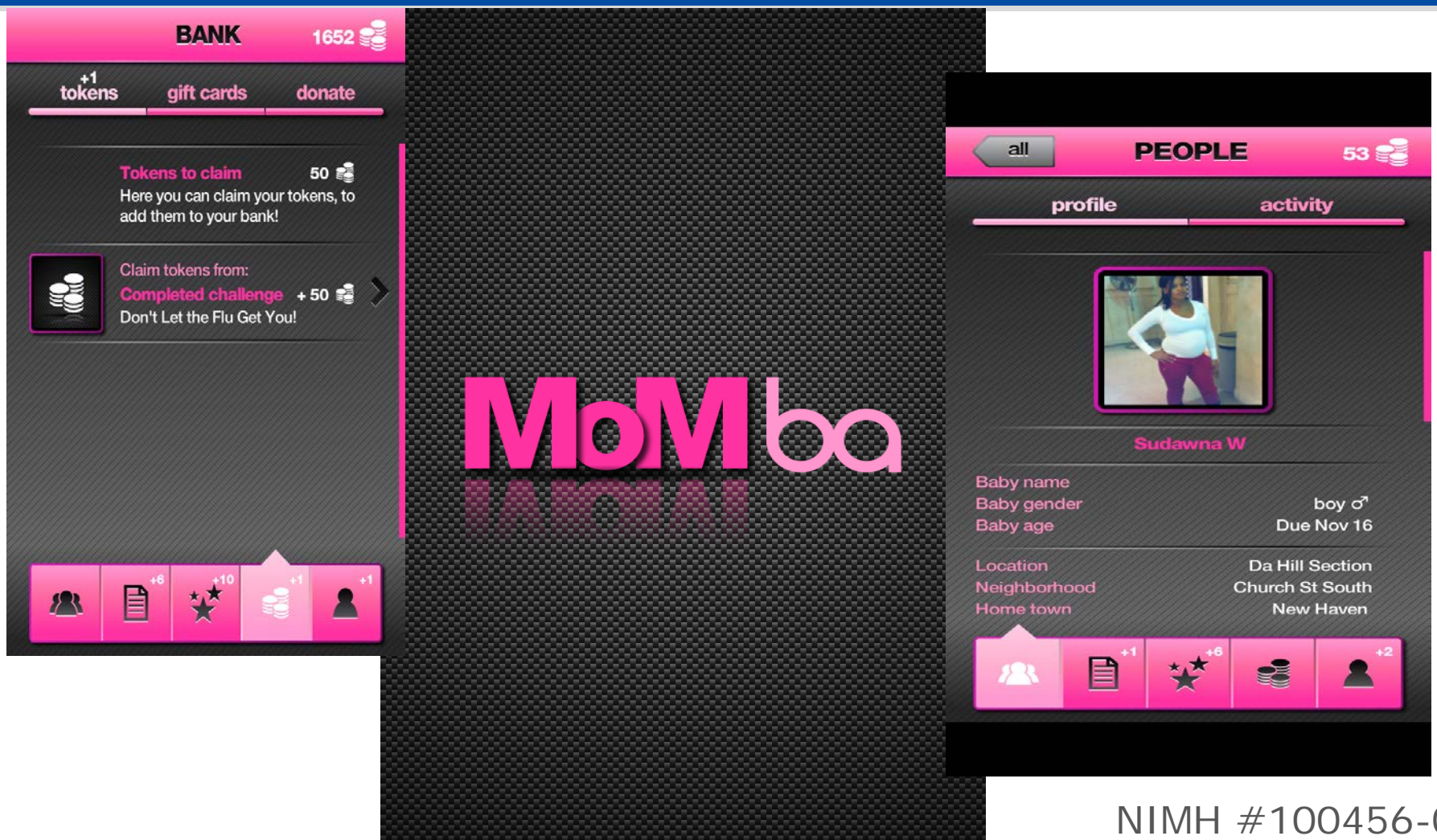
<sup>1</sup> Prince M. *Lancet* 370: 859-877, 2007. Kessler RC. 2005 JAMA

<sup>2</sup> *National Academies of Science*, 2010

# Social Capital & Maternal Mental Health

- Positive social networks enhance mental health, perceived social support and parental self efficacy.
- Most programs focused on the promotion of mental health among mothers utilize home visiting strategies or screen in clinical settings with referrals to mental health treatment.
- Very few harness the power of positive social networks and increased trust and reciprocity to promote mental health, family wellbeing, economic security and child outcomes.

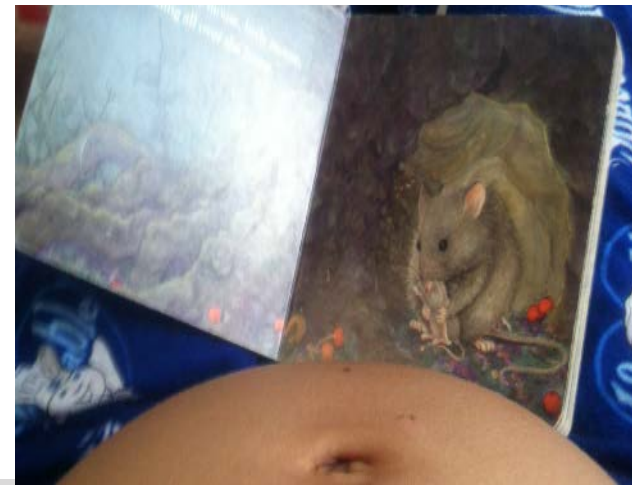
# Using Technology to Enhance Social Capital



NIMH #100456-01

# MOMBA's Goals

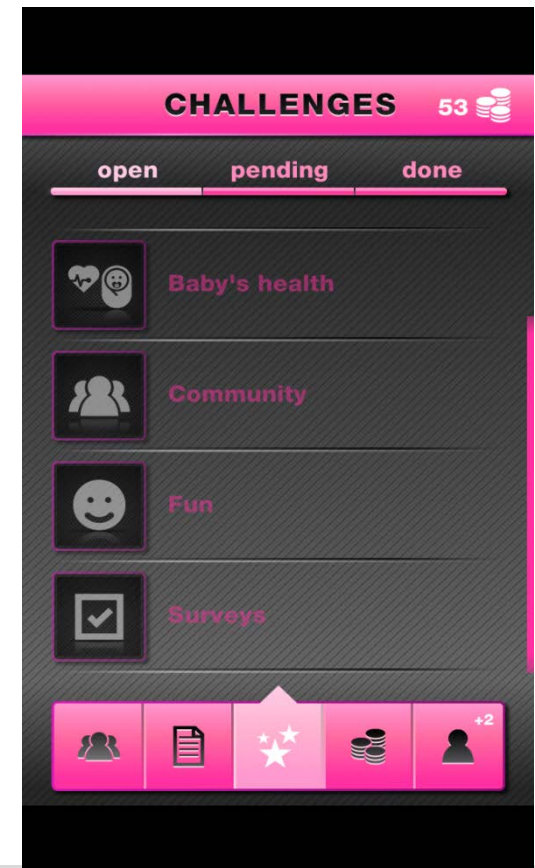
- Connect new mothers to:
  - Other mothers
  - Infants (attachment)
  - Local resources/health services
- Incentivize positive social networks and enhance social capital and skill building





# How Momba Achieves These Goals

- Incentivized “challenges” that are pushed throughout the Momba community and focused on three key areas:
  - Promotion of social support and capital
  - Promotion of maternal-infant attachment
  - Promotion of skill building related to parenting and executive functions
- Community Mental Health Ambassadors



# BANK

53 

tokens

gift cards

donate

**Total donations** 2025 

Donate your hard earned tokens to a Momba mom or the community.



Donate to:  
**A Momba Mom**



Donate to:  
**National Diaper Bank Network**



+2

chat

# SOCIAL

53 

people

chat

(reply to **Mahogany P**) Aww she turn the Big 1 how time fly

Jul 24 **Mahogany P** → reply  
(reply to **Tina A**) Yes only a few more weeks

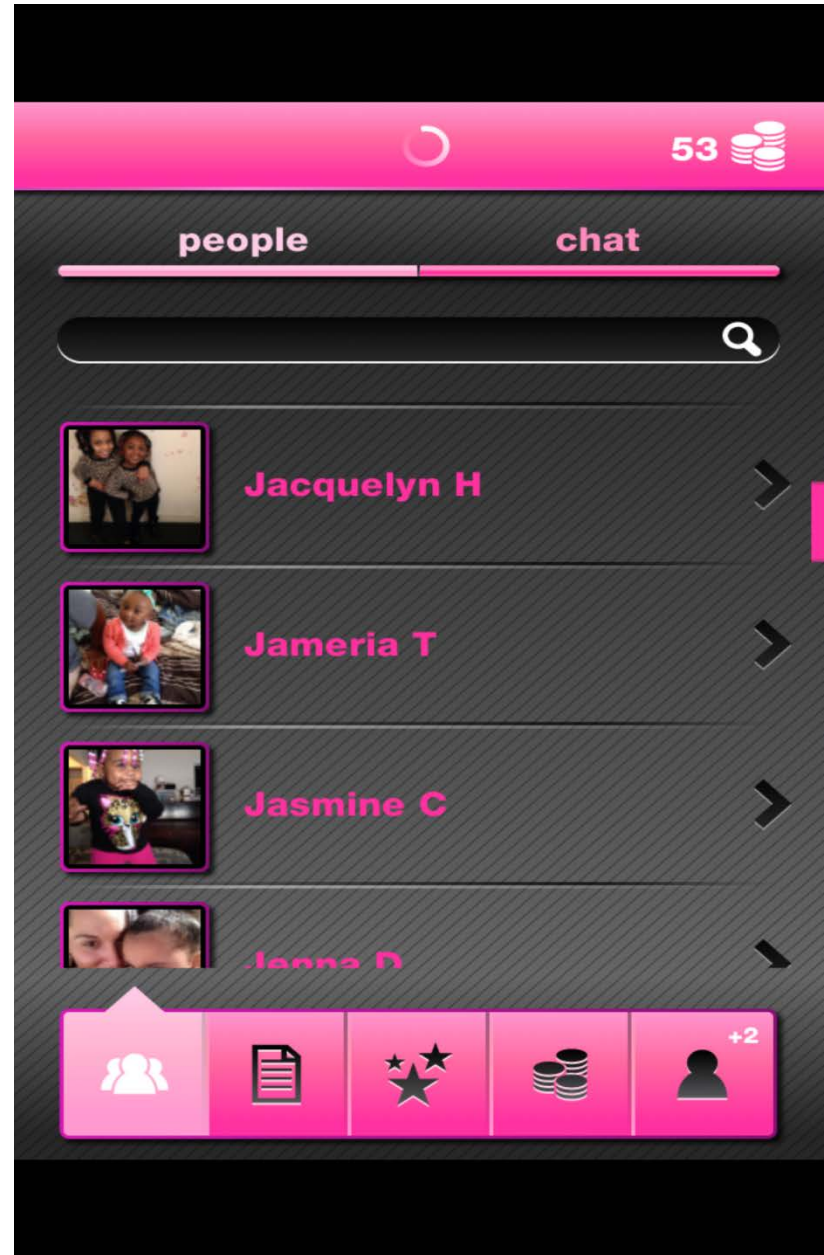
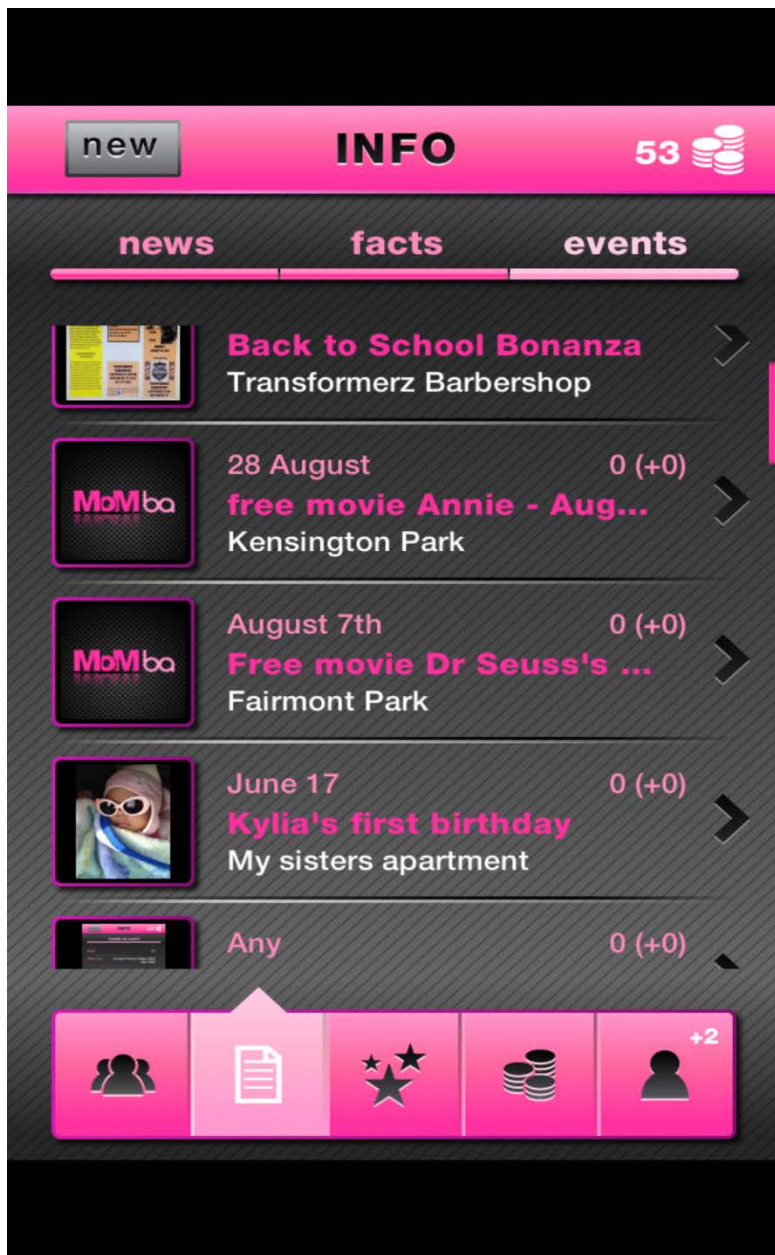
Aug 4 **Mahogany P** → reply  
My baby will b 1 in 4 days n she still isn't walking independently ugh

Aug 4 **Meghan C** → reply  
(reply to **Mahogany P**) Kyla isn't either, don't worry, she will when she ready!!

Aug 7 **Mahogany P** → reply  
(reply to **Meghan C**) Thanx



+2

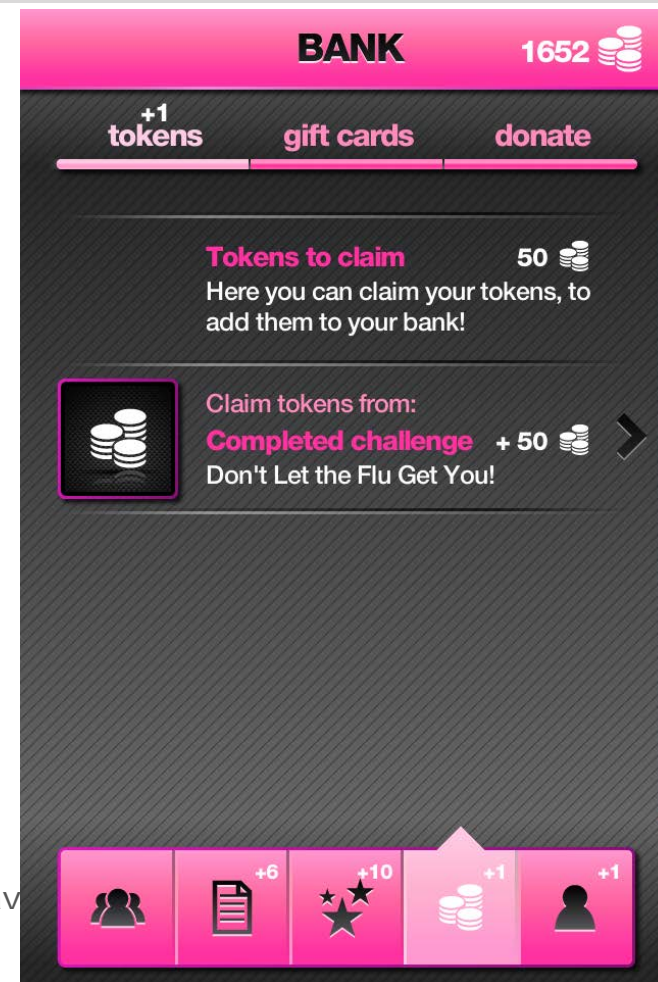




# MoMba's Theoretical Constructs

1. Models of behavior change
2. Social epidemiology
  - Social support
  - Social network
  - Social capital
3. Attachment theory
4. Behavioral economics

Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior  
Berkman LF, & Kawachi I. (2000) Social Epidemiology  
Bowlby J (1958). *International Journal of Psychoanalysis*  
Volpp, L, Troxel (2008) *JAMA*  
Tversky & Kahneman (1974) *Science*

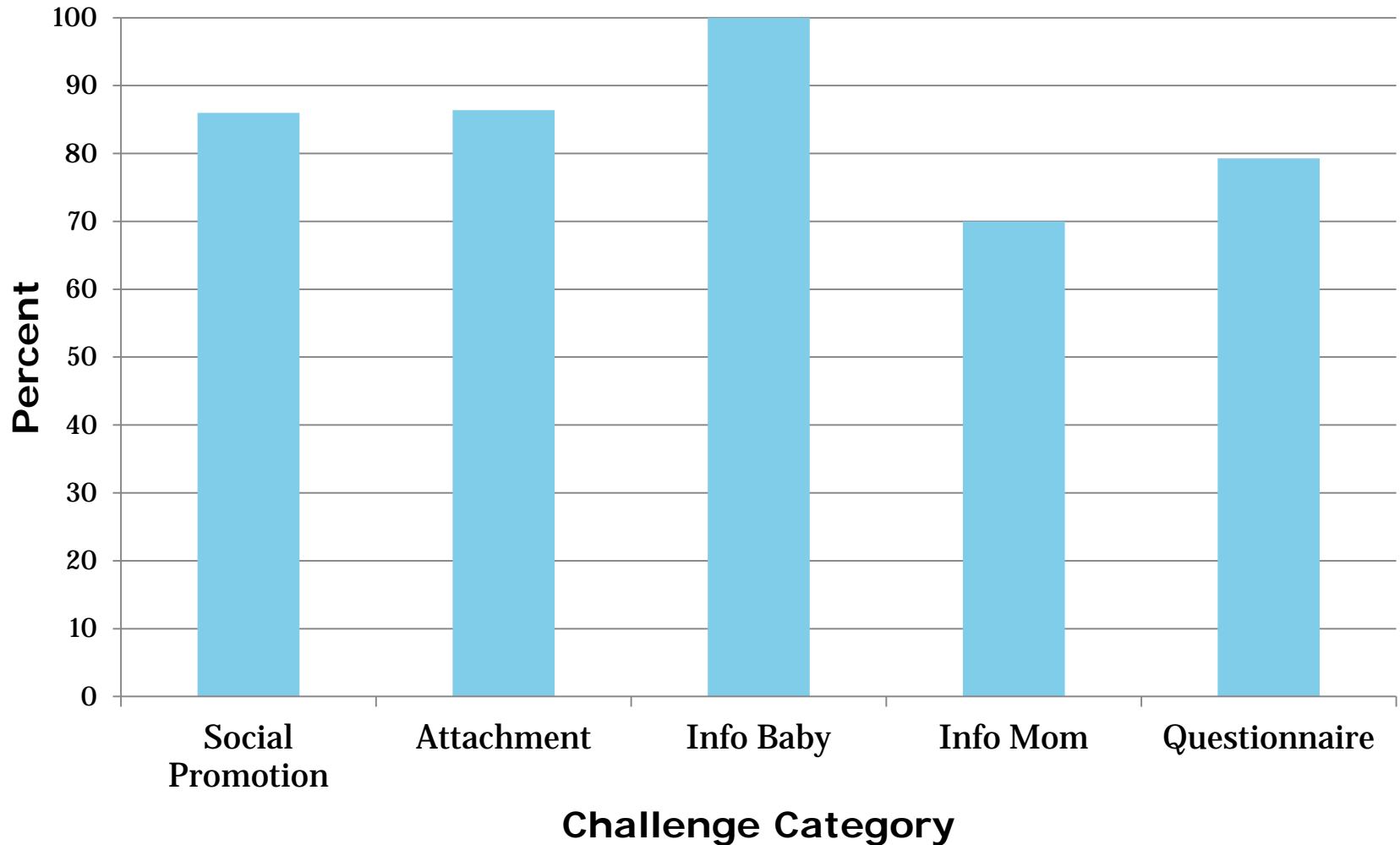


# Qualitative Findings on the Promotion of Social Capital

- Results of four focus groups suggested mothers (n=40):
  - derived intended benefits from Momba such as:  
**elevated mood** and increased **self-efficacy**
  - **exchange of resources** (information, jobs, and basic needs exchange (clothing, baby food and diapers))
  - Unexpected benefits including reductions in **perceived stigma and self stigma.**
  - Momba became mutually reinforcing where users created beneficial social relationships that then motivated them to seek further social integration.

Smith, MV. Women's experience with a smartphone application to reduce postpartum depressive symptoms, *Am J Public Health*, In press

# Percent of challenges completed by category, Momba Pilot, N=40



# Momba Impacts

(control vs. intervention group, randomized)

- Statistically significant (and clinically significant) reduction in depressive symptoms (as measured by the PHQ-9)
- Clinically significant reductions in parenting stress
- Statistically significant increases in some dimensions of social capital and social support...



# Examples of Social Capital Questions

“How often do you and other people in the neighborhood ask each other for advice about personal things such as childrearing or job openings?”

“If a group of neighborhood children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it?”

“People around here are willing to help their neighbors”

“People in this neighborhood can be trusted”

# Quantitative Results: Social Capital, Cohesion, Control (N=38)

<b>Dimension</b>	<b>Momba</b>	<b>Control</b>	<b>P Value</b>
<b>Community resources in neighborhood</b>	1.82	1.67	<b>.005</b>
<b>Social Cohesion</b>	15.2 (3.4)	13.5 (2.4)	<b>0.05</b>
<b>Emotional Support</b>	33.9 (6.6)	29.7 (7.4)	<b>.001</b>
<b>Collective Efficacy</b>	23.2 (2.5)	26.1 (8.2)	.60

