



Published in final edited form as:
Violence Vict. 2012 ; 27(6): 973–990.

A Comparison of Three Different Scoring Methods for Self-Report Measures of Psychological Aggression in a Sample of College Females

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Abstract

Psychological aggression in females' dating relationships has received increased empirical attention in recent years. However, researchers have used numerous measures of psychological aggression, and various scoring methods with these measures, making it difficult to compare across studies on psychological aggression. In addition, research has yet to examine whether different scoring methods for psychological aggression measures may affect the psychometric properties of these instruments. The current study examined three self-report measures of psychological aggression within a sample of female college students ($N = 108$), including their psychometric properties when scored using frequency, sum, and variety scores. Results showed that the Revised Conflict Tactics Scales (CTS2) had variable internal consistency depending on the scoring method used and good validity; the Multidimensional Measure of Emotional Abuse (MMEA) and the Follingstad Psychological Aggression Scale (FPAS) both had good internal consistency and validity across scoring methods. Implications of these findings for the assessment of psychological aggression and future research are discussed.

Keywords

Psychological aggression; dating violence; assessment; psychometrics; reliability

Psychological aggression is a devastating problem in college students' dating relationships. In recent years, there has been an increased research focus on psychological aggression (Follingstad, 2007), leading researchers to better understand this distinct type of aggression and the negative consequences associated with its presence. However, the measurement of psychological aggression has been difficult (Ro & Lawrence, 2007), as there are numerous measures of psychological aggression, various scoring methods for these measures, and a multitude of working definitions for this construct, making it unclear which measure(s) and scoring method(s) best captures this complex and multifaceted behavior. The purpose of the present study was to examine three measures of psychological aggression within a sample of female college students in an attempt to determine the utility of each measure and how they compare with each other across three different scoring methods.

Psychological Aggression

Although there is no agreed upon definition of psychological aggression (see Follingstad, 2007, for review), it is generally recognized that psychologically aggressive behavior is intended to attack a victims' sense of self and emotional well-being. Murphy and Hoover (1999) state that psychological aggression "consists of coercive or aversive acts intended to

produce emotional harm or threat of harm” (p. 40). Lawrence, Yoon, Langer, and Ro (2009) define psychological aggression as “behaviors such as ridiculing, verbal threats, isolating one’s partner from family and friends, and attempting to control one’s partner, and are intended to degrade one’s partner and attack his or her self-worth by making him or her feel guilty, upset, or inadequate” (p. 20).

Psychological aggression occurs in approximately 80% of female college student dating relationships (see Shorey, Cornelius, & Bell, 2008, for review). The majority of psychological aggression is bidirectional, such that females are often both victims and perpetrators (Cornelius, Shorey, & Beebe, 2010). Female victims of psychological aggression are at heightened risk for negative health consequences, including symptoms of depression and anxiety (Harned, 2001; Katz & Arias, 1999; Shorey, Sherman, et al., 2011) and substance use (Shorey, Rhatigan, Fite, & Stuart, 2011; Straight, Harper, & Arias, 2003). Further, the negative health effects of psychological aggression often remain after controlling for physical aggression victimization (O’Leary, 1999). Psychological aggression is one of the best predictors of physical aggression (Baker & Stith, 2008) and oftentimes precedes the onset of physical aggression (O’Leary, 1999). Thus, psychological aggression is an important area of research irrespective of the presence of physical aggression.

Psychological Aggression Measures

The most commonly used measure for assessing psychological aggression in college students dating relationships is the Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003). The psychological aggression subscale of the CTS2 consists of 16-items (8 perpetration and 8 victimization) and can be divided into minor and severe subscales. The brevity of the CTS2 psychological aggression subscale is a strength of this measure, although it may also only capture a small subset of behaviors that could be classified as psychological aggression. Moreover, research has demonstrated low to moderate internal consistency for the CTS2, although it has demonstrated good validity (Cercone, Beach, & Arias, 2005; Lewis, Travea, Fremouw, 2002; Shook, Gerrity, Jurich, & Segrist, 2000; Shorey, Rhatigan, et al., 2011)

Another commonly used measure of psychological aggression is the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999, 2001). Expanding on the CTS2, Murphy and Hoover (1999, 2001) conceptualized psychological aggression as a multidimensional construct. The MMEA contains 56 items (28 perpetration and 28 victimization) with four rationally derived subscales. The *restrictive engulfment* subscale includes behaviors that isolate one’s partner, restrict a partner’s activity, and display jealousy; the *denigration* subscale includes behaviors that humiliate or degrade one’s partner; the *hostile withdrawal* subscale includes behaviors that create tension concerning relationship stability, such as through emotional withdrawing; and the *dominance/isolation* subscale includes behaviors such as threats, destruction of property, and fear producing actions. The MMEA’s major strength is its ability to examine a wide-range of psychologically aggressive behaviors, making it a useful tool for an in-depth examination of this complex behavior. Additionally, the MMEA has demonstrated good validity and reliability, particularly among college students (Gormley & Lopez, 2010; Murphy & Hoover, 1999; Stein, Tran, & Fisher, 2009).

Recently, Follingstad Coyne, and Gambone, (2005) created the Follingstad Psychological Aggression Scale (FPAS) which is designed to comprehensively examine gradations (mild, moderate, and severe) of psychologically aggressive behaviors. This 102-item measure (51 perpetration and 51 victimization) assesses 17 dimensions of psychological aggression that were theoretically derived through a comprehensive examination of the psychological

aggression literature. These dimensions include: threats/intimidation, destabilizing perceptions of reality, isolation/monopolization, treatment as inferior, establishment of power through refusals, verbal abuse/criticism, jealousy/suspicion, monitoring/checking, rigid gender roles, control over personal behavior, emotionally/physically withholding, public embarrassment/humiliation, emotionally wounding behavior around fidelity, lying/deception, guilt-induction/blaming, manipulation, and attacking attractiveness/sexuality. Each of the dimensions includes one item that falls under mild, moderate, and severe behavior.

The FPAS holds promise for comprehensively examining psychologically aggressive behavior, although only two studies have used this measure. Follingstad and colleagues (2005) asked college students to rate how psychologically abusive each item was, not their actual experiences with psychological aggression. Although good internal consistency was reported, the generalizability of these estimates to actual aggressive behavior may be limited. DeHart, Follingstad, and Fields (2010) asked college students to report on their perpetration and victimization experiences using the FPAS, but only examined how psychological aggression was associated with ratings of abusive vignettes and did not report any psychometric properties. Thus, additional research is needed that examines the FPAS.

Scoring Methods

A limitation in assessing and comparing psychological aggression across studies has been differences in scoring procedures for these measures. For instance, studies have used frequency, sum, and variety scoring procedures (e.g., Gormley & Lopez, 2010; Ro & Lawrence, 2007; Taft et al., 2006). Frequency scores represent how often a particular behavior has occurred by taking the midpoint for each response (e.g., a score of “4” for a behavior that occurred 3–5 times; Straus et al., 1996), is the most common method for scoring the CTS2 (Straus et al., 2003), and is the most commonly used scoring method across dating violence measures. Sum scores represent the addition of all items from a particular rating scale, and are similar to frequency scores, although they do not take the midpoint for each item. Variety scores represent the total number of items positively endorsed, thus each item that is endorsed is scored as a “1.”

Different scoring methods could have important implications for the interpretation of psychological aggression findings and the psychometric properties of each measure, including internal consistency, validity, and normality of data. For instance, frequency scoring has the advantage of providing specific information regarding how frequently each act occurred. However, frequency scores have the potential disadvantage of leading to skewed, non-normal distributions. Sum scores have the advantage of an increased likelihood to maintain normal distributions, although they do not provide specific information regarding the exact number of times an act of aggression occurred. Variety scores have the advantage of reducing skewness and kurtosis, giving equal weight to different aggressive acts, and increasing reliability by taking memory limitations into consideration (Moffitt et al., 1997; Taft et al., 2006). However, variety scores do not allow researchers to determine how often aggressive behavior is occurring. Thus, it is important that different scoring options for these measures be compared, as this may provide useful information on the scoring method(s) that provide the most useful information and good psychometric properties.

Current Study

The current study examined three different methods of scoring psychological aggression measures (i.e., frequency, sum, and variety) in a sample of female college students. Using

the CTS2, MMEA, and FPAS, we also examined whether the three different scoring methods had differential effects on the measures' internal consistency and validity. To examine the construct validity of each measure, we examined the relations between psychological aggression and physical aggression, which is based on previous research (Murphy & O'Leary, 1989; Straus et al., 1996) and theory (Berkowitz, 1993) which demonstrates psychological aggression is distinct from, and is one of the best cross-sectional and longitudinal predictors of, physical aggression.

Method

Procedures

College students from a large southeastern university in the United States were assessed for eligibility in the current study through the use of an online survey website used by researchers at the university where the study was conducted. Students read a brief description of the current study, which stated that they would be asked to complete a number of self-report measures about "verbal disagreements" in a current dating relationship. Interested students then completed a brief screening measure to determine their eligibility, and students were not made aware of eligibility criteria other than needing to be 18 years of age or older and needing to be in a dating relationship. To be eligible for the current study participants (1) had to be in a current dating relationship lasting at least 1 month in duration, (2) had to be 18 years of age or older, (3) their current dating partner needed to be 18 years of age or older, and (4) they must have perpetrated a minimum of one act of severe psychological aggression as defined by the CTS2 against their current dating partner in the previous 6 months. The decision to require the perpetration of severe psychological aggression was made to ensure a sample of college women who had likely perpetrated a range of psychologically aggressive behavior would be obtained and was a necessary requirement for a different study with this data set (Shorey, Febres, Brasfield, & Stuart, 2011). Women were only screened for psychological aggression perpetration, not victimization or any other form of violence.

Eligible students were contacted via email with an encrypted link to the survey. Participants completed an informed consent and then completed the measures described below using surveymonkey.com, an online survey website. In return for their participation, students were provided with course credit and a list of referral sources for domestic violence and counseling. All procedures were approved by the university's Institutional Review Board.

Participants

A total of 143 women were eligible and invited to participate. One hundred and twenty two women (85%) participated. For the current study, 108 women were examined as they completed all of the measures of interest. The mean age of participants was 18.5 ($SD = .93$, Range = 18–23) and the mean length in months of participants' current dating relationship was 10.9 ($SD = 10.7$, Range = 1–48). The majority of women were heterosexual (96.3%) and not living with their dating partner (94.4%). Academically, 75.0% were freshmen, 14.8% were sophomores, 8.3% were juniors, .9% were seniors, and .9% were postgraduate. Ethnically, 83.3% were non-Hispanic Caucasian, 11.1% were African American, 1.3% were Hispanic, 1.9% were Native American, .9% were Asian-American, and 1 participant did not indicate her race. The ethnic composition of our sample is consistent with the ethnic composition of the entire university where the study was conducted.

Measures

Demographics—Participants were asked to indicate their age, race, gender, ethnicity, relationship length, and sexual orientation.

Psychological Aggression—As discussed above, the Revised Conflict Tactics Scales (CTS2; Straus et al., 1996; Straus et al., 2003) psychological aggression subscale, the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999, 2001), and The Follingstad Psychological Aggression Scale (FPAS; Follingstad et al., 2005) were all used to assess psychological aggression perpetration and victimization. For each measure, participants rated items on a 7-point scale to indicate how often they perpetrated, or were victimized by, each aggressive behavior in their current dating relationship during the previous 6 months (0 = never, 1 = once, 2 = twice, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, 6 = more than 20 times). This rating scale was consistent with the recommended rating scale for the CTS2 and MMEA, and was employed for the FPAS because Follingstad and colleagues (2005) did not specify a rating scale for their measure.

Physical Aggression—The 12-item physical assault subscale of the CTS2 was used to assess physical aggression perpetration and victimization in participant's dating relationship in the previous six months. The CTS2 physical assault scale has shown adequate internal consistency and validity (Straus et al., 2003). Items were rated on a 7-point scale to indicate how often each act of physical aggression had occurred (0 = never, 1 = once, 2 = twice, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, 6 = more than 20 times). The physical assault subscale was scored consistent with the three parallel psychological aggression measure scoring procedures, as described previously. The CTS2 physical assault subscale was log-transformed to reduce skewness prior to analyses.

Results

Table 1 presents internal consistency estimates for all psychological aggression perpetration and victimization scales across different scoring methods. Although there are no standard levels of acceptable or unacceptable internal consistency values (Schmitt, 1996), George and Mallery (2003) suggest that internal consistency of .90 or greater can be considered “excellent”, scores ranging from .80–.89 are “good”, .70–.79 are “acceptable”, .60–.69 are “questionable”, .50–.59 are “poor”, and less than .50 are “unacceptable” (p. 231). The CTS2 scales showed low internal consistency estimates when scored with frequency scoring (“questionable” to “unacceptable”), with higher estimates when scored with sum (“acceptable” to “excellent”) and variety scoring (“questionable” and “acceptable”). The MMEA and FPAS scales showed good internal consistency estimates across the different scoring methods. That is, all internal consistency estimates for these scales ranged from “acceptable” to “excellent.”

Table 2 presents means and standard deviations among the psychological aggression scales. We examined whether the skewness and kurtosis values, when combined, were greater than 3, which is considered to violate assumptions of normality (Hildebrand, 1986). When variables were scored using frequency scoring, all psychological aggression scales had a combined skewness and kurtosis of greater than 3. For sum scores, 16 of the 24 psychological aggression scales had a skewness and kurtosis combined value of greater than 3. Only three scales had a combined skewness and kurtosis value of greater than 3 for variety scores.

Correlations between all psychological aggression scales and physical aggression perpetration and victimization are presented in Table 3. All psychological aggression subscales that were skewed were log-transformed to reduce skewness prior to analyses. For frequency scores, physical aggression perpetration was significantly associated with 16 of the 24 psychological aggression subscales, and physical victimization was associated with 21 of the 24 psychological aggression subscales. For sum and variety scores, physical aggression perpetration was significantly associated with each psychological aggression

scale. Physical aggression victimization was associated with 8 (sum scoring) and 9 (variety scoring) of the psychological aggression subscales.

We also examined correlations among each individual measure's subscales, and their relation to the other scales, to determine whether they appeared to be tapping into related behaviors underlying the same construct (see Tables 4, 5, and 6). As expected, correlations among subscales for each measure were highly correlated with each other, and this pattern held true for all three types of scoring methods. In addition, correlations among the three different scales for perpetration ranged from .24 to .86, and all correlations were significant ($ps < .05$). With few exceptions a similar pattern of correlations emerged when victimization scales were compared across measures (see Tables 4, 5, and 6), with the majority of correlations falling between .28 and .88 ($ps < .05$).

Discussion

The current study examined three measures of psychological aggression perpetration and victimization within a sample of female college students in current dating relationships. Due to a lack of consensus on a working definition of psychological aggression (Follingstad, 2007) and the best measure(s) and scoring method(s) to use for assessing this complex construct (Ro & Lawrence, 2007), the current study examined and compared three measures of psychological aggression (CTS2, MMEA, FPAS) and how three different scoring methods (frequency, sum, and variety) affected their psychometric properties, including their internal consistency and construct validity.

Our results showed variable psychometric properties depending on the measure(s) being examined and type of scoring method, although psychometric properties did not appear to vary whether reports were on perpetration or victimization. The most commonly used scoring method for the CTS2, frequency scoring (Straus et al., 2003), produced low and inconsistent internal consistency for this measure, along with positive skew and kurtosis. In fact, all of the CTS2, MMEA, and FPAS scales were positively skewed and kurtotic when frequency scores were used. In contrast, variety scores produced scores that were relatively normally distributed. Variety scores and sum scores produced strong internal consistency estimates for the MMEA and FPAS, and the CTS2 internal consistency was acceptable when using these scoring methods. However, sum scores also produced scores that were largely skewed and kurtotic. These results indicate that variety scores produce good internal consistency across the three measures of psychological aggression and scores that are relatively normally distributed.

All three measures of psychological aggression showed evidence of construct and concurrent validity across the three different scoring methods. Psychological aggression perpetration was associated with physical aggression perpetration across scoring methods, which would be expected by theory (e.g., Berkowitz, 1993) and previous research (Straus et al., 1996), providing evidence for the construct validity of these measures. In addition, the concurrent validity of each measure was evident through significant associations between all of the psychological aggression scales used in the current study. Thus, these findings indicate that all three measures of psychological aggression examined have good construct and concurrent validity regardless of the scoring method employed.

Implications and Directions for Future Research

Findings from the current study may have important implications for the assessment of psychological aggression in college females' dating relationships. Researchers should be aware that the CTS2 psychological aggression subscale is limited in several notable ways, particularly in its low internal consistency when using frequency scoring and a lack of

comprehensiveness in assessing this construct. However, researchers have argued that internal consistency less than .70 is acceptable for studies that are largely exploratory in nature (Hair, Anderson, Tatham, & Black, 1998), which could justify use of the CTS2 psychological aggression frequency scores for this purpose. However, some researchers may feel that the internal consistency of the CTS2 is too low to warrant use even in exploratory studies. In addition, the CTS2 psychological aggression scale has shown consistent relations with physical aggression and mental health outcomes across a number of studies, has good construct validity across scoring methods, and its brevity may justify its use when researcher's aim to reduce participant burden.

When research aims to comprehensively assess psychological aggression, or when the research aims to determine how different types or severity levels of psychological aggression are associated with outcomes, the MMEA and FPAS are appropriate. These measures are lengthy, with 56 items for the MMEA and 102 for the FPAS, which could limit the number of additional constructs that can be assessed due to the time required to complete these measures. The number of items for each of these measures would be reduced by half, however, if researchers are only investigating one type of psychological aggression (perpetration or victimization). Researchers could also investigate how shorter versions of the MMEA and FPAS would perform psychometrically, which could reduce participant burden while still assessing a range of psychologically aggressive behaviors.

Our findings also indicate that the type of scoring method used when examining these measures plays an important role in the psychometric properties of each measure and in interpreting findings. Variety scores are an increasingly common approach to scoring measures of intimate partner violence (Moffitt et al., 1997; Taft et al., 2006), and our findings support the use of variety scores due to their strong internal consistency, correlations with physical aggression, and normality of data. In addition, variety scores are easily comparable across measures, as the total number of different aggressive acts is indicated in these scores. Variety scoring may also help to reduce problems associated with retrospective recalling of the number of times a particular aggressive act has occurred (Moffitt et al., 1997), although this method does not capture how often aggressive behavior occurs. Researchers should be aware that frequency and sum scores will likely produce more variable psychometric properties, especially non-normality of data. The use of nonparametric statistical tests or data transformations is likely necessary when using frequency and sum scoring methods.

Additionally, although there are numerous measures of psychological aggression, the field of dating violence, and domestic violence broadly, needs to develop a consensus on the definition and behaviors that constitute psychological aggression. In our opinion, this is one of the most important areas of development that is needed in the domestic violence field. Numerous attempts have been made at comprehensively defining this construct (e.g., Follingstad et al., 2005; Lawrence et al., 2009), which has led to an increased understanding of psychological aggression. However, it should be noted that a consensus definition of psychological aggression may be made difficult due to this form of aggression potentially looking different across populations. For instance, college students' likely experience less controlling behavior around finances than married couples; battered women may experience more controlling and monitoring behaviors. These differences should be considered when operationalizing, and defining, psychological aggression. Continued work is needed in this area to guide researchers in accurately assessing this destructive constellation of aggressive behaviors and to allow for a better comparison of studies that examine psychological aggression.

Limitations

When interpreting findings from the current study its limitations should be considered. The majority of students in this study were non-Hispanic Caucasian, limiting the generalizability of findings to more diverse populations. The use of a sample of female college students who had previously perpetrated severe psychological aggression further limits the generalizability of findings. Since the study was cross-sectional we were only able to examine certain forms of reliability (internal consistency) and validity, and we were unable to examine the test-retest reliability and the predictive validity of study measures. Research is needed that examines measures of psychological aggression at different time points to determine whether they have acceptable test-retest reliability. The current study did not include any measures of mental health symptomatology or other known correlates and consequences of psychological aggression victimization and perpetration, limiting our ability to examine predictive validity of the psychological aggression measures. Future research should examine the validity of these instruments in more depth. We also did not obtain collateral aggression reports from relationship partners, which would have important implications for examining the validity of each measure (e.g., is psychological aggression by one partner associated with aggression by the other partner). Collecting information regarding psychological aggression from both partners would also allow researchers to corroborate each person's report of partner behavior.

In summary, findings showed that the variety scoring method produced acceptable internal consistency estimates across measures, produced data that did not violate assumptions of normality, and produced good validity across measures. Frequency scores produced widely variable internal consistency for the CTS2, and frequency and sum scores resulted in broad violations of data normality. Our findings suggest that the CTS2 may be appropriate for gaining a brief, unidimensional assessment of psychological aggression, particularly when using variety scores. The use of the MMEA and FPAS may help researchers in reliably assessing psychological aggression in-depth, a notable limitation in the literature. These findings have important implications for accurately and reliably assessing psychological aggression, as well as for gaining clinical information to be used in dating violence intervention and prevention programs. Research is needed to replicate and extend the findings of the current study, particularly using samples of males and samples of couples.

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Table 1

Internal Consistency Estimates among Psychological Aggression Variables

Psychological Aggression	Internal Consistency α (Sum Scores)	Internal Consistency α (Frequency Scores)	Internal Consistency α (Variety Scores)
CTS2 Perpetration Total	.82	.64	.69
CTS2 Perpetration Minor	.77	.62	.61
CTS2 Perpetration Severe	.82	.29	.61
CTS2 Victimization Total	.81	.63	.74
CTS2 Victimization Minor	.72	.64	.70
CTS2 Victimization Severe	.94	.41	.72
MMEA RE Perpetration	.84	.81	.75
MMEA DI Perpetration	.89	.87	.86
MMEA DEN Perpetration	.87	.85	.82
MMEA HW Perpetration	.89	.86	.86
MMEA Perpetration Total	.93	.92	.92
MMEA RE Victimization	.85	.81	.79
MMEA DI Victimization	.89	.80	.86
MMEA DEN Victimization	.88	.90	.84
MMEA HW Victimization	.91	.87	.86
MMEA Victimization Total	.94	.92	.93
FPAS Mild Perpetration	.85	.81	.79
FPAS Moderate Perpetration	.84	.80	.82
FPAS Severe Perpetration	.87	.87	.82
FPAS Perpetration Total	.94	.93	.93
FPAS Mild Victimization	.85	.81	.81
FPAS Moderate Victimization	.89	.88	.85
FPAS Severe Victimization	.91	.92	.86
FPAS Victimization Total	.95	.95	.94

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measures of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; DI = Dominance/Isolation; DEN = Denigration; HW = Hostile Withdrawal

Table 2

Means and Standard Deviations among Study Variables

Variable	Mean (SD) (Sum Scores)	Mean (SD) (Frequency Scores)	Mean (SD) (Variety Scores)
CTS2 Perpetration Total	6.7 (7.0) [†]	19.0 (17.3) [†]	2.8 (1.9)
CTS2 Perpetration Minor	5.3 (4.8)	14.7 (14.6) [†]	2.2 (1.3)
CTS2 Perpetration Severe	1.3 (3.4) [†]	4.2 (4.7) [†]	0.6 (0.9) [†]
CTS2 Victimization Total	5.4 (6.5) [†]	16.7 (15.8) [†]	2.2 (1.9)
CTS2 Victimization Minor	4.6 (4.4)	13.7 (14.4) [†]	1.9 (1.4)
CTS2 Victimization Severe	0.9 (3.4) [†]	3.3 (3.5) [†]	0.3 (0.8) [†]
MMEA RE Perpetration	8.7 (7.6)	15.9 (20.9) [†]	3.4 (2.1)
MMEA DI Perpetration	2.8 (5.5) [†]	4.8 (13.4) [†]	1.4 (2.1)
MMEA DEN Perpetration	4.1 (5.7) [†]	6.5 (14.6) [†]	2.1 (2.1)
MMEA HW Perpetration	9.7 (8.3)	16.7 (21.2) [†]	3.9 (2.4)
MMEA Perpetration Total	25.1 (21.9) [†]	43.1 (55.8) [†]	10.8 (6.9)
MMEA RE Victimization	7.5 (7.3) [†]	13.2 (19.1) [†]	3.1 (2.2)
MMEA DI Victimization	2.8 (5.3) [†]	4.4 (11.1) [†]	1.4 (2.1)
MMEA DEN Victimization	3.4 (5.5) [†]	5.4 (14.2) [†]	1.7 (2.1)
MMEA HW Victimization	10.6 (9.1)	19.4 (24.6) [†]	4.2 (2.4)
MMEA Victimization Total	24.5 (22.8) [†]	42.8 (57.2) [†]	10.4 (7.2)
FPAS Mild Perpetration	25.7 (14.3)	47.2 (40.7) [†]	10.2 (3.7)
FPAS Moderate Perpetration	18.1 (12.9)	33.3 (35.3) [†]	7.5 (4.0)
FPAS Severe Perpetration	11.3 (11.9) [†]	20.5 (34.8) [†]	5.2 (3.8)
FPAS Perpetration Total	55.3 (36.5) [†]	101.1 (101.6) [†]	22.9 (10.7)
FPAS Mild Victimization	26.0 (15.1)	51.5 (45.5) [†]	9.8 (3.9)
FPAS Moderate Victimization	17.6 (14.8) [†]	31.7 (41.6) [†]	7.4 (4.4)
FPAS Severe Victimization	12.2 (14.4) [†]	24.2 (46.3) [†]	5.0 (4.1) [†]
FPAS Victimization Total	56.2 (42.2) [†]	106.8 (124.9) [†]	22.4 (11.8)

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measures of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; DI = Dominance/Isolation; DEN = Denigration; HW = Hostile Withdrawal

[†] = Skew and Kurtosis => 3.

Table 3

Psychological Aggression with Physical Aggression Bivariate Correlations

Psychological Aggression	Physical Perpetration (Sum)	Physical Perpetration (Frequency)	Physical Perpetration (Variety)	Physical Victimization (Sum)	Physical Victimization (Frequency)	Physical Victimization (Variety)
CTS2 Perpetration Total	.56***	.57***	.64***	.44***	.45***	.47***
CTS2 Perpetration Minor	.59***	.47***	.45***	.39***	.36***	.31**
CTS2 Perpetration Severe	.72***	.75***	.67***	.57***	.64***	.48***
CTS2 Victimization Total	.51***	.49***	.58***	.44***	.46***	.50***
CTS2 Victimization Minor	.62***	.41***	.61***	.69***	.32**	.31**
CTS2 Victimization Severe	.61***	.66***	.56***	.59***	.72***	.49***
MMEA RE Perpetration	.43***	.11	.28**	.27**	-.01	.11
MMEA DI Perpetration	.57***	.32**	.52***	.34***	.13	.30**
MMEA DEN Perpetration	.34**	.26**	.27**	.07	.14	.02
MMEA HW Perpetration	.47***	.18	.36***	.27**	.03	.18
MMEA Perpetration Total	.47***	.23*	.44***	.27**	.07	.17
MMEA RE Victimization	.31**	.11	.27**	.21*	.04	.11
MMEA DI Victimization	.50***	.24*	.42***	.42***	.14	.37***
MMEA DEN Victimization	.32**	.19	.26*	.12	.07	.05
MMEA HW Victimization	.36***	.15	.28**	.21*	.02	.17
MMEA Victimization Total	.38***	.15	.37***	.26**	.04	.22*
FPAS Mild Perpetration	.44***	.36***	.30**	.26**	.29*	.09
FPAS Moderate Perpetration	.43***	.26**	.33**	.22*	.14	.11
FPAS Severe Perpetration	.45***	.20*	.32**	.22**	.06	.07
FPAS Perpetration Total	.44***	.32**	.34***	.24*	.18	.10
FPAS Mild Victimization	.46***	.28**	.36***	.34**	.19	.16
FPAS Moderate Victimization	.38***	.19	.34**	.24*	.09	.16
FPAS Severe Victimization	.35***	.12	.30**	.25*	.05	.18
FPAS Victimization Total	.39***	.23*	.36***	.27*	.15	.18

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measures of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; DI = Dominance/Isolation; DEN = Denigration; HW = Hostile Withdrawal

* $p < .05$

** $p < .01$

*** $p < .001$

Table 4
 Bivariate Correlations among Perpetration and Victimization Psychological Aggression Scales using Frequency Scores

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. CTS2 Minor	---	.58***	.97***	.45***	.42***	.36***	.36***	.51***	.51***	.57***	.53***	.57***
2. CTS2 Severe	.41***	---	.71***	.19*	.27**	.39***	.37***	.35***	.37***	.31**	.28**	.35***
3. CTS2 Total	.97***	.57***	---	.41***	.42***	.38***	.39***	.50***	.53***	.56***	.51***	.58***
4. MMEA RE	.48***	.09	.43***	---	.55***	.42***	.46***	.79***	.56***	.54***	.62***	.61***
5. MMEA HW	.50***	.12	.45***	.51***	---	.56***	.63***	.87***	.58***	.72***	.71***	.69***
6. MMEA DI	.43***	.11	.38***	.46***	.59***	---	.61***	.63***	.49***	.56***	.53***	.56***
7. MMEA DEN	.49**	.19*	.46**	.56***	.59***	.59***	---	.71***	.65***	.67***	.70***	.71***
8. MMEA Total	.56***	.11	.50***	.79***	.87***	.67***	.71***	---	.71***	.79***	.80***	.81***
9. FPAS Mild	.64***	.26***	.62***	.59***	.61***	.51***	.57***	.73***	---	.80***	.73***	.94***
10. FPAS Moderate	.67***	.17	.62***	.75***	.69***	.62***	.68***	.83***	.79***	---	.78***	.93***
11. FPAS Severe	.60***	.07	.52***	.72***	.62***	.52***	.68***	.75***	.71***	.83***	---	.85***
12. FPAS Total	.68***	.23*	.64***	.72***	.68***	.60***	.67***	.81***	.95***	.92***	.85***	---

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measure of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; HW = Hostile Withdrawal; DI = Dominance/Isolation; DEN = Denigration. Bivariate correlations among violence perpetration scales are presented above the diagonal. Bivariate correlations among violence victimization scales are presented below the diagonal.

* $p < .05$,
 ** $p < .01$,
 *** $p < .001$

Table 5
 Bivariate Correlations among Perpetration and Victimization Psychological Aggression Scales using Sum Scores

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. CTS2 Minor	---	.51***	.84***	.44***	.42***	.46**	.39**	.54***	.48***	.51***	.54***	.55***
2. CTS2 Severe	.17	---	.56***	.39***	.44***	.55***	.37***	.48***	.39***	.42***	.45***	.47***
3. CTS2 Total	.23*	.54***	---	.46***	.44***	.42***	.40***	.58***	.52***	.52***	.56***	.55***
4. MMEA RE	.16	.36**	.54***	---	.59***	.47***	.51***	.73***	.68***	.70***	.63***	.72***
5. MMEA HW	.21*	.34**	.51***	.54***	---	.60***	.63***	.81***	.62***	.73***	.67***	.71***
6. MMEA DI	.34***	.33**	.46***	.45***	.64***	---	.60***	.64***	.56***	.64***	.55***	.63***
7. MMEA DEN	.18	.34**	.43***	.57***	.61***	.62***	---	.72***	.70***	.69***	.70***	.74***
8. MMEA Total	.19	.36***	.61***	.80***	.79***	.68***	.73***	---	.71***	.75***	.81***	.76***
9. FPAS Mild	.37***	.36**	.59***	.65***	.65***	.62***	.68***	.74***	---	.84***	.75***	.94***
10. FPAS Moderate	.26**	.31**	.60***	.64***	.59***	.55***	.62***	.76***	.92***	---	.79***	.94***
11. FPAS Severe	.19*	.30**	.65***	.77***	.66***	.63***	.67***	.84***	.78***	.82***	---	.84***
12. FPAS Total	.37***	.40***	.64***	.74***	.71***	.69***	.75***	.78***	.91***	.81***	.82***	---

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measure of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; HW = Hostile Withdrawal; DI = Dominance/Isolation; DEN = Denigration. Bivariate correlations among violence perpetration scales are presented above the diagonal. Bivariate correlations among violence victimization scales are presented below the diagonal.

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 6
 Bivariate Correlations among Perpetration and Victimization Psychological Aggression Scales using Variety Scores

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. CTS2 Minor	---	.41***	.88***	.46***	.38***	.32**	.31**	.45***	.51***	.51***	.52***	.56***
2. CTS2 Severe	.37***	---	.77***	.24*	.34***	.52***	.39***	.49***	.23*	.32**	.38***	.34**
3. CTS2 Total	.91***	.72***	---	.45***	.45***	.50***	.42***	.57***	.48***	.53***	.55***	.56***
4. MMEA RE	.46***	.30**	.46***	---	.52***	.45***	.49***	.75***	.68***	.65***	.64***	.72***
5. MMEA HW	.43***	.32**	.46***	.54***	---	.53***	.51***	.82***	.63***	.67***	.62***	.69***
6. MMEA DI	.37***	.28**	.41***	.46***	.51***	---	.64***	.79***	.54***	.63***	.58***	.64***
7. MMEA DEN	.30**	.31**	.33**	.62***	.51***	.65***	---	.82***	.63***	.66***	.69***	.72***
8. MMEA Total	.48***	.37***	.51***	.81***	.80***	.81***	.84***	---	.76***	.81***	.80***	.86***
9. FPAS Mild	.55***	.26**	.52***	.73***	.59***	.61***	.65***	.79***	---	.77***	.69***	.89***
10. FPAS Moderate	.56***	.29**	.54***	.79***	.64***	.68***	.67***	.85***	.83***	---	.82***	.94***
11. FPAS Severe	.63***	.33**	.60***	.76***	.62***	.57***	.63***	.79***	.79***	.87***	---	.92***
12. FPAS Total	.60***	.31**	.56***	.83***	.65***	.69***	.72***	.88***	.91***	.96***	.92***	---

Note: CTS2 = Revised Conflict Tactics Scales; MMEA = Multidimensional Measure of Emotional Abuse; FPAS = Follingstad Psychological Aggression Scale; RE = Restrictive Engulfment; HW = Hostile Withdrawal; DI = Dominance/Isolation; DEN = Denigration. Bivariate correlations among violence perpetration scales are presented above the diagonal. Bivariate correlations among violence victimization scales are presented below the diagonal.

* $p < .05$,

** $p < .01$,

*** $p < .001$