\*\*\* Indicates Randomized Control Trial

LePlatte, D., Rosenblum, K. L., Stanton, E., Miller, N., & Muzik, M. (2012). Mental health in primary care for adolescent parents. Mental health in family medicine, 9(1), 39.

Mental health care is important for everyone, especially teenagers. However, seeking mental health services may be challenging for teenagers, particularly when they are also parents. Offering mental health care in a safe, attractive and easily accessible manner, such as primary care, increases the chances that teenage parents will receive help. Comprehensive care models need to be established to address the many needs that at-risk young mothers and their children face. There are a number of programs available to teenage mothers that either address healthcare and psychosocial needs or focus primarily on improvements in parenting skills; yet an integrated model that delivers medical, psychiatric and psychosocial care and facilitates positive parenting skills seems to be missing. Through a university–community partnership we have recently developed a model curriculum – the Mom Power (MP) group program – at the University of Michigan which aims to close this gap in service delivery. We elaborate on core elements and key features of this 10-week group intervention program for high-risk teenage mothers and their children, and present preliminary outcomes data. Analyses on the first 24 MP group graduates suggest that despite ongoing life trauma during the intervention period, teenage mothers show improvements in depression and post-traumatic stress disorder symptoms post intervention, and also self-rate as less guilty and shameful regarding their parenting skills after program completion. Although preliminary, due to design and statistical limitations, these results show promise regarding feasibility and effectiveness of this integrated approach for teenage mothers with young children delivered through primary care.

Mucka, L., Dayton, C. J., Lawler, J., Kirk, R., Alfafara, E., Schuster, M., Miller, N., Ribaudo, J., Rosenblum, J., & Muzik, M. (2017). Mixed methods evaluation of participant recruitment and retention in the Mom Power parenting intervention program. *Infant Mental Health Journal,* doi: 10.1002/imhj.21652

Parenting group success begins with attendance. Using archival pilot data from 99 mothers who enrolled in the *Mom Power* (*MP*) parenting intervention, this study sought to understand the factors that influenced participant engagement and retention. MP is a group-based, early intervention program grounded in attachment theory that utilizes motivational interviewing as a core component to enhance program engagement. Study aims were to qualitatively describe the reasons why mothers were interested in participating in the program, including what they hoped to gain from the experience, and to quantitatively examine the extent to which attendance was associated with demographic, experiential, and psychosocial factors. The qualitative analysis of intake interviews revealed that mothers expected the MP intervention to provide a warm environment for themselves and their children as well as to support and enhance their parenting, and 95% revealed their hopes that the intervention would help them grow and develop as women. Attendance rates were relatively high, with 62% of mothers missing less than one group session. Quantitative analyses using multiple regression to test associations of demographic, experiential, and psychosocial factors with attendance rates were not significant. Results suggest that motivational interviewing may be an important component in promoting participant engagement efforts in parenting interventions.

Muzik, M., Rosenblum, K. L., Alfafara, E. A., Schuster, M. M., Miller, N. M., Waddell, R. M., & Kohler, E. S. (2015). Mom Power: preliminary outcomes of a group intervention to improve mental health and parenting among high-risk mothers. Arch Womens Ment Health. doi: 10.1007/s00737-014-0490-z

A key mechanism of risk transmission between maternal risk and child outcomes are the mother’s representations. The current study examined the effects of an attachment-based, trauma-informed parenting intervention, the Mom Power (MP) program, in optimizing maternal representations of highrisk mothers utilizing a randomized, controlled trial design (NCT01554215). High-risk mothers were recruited from low-income community locations and randomized to either the MP Intervention (*n*=42) or a control condition (*n*=33) in a parallel design. Maternal representations were assessed before and after the intervention using the Working Model of the Child Interview. The proportion of women with Balanced (secure) representations increased in the MP group but not in the control group. Parenting Reflectivity for mothers in the treatment group significantly increased, with no change in the control condition. Participation in the MP program was associated with improvements in a key indicator of the security of the parent-child relationship: mothers’ representations of their children.

Muzik, M., Rosenblum, K., Schuster, M., Kohler, E. S., & Alfafara, E. (2016). A Mental Health and Parenting Intervention for Adolescent and Young Adult Mothers and their Infants. J Depress Anxiety, 5(233), 2167-1044.

**Purpose:** Adolescent girls with mental illness are at heightened risk for unplanned pregnancies, which often disrupts typical psychological development, relationship formation, access to support systems, and school performance. Thus, adolescent mothers face many challenges while parenting in addition to coping with mental health concerns. Without interventions, adolescent mothers may put themselves and their children at risk and face further challenges than their non-parent or older counterparts. **Method:** The Mom Power program (MP) is a treatment engagement intervention for young mothers and their children, developed through a University-Community Partnership in Michigan. The program is designed to engage young mothers in mental health services, provide developmental and parenting guidance, teach self-care skills, increase social support, and provide hands-on parenting practice. **Results:** Preliminary feasibility data support MP as an effective intervention for adolescent mothers by reducing self-reported symptoms of Major Depressive Disorder (MDD) and Post Traumatic Stress Disorder (PTSD). MP is effective at increasing parenting competence, social support and connection to care in a high-risk population of young mothers compared to a demographically similar group of young mothers that did not complete the intervention. **Conclusion:** Mom Power is a short-term attachment-based psycho-educational parenting and self-care skills group for adolescent mothers. Comprehensive models like the MP Program are vital in reaching out to the needs of young mothers and their babies in an effort to decrease mental health symptoms and increase positive parenting skills.

Muzik, M., Schmicker, M., Alfafara, E., Dayton, C., Schuster, M., & Rosenblum, K. (2014). Predictors of Treatment Engagement to the Parenting Intervention Mom Power Among Caucasian and African American Mothers. Journal of Social Service Research, 1-19. doi: 10.1080/01488376.2014.917451

It has been well documented that early intervention programs focused on young children hold the greatest promise to mediating mental, emotional, and behavioral disorders. Parenting programs with young children have yielded favorable outcomes however engaging and retaining participants has typically been a challenge. Predictors of treatment engagement, or factors influencing participant’s attendance rates and/or retention in a program, have been routinely studied with outcomes yielding differing results. The present study aims to extend this research by presenting engagement data on 150 mothers and their young children (ages 0-6) in an attachment-based parenting and self-care skills intervention, Mom Power (MP). This study examines the impact of socio-demographic but also trauma, mental and physical health factors on attendance rates of the entire mother-child sample and also comparatively for Caucasian and African American mothers. Results show that employment status and physical health impacted attendance for the entire sample and continued to be main predictors among African-American mothers. This study has implications for future research specifically pertaining to ethnic and physical health predictors of participant’s retention in intervention programs. Recommendations for engagement and retention strategies are discussed, as are consideration for next steps to test the MP model in a real-world effectiveness trial.

\*\*\*Rosenblum, L., Lawler, J., Alfafara, E., Miller, N., Schuster, M., & Muzik, M. (2018). Improving maternal representations in high-risk mothers: A randomized, controlled trial of the Mom Power parenting intervention. *Child Psychiatry and Human Development.*

A key mechanism of risk transmission between maternal risk and child outcomes are the mother’s representations. The current study examined the effects of an attachment-based, trauma-informed parenting intervention, the Mom Power (MP) program, in optimizing maternal representations of high-risk mothers utilizing a randomized, controlled trial design (NCT01554215). High-risk mothers were recruited from low-income community locations and randomized to either the MP Intervention (*n*=42) or a control condition (*n*=33) in a parallel design. Maternal representations were assessed before and after the intervention using the Working Model of the Child Interview. The proportion of women with Balanced (secure) representations increased in the MP group but not in the control group. Parenting Reflectivity for mothers in the treatment group significantly increased, with no change in the control condition. Participation in the MP program was associated with improvements in a key indicator of the security of the parent-child relationship: mothers’ representations of their children.

\*\*\*Rosenblum, K., Muzik, M., Morelen, D. M., Alfafara, E. A., Miller, N. M., Waddell, R. M., Schuster, M. M., Ribaudo, J. (2017). A community-based randomized controlled trial of Mom Power parenting intervention for mothers with interpersonal trauma histories and their young children. *Archives of Women’s Mental Health.* DOI 10.1007/s00737-017-0734-9

We conducted a study to evaluate the effectiveness of Mom Power, a multifamily parenting intervention to improve

mental health and parenting among high-risk mothers with young children in a community-based randomized controlled trial (CB-RCT) design. Participants (N = 122) were high-risk mothers (e.g., interpersonal trauma histories, mental health problems, poverty) and their young children (age <6 years), randomized either to Mom Power, a parenting intervention (treatment condition), or weekly mailings of parenting information (control condition). In this study, the 13- session intervention was delivered by community clinicians trained to fidelity. Pre- and post-trial assessments included mothers’ mental health symptoms, parenting stress and helplessness, and connection to care. MomPower was delivered in the community with fidelity and had good uptake (>65%) despite the risk nature of the sample. Overall, we found improvements in mental health and parenting stress for Mom Power participants but not for controls; in contrast, control mothers increased in parent-child role reversal across the trial period. The benefits of Mom Power treatment (vs. control) were accentuated for mothers with interpersonal trauma histories. Results of this CB-RCT confirm the effectiveness of Mom Power for improving mental health and parenting outcomes for high-risk, trauma-exposed women with young children. ClinicalTrials.gov Identifier: NCT01554215

\*\*\*Swain, J. E., Ho, S. S., Rosenblum, K. L., Morelen, D., Dayton, C. J., & Muzik, M. (2017). Parent-child intervention decreases stress and increases maternal brain activity and connectivity during own baby-cry: An exploratory study. *Development and Psychopathology, 29,* 535-553. doi: 10.1017/S0954579417000165

Parental responses to their children are crucially influenced by stress. However, brain-based mechanistic understanding of the adverse effects of parenting stress and benefits of therapeutic interventions is lacking. We studied maternal brain responses to salient child signals as a function of Mom Power (MP), an attachment-based parenting intervention established to decrease maternal distress. Twenty-nine mothers underwent two functional magnetic resonance imaging brain scans during a baby-cry task designed to solicit maternal responses to child’s or self’s distress signals. Between scans, mothers were pseudo randomly assigned to either MP (n ¼ 14) or control (n ¼ 15) with groups balanced for depression. Compared to control, MP decreased parenting stress and increased child-focused responses in social brain areas highlighted by the precuneus and its functional connectivity with subgenual anterior cingulate cortex, which are key components of reflective self-awareness and decision-making neurocircuitry. Furthermore, over 13 weeks, reduction in parenting stress was related to increasing child- versus self-focused baby-cry responses in amygdala–temporal pole functional connectivity, which may mediate maternal ability to take her child’s perspective. Although replication in larger samples is needed, the results of this first parental-brain intervention study demonstrate robust stress-related brain circuits for maternal care that can be modulated by psychotherapy.