Affect Regulation and the Cycle of Violence Against Women: New Directions for Understanding the Process

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Abstract The process of the intergenerational transmission of violence is not well understood. A risk and resilience model of criminal violence against women was investigated using secondary data. The sample was composed of adolescent male juvenile delinquents who had been physically abused by their parents, and who were followed up at ages 25 and 31. A series of structural equation models were fit to investigate whether dysregulated affect mediated the effects of attachment and family chaos on the adult perpetration of violence against women. These models support the hypothesis that affect dysregulation may act as a mediator. Results raise new ideas about the mechanisms by which violence may be transmitted across generations.

Keywords Intergenerational transmission of violence · Violence against women · Affect regulation · Attachment · Risk and resilience theory

It is commonly assumed that there is an intergenerational transmission of violence. This hypothesis has primarily been applied to violence perpetrated by men in families against children and adult marital or dating partners (e.g., Alexander, Moore, & Alexander, 1991; Avakame, 1998; Smith & Williams, 1992; Stith & Straus, 1995; Straus, 1995). Empirical evidence exists for the transmission of physical violence across generations (e.g., Simons, Whitbeck, Conger, & Chyi-In, 1991), and the hypothesis also includes children who witness marital violence and are not direct victims of abuse (Kalmuss, 1984; Pelcovitz & Kaplan, 1994).

Early experiences of intimate violence have also been linked with violence perpetrated outside the family as a juvenile or adult (Hanson, Cadsky, Harris, & Lalonde, 1997; Hawkins et al., 1998; Holtzworth-Munroe, Bates, Smutzler, & Sandin, 1997; Spillane-Grieco, 2000). In one sample followed longitudinally, experiencing abuse and neglect increased the odds of being arrested as a juvenile by 53% and as an adult by 38% (Widom, 1992).

Despite the wide acceptance of the intergenerational transmission hypothesis, recent research shows that the relationship between the early experience and later perpetration of violence is far more complex than one might assume, and is clearly not a direct relationship. In fact, some estimate the intergenerational transmission of physical child abuse is approximately 30% (Kaufman & Zigler, 1993), and 16–17% for those who witness violence and grow up to report "marital aggression" (Widom, 1989). In a meta-analysis, Stith et al.
(2000) concluded that a "weak-to-moderate relationship" exists between involvement in an abusive adult partnership and experiencing and/or witnessing violence as a child. Thus, the intergenerational transmission hypothesis may be overstated.

The issue continues to receive considerable research attention because it has been demonstrated as a consistent link, whereas other variables have been studied and results are mixed (e.g., Egeland, 1993; Hotaling & Sugarman, 1989). However, the majority of research does not test how violence is transmitted (Holtzworth-Munroe et al., 1997); and we know little about resilient outcomes, or those who grow up to be non-violent despite violent childhoods. The process of transmission is complex, and research has been complicated by methodological issues (Miller & Wellford, 1997; Widom, 1989). Additionally, while the intergenerational transmission hypothesis has largely focused on violence perpetrated within families, investigating the processes using only family violence as the outcome may be unnecessarily limiting. It may not reflect the reality that many who are abused as children perpetrate violence within as well as outside of their families as adults.

The present study investigates a risk and resilience model based on theories of attachment and affect regulation to understand predictors of adult violence, measured by records of violent crimes against women both within and outside of the family. The sample consists of male adolescents in the 1940s, who had been victims of physical child abuse and were then followed up for an average of 18 years until the 1960s. While the data set are old and may be less "clean" by today's standards and limited in generalizability (see Limitations section), few data exist that can address this complex, longitudinal research question. Thus, this data set is still of significant value as a rich source for longitudinal secondary analyses.

Risk and Resilience Construct Definitions

The presence of risk predisposes a person or group to specific negative outcomes (Cowan, Cowan, & Schultz, 1996), while resilience indicates a positive or good outcome despite adversity or risk conditions (Luthar, Cicchetti, & Becker, 2000). Resilience is the outcome of accumulated buffering processes and the use of internal and external resources to cope with stress, resolve conflicts, and master tasks throughout development (Egeland, Carlson, & Sroufe, 1993; Rutter, 1987). Resilience is largely a conceptual issue and is often methodologically indicated by buffers, mediators, and moderators, which are more concrete.

Mechanisms are the links between risks and outcomes. There are two types: mediators (processes that create observable links between the risk and outcome) and moderators (mechanisms that increase, decrease, or change the direction of the relationship between the risk and outcome; Cowan et al., 1996). In a mediation model, the predictor has an indirect effect through a mediating variable and explains how or why effects occur, while moderators are similar to interaction effects and predict when certain effects will hold (Baron & Kenny, 1986).

Buffers, or protective factors that decrease the probability of a negative outcome in the presence of risk, are one type of moderator commonly referred to in the literature. This concept should not be confused with conditions of low risk (Rutter, 1987). Even with low levels of risk, an individual is still predisposed to the negative outcome. A buffer is intended to specify something else (other than a low level of risk) that reduces the likelihood of a negative outcome.

Theoretical Constructs Investigated in the Current Study

Attachment. Attachment is the bond between a child and his or her caregiver(s) (Bowby, 1989). A secure attachment develops in response to a sensitive and reliable caregiver (Ainsworth & Marvin, 1995). When a child is securely attached, the caregiver acts as a secure base for exploration and provides a "safe haven" during distress (Bowby, 1989). When caregivers are not reliable or sensitive, non-secure attachments result, of which there are several types. Infants with avoidant attachments show rejecting behaviors toward their caregivers, and ambivalently attached children seem preoccupied with their caregivers while simultaneously resisting them (Ainsworth & Marvin, 1995). Physically abused and/or neglected children often have avoidant or ambivalent attachments (Crittenden, 1985), or they exhibit disorganized attachments, in which they report feelings of emotional security despite a simultaneous desire for greater psychological proximity (Cicchetti, Toth, & Lynch, 1995).

Information regarding the self and caregiver becomes internalized into internal working models, which organize, interpret, and predict one's own and other's behavior (Bowby, 1989; Bretherton & Munholland, 1999). Because behavior of the attachment figure is interpreted by the child through his or her internal working model, the meaning given to violent behavior is important (Zeanah & Zeanah, 1989). When a family environment is violent, a child's fundamental notions of safety, predictability, and warmth are disturbed (Cummings & Davies, 1996; Davies & Cummings, 1994). Further, Bretherton and Munholland (1999) argue that neglect or abusiveness communicates a core message of rejection. When parents are abusive, children become overwhelmed by opposing impulses to approach their parent because they are supposed to be their secure base, yet they are simultaneously a source of danger (Main, 1996). A growing body of literature links attachment and child abuse, partner violence, and violent crime (see Dutton, 1999; Fonagy, Target, Steele, & Steele, 1997; Kesner & McKenney, 1998; Lyons-Ruth & Jacobvitz, 1999; Marcus & Gray, 1998;
Wekerle & Wolfe, 1998). Additionally, secure attachments may serve a protective effect (Clark & Miller, 1998), and this buffering process may be obtained with adults other than a child’s parents, such as extended family members (Egeland, Jacobvitz, & Sroufe, 1988; Rutter, 1997).

Affect regulation and dysregulation. Affect regulation consists of the processes, both inherent and learned, that are responsible for observing, evaluating, and altering emotional reactions to achieve one’s goals (Thompson, 1994). This involves reciprocal interactions between the three domains in the emotional response system: neurological/biochemical, motor/behavioral/expressive, and cognitive/subjective/experiential (Dodge & Garber, 1991; Izard & Youngstrom, 1996). Emotion is both regulated and has a regulatory influence on other processes (Cole, Michel, & Teti, 1991).

The acquisition of these regulatory skills is a major developmental task (Izard & Kobak, 1991) that occurs within social relationships, primarily the attachment relationship early in life (Sroufe, Carlson, Levy, & Egeland, 1999). When an infant’s attachment behaviors are responded to appropriately, the child develops an increasingly flexible and complex set of behaviors for regulating affect (Magai & Passman, 1998; Sroufe, 1996). The affect regulation strategies and internal working models of parents influence how they behave with their children, which then impacts their children’s internal working models and affect regulation strategies (Cicchetti, Toth, & Lynch, 1995). Early abuse and exposure to aggression might result in expectations of the world as hostile (Dodge, 1993). For example, parents with a dismissing attachment organization tend to predominantly express the emotion of anger, and are generally rejecting, emotionally unavailable, and conflictual with their children (Cicchetti, Ackerman, & Izard, 1995). Children of such parents may develop avoidant attachments themselves, demonstrating their own hostile behavior (Greenberg, Speltz, & DeKlyen, 1993). Parents with ambivalent attachments frequently display dependent, unresponsive, neglectful, and inconsistent behavior toward their children (Cicchetti, Ackerman, et al., 1995), who are then likely to become ambivalently attached and thus, restless, impulsive, inattentive, and intolerant of frustration (Greenberg et al., 1993).

Further, when a caregiver neglects, rejects, or responds abusively to a child’s distress signals, the child’s negative emotional state may become exacerbated and prolonged (Izard & Kobak, 1991). Dealing with such prolonged states of negative affect has important implications for the development of psychopathology and violence (Bradley, 2000) in addition to dysregulated affect. As emotion dysregulation develops through childhood, symptoms tend toward two broad groups: internalizing (reflecting internal distress such as sadness) and externalizing (associated with causing distress to others, such as aggression and opposition; Cole & Zahn-Waxler, 1992). While a child may favor one of these two tendencies, internalizing and externalizing behaviors often co-exist (Grych, Jouriles, Swank, McDonald, & Norwood, 2000).

There is a growing body of empirical literature linking attachment, affect regulation, family of origin violence, delinquency, and conduct disorder (Fonagy, Target, Steele, & Steele, 1997; Lyons-Ruth & Jacobvitz, 1999; Marcus & Gray, 1998). In a recent review, Margolin and Gordis (2000) summarized links between internalizing behaviors and exposure to parental violence, and between aggression, externalizing behaviors, and physical child abuse. Many studies have also shown links between family of origin violence and externalizing and internalizing problems in the child generation (e.g. Dodge, Pettit, & Bates, 1997; Grych, et al., 2000; Jouriles, Norwood, McDonald, Vincent, & Mahoney, 1996; Langhinrichsen-Rohling, Monson, Meyer, Caster, & Sanders, 1998). Delinquent and conduct-disordered adolescents consistently display high levels of externalizing and internalizing behaviors (Armistead, Wierson, Forehand, & Frame, 1992; Huizinga & Jakob-Chien, 1998). One study of adolescents in a juvenile detention center showed that 60% met the criteria for conduct disorder and 42% had an affective disorder (Pliszka, Sherman, Barrow, & Eick, 2000). Similarly, in a longitudinal study of boys ages 7 to 18, half of the persistent delinquents also displayed internalizing symptoms (Loebel, Stouthamer-Loebel, & White, 1999).

Family chaos. Violence in families is often examined as if it were isolated, without examining the context within which many violent families live. Perhaps some of the chaotic elements that exist comorbidly with family violence also play a role in the intergenerational transmission process, such as poor parenting skills (Dodge et al., 1997) or family disruption and instability (Jaffe, Wolfe, & Wilson, 1990). For example, Margolin and John (1997) found that the effects of marital aggression on child outcomes were largely mediated by parenting, especially for boys. Poor parenting, such as inadequate supervision, inconsistent discipline, and lack of clear limit setting, also relate to juvenile delinquency (Farrington, Gallagher, Morley, Ledger, & West, 1998; Hawkins et al., 1998; Rapp & Wodarski, 1997).

In addition to parenting skills, parent criminality consistently predicts violence and delinquency in the child generation (Emery, Waldron, Kitzmann, & Aaron, 1999; Farrington, 1995; Hawkins et al., 1998; Marcus & Gray, 1998). Alcohol and substance abuse have also been consistently linked to delinquency and violence perpetrated in both the adult partner and child generations (Corvo & Carpenter, 2000; Friedman, 1998; Huizinga & Jakob-Chien, 1998; Lipsey & Derzon, 1998). Further, an individual and family history of psychological and psychiatric problems also predicts violent crime (Huizinga & Jakob-Chien, 1998; Johnson, Hoffmann, Su, & Gerstein, 1997).
Based on the above literature, family delinquency, family alcoholism, family emotional disorders, and parent's relationship instability were believed to represent a latent construct, which we termed “family chaos.” Such multiple risk conditions may not only impact future violence, but may influence the ability of parents and children to develop secure bonds and/or encourage adaptive strategies to regulate emotions throughout development.

Three models must be investigated to test for mediation: first, the mediator must be regressed on the independent variables; second, the dependent variable must be regressed on the independent variables; and third, the dependent variable must be regressed on both the mediator and independent variables (Baron & Kenny, 1986). Thus, the first model fit in this study investigated the effects of attachment and family chaos on affect dysregulation, the hypothesized mediator. The second model examined the effects of attachment and family chaos on later violence against women. In these models, it was hypothesized that attachment would have significant negative relationships with affect dysregulation and later violence against women. In contrast, it was hypothesized that family chaos would have significant positive relationships with affect dysregulation and later violence against women. The third model tested whether affect dysregulation would mediate the effects of attachment and family chaos on later violence against women. It was hypothesized that attachment would have a significant negative relationship with affect dysregulation, and that family chaos would have a significant positive relationship with affect dysregulation, while affect dysregulation would have a significant positive relationship with later violence against women. Additionally, it was hypothesized that the direct relationships between attachment and family chaos with later violence against women would shrink to non-significance once the mediator was added into the model, as is necessary to conclude that mediation exists (Baron & Kenny, 1986).

Methodology

Procedure

The sample used for this study was originally collected by Glueck and Glueck for their “Unraveling Juvenile Delinquency” study (Glueck & Glueck, 1950, 1968). Data were initially collected between 1940–1948 on 500 white males aged 10–17 living in the Boston, MA area with a juvenile delinquency record. Delinquency status was based on official criminal records, and the participants were recruited through their involvement with correctional facilities in the city. There were two additional follow-up waves, with Time 2 data collection occurring between 1948 and 1956 when the participants were an average age of 25. Time 3 data collection occurred between 1954 and 1963, when the participants were an average age of 31. The average length of follow up was 18 years, and data were collected at all three time points for 438 of the 500 original subjects.

Of these, 344 were determined to be from physically abusive families and comprised the sample for this study. The two dichotomous yes/no items used to determine physical abuse status were: Physical Punishment by Father and Physical Punishment by Mother (both coded as “rough handleings, strappings, beatings, etc. that elicit fear and resentment in boy”). Both of these items were assessments by the research team, after semi-structured interviews with the boys and their parents. No further information was available for the current study about the severity of the abuse or what “rough handling” specifically meant. However, due to the zeitgeist of parenting in the 1940s which was generally more strict and accepting of corporal punishment than that of today, it was believed that an assessment of “beatings” or “strappings” was sufficient to consider this an adequate operationalization of abuse.

Data for this study were obtained from many sources, including official criminal, medical, and correction facility records, psychological tests, and through semi-structured interviews with the boys and their parents, teachers, police officers, and social workers. Interviews were conducted by trained members of the research team, including psychiatrists, psychologists, and “social investigators.” At Time 2, an average of 12 sources of information was used, and an average of 9 sources was used at Time 3 (Glueck & Glueck, 1968). While these data were collected before many standardized instruments were in use, the triangulation from a wide variety of sources obtained by highly trained investigators lends some validity (Laub, Sampson, & Kiger, 1990). The researchers collected data on over 400 variables from several sources, making this data set a comprehensive source of longitudinal and historical data, despite its limitations.

Participants

All participants were born between 1924 and 1935, with ages ranging from 11 years (1%) to between 16 and 17 years (11%), and an average age of 14 years at the first interview. Over one-third (35%) of the sample was first-generation American-born, with many representing Italian, British, and Irish ethnicities. Because the data were first collected in the 1940s, this represents a historical time during which many immigrants settled in ethnic enclaves in large cities (Mindel, Habenstein, & Wright, 1998). The families in this study were also largely from a low socioeconomic group. The majority was coded as “dependent on relief agencies or relatives for financial support” or as “living from day to day” by the research team, and 95% were from “poor” neighborhoods in which gangs and crime were present. Further, the
mean education level of the parents was a grade school education, and 37% of the participants had repeated at least one grade in school.

Preliminary Data Analysis

SPSS 10.0 for Windows and PRELIS 2.0 were used for preliminary data analyses, including screening for univariate and multivariate outliers (none were detected), and skewness and kurtosis. Three variables were transformed to reduce skewness and are discussed below. LISREL 8.30 was used to examine variables through principal components analyses and confirmatory factor analyses. Table 1 contains the means, standard deviations, minimum, maximum scores, and reliability statistics for the scales used in the final model.

Measures

Later violence against women. This outcome construct was based on official criminal records from the follow-up waves. Violent crimes perpetrated between ages 17 and 25 were coded at Time 2, and violent crimes committed over 25 years of age were coded at Time 3. The items were summed together across time, such that high scores indicated more violent crimes perpetrated as an adult. The following dichotomous (yes/no) items from each follow-up wave comprised the 8 item scale: (a) Serious Sex Offenses (coded as "rape, attempted rape, assault with intent to rape, but excluding statutory rape"), (b) Pathological Sex Offenses (coded as "incest, unnatural act, indecent assault, carnal knowledge or abuse of female child"), (c) Other Sex Offenses (coded as "fornication, statutory rape, lewd cohabitation, indecent exposure") and (d) Domestic Offenses ("desertion, assault on wife, polygamy, abandonment of wife and/or child, neglect"). Due to the coding done by the original researchers, it is not possible to sort these crimes out more specifically. For example it is not possible to remove items that are not crimes today, such as "lewd cohabitation," because of the way "other sex offenses" was coded. Because these types of crimes are largely perpetrated against women, this construct was believed to be a good representation of violence against women perpetrated within and outside of families. The data were composited across time due to low variability in the items at each time point separately. The log of this variable was used to reduce skewness (Later Violence Against Women skewness = 2.08, Logged Later Violence Against Women skewness = 1.38).

Attachment. Three items measured at Time 1 were summed to comprise this scale: (a) Family Cohesiveness, coded as "unintegrated" ("self-interests exceed group interests, home is only a place to hang your hat"); "fair" ("some elements binding members together, despite evidence of pulling away by one or more members"); or "cohesive" ("strong emotional ties among members, pride in home, a 'we' feeling"); (b) Father’s Affection and (c) Mother’s Affection, both with the codes "poor" (hostile to boy, rejects him); "fair" ("indifferent to boy"); "good" ("sympathetic, kind, attached; emphasis added"). These items were assessments by the psychiatrists and social investigators after meeting with the participants and their family members. This variable is scored such that higher scores indicate stronger relational bonds, and this three-item scale yielded a Chronbach's alpha of .57.

Affect dysregulation. Two scales of teacher-reported items measured at Time 1 comprise this construct, Externalizing and Internalizing. Due to the secondary nature of the current study, this scale represents a proxy measure of affect regulation rather than a direct measure, with the understanding of the theory that externalizing and internalizing behaviors represent dysregulated affect (Cole & Zahn-Waxler, 1992). The Child Behavior Checklist (e.g. Achenbach, 1994) was used as a reference to determine which of the behaviors indicated externalizing and which indicated internalizing behaviors. Items that did not seem to correspond with those in the Child Behavior Checklist externalizing and internalizing subscales were dropped from this study. The Externalizing Scale was comprised of the following 13 items, all coded dichotomously (yes/no): Stealing, Untruthfulness, Defiance, Cruelty, Cheating, Destroying School Material, Temper Tantrums, Profanity, Impudence, Smoking, Quarrelsomeness, Domineering, Imaginative Lying. High scores indicate more externalizing behaviors, and the scale yielded a Chronbach's alpha of .73. The 9 items comprising the internalizing scale, which yielded a Chronbach's alpha of .62, include: Nervousness, Unhappy, Easily Discouraged, Sullen, Fearful, Suspiciousness, Coward, Unsocialness, and Shyness. The log of both of these scales was
used to reduce skewness (Externalizing skewness = 1.43, Logged Externalizing skewness = .32; Internalizing skewness = 1.80, Logged Internalizing skewness = .71).

**Family chaos.** This latent predictor is made up of four scales: Family Delinquency, Family Alcoholism, Family Emotional Disorders, and Parent’s Relationship Instability. Parent’s Relationship Instability is a scale comprised of three items measured at Time 1, two of which are dichotomous yes/no items (Parent’s Sporadically Separated, and Parent’s Divorced). These two items are based on self-report by parents as well as official records. The third item in the Parents Relationship Instability scale is Quality of Parent’s Relationship, coded as “good,” “fair,” and “poor,” as assessed by the investigators. This scale is summed such that high scores indicate more instability and conflict in the boy’s parent’s relationship, and has a Chronbach’s alpha of .71. At the time of the initial interview, about 53% of the participants’ parents were married and living together, with the remainder separated (13%), divorced (8%), widowed (19%), never married (6%), or unknown (1%). While recent research shows that children experience distress when they live with parents who remain married despite frequent, intense conflict (e.g. Sun, 2001), in the 1940s divorce was less common and, when placed within the context of other information showing the high number of poor and immigrant families in this sample, the quality and stability of the participants’ parent’s marriages is an important factor to consider regarding the level of uncertainty or chaos in these families.

All of the other three scales (Family Delinquency, Family Alcoholism, and Family Emotional Disorders) are based on items measured at Time 1 obtained from both official records and reports by family members. The items comprising the scales are dichotomous (yes/no) variables indicating the presence or absence of each separate condition (that is, delinquency, alcoholism, or emotional disorders) in: (a) Father’s Family of Origin, (b) Mother’s Family of Origin, (c) Father, and (d) Mother. For example, the Family Delinquency scale is made up of the following items: Delinquency in Father’s Family of Origin, Delinquency in Mother’s Family of Origin, Delinquency in Father, and Delinquency in Mother. For each of these scales, the items were summed such that high scores indicate more delinquency, alcoholism, and emotional disorders in the boy’s family. The Chronbach’s alpha scores for each scale are: Family Delinquency $\alpha = .53$, Family Alcoholism $\alpha = .44$, and Family Emotional Disorders $\alpha = .40$.

### Results

The structural equation models were fit in the specific sequence recommended by Baron and Kenny (1986) to test for mediation. LISREL 8.30 was used for all structural equa-

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<th>Table 2</th>
<th>Variances, covariances, &amp; correlations of constructs</th>
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<td>Step 1</td>
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<td>1. Attachment</td>
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<td>2. Family chaos</td>
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<td>3. Affect Dysregulation</td>
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<td>Step 2</td>
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<td>1. Attachment</td>
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<td>2. Family Chaos</td>
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<td>3. Logged Later Violence Against Women</td>
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<td>Step 3</td>
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**Note.** Variances underlined along the diagonal. Covariances below the diagonal. Standardized correlations in parentheses above the diagonal. All are significant at the $p < .001$ level.

### Step #1: Regressing Affect Dysregulation on Attachment and Family Chaos

Figure 1 presents the LISREL estimates for the fitted model predicting the mediator, Affect Dysregulation, by Attachment and Family Chaos, the independent variables. The chi square statistic was significant, $\chi^2(15) = 346.75$, $p < .001$; however, the chi square statistic is sensitive to sample size (Ullman, 1996). Other fit indices indicate support for the model: Goodness of Fit Index (GFI) = .99, Adjusted Goodness of Fit Index (AGFI) = .98, Standardized Root Mean Square Residual (SRMR) = .01. Attachment significantly predicted Affect Dysregulation ($\gamma = .01$, standardized $\gamma = .44$, $p < .001$), indicating that higher scores on attachment predicted higher levels of teacher-reported externalizing and internalizing behaviors. Family Chaos also significantly predicted Affect Dysregulation ($\gamma = .05$, standardized $\gamma = .48$, $p < .001$), indicating that higher levels of family chaos predicted higher levels of externalizing and internalizing behaviors. According to the squared multiple correlations for structural equations, an estimate of the amount of variance in
Fig. 1  Step 1: Affect dysregulation regressed on attachment and family chaos. Note. Standardized gammas are in parentheses. All other estimates are non-standardized coefficients. See Table 2 for covariances and correlations among the constructs. *p < .05, **p < .01, ***p < .001. χ²(15) = 346.75, p < .001; GFI = .99; AGFI = .98; SRMR = .01.

the outcome accounted for by the model, this model accounts for 79% of the variance in Affect Dysregulation.

Step #2: Regressing Logged Later Violence Against Women on Attachment and Family Chaos

Figure 2 presents the LISREL estimates for the fitted model predicting the dependent variable, Logged Later Violence Against Women, by Attachment and Family Chaos. The chi square was significant, χ²(10) = 338.25, p < .001, however, other fit indices indicate support for the model: GFI = .99, AGFI = .99, SRMR = .005. Attachment significantly predicted Logged Later Violence Against Women (γ = .01, standardized γ = .29, p < .01), indicating that higher Attachment scores predicted higher levels of Later Violence Against Women. Family Chaos also significantly predicted Logged Later Violence Against Women (γ = .02, standardized γ = .24, p < .01), indicating that higher levels of family chaos predicted higher levels of Later Violence Against Women. This model accounts for 26% of the variance in Logged Later Violence Against Women according to the squared multiple correlations for structural equations.

Step #3: Regressing Logged Later Violence Against Women on Attachment, Family Chaos and Affect Dysregulation

In this step, Affect Dysregulation was added as a mediator between Attachment and Family Chaos and Logged

Fig. 2  Step 2: Logged later violence against women regressed on attachment and family chaos. Note. Standardized gammas are in parentheses. All other estimates are non-standardized coefficients. See Table 2 for covariances and correlations among the constructs. *p < .05, **p < .01, ***p < .001. χ²(10) = 338.25, p < .001; GFI = .99; AGFI = .98; SRMR = .005.
Later Violence Against Women. Support for this mediated model was found (see Fig. 3): $\chi^2(20) = 348.92, p < .001$, GFI = .99, AGFI = .98, SRMR = .01. Attachment and Family Chaos significantly predicted Affect Dysregulation (Attachment $\gamma = .01$, standardized $\gamma = .44, p < .001$, Family Chaos $\gamma = .05$, standardized $\gamma = .48$, $p < .001$), and Affect Dysregulation significantly predicted Logged Later Violence Against Women ($\beta = .25$, standardized $\beta = .31, p < .05$). The gammas from Attachment and Family Chaos to Logged Later Violence were reduced to non-significant levels (Attachment $\gamma = .00$, standardized $\gamma = .15$, non-significant, Family Chaos $\gamma = .01$, standardized $\gamma = .09$, non-significant), which also supports Affect Dysregulation as a mediator. This indicates that higher scores on Attachment and higher scores on Family Chaos predicted higher levels of Affect Dysregulation, and Affect Dysregulation then predicted higher Logged Later Violence Against Women. According to the squared multiple correlations for structural equations, this model accounts for 79% of the variance in Affect Dysregulation and 28% of the variance in Logged Later Violence Against Women.

Discussion

Structural equation modeling was used to examine the relationships between attachment, dysregulated affect, variables representing family chaos, and adult perpetration of criminal violence against women. Three models were fit to test for mediation. In the first, Attachment and Family Chaos significantly predicted Affect Dysregulation, and in the second model, Attachment and Family Chaos significantly predicted Logged Later Violence Against Women. In the third model, Affect Dysregulation was added as a mediator between both Attachment and Family Chaos and Logged Later Violence Against Women. In the mediator model, Attachment and Family Chaos significantly predicted Affect Dysregulation, which significantly predicted Logged Later Violence Against Women. The direct relationships between Attachment and Family Chaos and Logged Later Violence Against Women shrank to non-significance when Affect Dysregulation was added as a mediator, as expected in a mediated model (Baron & Kenny, 1986). This model accounted for a large amount of variance, approximately 79% of Affect Dysregulation and 28% of Later Violence Against Women.

In the mediated model, higher levels of Family Chaos predicted higher levels of Affect Dysregulation, which is consistent with previous research showing that family delinquency, alcoholism, emotional disorders, and family disruption or parental relationship instability have a positive relationship with externalizing and internalizing behaviors (e.g., Emery et al., 1999; Tourles, Murphy, & O'Leary, 1989; Margolin & John, 1997). The direction of the relationship between Affect Dysregulation and Later Violence Against Women indicated that more externalizing and internalizing behaviors predicted more adult perpetration of violence, consistent with the hypotheses for this study.

Attachment, however, also had a positive relationship with Affect Dysregulation, which is counter-intuitive given research that shows that insecure attachments, rather than secure attachments, are associated with externalizing and internalizing behaviors (e.g., Cole & Zahn-Waxler, 1992; Magai & Passman, 1998). Yet, placing the attachment
construct in the context of other descriptive variables and examining the substantive meaning lends some understanding of this relationship. The mean of “Father’s Affection” indicated that most had only “fair” or “indifferent” attachments with their fathers, and the mean of “Family Cohesiveness” indicated that most were from families with only “fair” levels of cohesiveness. Further, all of these participants were, of course, physically abused and came from highly chaotic families. Hawkins et al. (1998) note that studies regarding violence must address the difference between bonding to prosocial adults versus bonding to antisocial or criminal adults. Given the lack of cohesiveness and the physical abuse in these families, these attachment relationships may need to be viewed as “relative” for this sample. That is, even those scoring at the higher end of this construct are bonding to parents who are physically abusive, may be criminals themselves, or are possibly struggling with alcohol abuse, psychological problems, or marital instability. “Good” attachment to an abusive parent may not be enough to buffer the effects of physical abuse. While the family chaos factors are controlled in the model, the confusion and disorganization that may result from a relatively close relationship with a parent who is abusive may actually increase the difficulty these participants had managing their emotions.

The most important finding of this study may be the mediating role of dysregulated affect. According to Baron and Kenny (1986), because mediators are believed to causally link risks to outcomes, one expects the direct relationship of the risk factor to the outcome to shrink to a non-significant level when the mediator is added, while both the relationship of the risk factor to the mediator, and the mediator to the outcome to be significant. Because Attachment and Family Chaos significantly predicted Affect Dysregulation, which then significantly predicted the outcome, it can be concluded that Affect Dysregulation mediated the effects of Attachment and Family Chaos on adult Violence Against Women in this sample. Externalizing and internalizing behaviors may be the mechanisms through which attachment and chaotic family factors influence adult men’s perpetration of violence against women.

The model with affect dysregulation as a mediator is consistent with research and theory that shows a relationship between attachment and patterns of affect regulation (Magai & Passman, 1998). Caregiver responsiveness to a child’s emotional cues becomes internalized into a child’s internal working model, which houses expectations regarding the self and the attachment figure (Sroufe, 1996). Because of the extent of abuse and chaos that existed in these families, the responsiveness of the parents may not have adequately met the participants’ needs. As the boys in this study were developing, their emotional cues may have been ignored and/or rejected. Such a lack of response sends the message to a child that his or her needs are not important (Bretherton & Munholland, 1999), and may leave a child in a prolonged state of negative emotional arousal (Izard & Kobak, 1991). Parental behavior that is physically abusive often results in working models containing the conflicting message of danger from the person who is supposed to be one’s source of security (Main, 1996), and parental behavior that is erratic, as in chaotic families, results in children who cannot reliably predict their parents’ behavior, which can lead to chronic anxiety (Cicchetti et al., 1995). Thus the attachment relationships of children in abusive and chaotic families like those in this study may not foster the development of adaptive affect regulation strategies, and in fact, may promote poor affect regulation strategies, which may be exhibited through high levels of externalizing and internalizing behaviors. That is, they may not have good strategies for managing emotions such as shame, fear, rejection, sadness, or anxiety, and they may then act out aggressively and/or withdraw and turn inward. These dysregulated behaviors may then serve as “stepping stones” towards the adult perpetration of violence.

Limitations

There are several limitations to this study. Perhaps the largest is that data needs to be gathered at three different time points to test a true mediation effect, with the risk factor collected at time one, mediator at time two, and outcome at time three. In this study, Affect Dysregulation was collected during the same wave as the risk factors. Therefore, while this study has important implications for hypothesis-testing and theory-building, whether or not dysregulated affect truly mediates attachment and family chaos will need to be replicated in future studies. More direct measures of affect dysregulation, in addition to externalizing and internalizing behaviors, will also need to be used in replication studies.

While a rich source of longitudinal data that continues to be used in secondary analyses (see Laub & Sampson, 1995; Sampson & Laub, 1993), the data were originally collected many years ago and need to be considered in historical context. The results are therefore limited in their generalizability to current family dynamics. For example, as opposed to the more recent child-rearing zeitgeist which recommends the open expression of affection, earlier parenting philosophies tended to be more disparaging of open affection (Magai & Passman, 1998), particularly by fathers, and family management tasks were split very clearly by gender (Coontz, 1992).

Additionally, the age of the data relates to a limitation regarding the construct of attachment in this study. The items used to measure attachment were collected before much of the research and operationalization of attachment (as we know it today) occurred. The Attachment scale, as well as the Later Violence Against Women, Family Delinquency,
Alcoholism, and Emotional Disorders scales, were also not highly reliable. A significant problem related to this data set is that it is not as “clean” as many investigators would expect using today’s standards. The original investigators often used multiple informants to assess one variable. While the number of data sources adds validity to the data in some respects, (Laub et al., 1990), a confound of method variance also exists for many variables. However, some of the variables that are highly inter-correlated are more behavioral, such as the affect dysregulation variables, while others are more relational or emotional, such as the attachment variables. This may add some confidence that these constructs measure different issues. While this study would have been much improved with purer measures of many of these constructs, the nature of secondary data analysis requires that one works with what one has. This data set, despite its limitations, represents thorough historical, longitudinal information spanning almost 30 years—a rarity that makes it an important resource for continued research.

An additional limitation is that the participants were largely homogeneous in terms of race, ethnicity, and religion, which further limits the generalizability of the findings. The participants were from multi-stressed, chaotic families who lived in poor neighborhoods as well. They had many school problems and had committed juvenile offenses to the extent that many had been institutionalized. Thus, it is not possible to sort out the effects specific to family violence on the outcome, and no non-abused sample was available for comparison. However, many studies have found that several comorbid problems exist among juvenile delinquents and children who live in violent homes, including substance abuse, depression and anxiety, aggression, poor peer relations, academic failure and truancy (e.g., Huizinga & Jakob-Chien, 1998; Margolin & Gordis, 2000). In this regard then, this sample may reflect the reality that children growing up in violent families live in the context of multiple risk conditions.

Further, many of the variables comprising the Later Violence Against Women construct in this study include sexually related crimes perpetrated against family and nonfamily members. This is different from the way family violence and violence against women are commonly operationally defined, such as by the Conflict Tactics Scale (e.g., Straus, 1979). However, studies show that many children who are abused grow up to perpetrate violence outside as well as within intimate relationships (Hanson et al., 1997; Hawkins et al., 1998; Holtzworth-Munroe et al., 1997). Studying the intergenerational transmission hypothesis only in respect to intimate violence may miss some areas of violence perpetration, and understanding the broad sequelae of child abuse is an important area of continued research.

Implications for Future Research

Affect regulation is a relatively new area of inquiry (Underwood, 1997). Research should continue to expand on the relationship between affect dysregulation and the process of the intergenerational transmission of violence, both within and outside intimate relationships in adulthood. Of particular importance, because a true mediation model needs at least three time points, the results of this study need to be replicated using a true mediation method. Attachment to anti-social and abusive family members is also an area for further research, as is the role of family chaos in the transmission process. Further, qualitative studies with individuals who were abused as children but are non-violent adults must be conducted. Exploring the personal stories of those who overcome violence would further our understanding of the meanings behind the violence, risk, and protective factors in their lives. Research must also be conducted on violence cessation interventions, particularly those addressing affect regulation strategies. Discovering the factors that predict resilience and protect against the transmission of violence must continue to be studied because of the potential implications for preventing violence and breaking the cycle of abuse.

Conclusion

This study examined the relationships of attachment, affect dysregulation, and family chaos with adult violence against women in a sample of males who were physically abused and followed into adulthood. Affect dysregulation, measured by teacher-reported externalizing and internalizing behaviors, mediated the effects of attachment and family chaos on adult violence against women. Thus in a risk and resilience model, it can be concluded that dysregulated affect may act as a mechanism through which family chaos and attachment processes predict criminal violence against women in adulthood both within and outside of family relationships.

Indeed, this finding is likely the most important contribution to the literature from this study. Recent research has shown that one of the strongest predictors of conduct disorder, violence, and criminal activity is having parents who are criminally involved (e.g. Hawkins et al., 1998), yet the process is not well understood. The results of this study may shed light on how—through the effects on dysregulated affect in the child generation.

The results of this study have important implications for application. Interventions in family violence should address dysregulated affect as well as the broader systemic elements of family chaos. Additionally, attachment may be important to address in both the child’s relationship with his or her parent, as well as the parents’ own unmet
attachment-related needs that are carried forward into the next generation (Cicchetti et al., 1995).

Violence is pervasive and has numerous deleterious effects (Giles-Sims, 1998). This research agenda of understanding the intergenerational transmission and non-transmission of violence has far-reaching implications on individual, family, community, and societal levels.

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References


In J. Garber, & K. A. Dodge (Eds.), The development of emotion regulation and dysregulation (pp. 73–100). New York: Cambridge University Press.


 Springer
Langhinrichsen-Rohling, J., Monson, C. M., Meyer, K. A., Castor, J.,
violence and young adults’ current depressed, hope-less, suicidal,
261.
discipline. In J. McCord (Ed.), Coercion and punishment in long-
term perspective. NY: Cambridge Univ. Press.
of secondary data analysis: A new look at the Gluecks’ unraveling
juvenile delinquency data. In K. Kempf (Ed.), Measurement issues
in criminology (pp. 294–257). New York: Springer-Verlag.
Loeb, R., Southamner-Loeb, M., & White, H. R. (1999). Develop-
mental aspects of delinquency and internalizing problems and
their association with persistent juvenile substance use between
ages 7–18. Journal of Clinical Child Psychology, 28(3), 322–
332.
delinquency in adolescence and early adulthood: A synthesis of
longitudinal research. In R. Loeb, & D. P. Farrington (Eds.),
Serious and violent juvenile offenders: Risk factors and successful
resilience: A critical evaluation and guidelines for future work.
Unresolved loss, relational violence, and lapses in behavioral and
affective strategies. In J. Cassidy, & P. R. Shaver (Eds.), Hand-
book of attachment: Theory, research, and clinical applications
(pp. 520–554). New York: Guilford.
behavior and emotion regulation in adulthood. In K. W. Schüebe,
& M. P. Lawton (Eds.), Annual review of gerontology and geriatrics,
Vol. 17: Focus on emotion and adult development (pp. 104–137).
New York: Springer.
Main, M. (1996). Introduction to special section on attachment and
psychopathology: Overview of the field of attachment. Journal of
Consulting and Clinical Psychology, 64, 237–243.
and nonviolent African American males. Violence and Victims, 13(1),
31–46.
Margolin, G., & Gordin, E. B. (2000). The effects of family and com-
community violence on children. Annual Review of Psychology, 51,
445–479.
aggression: Direct and mediated effects. In G. K., Kantor, &
J. L., Jasinski (Eds.), Out of the darkness: Contemporary Per-
pectives on Family Violence (pp. 90–104). Thousand Oaks, CA:
Sage.
Miller, S. L., & Wellford, C. F. (1997). Patterns and correlates of in-
terpersonal violence. In A. P., Cardarelli (Ed.), Violence between
intimate partners: Patterns, causes, and effects (pp. 16–28). Need-
ham Heights, MA: Allyn & Bacon.
ilies in America: Patterns and variations (4th Ed.). Upper Saddle
River, NJ: Prentice Hall.
Pelcovitz, D., & Kaplan, S. J. (1994). Child witnesses of violence be-
tween parents: Psychosocial correlates and implications for treat-
ment. Child and Adolescent Psychiatric Clinics of North America,
3(4), 745–758.
disorder in juvenile offenders: A preliminary study. American
factors, current interventions, and implications for social work


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