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Trajectories of Physical and Emotional Marital Aggression in Midlife Couples

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Abstract

This study uses three-level generalized Hierarchical Linear Modeling to examine trajectories of husbands' and wives' physical and emotional aggression over three assessments and the effects of years since marriage. In this community sample of 118 couples, physical aggression significantly decreased over time (43% per year). Emotional aggression did not significantly change over time, but trajectories significantly differed for husbands (3% increase) versus wives (10% decrease). Longer duration marriages had lower physical aggression and, for wives only, lower emotional aggression. Aggression trajectories showed considerable variability: 44–55% of physically aggressive spouses desisted from one assessment to the next; 5–12% reported start-ups in physical aggression. Discussion addresses the role of gender and type of aggression in aggression trajectories.

Keywords

intimate partner violence; psychological aggression; spousal abuse; growth curve analysis; longitudinal change

Data on the prevalence, incidence, and seriousness of intimate partner violence call attention to the importance of understanding trajectories of partner violence. Estimates indicate 25% of women and 8% of men are physically assaulted or raped by an intimate partner at some time during their life (Tjaden & Thoennes, 2000). Other samples reveal that as many as 21% of couples report intimate physical aggression each year (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). Research has shown that intimate relationship aggression has deleterious mental and physical health consequences for women (Bonomi et al, 2006; Coker, et al., 2002; Loxton, Schofield, & Hussain, 2006), as well as some negative health consequences for men (Coker, et al., 2002; Simonelli & Ingram, 1998; Taft et al, 2006). Assessments of intimate physical aggression based on lifetime incidence or 12-month prevalence data fail to capture the variability in partner aggression across time, particularly for couples in long-term relationships. The present study examines husbands' and wives' use of relationship aggression over three time points, providing information about the stability and trajectory of aggression, while calling attention to the potential fallibility of defining a couple as aggressive based on one time point. The study also examines the impact of years since marriage on aggression trajectories, thereby accounting for stage in relationship development on aggression.

Although female victims are often the focus of intimate violence research, the considerable rates of aggression towards men (e.g. Archer, 2000) suggest the need to evaluate both male and female aggression. Clearly women suffer more severe consequences due to partner

aggression (Archer, 2000; Holtzworth-Munroe, Smutzler, & Bates, 1997) and the context of and motivations for female perpetrated aggression may be different (Swan & Snow, 2006); however, considering both partners' aggression allows for a more complete understanding of dysfunction in the relationship system, especially because aggression may be an interactive and synergistic phenomenon for some couples (Vivian & Langhinrichsen-Rohling, 1994). Temple, Weston, & Marshall (2005), for example, found that aggression is more severe and frequent in relationships where both partners are aggressive. Johnson (2006) distinguishes intimate terrorism (i.e., partner battering, including violence and control) from situational, common couple violence, which is characterized by low-level, bidirectional aggression, often resulting from breakdowns in communication or arguments getting out of control. This distinction theoretically contextualizes aggression in community samples (typically situational couple violence) in relation to more traditional notions of domestic violence (i.e., intimate terrorism), and underscores the importance of examining both husband and wife aggression.

This study will also examine emotional or psychological aggression, which some women have reported being even more upsetting than physical abuse they have experienced (Follingstad, et al., 1990), which causes harm, even in the absence of physical aggression (Marshall, 1996; Pico-Alfonso et al., 2006; Taft et al., 2006), and which victims have identified as a primary variable in the assessment of their safety (Cattaneo, 2007). Although most research on emotional aggression has focused on female victims, consistent gender differences have not been found (Coker, et al., 2002; Hamby & Sugarman, 1999; Hines & Saudino, 2003; Swan & Snow, 2002). Furthermore, similar to physical aggression, emotional aggression is often bidirectional (Hines & Saudino, 2003; Swan & Snow, 2002). Although the perpetration of emotional and physical aggression is highly correlated (Hamby & Sugarman, 1999; Hines & Saudino, 2003; Murphy & O'Leary, 1989), little is known about the trajectory of emotional aggression over time, and whether it follows a similar pattern as physical aggression.

Stability and Change in Aggression Over Time

Examining aggression over multiple time points is necessary to understand the trajectory of aggression, and to explore possible limitations of labeling couples as 'aggressive' or 'not aggressive'. The early violence literature described an escalating pattern of husbands' violence and control that continues to increase in severity (e.g., Walker, 1979). In contrast to this pattern, research shows that aggression one year may be related to future aggression, but aggression is not completely stable year to year (Aldarondo, 1996; Connely et al., 2006; Capaldi, Shortt, & Crosby, 2003; O'Leary, et al., 1989), and, at least for some couples, decreases over time. Studies suggest that 23–60% of aggressive males desist from aggression at a second time point (Aldarondo, 1996; Feld & Straus, 1990; Gordis, Margolin, & Vickerman, 2005; Quigley & Leonard, 1996). Desistance rates are lower as the severity (Aldarondo, 1996; Quigley & Leonard, 1996) and frequency (Feld & Straus, 1990) of time one aggression increases. In addition, around 10% of males who were not violent at a first time point may report aggression a year later (Feld & Straus, 1990; Gordis, et al., 2005). These studies indicate that male to female aggression can change over time for some dyads and that caution must be used in supposing that aggression groupings are stable.

O'Leary and colleagues provide a unique longitudinal perspective on partner aggression by considering aggression by both partners, using three time points, and attending to emotional aggression. In their newlywed sample, 50% of males and 35% of females reported no aggression during the study (O'Leary et al., 1989). Eight percent of husbands and 17% of wives were stably aggressive over all three time points. The prevalence of wife to husband aggression significantly decreased over the three time points; however, there were no changes in husband to wife aggression. Examining this same sample, Lorber and O'Leary (2004) reported that 41% of men who were physically aggressive at premarriage were also aggressive at all three post-

marriage assessments, indicating a notable continuance of physical aggression. In a 10-year follow-up to this study, Fritz and O'Leary (2004) found that husbands' and wives' physical aggression significantly decreased in the first decade of marriage, however there was no significant change in emotional aggression for either spouse. This study used only wives' reports of relationship aggression and only 39% of the original sample participated in the 10-year follow-up assessment.

Studies that examine partner aggression over time show variability based on the type of aggression and the type of sample. In a sample selected due to the husbands' perpetration of severe aggression, Jacobson and colleagues reported that half of the husbands in still intact couples had reduced their levels of physical aggression a year later, with only 7% completely desisting from aggression at the second time point. However, despite some reduction in levels of physical aggression over time, husbands did not reduce emotional abuse (Jacobson, et al., 1996). Following 772 couples from the National Family Violence Survey, Aldarondo (1996) found that over 40% of those men who were physically aggressive at the first time point were not aggressive at times 2 and 3. Notably, Aldarondo also concluded that some men engage in an intermittent pattern of abuse, where they may be aggressive one year, not aggressive the next, but then become aggressive again after a year of nonaggression. We have little data about changes over time in emotional aggression and few longitudinal studies examining wives' aggression.

Partner Aggression Over the Life Course

Physical partner aggression appears to vary with age and for couples at different points in their relationship development, as evidenced in the longitudinal newlywed studies (e.g., Aldarondo, 1996; Fritz & O'Leary, 2004). Using cross-sectional data from the National Family Violence Surveys, Sutor, Pillemer, & Straus (1990) found that couple physical aggression does decrease with age from adolescence to late adulthood and concluded that this reduction is not merely an artifact of generation or cohort differences. In the National Survey of Families and Households, Bookwala, Sobin, and Zdaniuk (2005) found that male and female physical aggression was lower with each increasing age group (20–39, 40–59, and 60+ year olds), but males and females had similar rates of aggression within each of the three age groups.

Much of the information available about changes in partner aggression over the lifespan and over relationship development must be gleaned from compiling findings from studies that target different populations. Using this technique, O'Leary (1999) hypothesized that the proportion of partner aggressive males is around 15% at age 15 as adolescents begin to develop romantic relationships, steadily increases to about 35% at age 25, and then declines over the life course, which coincides with population rates of male aggression more generally (e.g., Wilson & Hernstein, 1985). Again focusing on male aggression, O'Leary & Woodin (2005) concluded that both aggregate and individual case data point to decreases in physical aggression over the lifespan, albeit with a range of effect sizes influenced by the analytic approach. The authors also highlighted the individual variability evidenced when non-aggregated data are examined. These sources of information start to provide an understanding of partner aggression over the life course and over time within a relationship. Data focusing on age differences in partner aggression suggest that findings from younger, newlywed samples may not generalize to older samples with spouses who have been together for a longer time. However, very few studies have examined partner aggression longitudinally in couples at different points in their relationship.

Present Study

The present study examines physical and emotional aggression perpetrated by husbands and wives over three time points. As contrasted with studies on intimate relationship aggression

using dating, early marriage, or clinic samples, the present study examines middle-aged community couples in relatively stable relationships, who were not specifically selected for levels of aggression or presentation for therapy. Findings from young adult samples may not generalize to middle-aged or older couples. A strength of this study is that both husbands' and wives' reports are obtained about their own and their spouse's use of aggression. Although spouses have moderate reliability between their reports of aggression (O'Leary & Arias, 1988), more aggression is detected when both spouses' reports are obtained (Margolin, 1987), thus providing a more complete picture of relationship aggression.

Based on previous literature, we hypothesize that both husbands' and wives' physical aggression will decrease over time; however, it is expected that there will be significant variability in aggression trajectories. Building on the limited previous research on trajectories of emotional aggression, we do not hypothesize significant changes in husbands' and wives' emotional aggression over time, however, we will explore spouses' emotional aggression trajectories. In addition, because spouses in this study have been married for a varying number of years, the influence of time elapsed since marriage is examined. It is hypothesized that the number of years the couple has been married will have a significant effect on aggression, such that couples earlier in marriage will report more aggression than couples later in marriage. Our focus here is on years since marriage as a couple system variable rather than age to allow for more clear comparisons between husbands' and wives' aggression trajectories and to facilitate connections with previous longitudinal research focusing on newlywed couples.

Methods

Participants

Participants are part of a larger, longitudinal study evaluating the effects of family conflict and community violence on family processes and children's functioning. One hundred nineteen families were seen in the lab at Time 1, 102 of these families returned for Time 2, and 103 families returned for Time 3. The sample was recruited through flyers, paid advertisements, and word-of-mouth. Inclusion criteria for Time 1 required that: (a) each family unit includes two parents and one target child, (b) the child is 9–10 years old, (c) both parents and the child reside together, (d) the parents are the child's biological parents or have resided with the child for three or more years, and (e) all are able to complete the research protocol in English.

Of the 119 couples, 82.4% participated in all three assessments, 7.6% participated in two of the three waves, and 10.1% participated in only the first assessment. We excluded one couple seen at waves 1 and 2 because both spouses were extreme outliers on the aggression variables (3–7 *SDs* above the next highest values.) We included the remaining 118 couples in the HLM analyses and used maximum likelihood estimation to allow inclusion of couples that were not seen at all time points. Only couples with three time points of data were used in the presentation of conditional probabilities of aggression across time. There were no significant differences between couples seen only at time 1 and returning couples in age, ethnicity, years since marriage, emotional aggression, or physical aggression.

At Time 1 of the study, husbands and wives, on average, were 41.0 (*SD*=6.8) and 38.5 (*SD*=5.9) years old, had been living together for an average of 13.7 years (*SD*=4.8), and married for an average of 12.2 (*SD*=5.6) years. Families reported a median income of \$62,000 (*M*= \$67,980, *SD*= \$36,584, range= both parents unemployed to \$165,000). Couples had *M*=2.8 children (*SD*=1.5, range=1–8). Twenty-two (21.8) percent of couples are African-American, 7.6% are Asian/Pacific Islander, 21.8% are Caucasian, 22.7% are Hispanic/Latino, and 26.1% are multiethnic or other ethnicities. Although several studies have identified some ethnic differences in incidence or cessation of partner violence (e.g., Connely et al., 2006; Jasinski, 2001), in this sample, no ethnic differences were found in aggression levels or trajectories.

Procedures

During each laboratory visit, parents and the child completed questionnaires, interview protocols, and a family discussion. As part of these procedures, the revised Domestic Conflict Inventory was administered the same way at all time points. Average time elapsed between Time 1 and 2 and Time 2 and 3 visits is 1.1 years ($SD = 0.2$) and 1.3 years ($SD = 0.3$), respectively.

Measures

Physical and Emotional Aggression—The Domestic Conflict Inventory (DCI; Margolin, Burman, John, & O'Brien, 2000) is a 61-item questionnaire about conflict and aggression in intimate relationships. Both spouses report about wife-to-husband and husband-to-wife behaviors. The DCI includes items¹ from Straus' Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) plus additional items. Respondents report information about how many times an item has occurred in the previous year. Each item receives a 0–5 score based on the following frequency ranges: (0) none, (1) once per year, (2) 2–5 per year, (3) 6–12 per year, (4) 2–4 per month, and (5) > once per week. Husband and wife reports are combined by taking the maximum reported behavior for each item, based on the assumption that individuals are more likely to underreport aggression than report aggression that has not occurred. Total physical and emotional aggression scores were calculated by summing respondents' maximum response (0 to 5) on the 14 physical and 13 emotional aggression items².

Statistical Analysis Plan—To investigate partner aggression trajectories, we examine the data descriptively and use Hierarchical Linear Modeling (HLM). Two 3-level HLM models³ were used to examine changes in spouses' emotional and physical aggression over time, with the levels representing observations over time, nested in individual spouses, who are nested in couples (Raudenbush & Bryk, 2002). In the level 1 model, individual spouses' frequencies of aggression are examined over the three time points, resulting in a regression equation for each spouse. At level 2, HLM determines the average estimated value for the intercept and slope of aggression over time for husbands and wives, as well as the variation around these values.

¹Permission was granted from Murray Straus to the second author to use CTS items as part of the DCI.

²Physical aggression items include: a) pushed, grabbed or shoved, b) slapped, c) thrown an object at, d) physically twisted arm, e) shaken, f) kicked, bit, or hit with fist, g) hit or tried to hit with something, h) beat up, i) thrown or tried to throw bodily, j) burned, k) choked or strangled, l) threatened with knife or gun, m) used a knife or gun, and n) slammed against the wall.

Emotional aggression items include: a) damaged a household item out of anger towards spouse, b) purposely hurt spouse's pet, c) purposely damaged/destroyed spouse's clothes, car, or other possessions, d) insulted or shamed your spouse in front of others, e) locked your spouse out of the house, f) told spouse s/he couldn't go to work, school or other self-improvement activities, g) restricted your spouse's use of the car or phone, h) made threats to leave the relationship, i) tried to turn family, friends, or children against spouse, j) frightened your spouse, k) threatened to hit your spouse or throw something at him/her in anger, l) thrown, smashed, hit, or kicked something, and m) prevented your spouse from getting needed medical care.

³For physical aggression, the Level 1 model is: $\text{Log}[\lambda_{itk}] = \pi_{0ik} + \pi_{1ik}(\text{Year})_{itk} + e_{itk}$. In this equation, λ_{itk} is the expected value for the number of acts of partner aggression for individual i at time t (Year = 0, 1, or 2) in couple k ; π_{0ik} is the expected value for partner aggression for individual i in couple k at Time 0, the first year of the study; π_{1ik} is the slope parameter (rate of change) for individual i in couple k ; and e_{itk} is the residual variance.

The Level 2 models for physical aggression are: (1) $\pi_{0ik} = \beta_{00k} + \beta_{01k}(\text{spouse gender})_{ik} + r_{0ik}$ and (2) $\pi_{1ik} = \beta_{10k} + \beta_{11k}(\text{spouse gender})_{ik} + r_{1ik}$. Here, in the first equation, the π_{0ik} value for each individual spouse from the Level 1 equation is used to determine β_{00k} , β_{01k} , and the random effect r_{0ik} . β_{00k} is the average intercept expected value for acts of aggression across all individuals in the analyses and β_{01k} indicates the variation in that value for husbands versus wives. Spouse gender is entered as an uncentered variable, with wife coded as 0.5 and husband coded as -0.5 . In the second level-2 equation, the π_{1ik} value for each spouse from the Level 1 equation is used to determine β_{10k} , β_{11k} , and the random effect r_{1ik} . β_{10k} is the average expected change in acts of aggression over time across individuals and β_{11k} is the variation in this slope value for husbands versus wives.

Finally, in Level 3, the effect of the number of years spouses have been married is examined. Analyses investigating the trajectory of husbands' and wives' emotional aggression are conducted using an analogous model. However, for physical aggression, the best fitting model included the effect of years married only on the intercept parameter. For emotional aggression, the best fitting model included the effect of years married on the intercept parameter and on the effect of spouse gender on the intercepts.

Finally, at level 3, the effect of the number of years since marriage on couples' aggression trajectories is determined.

For the aggression variables, negative values are not possible, there is a notable proportion of zeroes, and the distributions are highly skewed, such that transformations are inadequate to approximate a normal distribution. Therefore, generalized HLM was used assuming a Poisson distribution, which is appropriate for count data (Raudenbush & Bryk, 2002). This generalized model uses a log link function and a Poisson sampling model to calculate predicted log event rates. Calculating the exponent function of these values produces an event rate ratio. Intercept event rate ratio coefficients provide information about the expected value for that variable. Event rate ratio coefficients for slope terms indicate the expected proportion increase or decrease in a value from one time point to the next.

Results

Stability and Change in Aggression: Descriptive Results

Figure 1 depicts the persistence versus desistance of husbands' and wives' physical aggression from time 1 to time 3 and the conditional probabilities of aggression over time. Overall, 5.1% (10.2%) of couples reported husband (wife) physical aggression at all three time points, 11.2% (13.3%) reported husband (wife) physical aggression at two time points, 14.3% (21.4%) reported husband (wife) physical aggression at one time point, and 69.4% (55.1%) of husbands (wives) were not physically aggressive during the time of the study. For physical aggression, 43.8–54.5% (50–52.2%) of aggressive husbands (wives) desisted from physical aggression from one time point to the next. Overall, couples reported that 4.9–7.9% (9.4–12%) of husbands (wives) were physically aggressive at a second time point, even though they were not aggressive at the prior assessment. Of husbands (wives) who were aggressive at Time 1, 45.5% (35.3%) desisted from aggression in Times 2 and 3. These values indicate that there is desistance in aggression, although rates differ depending on the time point, and a small percent of couples become aggressive, even though they were not aggressive during the previous year.

Figure 2 depicts the number of emotionally aggressive husbands and wives at each time point and the conditional probabilities of emotional aggression over time. For husbands' and wives' emotional aggression, 41.8% (43.9%), 28.6% (25.5%), 15.3% (20.4%), and 14.3% (10.2%) of husbands (wives) were emotionally aggressive at three, two, one, and no time points, respectively. Regarding desistance, 13.3–21.4% (22.1–24.2%) of emotionally aggressive husbands (wives) desisted from emotional aggression from one time point to the next. Of those not aggressive at a prior time point, 39.1–47.4% (43.3–46.9%) of couples reported husband (wife) emotional aggression at the next assessment. These values indicate that, while there is some stability in emotional aggression from year to year, there is also significant variability.

Spouses' Physical Aggression Over Time: Growth Curve Analysis

As shown in Table 1, there is a significant effect of spouse gender on physical aggression intercepts, with wives' initial aggression values greater than husbands'. There is also a significant effect for number of years married on the intercept, with individuals who have been married longer reporting lower levels of aggression. Spouses' physical aggression significantly decreased over the three years of the study, decreasing, on average, by 43% each year. There was no significant effect for spouse gender on aggression trajectories, indicating that husbands' and wives' average physical aggression trajectories decreased at similar rates. Two-level follow-up analyses, evaluating whether husbands' and wives' trajectories significantly differed from zero (rather than from one another as was tested in the 3-level models), confirmed that husbands' physical aggression significantly decreased over the three assessments, $t(117) = -3.78, p < .001$, as did wives', $t(117) = -4.43, p < .001$. Length of marriage did not have a

significant effect on rates of change for physical aggression, and thus was not included in the final model. Figure 3 depicts the trajectories of spouses' physical aggression from the first to third assessments, with the effect of length of relationship illustrated by trajectories at 9, 12, and 15 years married (the 25th, 50th, and 75th percentiles of this variable).

P-values for the random effects are biased when using a nonlinear distribution (Lindstrom & Bates, 1988), thus variance components were examined by fixing the parameters to zero and comparing model fit. Model comparisons indicated that there is significant variability around the initial expected values of physical aggression (level 2: $\chi^2(2, N=118) = 45.38, p < .001$; level 3: $\chi^2(2, N=118) = 30.94, p < .001$). For husbands' and wives' physical aggression slopes, setting both the level 2 and 3 random effect parameters to zero resulted in a significant decrease in model fit, $\chi^2(4, N=118) = 40.80, p < .001$. However, setting only the level 2, $\chi^2(2, N=118) = 5.04, p = .08$, or the level 3, $\chi^2(2, N=118) = 1.1, p = .58$, slope random effect parameters to zero individually did not result in significant decreases in model fit.

Spouses' Emotional Aggression Over Time: Growth Curve Analysis

As shown in Table 1, wives' emotional aggression at Time 1 is significantly greater than husbands' emotional aggression. There is also a significant effect of years married on aggression intercepts, with more years into marriage associated with less reported emotional aggression. However, this relationship between years since marriage and initial emotional aggression levels is stronger for wives than husbands. Two-level follow-up analyses confirmed that years married has a significant effect on wives' initial levels of emotional aggression, $t(116) = -2.74, p < .01$, but not on husbands', $t(116) = -0.84, p = .41$. Examined jointly, spouses' emotional aggression did not significantly increase or decrease over time. However, husbands' and wives' rates of change were significantly different from one another; wives' emotional aggression decreased by 10% and husbands' emotional aggression increased by 3% between each time point. Two-level follow-up analyses, examining whether these changes indicated significant increases or decreases, revealed that neither husbands', $t(117) = 0.32, p = 0.75$, nor wives', $t(117) = -1.40, p = 0.16$, slopes were significantly different than zero. Therefore, although husbands' and wives' emotional aggression trajectories significantly differed from each other, when examined individually neither significantly differed from a trajectory of no change. There was no significant effect for years married on slope; thus, this variable was not included in the final trimmed model. Figure 4 depicts spouses' trajectories of emotional aggression over the three time points, with the effect of years since marriage portrayed by trajectories at the 25th, 50th, and 75th percentiles of this variable (i.e., 9, 12, and 15 years married). Examining change in model fit after fixing variance components to zero indicated significant variability around average expected values for spouses' initial rates of emotional aggression (level 2: $\chi^2(2, N = 118) = 87.34, p < .001$; level 3: $\chi^2(2, N = 118) = 64.88, p < .001$) and significant variability in change over time (level 2: $\chi^2(2, N = 118) = 9.44, p < .01$; level 3: $\chi^2(2, N = 118) = 21.78, p < .001$).

Discussion

This study examined husbands' and wives' physical and emotional aggression longitudinally, across three time periods, and also examined the impact of length of marriage on multiyear aggression trajectories. As hypothesized, husbands' and wives' rates of physical aggression significantly decreased over the three years. Significant changes in emotional aggression were not hypothesized during this time frame and results supported this expectation in that neither husbands' nor wives' slopes significantly differed from zero (trajectory of no change) in follow-up analyses. Still, husbands and wives did evidence trajectories that were significantly different from one another. Wives' emotional aggression was found to decrease about 10% per year and husbands' rates of emotional aggression increased 3% each year. Furthermore, as

expected, there was significant variability around the average trajectories for husbands' and wives' aggression; thus, although average aggression trajectories for husbands and wives were identified, not all spouses' aggression followed these patterns. Also, as hypothesized, number of years married had a significant effect on spouses' physical aggression trajectories, such that trajectories were shifted down to lower levels of aggression for couples who are further along in marriage; however, aggression continued to change at the same rate regardless of years married. For emotional aggression, the effect of years married on initial aggression levels was greater for wives than husbands and, in the two-level model, the effect of years married was significant for wives', but not husbands' aggression levels.

Findings from the present study correspond with and extend other studies that have examined changes in physical aggression over time. Studies have reported notable rates of desistance for husbands' physical aggression over two time points (e.g., Feld & Straus, 1990; Quigley & Leonard, 1996). Fritz and O'Leary (2004) found that physical aggression perpetrated by both husbands and wives significantly decreased during the first decade of marriage. Our results, examining couples who predominantly are in the second decade of marriage, fall in line with these figures, with over a third of spouses desisting from aggression after a year of aggression. In addition, results from O'Leary et al. (1989), Aldarondo (1996), and the current study suggest that if a male partner is aggressive one year and has desisted over a follow-up period, it may be more cautious to label or understand this pattern as intermittent, rather than assuming complete desistance. These three studies found remarkably similar conditional probabilities ranging from .28–.33 for aggression at a third time point after a year of desistance, despite very different sample selection techniques. Only one other study has examined changes in wives' physical aggression over more than two time points, and, as noted, results in the current study regarding wives' decreasing physical aggression coincide with those reported by Fritz & O'Leary.

This paper is one of few that have examined emotional aggression over multiple time points. Overall, spouses' emotional aggression did not significantly change over the three time points; however, there was a significant effect of gender on emotional aggression trajectories, with husbands increasing 3% and wives decreasing 10% in aggression over time. Yet, neither husbands' nor wives' individual trajectories were found to be significantly different from a trajectory of no change in the follow-up analyses. It is unclear whether the significant difference between husbands' and wives' emotional aggression trajectories is of practical consequence based on this one study; however, further examination in larger and different samples and over a longer time span is warranted to determine if these findings reflect larger trends. The results of the current study regarding emotional aggression correspond with the findings of Fritz and O'Leary (2004), who also did not find significant changes in emotional aggression in their sample of spouses in the first decade of marriage. Similarly, in a sample of severely aggressive husbands, Jacobson et al. (1996) found no significant differences in husbands' emotional aggression over time. A relevant consideration in understanding results regarding emotional aggression, as well as when attempting to compare results across studies, is the lack of clear consensus in the literature on what constitutes emotional aggression. With emotional aggression assessed with different types of items in different studies, compiling information about changes over time and its relationship with physical aggression is complicated. For example, Jacobson et al. used the Emotional Abuse Questionnaire (Waltz, Rushe, & Gottman, 1994), which has isolation, degradation, sexual abuse, and property damage subscales. Fritz & O'Leary used the CTS2 psychological aggression scale, which has considerable overlap with verbal aggression constructs (e.g., insulted or swore at partner; shouted at partner). The current study uses a measure that incorporates more of the controlling and cruel forms of emotional aggression (e.g., tried to turn friends, family, or children against spouse; restricted spouse's use of car or phone; frightened spouse).

The number of years that couples have been married had a significant effect on spouses' initial physical and wives' initial emotional aggression frequencies, but not on rates of change. However, the effect of years since marriage did not influence husbands' initial emotional aggression frequencies. This lack of a time effect coincides with the flat slope of husbands' emotional aggression over time, with only a 3% increase in aggression between time points (which was not a significant difference from a no change trajectory). For physical aggression, spouses at different points in their marriages had similar percent decreases in aggression, but those who were further into their marriages had lower initial aggression intercepts. These findings make sense intuitively if one imagines a single physical aggression trajectory for couples over the course of their relationship, with higher levels at the early stages of marriage, which then decrease over time. Couples who were sampled later in marriage coincide with a point further along this aggression trajectory, and thus have lower starting levels of aggression, but continue to decrease in aggression at the same rate. Several researchers have proposed such a trajectory, with rates of partner physical aggression peaking in the early to mid-twenties and then declining over the life span (O'Leary, 1999; O'Leary & Woodin, 2005; Sutor, Pillemer, & Straus, 1990.) Fritz & O'Leary (2004) provided important longitudinal support for this theory by examining couples over the first 10 years of marriage. The current study presents additional support for these hypothesized lifetime physical aggression trajectories through a mix of longitudinal and cross-sectional data by sampling couples who are at different points in their marriage. Moreover, whereas most studies focus on male to female aggression, the current study and the Fritz and O'Leary study indicate that female's use of aggression in intimate relationships may follow a similar pattern of decreasing across time.

It is notable that significant variability in spouse aggression trajectories remained in these models, particularly in the emotional aggression model. Future research examining moderators of varying aggression trajectories will be important in order to further understand escalation and de-escalation of aggression in intimate relationships. Most importantly, pinpointing time-varying covariates of changes in aggression may provide key information that could aid in intervention or prevention efforts. One potential component of this could be disentangling how emotional and physical aggression interact over time. Schumacher and Leonard (2005), for example, found that both verbal and physical aggression at a previous time point predicted physical aggression at a later time point. Another relevant component is the interrelatedness of husbands' and wives' use of aggression over time. Previous studies speak to the reciprocal and interactional nature of aggression for some couples (Feld & Straus, 1990; Schumacher & Leonard, 2005). For example, women's use of physical violence in self-defense has been linked to an escalation in severity of male violence (Downs, Rindels, & Atkinson, 2007). Still, Schumacher and Leonard found that relationships between aggression at two time points were stronger within spouse than across spouses; one spouse's use of aggression was a more consistent and stronger predictor of that spouse's future physical aggression. Due to the interrelatedness of husbands' and wives' use of aggression and spouses' use of emotional and physical aggression, teasing out the impact or potential causal influence of one of these variables on another is a complex, yet important direction for future research. Such research questions will require larger sample sizes or more time points than available in the current study.

Data from the present study regarding gender differences in partner aggression coincides with previous literature in some ways but not others. As found in Archer's (2000) meta-analysis, wives' initial rates of physical aggression were significantly greater than husbands' initial rates of aggression, but Time 3 expected values for husbands' and wives' physical aggression were very similar. Similarly, initially wives' emotional aggression scores were higher, however, at time 3, husbands' emotional aggression expected levels were comparable to wives' levels. Sexual aggression was not examined in this study because levels were too low to estimate HLM models. However, over the three years of this study, couples reported higher rates of husbands

physically forcing sex, $t(117) = 2.00, p < .05$, and coercing their partners to engage in sexual practices she did not want, $t(117) = 3.01, p < .01$, than wives perpetrating these behaviors. Taken together these findings present a varied picture of gender differences in aggression. It is also important to consider differences in context, motivation, and consequences surrounding husband versus wife partner violence (Swan & Snow, 2006) and the ambiguity these dimensions pose in comparing absolute levels of spouses' aggression. As noted earlier, these similar rates of aggression perpetrated by husbands and wives, notable proportions of bidirectional aggression, and sampling of community couples suggests that much of the partner aggression in this sample is likely 'situational couple violence' according to Johnson's (2006) typology. Situational couple violence, which is quite common in the general public, has been found to have more deleterious consequences for men and women than marital dissatisfaction alone (Vivian & Langhinrichsen-Rohling, 1994).

Several limitations in the current investigation deserve note. Inclusion criteria requiring that the couple have a 9 or 10 year old child and the longitudinal nature of the project making a random sampling design unfeasible give rise to questions about the generalizability of findings, particularly to childless couples or couples with children at different ages. In a nationally representative sample, couples with children had higher rates of partner aggression than couples without children (McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). Another limitation in this study was the way in which aggression was measured. Researchers (e.g., Dobash, Dobash, Wilson, & Daly, 1992) have noted the shortcomings of operationalizing aggression as the number of acts of aggression over a certain time frame, because the meaning and impact of aggression is not comparable for all reported behaviors and because information is lacking on the context of the aggression (e.g., Who is the primary aggressor? Is aggression in self-defense? How many separate incidents of aggression are represented in the score?). Examining quantitative changes in aggression over time makes focusing on frequency of acts reasonable. Still future studies could look to develop a more nuanced examination of changes in aggression, possibly drawing on interview information. Relatedly, evaluating gender differences in acts of aggression is complicated by the fact that similar frequencies of aggression between men and women does not mean similar or comparable effects of aggression; an act of aggression perpetrated by a male may have a higher potential to physically harm and engender fear in his partner than a similar act of aggression perpetrated by a female against her male partner.

The present study also has several strengths, most notably the inclusion of three assessments and the high rate of return across the time points. Understanding the intermittent patterns of aggression, seemingly quite common in community couples, requires three or more time points. Also, both spouses report on their own and their spouses' use of aggression, which may provide a more complete picture of partner aggression than is obtained in many other studies, which rely solely on one spouse's, typically the wife's, report of aggression. Finally, this sample provides information about partner aggression in middle adulthood, a developmental stage that has rarely been the focus in longitudinal studies of partner aggression.

This study supports a growing body of literature indicating that physical aggression in community samples often decreases over time, but there is also variability in trajectories. With an increased understanding of changes in aggression over time, future research should work towards identifying predictors of escalation and de-escalation in aggression, as well as of more severe aggression trajectories. Future studies also need to examine how different trajectories of aggression over the life course differentially affect victims' physical and mental health. For example, does past aggression have an important and sustained impact on couples, even if aggression has decreased? Gordis, Margolin, & Vickerman (2005) found that once husbands had perpetrated severe physical aggression in an intimate relationship, wives may continue to report fear regardless of whether the aggression maintained, decreased, or desisted. Thus,

overall declining rates should not be used as justification for complacency, particularly in light of potential long-term effects of physical marital aggression and continued emotional aggression.

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References

- Aldarondo E. Cessation and persistence of wife assault: A longitudinal analysis. *American Journal of Orthopsychiatry* 1996;66:141–151. [PubMed: 8720651]
- Archer J. Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin* 2000;126:651–680. [PubMed: 10989615]
- Bookwala J, Sobin J, Zdaniuk B. Gender and aggression in marital relationships: A life-span perspective. *Sex Roles* 2005;52:797–806.
- Bonomi AE, Thompson RS, Anderson M, Reid RJ, Carrell D, Dimer JA, Rivara FP. Intimate partner violence and women's physical, mental, and social functioning. *American Journal of Preventive Medicine* 2006;30:458–466. [PubMed: 16704938]
- Capaldi DM, Shortt JW, Crosby L. Physical and psychological aggression in at-risk young couples: Stability and change in young adulthood. *Merrill-Palmer Quarterly* 2003;49:1–27.
- Cattaneo LB. Contributors to assessments of risk in intimate partner violence: How victims and professionals differ. *Journal of Community Psychology* 2007;35:57–75.
- Coker AL, Davis KE, Arias I, Desai S, Sanderson M, Brandt HM, Smith PH. Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine* 2002;23:260–268. [PubMed: 12406480]
- Connely CD, Hazen AL, Coben JH, Kelleher KJ, Barth RP, Landsverk JA. Persistence of intimate partner violence among families referred to child welfare. *Journal of Interpersonal Violence* 2006;21:774–797. [PubMed: 16672741]
- Dobash RP, Dobash RE, Wilson M, Daly M. The myth of sexual symmetry in marital violence. *Social Problems* 1992;39:79–91.
- Downs WR, Rindels B, Atkinson C. Strategies during incidents of partner violence. *Violence Against Women* 2007;13:28–45. [PubMed: 17179403]
- Feld, SL.; Straus, M. Escalation and desistance from wife assault in marriage. In: Straus, MA.; Gelles, RJ., editors. *Physical violence in American families: Risk factors and adaptation to violence in 8,145 families*. New Brunswick, NJ: 1990. p. 489-505. Transaction
- Follingstad DR, Rutledge LL, Berg BJ, Hause ES, Polek DS. The role of emotional abuse in physically abusive relationships. *Journal of Family Violence* 1990;5:107–120.
- Fritz PAT, O'Leary KD. Physical and psychological partner aggression across a decade: A growth curve analysis. *Violence and Victims* 2004;19:3–16. [PubMed: 15179743]
- Gordis EB, Margolin G, Vickerman KA. Communication and frightening behavior among couples with past and recent histories of physical marital aggression. *American Journal of Community Psychology* 2005;36:177–191. [PubMed: 16134053]
- Hamby SL, Sugarman DB. Acts of psychological aggression against a partner and their relation to physical assault and gender. *Journal of Marriage and the Family* 1999;61:959–970.
- Hines DA, Saudino KJ. Gender differences in psychological, physical, and sexual aggression among college students using the revised conflict tactics scale. *Violence and Victims* 2003;18:197–217. [PubMed: 12816404]
- Holtzworth-Munroe A, Smutzler N, Bates L. A brief review of the research on husband violence: Part III. Sociodemographic factors, relationship factors, and differing consequences of husband and wife violence. *Aggression and Violent Behavior* 1997;2:285–307.

- Jacobson NS, Gottman JM, Gortner E, Berns S, Shortt JW. Psychological factors in the longitudinal course of battering: When do couples split up? When does the abuse decrease? *Violence and Victims* 1996;11:371–392. [PubMed: 9210278]
- Jasinski J. Physical violence among Anglo, African American, and Hispanic couples: Ethnic differences in persistence and cessation. *Violence and Victims* 2001;16:479–490. [PubMed: 11688924]
- Johnson MP. Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence Against Women* 2006;12:1003–1018. [PubMed: 17043363]
- Lindstrom MJ, Bates DM. Newton-Raphson and EM algorithms for linear mixed-effects models for repeated-measures data. *Journal of the American Statistical Association* 1988;83:1014–1022.
- Lorber MF, O'Leary KD. Predictors of persistence of male aggression in early marriage. *Journal of Family Violence* 2004;19:329–338.
- Loxton D, Schofield M, Hussain R. Psychological health in midlife among women who have ever lived with a violent partner or spouse. *Journal of Interpersonal Violence* 2006;21:1092–1107. [PubMed: 16829669]
- Margolin G. The multiple forms of aggressiveness between marital partners: How do we identify them? *Journal of Marital and Family Therapy* 1987;13(1):77–84.
- Margolin, G.; Burman, B.; John, RS.; O'Brien, M. The Domestic Conflict Inventory. University of Southern California; 2000. Unpublished measure
- Marshall LL. Psychological abuse of women: Six distinct clusters. *Journal of Family Violence* 1996;11:379–409.
- McDonald R, Jouriles EN, Ramisetty-Mikler S, Caetano R, Green CE. Estimating the number of American children living in partner-violent families. *Journal of Family Psychology* 2006;20:137–142. [PubMed: 16569098]
- Murphy CM, O'Leary KD. Psychological aggression predicts physical aggression in early marriage. *Journal of Consulting and Clinical Psychology* 1989;57:579–582. [PubMed: 2794178]
- O'Leary KD. Developmental and affective issues in assessing and treating partner aggression. *Clinical Psychology: Science & Practice* 1999;6:400–414.
- O'Leary, KD.; Arias, I. Assessing agreement of reports of spouse abuse. In: Hotaling, GT.; Finkelhor, D.; Kirkpatrick, JT.; Straus, MA., editors. *Family violence and its consequences: New directions in research*. Newbury Park, CA: Sage; 1988. p. 218–229.
- O'Leary KD, Barling J, Arias I, Rosenbaum A, Malone J, Tyree A. Prevalence and stability of physical aggression between spouses: A longitudinal analysis. *Journal of Consulting and Clinical Psychology* 1989;57:263–268. [PubMed: 2785126]
- O'Leary KD, Woodin EM. Partner aggression and problem drinking across the lifespan: How much do they decline? *Clinical Psychology Review* 2005;25:877–894. [PubMed: 15921837]
- Quigley BM, Leonard KW. Desistance of husband aggression in the early years of marriage. *Violence and Victims* 1996;11:355–370. [PubMed: 9210277]
- Pico-Alfonso MA, Garcia-Linares MI, Celda-Navarro N, Blasco-Ros C, Echeburua E, Martinez M. The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: Depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of Women's Health* 2006;15:599–611.
- Raudenbush, SW.; Bryk, AS. *Hierarchical Linear Models: Applications and Data Analysis Methods*. Vol. 2nd ed.. Newbury Park, CA: Sage Publications; 2002.
- Schumacher JA, Leonard KE. Husbands' and wives' marital adjustment, verbal aggression, and physical aggression as longitudinal predictors of physical aggression in early marriage. *Journal of Consulting and Clinical Psychology* 2005;73:28–37. [PubMed: 15709829]
- Simonelli CJ, Ingram KM. Psychological distress among men experiencing physical and emotional abuse in heterosexual dating relationships. *Journal of Interpersonal Violence* 1998;13(6):667–681.
- Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues* 1996;17:283–316.
- Suitor, JJ.; Pillemer, K.; Straus, MA. Marital violence in a life course perspective. In: Straus, MA.; Gelles, RJ., editors. *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families*. New Brunswick, NJ: 1990. p. 305–317. Transaction

- Swan SC, Snow DL. A typology of women's use of violence in intimate relationships. *Violence Against Women* 2002;8:286–319.
- Swan SC, Snow DL. The development of a theory of women's use of violence in intimate relationships. *Violence Against Women* 2006;12:1026–1045. [PubMed: 17043365]
- Taft CT, O'Farrell TJ, Torres SE, Panuzio J, Monson CM, Murphy M, Murphy CM. Examining correlates of psychological aggression among a community sample of couples. *Journal of Family Psychology* 2006;20:581–588. [PubMed: 17176192]
- Temple JR, Weston R, Marshall LL. Physical and mental health outcomes of women in nonviolent, unilaterally violent, and mutually violent relationships. *Violence and Victims* 2005;20:335–359. [PubMed: 16180371]
- Tjaden, P.; Thoennes, N. Extent, nature, and consequences of intimate partner violence: Findings from the National Violence Against Women Survey. Washington, DC: National Institutes of Justice and Centers for Disease Control and Prevention; 2000.
- Vivian D, Langhinrichsen-Rohling J. Are bi-directionally violent couples mutually victimized? A gender-sensitive comparison. *Violence & Victims* 1994;9:107–124. [PubMed: 7696192]
- Walker, LE. *The battered woman*. New York: Harper & Row; 1979.
- Waltz J, Rushe RH, Gottman JM. Emotional Abuse Questionnaire. 1994 Unpublished manuscript
- Wilson, JQ.; Hernstein, RJ. *Crime and human nature*. New York: Simon & Schuster; 1985.

Note: Numbers in parentheses represent number of couples.

Figure 1.

Conditional probabilities of husband-to-wife and wife-to-husband physical aggression over the three assessments.

Note: Numbers in parentheses represent number of couples.

Figure 2.

Conditional probabilities of husband-to-wife and wife-to-husband emotional aggression over the three assessments.

Figure 3.
Trajectories of husbands' and wives' physical aggression over time with the effect of years married.

Figure 4.
Trajectories of husbands' and wives' emotional aggression over time with the effect of years married.

Table 1
Intercept and Slope Parameters for Physical and Emotional Spouse Aggression

Fixed Effect	Event Rate Ratio	Confidence Interval	t-ratio
<i>Physical Aggression</i>			
Model for initial status, π_{0ik}			
Intercept, β_{00k}	0.90	(0.45, 1.82)	-0.28
Years married	0.92	(0.87, 0.97)	-2.95**
Spouse gender, β_{01k}	2.23	(1.46, 3.41)	3.74***
Model for growth rate, π_{1ik}			
Slope, β_{10k}	0.57	(0.46, 0.71)	-5.13***
Spouse gender, β_{11k}	0.77	(0.56, 1.05)	-1.69
<i>Emotional Aggression</i>			
Model for initial status, π_{0ik}			
Intercept, β_{00k}	3.00	(1.88, 4.80)	4.64***
Years married	0.96	(0.93, 0.999)	-2.05*
Spouse gender, β_{01k}	1.95	(1.34, 2.85)	3.47***
Years married	0.97	(0.94, 0.996)	-2.28*
Model for growth rate, π_{1ik}			
Slope, β_{10k}	0.96	(0.85, 1.08)	-0.67
Spouse gender, β_{11k}	0.88	(0.77, 0.99)	-2.10*

***
p<.001

**
p<.01

*
p<.05