### Mother Child Study, 2011-2018

**Manuscripts and Annotation by Focus Areas**

#### Intergenerational Transmission of Violence From Mother to Child Functioning

<table>
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<th>Title</th>
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<td>Fredland, N., McFarlane, J., Symes, L., Maddoux, J., Pennings, J., Paulson, R., Gilroy, H., &amp; Binder, B.</td>
<td>This study revalidates the intergenerational model connecting partner violence to poor functioning for mothers and children, 24 months after abused mothers sought assistance for the first time through the shelter or justice system and compares baseline and 24-month models. Maternal chronic pain &amp; maternal mental health remained strong predictors of child dysfunction with maternal social support and self-efficacy significantly predicting more positive maternal mental health, resulting in a pass through effect on child behavior in a positive direction.</td>
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<td>Frederiksen, N., McFarlane, J., Gilroy, H., Nava, A.</td>
<td>Using structural equation modeling we tested the impact of mothers abuse (childhood and partner) on maternal and child functioning (N=300 mother-child dyads). To our knowledge These findings are the first to offer evidence that mother’s abuse had a direct effect on maternal functioning and predicted child dysfunctional behaviors, explaining the intergenerational effect and the urgent need to provide mental health interventions to improve maternal functioning as a conduit intervention to prevent child dysfunction and promote dyad health.</td>
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<td>Maddoux, J., McFarlane, J., Liu, F., Binder, B., Symes, L., &amp; Paulson, R., A.</td>
<td>A total of 300 children (ages 18 months to 16 years), whose abused mothers sought safe shelter or a protection order for the first time, were studied. Data revealed internalizing behaviors, such as depression and externalizing behaviors, such as bullying decreased 4 months after mothers obtained help. Children’s scores from the shelter group indicated more dysfunction.</td>
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<td>Maddoux, J.</td>
<td>More severe abuse to mothers is associated with higher levels of maternal dysfunction and increased maternal dysfunction is associated with higher levels of child dysfunction. The path between severity of abuse to moms and child dysfunction was not significant, once maternal dysfunction was added to the equation, meaning the link from severity of abuse to mothers and child dysfunction is indirect through maternal dysfunction.</td>
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<td>Maddox, J., McFarlane, J., Liu, F., Gilroy, H., Nava, A.</td>
<td>Perpetrators of abuse towards their intimate partner tend not to engage in help-seeking behaviors, which may imply that they do not see their abuse as being problematic. Abusive behaviors have negative impacts on the direct victim of the abuse, but also their children, especially externalizing behaviors for boys.</td>
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<td>Blair, F., McFarlane, J., Nava, A., &amp; Gilroy, H.</td>
<td>300 abused women with children seeking services for abuse were interviewed regarding how often their child had witnessed the abuse. Boys who witnessed the abuse had more externalizing and internalizing behavioral problems comparable to boys in clinical treatment. Girls did not display clinically significant behaviors.</td>
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<td>Maddox, J., Symes, L., McFarlane, J., Gilroy, H., Koci, A. &amp; Fredland, N.</td>
<td>Higher negative problem-solving scores were associated with significantly ($P &lt; 0.001$) greater odds of having clinically significant levels of PTSD, anxiety, depression, and somatization for the woman and significantly ($P &lt; 0.001$) greater odds of her child having borderline or clinically significant levels of both internalizing and externalizing behaviors. A predominately negative problem-solving approach was strongly associated with poorer outcomes for both mothers and children in the aftermath of the environmental stress of abuse.</td>
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<td>McFarlane, J., Symes, L., Binder, B., Maddox, J., Paulson, R.</td>
<td>When 300 mothers reporting intimate partner abuse with a child, were evaluated for borderline and clinical diagnostic levels of problem behaviors, mothers’ problem behavior scores were significantly related to children’s problem behavior scores. Mothers who reported clinical and borderline clinical internalized problems (i.e., depression, anxiety) were 7 times more likely to have children with the same problems and mothers with borderline clinical and clinical external problems (i.e., aggression, hostility) were 4.5 times more likely to have children with the same external problems. These dyadic analyses provide evidence of a direct relationship of maternal functioning on child behavioral functioning and support an intergenerational transmission of violence experienced by the mother to child dysfunction.</td>
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<td>Symes, L., Maddoux, J., McFarlane, J., Nava, A., &amp; Gilroy, H.</td>
<td>Higher physical abuse scores were significantly correlated with higher sexual abuse scores, and higher levels of physical abuse were associated with higher maternal anxiety and higher child externalization.</td>
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**Sexual and Reproductive Health of Women Reporting Abuse**


Not using birth control was associated with significantly ($p < .05$) higher levels of danger for lethality, depression, and PTSD. When the abuser, not the woman, decides on the contraception, the women reported significantly ($p < .05$) more depression and PTSD. Fertility control among abused women is thwarted and associated with higher levels of violence, greater danger for lethality, and poor mental health.


Women reporting abuse during pregnancy had statistically significant ($p < 0.001$) higher scores for Threat of abuse, $F(1, 49) = 14.37, p < 0.001$; Physical abuse, $F(1, 49) = 21.21, p < 0.001$; and Danger for murder weighted $F(1, 49) = 22.99, p < 0.001$. All effect sizes were large.


Among 46 abused women reporting abuse during pregnancy, reported significantly greater ($P < .05$) threats of abuse, sexual abuse, physical abuse, danger for murder, and PTSD compared with abused women not reporting abuse during pregnancy. Effect sizes were large. Risk for murder remained higher for women reporting abuse during pregnancy for 8 months after delivery, depression was higher at 4, 8, 16, and 20 months after delivery, and PTSD was appreciably higher for 24 months.


The relationship between the abuse during pregnancy and abuse during the first six months post delivery was significant ($p < .001$). Significant findings related to child behavior outcomes in the abuse during pregnancy group were found for internalizing behaviors ($p = .002$), externalizing problems ($p = < .001$), and total problems ($p = < .001$). Most women (76%) in the abuse during pregnancy group were not screened.


A skill based article for CEU’s on how to assess, intervene, and follow-up for abuse during pregnancy.


Fertility control, or the lack thereof, abuse during pregnancy, and poor pregnancy outcomes are discussed in detail with lack of fertility control associated with a higher prevalence of poor pregnancy outcomes, such as miscarriage.

**Predictor Tools for Front Line Providers and First Responders**


Among 294 women accessing services, 35.6% of women who accessed a shelter & 16.0% of women who accessed a protection order reported returning to their abuser within 24 months. 8 risk factors predicting return to the abuser for shelter women with 83% accuracy: younger age, lower education levels, longer time in relationship with abuser, sexual abuse, low community agency use, PTSD, worse physical health, and less emotional support. Six risk factors predicted return to the abuser for protection order women with 84% accuracy: higher education levels, worse physical health, less community agency use, more marginalization, less emotional support and physical abuse.


Among the 300 children living in a violent home, 81% had seen a health care provider within the preceding four months. Model testing revealed among the children classified as having the highest risk for dysfunctional behavior (predicted probability of clinical behaviors > 75%), between 82-100% of these children presented with clinical level behaviors when their mother sought services for the abuse. The Rapid Assessment Triage tools offer an evidence-based, high predictability method for rapid assessment and triage of children who are most likely to have dysfunctional behaviors when their abused mothers seek services.
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<tr>
<td>McFarlane, J., Pennings, J., Liu, F., Gilroy, H., Nava, A., Maddoux, J., Montalvo-Liendo, N., &amp; Paulson, R. (2016). Predicting Abused Women With Children Who Return To A Shelter: Development and Use of a Rapid Assessment Triage Tool. <em>Violence against Women.</em> <strong>22</strong>(2). DOI 10.1177/1077801215599843.</td>
<td>To develop a tool to predict risk for return to a shelter, 150 women with children exiting a domestic violence shelter, were evaluated every 4 months for 24 months to determine risk factors for returning to a shelter. The study identified four risk factors, including danger for murder, woman’s age (i.e., older women), tangible support (i.e., access to money, transportation), and child witness to verbal abuse of the mother. The tool can identify 90% accuracy abused women with children most likely to return to the shelter.</td>
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<td>Symes, L., Maddoux, J., Pennings, J., &amp; McFarlane, J. (2016). “A Risk Assessment Tool to Predict Long Term PTSD Symptoms Among Women Reporting Abuse” <em>Journal of Women’s Health</em></td>
<td>Four key measures were modeled to predict long term PTSD: Adverse Childhood Experiences, Emotional Support, General Self-Efficacy, and total PTSD symptoms count at baseline. The tool was validated and offers a rapid assessment for predicting long term PTSD symptoms among women reporting abuse.</td>
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<td>Gilroy, H., Maddoux, J., Symes, L. Fredland, N., &amp; McFarlane, J. (2015). Predictors and Outcomes of Community Agency Use in Abused Mothers. <em>Public Health Nursing</em> <strong>32</strong>(3), 201-211. doi:10.1111/phn.12136</td>
<td>Use of resources was highest for safety, health, and legal services. Community agency use was significantly higher for women who returned to the abuser compared to those who did not. Service use was associated with change in mental health and decreased levels of PTSD, anxiety, and depression.</td>
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<td>Gilroy, H., McFarlane, J., Nava, A., &amp; Maddoux, J. (2013). Preferred Communication Methods of Abused Women: Entry Data Analysis of a Seven-Year Prospective Study. <em>Public Health Nursing.</em> <strong>30</strong>(5):402-8. doi/10.1111/phn.12030/pdf</td>
<td>Traditional methods of communication (face-to-face and phone voice) were the primary (80% combined) and secondary (58.6% combined) preferred sources among abused women. A total of 292 women (97.3%) gave at least two preferred methods of communication, 255 (85%) gave three preferred methods, 190 (63%) gave four, and 132 (44%) used all five methods.</td>
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<td>Cesario, S., McFarlane, J., Nava, A., Gilroy, H., &amp; Maddoux, J. (2014) Linking Cancer and Intimate Partner Violence: The Importance of Screening Women in the Oncology Setting. <em>Clinical Journal of Oncology Nursing.</em> <strong>18</strong>(1), 65-73. Doi: 10.1188/14.CJON.65-73</td>
<td>A matched pair analysis of 104 women (52 who returned to the abuser and 52 who did not) found women returning to the abuser were in significantly (p&lt;0.001) more danger for murder compared to women who did not return. Severity of physical abuse was significantly higher (p&lt;0.01) for women returning to the abuser who had been in a shelter but not for women who received a protection order. Levels of depression, PTSD, &amp; anxiety were significantly higher (p&lt;0.01) for sheltered women who returned to the abuser but not for women using a protection order who returned.</td>
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<td>Cesario, S., Liu, F., Gilroy, H., Koci, A., McFarlane, J., Maddoux, J. Preventive Health Screening amongst Women Who Have Experienced Intimate Partner Violence. <em>International Journal of Women’s Health and Reproduction Sciences. Submitted</em></td>
<td>IPV and a cancer diagnosis may intersect creating a special population of women with unique needs. Of the 300 women enrolled in the study, 8 women reported receiving a cancer diagnosis, six of which were cervical cancers. Prevalence of cervical cancer reported by abused women was ten times higher than the general population. Chronic stress, depression, lower self-efficacy, childhood physical abuse and other high risk behaviors may predispose a woman to cancer.</td>
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<td>Koci, A., McFarlane, J., Cesario, S., Symes, L., Liu, F., Montalvo-Liendo, N., Bianchi, A., Nava, A., Gilroy, H., Zahed, H., &amp; Paulson, R. (2014). Women’s Functioning Following An Intervention for Partner Violence: New Knowledge for Clinical Practice from a Seven Year Study. <em>Issues in Mental Health Nursing.</em> <strong>35</strong>(10), DOI: 10.3109/09612840.2014.901450</td>
<td>A cross-sectional survey analysis of 284 abused women revealed that 99.6% reported having a pap smear, 66.5% reported receiving a mammogram, 90.8% reported receiving a breast exam by a healthcare provider, and 44.2% claimed to do breast self-examination on a monthly basis. White women reported the highest incidence of STIs and abnormal Pap tests. While health screening rates are high, follow up care is deficient.</td>
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<td>Symes, L., McFarlane, J., Nava, A., Gilroy, H., &amp; Maddoux, J. (2013). Association of Pain Severity and Pain Interference with Abuse Experiences and Mental Health Symptoms Among 300 Mothers: Baseline Data Analysis</td>
<td>Among 300 women, higher levels of pain severity and pain interference were significantly associated with anxiety, PTSD, and depression symptoms. Mental health symptoms compounded by pain, may leave abused women less able to access resources or practice safety behaviors to protect themselves and their children.</td>
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The index measured abused women residing in shelters to have greater marginalization than community dwelling women. Marginalization did not differ based on number of days in the shelter or not the woman received a PO. Levels of marginalization did not differ based on ethnicity.


Four months after a shelter stay or application for a protection order, abused women staying 21 days or less at a shelter reported similar outcomes compared with women staying longer than 21 days. Similarly, women receiving and not receiving a protection order reported overall equivalent outcomes. Seeking shelter or justice services results in similar outcomes of safety and functioning 4 months after seeking services.

Montalvo, et.al., The Intersection of Adverse Childhood Events and Violence Against Women: What We Know and What We Need To Know Implications for Research and Clinical Practice. *Issues in Mental Health Nursing.* (In press).

A literature review revealed child sexual abuse and child physical abuse are predictive of violence against adult women; however no reports were identified as to the prevalence of most adverse childhood events on the women reporting partner violence.

**Economics and Abuse**


The definition of economic solvency drawn from the concept analysis is: a long-term state that occurs when there is societal structure that supports gender equity and external resources are available and can be used by a woman who has necessary human capital, sustainable employment and independence. Just as poverty and violence are cyclical, so are economic solvency and empowerment of women.


No direct effect of income on poor mental health was noted; however, an interaction between type and severity of abuse and income level had an impact on poor mental health. Abused women who were above poverty with the highest incomes reported the highest levels of depression in the presence of high physical and sexual abuse. In contrast, women reporting no income reported no significant effect of severity or type of abuse on depression scores. Women just above the poverty level who experienced severe abuse were at highest risk for mental health problems.

**Abuser Behavior**


The Economic Index Tool revealed a positive connection of higher economic status and better mental health.

Gilroy, H., Bianchi, A., McFarlane, J., Maddoux, J. The Intersection of Poverty and Abuse of Women with Children. *Journal of Interpersonal Violence.* (Submitted)

When 300 abused women with children were studied, women with some income reported higher anxiety scores compared to women with no income; whereas all women reported similar levels of (PTSD), regardless of income. Children of women who used shelters scored significantly more behavioral dysfunctions compared to children of women who use justice services, regardless of poverty status.

**Immigrant Women**


Among 150 women applying for a protection order, nearly 20% (n = 66) of women who obtained a PO (n = 86) reported at least one PO violation at the four-month follow up. Further, women reported anywhere from 1 to 11 violations, with a mean of 4.00. Women whose abuser violated the PO reported higher levels of threats, physical abuse, sexual abuse, and danger compared to women whose abuser did not violate the PO.


A subsample of 107 immigrant women who reported IPV were assessed to document the characteristics of undocumented abused women associated with application for legal status. Women who were more acculturated were more likely to apply for legal immigrant status. No significant differences were found in the remaining demographic and outcome measures.

Nava, A., McFarlane, J., Gilroy, H., Maddoux, J. (2013). Acculturation and Associated Effects

106 abused immigrant women, who were first time users of safe shelter or justice services, reported less acculturated, higher levels of distress
on Abused Immigrant Women’s Safety and Mental Functioning: Results of Entry Data for a 7-Year Prospective Study. Journal of Immigrant and Minority Health. 15(2). Doi: 10.1007/s10903-013-9816

There was also a significant positive correlation between acculturation and safety behaviors and BSI scores. Higher acculturation scores were associated with significantly more practiced safety behaviors and higher levels of depression.


The most frequently noted service needed most was counseling \( (n = 34, 33.0\%) \) followed by legal services \( (n = 23, 22.3\%) \) and social services \( (n = 13, 12.6\%) \). Law enforcement was the most commonly used service \( (n = 63, 59.4\%) \) and the most difficult to receive \( (n = 16, 48.5\%) \). Counseling \( (n = 6, 18.2\%) \) and legal services \( (n = 5, 15.2\%) \) were also reported as difficult.


A naturalistic prospective study examining a subsample of 106 immigrant women was assessed using a series of repeated measures 2x2x2 factorial analysis of variance. Accessing protective services (safe shelter or protection order), regardless of duration of the shelter stay or receipt or non-receipt of the protection order, has the potential to improve the health of immigrant women and their children regardless of legal status.


Among 106 immigrant women (documented and undocumented), social support, self-efficacy, & marginalization were measured to determine if there was a difference among U.S. born women and non-U.S. born women with or without documentation. Women who were born in the U.S. had significantly higher \( (p = .001) \) self-efficacy scores compared to non-U.S. born women without documents.

Child Functioning Following Witness to Abuse of the Mother


Study findings of 300 youth of mothers reporting abuse indicated that boys of abused women, particular younger boys, are more likely to exhibit clinically significant behavior problems placing them at high risk for delinquency, hostility, and aggression.

Methods for 7-Year Study


The procedural logistics, sampling process, metrics, and baseline descriptors for a seven-year prospective study of 300 women reporting intimate partner violence, who had at least one child, age 18 months to 16 years, and who reached out to justice or shelter services for the first time are discussed in detail with implications for policy and practice.