

## Perpetration and Victimization of Intimate Partner Aggression Among Rural Mothers

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### Abstract

Intimate partner aggression is a leading cause of injury among women of child-bearing age. Research suggests that pregnancy and the postpartum period are times of increased vulnerability to aggression. Since rural women are at an increased risk of intimate partner aggression, research is needed to examine the role of pregnancy and the presence of children on intimate partner aggression among this vulnerable population. The purpose of this study is to examine the association between young children and intimate partner aggression victimization and perpetration among a rural sample. This analysis utilized data from biologic females of child-bearing age from the Keokuk County Rural Health Study, a cohort study of over 1,000 rural families conducted from 1994 to 2011. Crude and adjusted logistic regression was used to determine the relationship between having a young child and experiencing four forms of intimate partner aggression: verbal aggression perpetration, verbal aggression victimization, physical aggression perpetration, and physical aggression victimization. Having young children was significantly associated with increased odds of perpetrating verbal aggression but not victimization of verbal aggression or perpetration and victimization of physical aggression. This significant relationship persisted after adjustment for education, employment, or location of residence but not age or marital status. The increased odds of perpetrating verbal aggression among mothers in a rural area highlight the need for interventions designed for rural parents. One method of reducing intimate partner aggression may be to incorporate intimate partner aggression prevention activities into existing child abuse intervention activities.

### Introduction

INTIMATE PARTNER AGGRESSION is a leading cause of injury for women of childbearing age (15–44 years) (ACOG Committee 2012). Women of childbearing age experience the highest rates of intimate partner aggression compared with women below and above childbearing age (Catalano 2012); this suggests a need to understand the role of pregnancy and young children on partner aggression victimization and perpetration (Callister 2012).

Previous research suggests that intimate partner aggression may be initiated or escalate during pregnancy (Charles and Perreira 2007; Brownridge et al. 2011). Both the frequency and the severity of intimate partner aggression commonly increase during pregnancy and the postpartum period (Burch and Gallup Jr. 2004). Not all pregnant women experience the same level of risk for intimate partner aggression. Women who have unwanted or mistimed pregnancies have significantly higher rates of physical intimate partner aggression compared with women who have in-

tended pregnancies (Pallitto et al. 2013). The increased risk does not necessarily diminish following birth. Households composed of a woman and children have the highest rates of intimate partner aggression (31.7 per 1,000 persons) compared with all other household compositions (Catalano 2012). In comparison, married adults without children have intimate partner aggression rates of less than 1 per 1,000 persons (Catalano 2012).

Mothers who live in rural areas of the United States may have an elevated risk for intimate partner aggression because, overall, women living in rural areas have significantly higher rates of intimate partner aggression compared with suburban or urban women (Murty et al. 2003). A recent study found that female victims of intimate partner aggression living in rural areas had higher frequency and severity of abuse compared with urban victims, in part due to geographical and social isolation (Murty et al. 2003; Peek-Asa et al. 2011). Rural victims may also have decreased ability to cope with the aggression due to limited availability of local services (Peek-Asa et al. 2011). Despite

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evidence that women with children and rural women are at high risk for intimate partner aggression, to our knowledge, no studies have examined intimate partner aggression among rural mothers of young children. The aim of this analysis is to identify the prevalence and risk factors for victimization and perpetration of intimate partner aggression among rural mothers of young children.

## Methods

This analysis utilized data from the Keokuk County Rural Health Study, a cohort study of over 1,000 rural families conducted from 1994 to 2011 (Stromquist et al. 2009). Although some families resided in small towns throughout the county, all were considered rural residents using the U.S. Census Bureau Categorization (2013) because the towns had populations of less than 2,500 people. Demographically, this county was a predominately white farming population and, in recent decades, has seen a declining population (Stromquist et al. 2009). Participants aged 8 and older received medical screenings, completed interviews about their personal health and behavioral risk factors, and completed an in-depth environmental assessment of the home and property (Stromquist et al. 2009). Round 2, the focus on this analysis, included 1,002 families and took place between April 1999 and April 2004 (Stromquist et al. 2009). For this analysis, we included only biological females in their childbearing years (18–44) (Martinez et al. 2012).

## Measures

### *Intimate partner aggression*

Intimate partner aggression was measured using three modified subscales of the Conflict Tactic Scale (CTS): verbal aggression, physical aggression, and physical violence (Cronbach's  $\alpha=0.73$  to  $0.88$ ) (Straus 1979). The CTS is one of the most widely used questionnaires for measuring intimate partner aggression and violence (Douglas 2004). The reliability and validity of the CTS has been extensively studied, and it is now considered the standard against which to assess validity of newly developed intimate partner violence scales (Reichenheim and Moraes 2004).

Verbal aggression, defined as malicious nonphysical behavior performed by an intimate partner, was measured with three items (Anderson 2000). Each participant was asked how frequently over the past 12 months her partner "insulted or swore at you," "stomped out of the room," and "did or said something to spite you." Physical aggression, defined by Anderson (2000) as malicious physical behavior performed by an intimate partner, was measured by three items: "threw something at you," "pushed, grabbed, or shoved you," or "slapped you." Physical violence, defined by Anderson (2000) as extreme aggression, was measured by five items: "beat you up," "used a knife or fired a gun at you," "kicked, bit, or hit with fist," "hit or tried to hit with something," "threatened you with a knife or gun." Each participant was also asked to report how frequently she perpetrated each item of the verbal aggression, physical aggression, and physical violence subscales. For each item, the answer was re-coded to indicate at least one occurrence of intimate partner aggression or no occurrence. The total number of items experienced on each subscale was summed to indicate the total number of forms of aggression experi-

enced. Finally, we created an overall experience variable (yes/no) for each subscale using the dichotomized answers to each subscale question. Participants who experienced at least one form of aggression on the subscale were categorized as experiencing that form of intimate partner aggression. Given the small number of participants who reported victimization or perpetration of physical violence, the results of the physical aggression and physical violence subscales were combined into a single physical aggression category.

### *Recent birth*

Mothers of young children were identified by the year of most recent pregnancy. Participants were asked about the

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF FEMALE PARTICIPANTS ( $N=227$ )

	n (%) or mean (SD)
<i>Demographic characteristics</i>	
Age	
Mean (SD)	36.2 (5.6)
Education	
≤ High school	76 (33.5)
> High school	151 (66.5)
Currently married	
No	15 (6.6)
Yes	212 (93.4)
Currently employed	
No	29 (12.8)
Yes	198 (87.2)
Live in town	
No	127 (55.9)
Yes	100 (44.1)
Young children (<5)	
Yes	44 (19.4)
No	183 (80.6)
<i>Aggression and violence experiences</i>	
Verbal victimization	
None	66 (29.1)
One type	54 (23.8)
Two or three types	107 (47.1)
Verbal perpetration	
None	47 (20.7)
One type	53 (23.4)
Two or three types	127 (55.9)
Physical aggression victimization	
None	216 (95.2)
One type	5 (2.2)
Two or three types	6 (2.6)
Physical aggression perpetration	
None	219 (96.5)
One type	5 (2.2)
Two or three types	3 (1.3)
Physical violence victimization	
None	220 (96.9)
One or two types	6 (2.6)
Three or more types	1 (0.4)
Physical violence perpetration	
None	224 (98.7)
One or two types	3 (1.3)
Three or more types	0 (0.0)

year of their most recent pregnancy that led to the birth of child. Participants who reported a pregnancy that resulted in the birth of a child in the past 5 years were categorized as a mother of a young child aged 5 years or younger.

### Covariates

Covariates related to intimate partner aggression and young children in the home were also considered, including age, marital status, education level, residence, and employment. Marital status (currently married or not currently married), education level (high school diploma or less, or at least some college education), employment (currently employed or not currently employed), and location of residence (rural or town) were measured by dichotomous variables. Participants were considered employed if they were employed full-time, part-time, or self-employed.

### Statistical analysis

First, we compared the demographic characteristics of participants across four categories of intimate partner aggression experiences (verbal aggression victim, verbal aggression perpetrator, physical aggression victim, physical aggression perpetrator). To estimate the odds of intimate partner aggression victimization or perpetration by motherhood of young children, logistic regression was used to estimate unadjusted and adjusted odds ratios and 95% confidence intervals.

### Results

Of the 894 women who completed the round 2 survey, 227 (25.4%) were eligible for this analysis. The remaining 667 women were outside the age of childbearing and were excluded from the analysis. The mean age among eligible

women was 36.2 years. The majority of women had greater than a high school education, were currently married, and were currently employed (Table 1.) Almost half (44.1%) of all eligible women lived in town. Nearly 20% ( $n=44$ ) of eligible women had at least one child under the age of 5.

Verbal aggression was prevalent among this sample (Table 1). Over two-thirds of women reported being a victim ( $n=161$ , 70.9%) or a perpetrator ( $n=180$ , 79.3%) of verbal aggression. Approximately half of women reported experiencing more than one form (i.e., reported experiences to more than one survey item) of verbal aggression victimization (47.1%) or perpetration (55.9%). For each year in increased age, the odds of verbal aggression perpetration (OR=0.92; 95% CI: 0.86–0.98) decreased significantly (Table 2). The odds of perpetrating verbal aggression were 3.1 times higher (95% CI: 1.04–9.07) among mothers of young children compared with women without young children.

Physical aggression and violence was much less common than verbal aggression in our sample (Table 1). Approximately 1 in 20 women reported physical aggression victimization ( $n=11$ ; 4.8%) and/or perpetration ( $n=8$ ; 3.5%). Physical violence, a more extreme form of aggression, victimization ( $n=7$ ; 3%), and perpetration ( $n=3$ ; 1.3%) were reported by the smallest proportion of the sample. Approximately 1 in 20 women reported physical aggression or violence victimization ( $n=12$ , 5.3%) and/or perpetration ( $n=8$ , 3.5%). Given the substantial overlap between experiences of aggression and violence, the two subscales were combined into a single physical aggression construct for the models. Having young children was not significantly associated with either victimization or perpetration of physical intimate partner aggression (Table 2). However, several demographic characteristics were associated with increased odds of aggression. Unmarried women had significantly increased odds of reporting physical aggression victimization

TABLE 2. ODDS OF EXPERIENCING INTIMATE PARTNER AGGRESSION, BY DEMOGRAPHIC CHARACTERISTICS ( $N=227$ )

	Verbal aggression		Physical aggression and violence	
	Victim, OR (95% CI) <sup>a</sup>	Perpetrator, OR (95% CI) <sup>a</sup>	Victim, OR (95% CI) <sup>a</sup>	Perpetrator, OR (95% CI) <sup>a</sup>
Age				
One year increase	0.95 (0.90, 1.00)	<b>0.92 (0.86, 0.98)</b>	0.98 (0.89, 1.08)	0.96 (0.86, 1.08)
Education				
≤ High school	1.11 (0.60, 2.05)	0.97 (0.49, 1.91)	2.07 (0.65, 6.65)	1.20 (0.28, 5.16)
> High school	Ref	Ref	Ref	Ref
Currently married				
No	0.81 (0.27, 2.46)	0.49 (0.16, 1.52)	<b>9.27 (2.42, 35.6)</b>	5.28 (0.97, 28.8)
Yes	Ref	Ref	Ref	Ref
Currently employed				
No	0.63 (0.28, 1.42)	0.80 (0.32, 1.99)	<b>3.80 (1.07, 13.6)</b>	2.37 (0.46, 12.4)
Yes	Ref	Ref	Ref	Ref
Live in town				
No	0.76 (0.43, 1.37)	1.15 (0.60, 2.19)	0.37 (0.11, 1.28)	0.78 (0.19, 3.20)
Yes	Ref	Ref	Ref	Ref
Mother of young children				
Yes	1.50 (0.69, 3.24)	<b>3.07 (1.04, 9.07)</b>	2.19 (0.63, 7.62)	0.59 (0.09, 4.88)
No	Ref	Ref	Ref	Ref

Bold values indicate significance at  $p < 0.05$ .

<sup>a</sup>Unadjusted odds of being a victim or perpetrator of verbal or physical intimate partner aggression or violence in the last 12 months.

TABLE 3. ADJUSTED ODDS OF VERBAL AGGRESSION VICTIMIZATION AND PERPETRATION ( $N=227$ )

	<i>Age,<sup>a</sup> adj OR (95% CI)</i>	<i>Education, adj OR (95% CI)</i>	<i>Married, adj OR (95% CI)</i>	<i>Employed, adj OR (95% CI)</i>	<i>Residence, adj OR (95% CI)</i>
<i>Victimization</i>					
Mother of young child					
Yes	1.28 (0.59, 2.84)	1.52 (0.70, 3.30)	1.48 (0.68, 3.23)	1.59 (0.73, 3.47)	1.51 (0.70, 3.26)
No	1.0 (ref)	1.0 (ref)	1.0 (ref)	1.0 (ref)	1.0 (ref)
<i>Perpetration</i>					
Mother of young child					
Yes	2.42 (0.80, 7.34)	<b>3.08 (1.04, 9.12)</b>	2.92 (0.98, 8.69)	<b>3.20 (1.07, 9.52)</b>	<b>3.07 (1.04, 9.07)</b>
No	1.0 (ref)	1.0 (ref)	1.0 (ref)	1.0 (ref)	1.0 (ref)

Bold values indicate significance at  $p < 0.05$ .

<sup>a</sup>Age was modeled as continuous. All other variables were included as described in Table 2.

(OR=9.27; 95% CI: 2.42–35.6) compared with married women. In addition, unemployed women had almost four times (OR=3.80; 95% CI: 1.07–13.6) the odds of reporting physical victimization compared with employed women. There were no statistically significant associations found with physical aggression perpetration at the  $\alpha=0.05$  level, although unmarried women had a marginally significantly higher odds of perpetration (OR=5.28; 95% CI: 0.97–28.8) compared with married women.

To further explore the relationship between verbal aggression and young children, we controlled for a variety of demographic covariates (Table 3). Overall, there was little change in the estimated odds ratios for victimization or perpetration when controlling for education levels (victimization OR: 1.52; perpetration OR: 3.08), marital status (victimization OR: 1.48; perpetration OR: 2.92), employment (victimization OR: 1.59; perpetration OR: 3.20), or residence (victimization OR: 1.51; perpetration OR: 3.07). Adjusting for age resulted in the largest change to the odds ratios for both victimization (crude OR: 1.50; adjusted OR: 1.28) and perpetration (crude OR: 3.07; adjusted OR: 2.42). Of note, having young children is no longer a significant predictor for verbal aggression perpetration after adjusting for age. However, the odds ratio estimate (aOR: 2.42; 95% CI: 0.80–7.34) still suggests that having young children increases the odds of perpetrating verbal aggression, even after adjusting for age. Since only age substantially changed the estimated odds of victimization or perpetration, we did not create a final multivariable model including multiple covariates.

## Discussion

Mothers of young children had significantly higher odds of perpetrating verbal aggression compared with women without young children. Prior research indicates that interpersonal stress may be exacerbated by the presence of young children and result in increased conflict and aggression between intimate partners (Taft et al. 2011; Shortt et al. 2013). This finding is especially significant for intervention and prevention activities conducted among parents because the activities may need to consider the increased stress associated with parenting young children, including physical fatigue, reduced financial resources, and new relationship dynamics between partners (Deater-Deckard 2008).

Our analysis did not find increased odds of verbal victimization among mothers of young children, nor did we find

them to be at increased odds of victimization or perpetration of physical aggression. This finding highlights a unique type of aggression—perpetration of verbal aggression—common among rural mothers of young children. These findings contrast some previous research. Lanier and Maume (2009) found urban women to be at an increased risk for intimate partner violence victimization as the number of young children in the household increased but did not examine perpetration. Other research has found that women with young children are at an increased risk for victimization but not perpetration of psychological aggression (Fortin et al. 2012).

It is not clear why this particular form of aggression is prevalent in this population, and future studies are needed to examine if this pattern occurs specifically in rural populations. However, it is important to further understand this pattern because verbal aggression and other relationship conflicts frequently escalate to other forms of domestic aggression (Holtzworth-Munroe and Stuart 1994; Babcock et al. 2004; Wilkinson and Hamerschlag 2005; Testa et al. 2011). Verbal aggression may escalate to physical violence if at least one member of the couple has deficient communication or problem-solving capabilities, which may contribute to the perception that violence is the only effective method of conflict resolution (Wilkinson and Hamerschlag 2005). Reducing aggression that escalates to violence is especially important among families with young children due to the significant co-occurrence between intimate partner violence and child abuse (Slep and O'leary 2005).

## Implications for primary prevention

Providing resources through education and social support to help parents of young children cope with stress may be one method of reducing intimate partner aggression among parents of young children. There is, to our knowledge, only one educational and support intervention with a focus on reducing intimate partner aggression among parents of young children. Preliminary results from a small intervention program, The Young Parenthood Program, suggest that a couples-counseling approach focused on building positive relationship skills and providing support may effectively reduce aggression between parents of young children (Florsheim et al. 2011).

Other educational intervention programs have been shown to effectively reduce other forms of domestic aggression, specifically child abuse, among parents of young

children. The Triple P System is an evidence-based multi-level system program that provides parents with education, skill-building, and support to cope with the stressors of parenting and avoid child maltreatment behaviors (Sanders 1999; Sanders et al. 2003; Prinz et al. 2009). The Period of PURPLE Crying is another example of an evidence-based approach that teaches coping techniques to help mothers avoid abusive head trauma in response to infant crying and has been used in rural and urban communities (Barr et al. 2009a,b; Schwab Reese et al. 2014).

Social support interventions may be an additional method to assist mothers of young children and prevent aggression within the home. Support may be especially important for mothers in rural areas given the increased odds of intimate partner aggression related to isolation in rural areas (Peek-Asa et al. 2011). Mothers' Advocates in the Community (MOSAIC), a nonprofessional mentor support program for postpartum mothers, reduces the frequency and severity of intimate partner aggression victimization and improves the overall perception of health (Taft et al. 2011). It is theorized that the emotional and practical support received from the mentors reduces the strain experienced by the mothers, which results in the positive effects of the intervention. However, the evaluation of this program did not examine mothers' perpetration of intimate partner aggression, and so it is unclear if this type of social support intervention would also reduce perpetration.

Combining parenting interventions like The Triple P System (Sanders 1999; Sanders et al. 2003; Prinz et al. 2009) and The Period of PURPLE Crying (Barr et al. 2009a,b) with elements of intimate partner aggression prevention programs may be an innovative approach to reducing family aggression. Given the unique risk associated with rural residence, translating such programs for families in rural communities must also be considered.

#### *Implications for secondary and tertiary prevention*

Professionals providing services to children and/or parents may need to be cognizant of the increased risk in rural areas of verbal aggression in families with young children, especially because previous literature suggests the presence of young children impacts the likelihood that the mother will report the abuse but it is unclear if the presence of young children increases or decreases reporting. Many victimized mothers are reluctant to contact police due to fears that the children may be removed from the home (Wolf et al. 2003). Women may also avoid disclosing violence to police or other professionals because they are concerned about being labeled "bad mothers" (Rivett and Kelly 2006). In contrast, mothers who perceive abuse to be an immediate and significant threat to the well-being of their children are more likely to involve the police (Akers and Kaukinen 2009). Mothers are also more likely than other women to apply for protective orders and contact a prosecutor, but they are not more likely to authorize arrest or proceed with prosecution (Rhodes et al. 2011). The literature has overwhelmingly focused on maternal victimization reporting behaviors, and so it is unclear if the presence of children changes paternal reporting behaviors or maternal disclosure of perpetration. Regardless, police officers, court officials, child service workers, mental health professionals, and others providing services may need to

consider the complexities of reporting when interacting with rural mothers.

#### *Limitations*

In this analysis we identified mothers of young children through a question about recent pregnancy, and so we were unable to determine if the child was still living with the mother at the time of the interview. We were also unable to account for other experiences that may contribute to both aggression and having young children. Additional research may be necessary to consider family dynamics, household structure, and parenting styles.

#### **Conclusions**

Verbal aggression between intimate partners is common among rural mothers of young children. Further research is needed to understand why this form of aggression is prevalent and to develop interventions for this unique population.

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