Intimate Terrorism and Situational Couple Violence: Classification Variability Across Five Methods to Distinguish Johnson's Violent Relationship Types

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Johnson's (1995, 2008) theory of violent relationship types represents an opportunity to resolve debates surrounding intimate partner violence (IPV) prevalence and to adapt policy and treatment options for victims accordingly. However, the use of quantitative methods to distinguish between situational couple violence (SCV) and intimate terrorism (IT) remains in its initial stages of discovery. This study included a 2-phase (N = 840; via targeted community and agency sampling) online survey design comparing the utility and grouping variability across 5 methods of IT/SCV classification: victimization-variables and coercive-control-variable hierarchical clustering, vignette-choice, cutoff scoring, and expert coding. Findings are discussed in terms of contributions to differing IPV-research perspectives, researchers' understanding of existing classification methods, and practitioners' awareness of victims' voices in quantitative research.

Keywords: measurement; cluster; coercive control; expert coding; intimate partner violence; prevalence

Intimate partner violence (IPV), intentional physical and/or psychological harm to a romantic partner, is recognized as a global health problem affecting many millions of victims, with 10%–69% of women around the world reporting IPV victimization across their lifetime (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). A meta-analysis of almost 250 prevalence studies published between 2000 and 2010 concluded that 23.1% of women (i.e., almost 1 in 4) and 19.3% of men (i.e., almost 1 in 5) in English-speaking nations had experienced physical violence in a romantic relationship (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012). Relationships characterized by IPV are referred to by many different terms, but some categorizations of victimization are consistently discussed across many typologies (Capaldi & Kim, 2007). Johnson's (2008) classification system outlines these abusive relationships and is based on frequencies, patterns, and types of violence used in romantic relationships (Johnson & Ferraro, 2000). Accounting for psychodynamic, feminist, and family violence perspectives on violence, this taxonomy accommodates most IPV research to date because it accounts for directionality

of perpetration, injury and context, fear, coercive control, and all types of abuse (i.e., psychological, physical, sexual). Originally argued by Johnson (1995), misunderstandings across perspectives are usually confused by two main types (four total theorized) of IPV relationships: *intimate terrorism* (IT) and *situational couple violence* (SCV; Johnson & Ferraro, 2000), which are the foci of this study.

The intention to control or dominate a victim is central to IT. Control tactics used in IT are primarily psychological, are often accompanied by physical abuse, and may include sexual abuse (Johnson, 1995). Abuse in IT escalates in severity and frequency over time. Consequences of IT are considered severe and more likely to result in fear, injury, and/or death for victims than other types of abusive relationships. According to Johnson and Leone (2005), IT is less likely to be mutually perpetrated by men and women, more likely to be perpetrated by men, and involves more per couple incidents of physical violence than SCV.

In SCV relationships, IPV results from relational conflict where abusive behaviors are used to manage an argument (Olson, 2002); violent incidents escalate from the situation. SCV is *noncoercively controlling* (i.e., psychological and/or physical attempts to dominate and manipulate victim). Predictable patterns have not yet been identified in SCV relationships, which are not likely to escalate in severity over the course of a relationship (Johnson, 1995). Abuse incidents in SCV are typically lower in average relational frequency than other IPV relationship types. Capturing claims of male/female equivocality, SCV is more likely to be mutually perpetrated by men and women—simultaneously or across different episodes—than violence in other relationship types (Johnson & Leone, 2005; Straus & Gelles, 1990).

Although recent scholarship has recognized the need to distinguish between power- or control-based violence (e.g., Carlson & Jones, 2010), implementation of these distinctions remains a challenge—a problem conflated by reliance on different distinction methods. To address this measurement challenge, this research compares multiple victim classification methods using data from mixed samples. The project begins with consideration of specific strategies currently used for IT/SCV discernment by IPV researchers. Next, a two-phase method-comparison study is presented. Results are discussed in terms of theoretical and practical considerations for future IPV researchers and implications for victims.

IDENTIFYING BASES OF DIFFERENCE

Influence of Theoretical Perspectives

In recent years, a large methodological debate among interdisciplinary scholars concerns IPV prevalence based on victims' sex. Discussed in detail elsewhere (see Langhinrichsen-Rohling, 2010), IPV prevalence debates are largely based on theoretical, and thus methodological, differences among interdisciplinary scholars. Two of these factions have been classified by others (e.g., Carlson & Jones, 2010; Johnson, 2008) in terms of arguments regarding the role of sex, gender, and power at societal and interpersonal levels: feminist-based and family violence (e.g., conflict theory) perspectives.

Based in the United States, the National Intimate Partner and Sexual Violence Survey (NIPSVS; Black et al., 2011) indicated a lifetime prevalence rate of IPV affecting U.S. women (more than 34.27 million physical/fear-based victims, 57.61 million psychological victims) and men (more than 11.21 million physical/fear-based victims, 55.25 million

psychological victims). Other scholars point to studies of heterosexual women perpetrating physical IPV as often as or more than men (Fiebert, 2014). With both sides producing quality research (albeit largely on physical tactics) it is difficult for laypersons and media in particular to achieve an overall, accurate picture of IPV in the United States.

Arguments about IPV prevalence often are based on studies confounding different types of IPV relationships (Johnson & Ferraro, 2000). For example, even the NIPSVS measure of psychological aggression specific to IPV contexts considered IPV-based physical aggression as largely fear and coercion-based—characteristics arguably specific to certain IPV relationship types. Failures to distinguish IPV relationships result in heated debate and also limit current IPV theorizing (Johnson, 2008). Criticisms of theoretical models of power and control-based IPV (e.g., Duluth model; Pence & Paymar, 1993; cycle of violence; Walker, 2000) challenge their lack of empirical development or efficacy findings (Babcock, Green, & Robie, 2004). Praxologically, IPV treatments should not be applied identically to SCV and IT cases; interventions based on communication skills deficit or conflict communication approaches will not help victims whose abuse is power and control based and vice versa (M. M. Cavanaugh & Gelles, 2005). Finally, prevalence claims based on population samples should not be made without distinguishing IPV relationship types, as incident-rate studies with different samples and methods result in contrasting data. Even where the value of typological discernment is recognized (e.g., Carlson & Jones, 2010), implementing distinctions remains an obstacle.

Influence of Measurement Approaches

In addition to theoretical differences, these groupings directly influence the ways research is conducted and interpreted in terms of treatment applications and public policies. Sampling and research procedures are two main ways IPV identification methods tend to differ.

Sampling. Participants can be drawn from community-based groups, shelters/agencies, and/or online communities. Whereas community sampling focuses on getting prevalence and descriptive information from representative people in a larger population (Straus, Hamby, & Warren, 2003), agency sampling recruits participants primarily for their affiliation with particular organizations (e.g., hospital, shelter, government facility) that treat severe IPV.

Historically, research from community samples was the basis for arguments that abuse is equally perpetrated by and against men and women; more than 340 studies document women perpetrating IPV as often as or more than men (Fiebert, 2014). In contrast, studies claiming women experience IPV significantly more than men (e.g., Price, 2005) were typically limited to agency samples with female, extreme victims. To a larger extent than other approaches, this research may have been drawn from clinics or shelters (Dobash, Dobash, Wilson, & Daly, 1992) but is not limited to agency sampling sources, especially recently.

Choosing to research distinct types of victims is not the only way methodologies differ. Sample choice is often driven by interests in different variables. For example, studies of specific acts may not include injury and fear differentials (Marshall, 1992). Men are typically larger than women and have the ability to inflict greater injury on others. However, complete IPV understandings advance beyond analyses limited to biological sex to include other factors that influence victim outcomes (Eckstein, 2012; Johnson & Ferraro, 2000).

Examining IPV contextual factors necessitates the use of multiple, varied measurement strategies—something not always feasible in large-scale population studies. Even when the sampling and variables are similar, as in cases of population prevalence studies

consistently measuring physical and psychological victimization across the United States, other confounding methods exist: instruments with different wordings or reference points, statistical tests and projections with nuanced weightings and extrapolations, and researcher/coder bias in determining IPV.

Procedures and Interpretation. Participants identified as abusive by marking one item on a scale (e.g., Heckert & Gondolf, 2000) clearly differ from respondents claiming multiple abusive behaviors (e.g., Newton, Connelly, & Landsverk, 2001)—in both their perpetrator's motives and IPV enacted (Nielsen, Hardesty, & Raffaeli, 2016; Olson, 2002); the former method identifying IPV where none exists or merely one IPV type. Failure to distinguish between and among IT/SCV relationships results in confusion when interpreting data across perspectives.

Distinguishing coercion-based versus noncontrolling relationships is essential for IPV researchers from any perspective. To be able to use Johnson's theory for a priori classification, rather than as a post hoc explanatory mechanism, the method used must be reliable. However, even Johnson (2008) noted that his theory currently surpasses researchers' ability to quantitatively apply it consistently. Essentially, the theory identified what Waller and Meehl (1998) designated *causal origin taxa*, but its actual practice must measure *formal-numerical taxa*. Without standardized instruments *and* criteria, researchers are unable to generalize IT/SCV findings to victim populations as a whole. Thus, a critical direction for additional investigation is the identification of empirical methods on par with theoretical advances.

Classification Methods

The ideal method for truly distinguishing IPV relationships would be to qualitatively assess each participant individually to ascertain the nuance of their experience. However, in-depth interviews of this nature are not feasible with large samples and quantitative methods, although they have been done (see Tiwari et al., 2015). Instead, self-report scales tend to predominate, and similar classification methods often are used and/or proposed to capture context in large population studies: clusters, cutoff scores, vignette-choices, and expert codes.

Group Clusters and Cutoff Scores. Both clusters and cutoff scores involve post hoc data manipulation and clusters are sometimes used in conjunction with cutoff scoring (e.g., Frankland & Brown, 2014) and so are here discussed together. In both methods, sets of responses or participants are sorted into mutually exclusive groups based on statistical techniques. Conducive to quick quantitative analysis, cutoff scores involve a usually predetermined point on a scale chosen as a divider between "high" versus "low" scores on a given variable (e.g., Lam, 2013; Tiwari et al., 2015). Also efficient and quantitative, cluster analysis distinguishes between victims via sets of observations classified into two or more groups based on characteristics groups have in common. For example, one type, hierarchical clustering, begins by placing each case into a separate cluster and then combining clusters according to similarities until only the requisite number (in this case, two) of clusters remains (Romesburg, 1984). Groups of participants who appear homogeneous are distinguished based on preselected criteria (Grayson, 2005). To replicate the distinctions between Johnson's (1995) types of violent relationships, a two-product cluster solution can be chosen. Multiple studies have implemented varying forms of cluster analyses to differentiate IT/SCV, with each investigation finding the two IPV relationship types distinguishable (e.g., Eckstein, 2012, 2016; Zweig, Yahner, Dank, & Lachman, 2014).

Although clustering shows particular promise for distinguishing IT/SCV victims (e.g., Bubriski-McKenzie & Jasinski, 2013; Frankland & Brown, 2014), the method has limitations (Johnson, 2008). Because every researcher relies on his or her preferred measures, lack of instrument standardization is one of the key limitations to taxonomy creation (Waller & Meehl, 1998). Even with identical scales, diverse samples result in different items retained through preliminary unidimensionality checks (e.g., factor analysis). Instrument inconsistency is therefore inadequate. A second limitation to both cluster and cutoff score usage is an overlap of grouping variables also used as predictors. For example, using psychological victimization as a clustering variable and as an independent variable to predict other outcomes may affect substantive results. Thus, cluster or cutoff scores should probably be used only in studies where relationship type is the independent variable (i.e., no indicator constructs are predicted by IPV type). Finally, with both methods, groups lack a priori categorizing scores. IT/SCV clusters cannot be replicated in multiple studies using set criteria points because group statistics depend on scores and sample makeup (Johnson, 2008). For example, if IT victims comprised the entire sample, clustering would still produce two groups distinguished by mean scores; the computer sees taxon dimensions as indicative of taxon categories (see Waller & Meehl, 1998). Thus, IT/ SCV determination based solely on cluster analysis and/or cutoff scores is arbitrary. These limitations suggest a need for theory-driven IT/SCV group quantitative criteria, such as set points based on longitudinal population studies.

Participant-Choice Vignettes. As a less post hoc classification method, vignettes have been used to assess violence risk of perpetrators (Heilbrun, O'Neill, Strohman, Bowman, & Philipson, 2000), guilt and blame judgments toward rape victims (Eyssel & Bohner, 2011), attitudes toward traumatized men and women (Mendelsohn & Sewell, 2004), risk of domestic violence (Skivenes & Stenberg, 2015), physical and psychological aggression acceptability in heterosexual conflicts (Hammock, Richardson, Williams, & Janit, 2015), and as an IT/SCV validity check in qualitative research (Olson, 2002). The method involves participants self-identifying one of two "constant variable value vignettes" (see G. Cavanaugh & Fritzsche, 1985), or narrative representations of IPV relationship types. Caro et al. (2012) argued that because people rarely make decisions rationally and sequentially, an overall feeling of identification with a particular situation is what makes vignettes useful for analyzing complex judgments. Basically, this method allows participants to choose commonsense or causal origin taxa that are used and assumed valid by researchers as formal-numerical taxa (Waller & Meehl, 1998).

Although useful for both descriptive and self-identification purposes, because the nature of vignettes brings to life situations that may be difficult for respondents to remember or otherwise identify with, the immediate, descriptive nature of vignettes may cause participants to relive past experiences. In IPV research, this would mean participants may be triggered to potentially traumatizing details of their experiences. Other concerns in the use of vignettes involve the accuracy of information obtained and a lack of question-understanding standardization. Participants may not perceive a vignette story in similar ways and/or may perceive one story as more "like" violence (and thus, their overall experience) than the other. Although successful if vignettes properly cue recall (Cook, Gidycz, Koss, & Murphy, 2011), it may be difficult to maintain standardized data conclusions across participants.

Expert Codes. A final method with widespread use in clinical and agency settings is less common in IPV research. Similar to using a "checklist of indicators" or the contextual approach used by intake counselors at shelters and emergency room facilities,

dichotomous coding entails (ideally) IPV-trained professionals assigning a value-label (e.g., abused or not abused, SCV or IT) to each person. The method is reminiscent of qualitative approaches where *indicators* (i.e., words or phrases that stand for larger concepts) are integrated with coders' previous IPV experiences in a holistic manner. Adapted to quantitative methods, individual item values ("sometimes" instead of "3") are considered for each participant. Incorporating individual detail and nuance are benefits of having an expert "eyeball" individual item data (Heilbrun et al., 2000) to explicate harm, severity of injury, violent motives and attributions, and perpetration attempts.

In large-scale population studies, however, having an expert (or ideally, at least two expert coders) classify each participant's relationship based on all individual items is time-consuming; an overall "gestalt" impression of the victim's experiences is faster than considering each anonymous response. Furthermore, with insufficient perspectives represented, results lack consistency or generalizability. A variation (arguably similar to vignette methods) of coder categorization has been used in studies where dichotomous Yes/No (e.g., experienced coercive control) indicators group victims (e.g., Nielsen et al., 2016; Zweig et al., 2014). In one-on-one interactions such as in-depth interviews, most professionals do in fact tend to evaluate violent incidents relatively consistently (Heilbrun et al., 2000; Skivenes & Stenberg, 2015). Nevertheless, without an ability to do this on a large scale, political (and to some, moral) debates will continue. For all IT/SCV classifications, it is essential to examine the utility of these methods intended for large-scale quantitative analyses.

This research was guided by the following overarching question: How do different classification methods compare in distinguishing IT and SCV among self-reports of IPV victims? By comparing methods for distinguishing IPV relationships, this research takes a necessary step toward addressing the prevalence debate by comparing the feasibility, interclassification reliability, and perhaps validity of different IPV classification methods. A two-phase study design was conducted in an effort to test the usefulness of clustering techniques and to determine the utility of other quantitative methods used in distinguishing IT/SCV. Thus, two phases respectively explored these methodological IPV issues in the form of the following questions:

Research Question 1: How do victims' IPV experiences compare when assessed via quantitative scales of physical, psychological, and coercive control victimization and fear versus qualitative vignette-choices representing IT/SCV relationships?

Research Question 2: How do victims' IPV experiences compare when assessed via quantitative scales of physical, psychological, and coercive control victimization versus qualitative expert assessments of IT/SCV relationships?

METHOD

Participants and Procedures

Residents of the United States were recruited via targeted sampling tactics designed for vulnerable populations (e.g., Watters & Biernacki, 1989). Specifically, standardized invitations (e.g., project description, direct access to secure survey link) were distributed via community and agency-specific methods; postings were placed in general topic and violence-specific Internet forums and chat groups as well as in the websites, blogs, and/

or listservs of violence agencies and men's groups nationwide. More than 900 Internet forums and more than 200 agencies were contacted regarding the study; 350 forums and 34 agencies agreed to distribute the call to their membership. Anyone who reported experiencing physically or psychologically abusive behavior from a former romantic partner was eligible to participate in Phase 1; in the second phase, eligibility was expanded to include anyone experiencing abuse from former and/or current romantic partners. Individuals did not receive compensation for participation. Self-identified IPV victims completed measures assessing demographics, relational characteristics, and abusive perpetration and victimization experiences. In the first phase of data collection, 239 females and 106 males (N = 345) participated; in the second phase, their data were added to that of 495 additional IPV victims (157 men, 338 women). Samples across the two phases did not significantly differ on any key variables but did provide dimensional nuance, as will be shown.

Measures

To increase the likelihood of taxa validity (i.e., widely separated means), Waller and Meehl (1998) recommended at least three "theoretically relevant indicators from different domains" (p. 18). The current studies included physical (e.g., injury) outcome-based, perception- (e.g., fear) and psychological behavior-based (e.g., coercive control tactics), and physical behavior-based (e.g., violent acts) measures. All measures were subjected to confirmatory factor analysis (CFA) and only unidimensional (i.e., face valid, internally consistent, parallel; Gerbing & Anderson, 1988) items were retained for final use; the ratio of chi-square to degrees of freedom indicated model complexity adjustment <3.0 per Browne and Cudeck (1993), the comparative fit index indicated scale covariance with an established instrument at >.90–.95 per Hu and Bentler (1999), and the root mean error of approximation indicated model fit standardization <.10 per Byrne (2001).

Physical Abuse. Continually used by scholars from many traditions, the Revised Conflict Tactics Scales (CTS2's) Physical Assault subscale remains a good assessment of physical tactics in violent relationships (Straus, 2004), particularly when supplemented by items assessing levels of injury (Heyman, Feldbau-Kohn, Ehrensaft, Langhinrichsen-Rohling, & O'Leary, 2001). In this study, nine items of physical IPV perpetration $(M = 1.16, SD = 0.32, \alpha = .78)$ and 12 items of physical IPV victimization (M = 2.36, M = 1.16, SD = 0.32, M = .78)SD = 1.25, $\alpha = .92$) were CFA-retained using both the CTS2 (Straus et al., 2003) and nonoverlapping items from the Partner Abuse Scale-Physical (PASPH; Hudson, 1997). Items, ranging from Twisted skin or pulled hair and Grabbed hard to Threatened with a weapon and Beat up badly, were coded for frequency of tactic use across the relationship (i.e., 0 = never to 6 = always). The only physical items retained via CFA related to sexual abuse were Badly hurt while having sex for the Perpetration scale and Physically forced to have sex for the Victimization scale. Significant to the current distinctions between IT/ SCV, victims classified as IT ($M_{\text{SEXINJURY}} = 2.75$, SD = 2.11; $M_{\text{FORCEDSEX}} = 3.27$, SD = 2.28) were significantly higher than SCV victims ($M_{\text{SEXINJURY}} = 1.69$, SD = 1.38; $M_{\text{FORCEDSEX}} = 2.03$, SD = 1.58) on both the sexual injury—t(267.02) = 6.79, p < .001 and forced sex—t(269.89) = 7.24, p < .001—items of the CTS2. However, because these fit the general direction of trends for IT/SCV distinctions, these items were analyzed with the other CTS2 items in subsequent analyses.

Psychological Abuse. Psychological abuse was measured using the Index of Psychological Abuse (IPA; Sullivan & Bybee, 1999); responses to the frequency of psychological IPV perpetration via 15 items (M = 1.67, SD = 0.65, $\alpha = .86$) and

psychological IPV victimization via 19 items (M=3.83, SD=1.31, $\alpha=.91$) retained after CFA, as viewed across the course of the relationship, were anchored from 1 (never) to 7 (always; see Eckstein, 2009). The IPA measures ridicule, harassment, criticism, and emotional withdrawal. Items ranged from Lied to or deliberately misled to Called names, Tried to humiliate, Ridiculed or insulted [beliefs/appearance/etc.], Harassed my friends/family, and Abused or threatened to abuse pets to hurt me (see Eckstein [2009] for full listing. Items were reworded to be sex-neutral (e.g., husband/boyfriend changed to partner). Using topically relevant items (e.g., manipulation, coercion), a coercive control variable (M=3.78, SD=1.34, $\alpha=.79$) was derived from nine nonoverlapping IPA items (e.g., Tried to control money/activities, Threatened to end relationship/commit suicide when angry/take children if I left, Discouraged contact with family/friends).

Fear. IT victims are theorized to experience more fear of physical harm than SCV victims (Johnson, 2008). Therefore, in the initial phase of data collection, fear was assessed to distinguish between SCV and IT relationships. Peralta and Fleming (2003) have concluded that items to measure fear are most effective in determining IPV when accompanied by scales measuring physical and/or psychological abuse, as was done in this study. Five items (all CFA-retained), anchored from 1 (*never*) to 7 (*always*), measured how often $(M = 3.91, SD = 1.53, \alpha = .91)$, during the course of the relationship, individuals felt fear as a result of the abusive partner (e.g., *I was afraidlfelt unsafelscared of what he/she might do*).

Vignettes. Finally, vignettes exemplifying the two types of violent relationships were included in the Phase 1 questionnaire; participants were asked to choose the example most representative of their relationship. Two original-content vignettes were created expressly for this study as sex-neutral exemplars of Johnson's (1995) SCV and IT conceptualizations (see Appendix). The vignettes were written, based on the recommendations of Rossi and Anderson (1982), to vary from one another on *dimensions* (socially varied quantitative or qualitative objects, e.g., "arguments that escalate" versus "control or domination"), *levels* (values of the dimensions, e.g., "once in a while" versus "consistently" or "always"), *objects* (units for judgment, e.g., fear, hurt), and *judgments* (rating of objects, e.g., "not that bad" versus "walking on eggshells"). After choosing, participants were asked to report the extent to which their chosen vignette was representative of their experiences (1 = strongly disagree, 7 = strongly agree). The extent to which participants agreed the vignette fit their relationship was M = 2.24 (SD = 1.35) for individuals choosing IT and M = 2.86 (SD = 1.32) for people choosing SCV.

Classification Procedures

Five procedure types were implemented in six distinct classifications for method-comparison analyses. In Phase 1, a seven-variable two-product cluster was created using psychological and physical abuse and coercive control victimization and perpetration as well as fear. Phase 1 also included vignette classification methods. In the second phase, a two-variable two-product cluster included psychological and physical abuse victimization and a two-product cluster solely based on the coercive control victimization variable. This phase also included expert coding classifications and use of cutoff scores on measures of physical and psychological victimization and coercive control.

Clusters. To differentiate between types of abusive relationships, participants were classified post hoc by the researcher as either SCV or IT victims via various methods. In Phase 1, IT victims were defined as those having received comparatively higher (than

SCV) psychological and/or physical tactics of relational control and also having experienced high levels of fear. SCV victims were distinguished by the absence of coercive control behaviors and low levels of fear (Johnson, 1995). In Phase 1, the indicator variables used to identify groups included the measures of (a) physical and psychological victimization, (b) coercive control, and (c) fear. In Phase 2, physical and psychological victimization scores were used separately from coercive control as cluster variables. Although Johnson (2008) recommended inclusion of these variables to distinguish between victims of SCV and IT, varying combinations of particular instruments used to cluster by these variables was unique to this study.

Each participant's mean scores on each variable were initially subjected to an agglomerative hierarchical cluster analysis of cases to distinguish between characteristically similar or different violent relationships, with an a priori two-cluster solution based on Johnson's theory. In this clustering method, squared Euclidean distance was used as a clustering criterion based on interproximity (i.e., similarity/difference measures between each observation) of scores. The average-linkage-between-groups method was the unweighted pair-group method using arithmetic averages (UPGMA) to compute the smallest distance between all mean scores based on data about all pairs of distances. Cases with the smallest mean differences were combined until all comparisons (Romesburg, 1984) resulted in all 345 participants from Phase 1 being assigned to one of two groups: SCV (n = 219) or IT (n = 126), with the agglomeration schedule indicating coefficient $\alpha \le .01$ for this solution.

In Phase 2, the hierarchical clustering method was rerun on all 840 cases, but using two different variable groupings. First, a two-variable cluster was based on all participants' victimization scores on both the CTS2 Physical Assault subscale/PASPH (M=2.14, SD=1.11, $\alpha=.94$) and IPA psychological victimization (M=4.12, SD=1.27, $\alpha=.94$) scores. This resulted in assignment of 456 SCV and 383 IT victims. At this point in the IPV field, it is increasingly accepted that relationships possessing coercive control differ fundamentally from those that do not (Anderson, 2008; Johnson, 2010; Myhill, 2015; Tiwari et al., 2015). Therefore, to determine the extent to which coercive control affects victim classification in terms of IT/SCV relationships, a second cluster analysis was conducted using solely the psychological IPV items unique to coercive control (M=4.05, SD=1.34) victimization. This resulted in classifying 630 SCV and 209 IT victims. Using coercive control as the sole variable to distinguish IT/SCV relationships has the additional benefit of providing an independent (i.e., nonoverlapping as both cause and effect) classification process on which to base mean difference scores in subsequent analyses.

To confirm the validity of using this a priori (i.e., "forced") two-product solution in the hierarchical clustering method, a two-step method was also conducted. The two-step clustering method is particularly beneficial for exploring solutions based on the number of actual like-clusters formed rather than on the total number of cases assigned to each; in other words, the two-step method begins by precombining obviously identical or very similar cases rather than constantly comparing each case to every other one in turn. Confirming use of an a priori two-product solution for the hierarchical clustering method, using the Schwarz Bayesian information criterion (BIC) for automated cluster selection, a two-variable cluster solution was autoproduced for both the two-variable and the coercive control variable clusters.

Expert Codes. Based on a need to evaluate each relationship within its own context, such as done by practitioners dealing with victims, analyses were employed on individually coded cases. When experienced shelter workers or counselors assess potential victims, they may use an overall "gestalt" impression of a victim's circumstance. However, those

general impressions are often based on specific characteristics (sometimes verified by use of scale items, as when using Campbell's 2005 instrument) of victims' reports. By looking at particular types of behaviors and levels of injury, an experienced IPV professional makes a judgment as to the context of a victim's IPV relationship. Although they may use each item on checklists/scales for its individual contribution to identifying an abusive relationship (Friend, Cleary Bradley, Thatcher, & Gottman, 2011), the "numbers" on a scale are not given credence over individual circumstances. This method of "contextual" analysis was used for each participant (N = 840), who was assigned, one at a time, to either SCV or IT based on two separate coders' judgments.

Coders' evaluations were based on the self-reported scale choices for each respondent on each scale item measuring physical and psychological victimization and coercive control. In other words, the assessments were based on how much the participant indicated experiencing each level of threat, hurt, harm, or injury. To preclude bias, coders did not view demographics (e.g., age, sex, perpetrator sex) associated with each participant. Resembling many others in patient-intake positions, both "expert" coders in this study were White, middle-class women. Coders were considered "expert" in that they (a) had at least a college education (community health bachelor's; social science PhD), (b) had received training in IPV identification based on victims' experiences (women's centers, university programs), (c) had prior work with IPV victims (intake/helpline counselor; public awareness/prevention educator), and (d) were familiar with Johnson's (2008) IT/ SCV distinctions. Coders independently evaluated participants ($\kappa = .54$); differences were quickly and easily resolved through discussion of context cues. However, as with any process involving human judgment, the similar intersections of the coders' identities must be taken into account when interpreting results according to their interpretations.

Cutoffs. A final method of classifying participants has been to assign a high/low cutoff score for items measuring physical IPV, psychological IPV, coercive control, and/or level of injury (e.g., Frankland & Brown, 2014; Lam, 2013; Tiwari et al., 2015). Admittedly, a cutoff method considers mean scores and so does not consider contexts of abusive relationships using individual items (see Anderson, 2008; Bubriski-McKenzie & Jasinski, 2013, for exceptions using dichotomous cutoffs). However, because it was used in previous IPV research, cutoff scoring was included in this study as an alternative comparison method by which to distinguish IT/SCV. Based on discussions of the potential severity and outcomes of different types of IPV relationships (Johnson, 2008), victims above a midpoint frequency/severity cutoff were labeled IT, whereas those below this cutoff were labeled SCV. Physical abuse was evaluated at a level ≥3.00 (i.e., qualitatively representing seldom on the 7-point scale) and psychological abuse and coercive control were both evaluated at a level ≥4.00 (i.e., qualitatively representing sometimes, with regularity on the 7-point scale).

RESULTS

Phase 1

The first research question sought to assess the comparative value of using clusters versus vignettes to capture victims' IPV experiences. Results of mean score differences on abuse perpetration and victimization, fear, and coercive control showed that IT/SCV distinctions found via cluster assignments were similar overall to the IT/SCV group differences found via the vignette method (Table 1). Partially contrary to Johnson's theorized differences,

TABLE 1. Phase 1 Results: Comparisons Using Participant-Chosen Vignettes Versus Hierarchical Cluster Classifications

		Vignetteb			Cluster ^c	
	SCV		П	SCV		П
	M (SD)	M (SD)	t (df)	M(SD)	M (SD)	t (df)
Physical perpetration	1.22 (0.42)	1.13 (0.26)	2.05 (157.07)*	1.11 (0.22)	1.24 (0.43)	3.17 (163.66)**
Psychological perpetration	1.74 (0.71)	1.63 (0.62)	1.49 (204.72)	1.56 (0.47)	1.84 (0.85)	3.42 (170.56)**
Physical victimization	1.89 (0.96)	2.62 (1.31)	5.83 (296.16)***	1.69 (0.67)	3.54 (1.14)	16.65 (176.12)***
Psychological victimization	3.14 (1.05)	4.21 (1.28)	8.21 (271.35)***	3.11 (0.85)	5.09 (0.99)	19.56 (343)***
Fear	2.87 (1.29)	4.44 (1.36)	10.25 (339)***	3.16 (1.19)	5.21 (1.14)	15.56 (343)***
Coercive control ^a	3.01 (1.19)	4.19 (1.23)	8.41 (339)***	3.10 (1.01)	4.98 (0.94)	17.00 (343)***

Note. N = 345. Except where noted, scores derived from full scale means. SCV = situational couple violence; IT = intimate terrorism. ^aSubscale items of psychological intimate partner violence (IPV) measuring coercive control (a predictor of IT). $^{b}n = 115$ SCV victims, 226 IT victims. $^{c}n = 219$ SCV victims, 126 IT victims. $^{*}p < .05$. **p < .05. ***p < .01. ****p < .001.

clustering showed both abuse types as higher among IT than SCV victims for not only victimization but also for perpetration scores. However, because some of the victimization variables were used both to create the clusters and in these analyses, these findings conveyed mean differences between clusters merely descriptively, rather than as causal.

Findings from the hierarchical cluster analysis indicated that fewer participants experienced IT overall (n=126, 36.5%), and fewer men than women experienced IT relationships (n=30 or 28.3% of all males and n=96 or 40.2% of all females). Moreover, 23.8% of IT victims were men and 76.2% were women. In this sample, 71.7% of men and 59.8% of women were classified as having experienced SCV. Therefore, the majority of relationships were classified as SCV (n=219). Of the 63.5% of total participants experiencing SCV in this sample, 34.7% (n=76) were men and 65.3% (n=143) were women.

Classification differences in IPV relationship type were assessed across the participant-choice vignette and the cluster-assignment conditions. The percentage of agreement between the two methods was calculated. Findings show that the majority of respondents (63.5%) were classified similarly across the two methods. Thirty-three percent of participants self-identified via vignette as IT victims were assigned to the SCV condition via cluster methods, whereas only 3.5% of participants choosing the SCV vignette were assigned to the IT condition via clustering.

Phase 2

Clustering methods are admittedly highly dependent on the specific sample. Thus, in addition to discovering if original IT/SCV distributions would hold up under scrutiny in a larger sample, the second research question also queried the role of (a) different predictor variables in clustered outcomes, (b) expert coding classifications, and (c) cutoff score methods.

Phase 2's four classification methods—two-variable (physical/psychological) victimization clusters, coercive control clusters, expert codes, and cutoff scores—were compared on mean scores for victimization types and characteristics of the relationship itself (Table 2). Results demonstrated that distinctions between the IT/SCV groups were similar (i.e., all showed IT relationships as significantly higher in victimization levels) across all methods of classification. Across all four classification methods, the only relational variable with significant differences across every method was victim age at time of abuse onset, with IT experienced by younger victims in earlier stages of their relationships than SCV victims.

Classification frequency differences in IPV relationship type were assessed across the four conditions (Table 3). Findings show that SCV relationships were classified as the majority IPV relationship type across all classification methods, except the expert coding which grouped more people as IT (64.6% of all women, 58.9% of all men). The kappa score agreement between each method was calculated with results showing highest classification agreement between expert codes and the two-variable victimization cluster. The cutoff score method was least likely to correspond to other methods, with expert codes and the two-variable cluster corresponding least to the cutoff score method (see Table 3).

DISCUSSION

Current findings lend credibility to Johnson's (2008) conceptualizations; almost all methods of classification found relatively similar trends in IT/SCV breakdowns. The few

Phase 2 Results: Comparisons Using Varied Clusters, Cutoffs, and Expert-Contextual Classifications TABLE 2.

		Victimization Type			Victim/Relation	Victim/Relationship Characteristics	
Grouping Method	Physical Abuse	Psychological Abuse	Coercive Control	Yrs. in Rel. at Onset	Yrs. Stayed Post-Onset	Age at Onset	Age on Leaving
Two-variable cluster	10.16 (668.83)***	37.31 (837.00)***	39.99 (834.08)***	1.96 (832.16)	1.09 (832.00)	2.41 (825.57)*	1.30 (818.83)
SCV $(n = 456)$	1.79 (0.87)	3.20 (0.78)	3.07 (0.83)	1.66 (3.10)	5.61 (6.70)	27.05 (10.02)	32.66 (11.95)
$\mathrm{IT}\left(n=383\right)$	2.55 (1.23)	5.22 (0.79)	5.23 (0.74)	1.28 (2.52)	6.10 (6.28)	25.49 (8.57)	31.63 (10.75)
Coercive control ^a cluster	10.92 (282.17)***	33.40 (537.30)***	43.95 (717.06)***	1.36 (833.00)	0.13 (832)	3.20 (407.10)**	2.52 (385.93)*
SCV (n = 630)	1.88 (0.92)	3.61 (1.00)	3.48 (0.99)	1.57 (2.82)	5.85 (6.64)	26.89 (9.73)	32.73 (11.71)
IT (n = 209)	2.92 (1.28)	5.64 (0.66)	5.77 (0.49)	1.26 (2.96)	5.78 (6.15)	24.67 (8.20)	30.55 (10.37)
Cutoff scores	33.62 (837)***	23.37 (291.66)***	20.70 (302.36)***	4.05 (447.21)***	0.46 (833)*	5.26 (247.45)***	3.63 (222.80)***
SCV (n = 699)	1.76 (0.71)	3.82 (1.15)	3.77 (1.25)	1.60 (3.05)	5.78 (6.62)	26.96 (9.67)	32.74 (11.66)
$\mathrm{IT}\left(n=140\right)$	4.02 (0.80)	5.60 (0.74)	5.45 (0.78)	0.93 (1.41)	6.06 (5.96)	23.18 (7.28)	29.33 (9.76)
Expert context coding	15.09 (832.74)***	31.35 (776.64)***	37.25 (760.13)***	2.44 (459.26)*	1.04 (828.00)	2.76 (557.73)**	1.67 (558.95)
SCV(n = 307)	1.53 (0.67)	2.93 (0.74)	2.70 (0.72)	1.82 (3.49)	5.52 (7.29)	27.55 (10.23)	33.08 (12.45)
IT $(n = 528)$	2.49 (1.17)	4.81 (0.98)	4.84 (0.92)	1.27 (2.30)	6.01 (6.01)	25.61 (8.85)	31.65 (10.78)

Note. Scores are M (SD), except bold rows, which are independent samples t score differences and degrees of freedom (df). Yrs. = years; Rel. = relationship; SCV = situational couple violence; IT = intimate terrorism.

**Subscale items of psychological intimate partner violence (IPV) measuring only coercive control.

p < .05. *p < .01. ****p < .001.

TABLE 3. Participant Distributions and Case Agreement Among Four Methods of Intimate Terrorism-Situational Couple Violence Classification

	Two-Variable Cluster			Cutoff Scores			Coercive Control Cluster		
	SCV	IT	К	SCV	IT	к	SCV	IT	К
Two-variable cluster SCV = 456, IT = 383	_	_	_						
Cutoff scores SCV = 699, IT = 140	434	118	.27	_	_	_			
Coercive control cluster SCV = 630, IT = 209	456	209	.57	584	94	.42	_	_	
Expert context-coding SCV = 307, IT = 528	303	377	.63	307	140	.21	307	208	.32

Note. Crosstab calculations show frequency of shared commonality between each method, with kappa scores showing likelihood agreement. SCV = situational couple violence; IT = intimate terrorism.

differences across classification methods found in both studies appear to have emerged not in terms of actual victimization experiences, nor in empirical support for a two-product solution, but rather differed in the specific counts of frequencies of IT versus SCV, a trend also found by Hardesty et al. (2015).

In the initial comparison of basic classification methods (i.e., quantitative scale clusters vs. qualitative vignettes), IT victims were the majority in the vignette method, but SCV victims predominated in the clustering approach (Research Question 1). On the surface, these findings suggest problems if solely using either classification method, particularly vignettes, which appear limiting from participants' perspectives; one-third of vignette-classified participants were placed into a category not self-descriptive of their victim experiences. However, this may be because of the lack of specific self-identifying incidents described in each story, rather than the vignette method itself. Clearly, a need for caution exists when interpreting results from clustering or vignette methods alone because they may not represent people's unique experiences with SCV or IT.

Furthermore, the discrepancies in classification may have to do with the role of perpetration measures, as those scores showed a different picture across the vignette-choices and cluster conditions used in Phase 1. Specifically, vignette-choice designations aligned with Johnson's (2008) conceptualization of SCV mutual perpetration potential, as SCV victims had significantly higher scores in perpetration of both physical and psychological violence than were found among IT victims (see Table 1). Classified empirically, however, clustered groupings showed the reverse, with IT's perpetration rates higher than SCV's. It is possible these numbers were capturing cases of "violent resistance," but then one would expect to see this trend for physical more than for psychological perpetration scores. Straus (2011) also found discrepancies in classifying violence mutuality according to perpetration versus outcome variables. Therefore, an important next step for future studies using clusters could be to remove or to separately account for perpetration scores (i.e., cluster by perpetration and/or victimization, but not both in one test). Despite these

few discrepancies, results ultimately showed that a majority of respondents were in fact classified similarly across the participant-chosen vignette and the cluster-assignment conditions in Phase 1.

Phase 2 (a) allowed for further comparison of statistical classification options; (b) opened the recall period to past *and* present romantic relationships based on Johnson, Leone, and Xu's (2014) recent findings on differences between ex- and current spouses; and (c) examined a real-world, agency-applied classification method. Data applied to Research Question 2 were consistent with studies using representative samples (e.g., Straus & Gelles, 1990) in that SCV was the predominant classification in all methods except expert coding. There are at least two possible explanations for this exception. First, the kappa level of agreement between both coders was relatively low at just more than half of cases. Classification differences were resolved easily via quick discussion, but the number of cases on which resolution had to occur indicates a rather large deficit of reliability for this method. It is apparent that classifying a participant's relationship as IT/SCV, absent nonverbal cues and the option of probing questions that mere scale items cannot capture, is not an ideal use of expert's judgment abilities. Second, even if final determinations were "accurately" decided, the fact that this was the only method to differ and identify more IT cases than even coercive control identifying methods may suggest a proclivity of agency-affiliated coders to see severe IPV relationships more often than not.

Despite the expert coding anomaly, the two methods with the greatest agreement were expert codes, based in a qualitatively informed feminist tradition, and the two-variable victimization cluster, which did not account for coercive control. Rather than look at every act as equal (e.g., slapping equated to stabbing), it appears the more extreme behaviors were given credence by the coders—something the two-variable cluster also did (i.e., grouped according to overall frequencies and severity of physical and psychological acts regardless of their controlling dimensions). This cluster method not involving coercive control produced categorizations that mirrored the standard "count" (i.e., frequency) and "account" (i.e., severity and injury) tactics of intake practitioners and those working with agency samples (e.g., Campbell, 2005).

Certainly for future researchers, when it comes to measurement of taxonic constructs, Waller and Meehl's (1998) consideration of common classification misconceptions is worth remembering. First, taxonomies do not necessitate bimodality, especially when applied to social science constructs without discrete latent indicators. In other words, the overlap of victimization scores among individuals classified into two different groups is not necessarily problematic. Similarly, "Taxonicity does not preclude dimensionality" (Waller & Meehl, 1998, p. 9), a finding obvious in cases of victims with varying degrees of victimization even solely within IT relationships, for example. Finally, all taxa are "initially specified by imperfect indicators" (p. 9). If researchers continue to rely on different instruments to measure the presumably same type of abuse (e.g., hundreds of scales existing for physical, not to mention other types of, victimization), it is unlikely the "indicator fallibility" issue will be solved any time soon. Although widespread use of the CTS2 scales (with supplementary context and injury measures) is a positive step in this direction, the IPV field has a long way to go. It may be that finding the ultimate method to decide how many people are in each grouping (something highly valued by research taxonomists) is less important than who is experiencing IT/SCV. Therefore, in the concluding sections, issues of classification and prevalence are discussed not in terms of theorizing but rather in practical terms of measurement's potential affect on victims.

Intimate Terrorism/Situational Couple Violence Classifications: More Important for Victims Than for Policy and Theory?

If scholars fail to empirically distinguish IPV relationships, Johnson's (2008) theorizing will remain limited in its application. Controversies over IPV prevalence often confound IT/SCV and because SCV is believed to be more common, it is typically ignored by researchers and violence practitioners who feel IT is more important to study (Johnson & Ferraro, 2000). Results of this study reinforce the importance of studying SCV, if for no other reason than that it affects more people in society. Furthermore, not giving attention to conflict-based IPV risks this violent relationship being framed by professionals as "normative" communication in relationships (e.g., Stark, 2010) or merely by a "deficient communication skills equals verbal aggression" approach (e.g., Infante, Sabourin, Rudd, & Shannon, 1990). As such, SCV must be examined for people who may not seek help for a condition they view as "relational conflict" as opposed to abuse (Schneider & Brimhall, 2014).

In this research, the only anomalous method in identifying SCV as the most prevalent relationship type was the expert coding method. This may reaffirm suppositions that feminist theorizing (e.g., Dobash & Dobash, 1978; Walker, 2000) informs a viewpoint that "most" or "truly" IPV relationships are of the terrorizing nature, regardless of control dimensions. Indeed, in agency or shelter situations, it may be beneficial for all that victims' cases are treated as a most severe, dangerous situation—especially in the initial urgency of a woman or man (however unlikely for male victims to seek out feminist agencies) reaching out for help.

On the other hand, from a long-term treatment perspective and for studies that inform policies and funding, it may complicate issues to assume that all violence, especially that against women, is automatically IT. Johnson (2008) has proposed that the majority of male IPV victims are found in SCV relationships; even the "type" of IT relationship where men are victims may fundamentally differ from IT with female victims (Jasinski, Blumenstein, & Morgan, 2014). Thus, another area for future examination could be to discover if this "primarily IT" coding trend endures among agency coders when a victim's sex is revealed.

Because the two-variable victimization cluster (without coercive control) mirrored expert coders' classifications, these findings also reaffirm the importance of including coercive control as a distinguishing variable in all IPV research. In light of ever-increasing research suggesting fundamental differences between control- and non-control-based relationships (Hardesty et al., 2015; Nielsen et al., 2016), it is essential that future studies not only classify victims by the presence/absence of control but do so in ways that increase the validity of those categories.

Beyond implementing methods to classify IT- versus SCV-type relationships—something still a long way from being done by most IPV scholars—caution must be taken when interpreting findings and recommending solutions or policies based on the different IPV relationship types. When data are based on population samples, prevalence claims should never be made without distinguishing which type of IPV is being explored. Furthermore, treatments should not be applied identically to SCV and IT victims (Stith, McCollum, & Rosen, 2011). Studies contributing to interventions must clearly delineate IPV relationship type so that practitioners can victim-tailor counseling.

Addressing Classification Limitations in Victim-Focused Ways

All classification methods will always have some limitations. Coding introduces human bias, as already noted. It appears that allowing individual victims to choose their own

experience can also introduce human error. For example, people in this study who did not identify with either vignette had no way to explain how their experiences were different. Although it may add effort for researchers, an optional open-ended follow-up question to allow participant clarification could address this issue. The importance of determining IT/SCV relationships is particularly important when looking to end perpetration through primary and secondary prevention programs—as opposed to treating victims with tertiary outcome procedures (Straus, 2011).

Reliance on cutoff scores and clustering methods also entails challenges. Clustering is obviously limited because of lack of a priori categorizing criteria. IT/SCV clusters cannot be replicated exactly in multiple studies using set criteria, because the nature of clusters depends on the scale used in the study and the makeup of the sample (Johnson, 2008). Thus, although a two-product cluster solution was confirmed as the ideal fit in this study, other samples may differ. It is never completely possible to know if everyone in a sample experiences IT when clustering still produces two groups that are distinguished by mean scores. However, this limitation can be somewhat managed in a victim-cognizant way by accounting for both coercive control and fear. One simple way to do this would be to establish a fear threshold (e.g., cutoff score or a dichotomous assignation, as in Hardesty et al., 2015), which could then be employed separately from (and as a potential validity check of) the other victimization variables. Regardless, coercive control and fear-evaluation components are important theory-driven inclusions when clustering.

A way to reinforce any study is to implement at least two complementary methods (e.g., different classification systems). Doing so is not unnecessarily onerous when it involves the addition of one extra item (e.g., vignette verification) or post hoc statistical method (e.g., clustering; see Hardesty et al., 2015). Furthermore, hypotheses with IT/SCV predictors should include tests using the groupings (however determined) as well as tests of the group-indicating continuous variables (e.g., Anderson, 2008). For example, Eckstein's (2012, 2016) studies used both the continuous variables and the IT/SCV clusters from four indicators (psychological, physical, fear, and coercive control victimization scores) to test predictive and associative models and found no significant differences between interval/ratio data and IT/SCV categorical predictors for each model. The only difference emerged in the nuance contributed to interpretations based on the categorizations. In other words, categorizing by IT/SCV does not change findings—it merely adds more to our knowledge base in distinguishing by relationship type (e.g., Tiwari et al., 2015). When applied in studies of victim-functioning, treatment effectiveness, and/or agency intake procedures, this particular use of classification methods is worth the effort.

CONCLUSION

This research demonstrated the potential of Johnson's (2008) IT/SCV distinction, the variety of ways those relationships can be distinguished, and the nuance in participant experiences when assigned via different methods. Ultimately, despite its limitations (and because all methods have limits), it appears that a valid and satisfactory (i.e., true to Johnson's original model) method of distinguishing IT/SCV relationships is via clustering that includes physical and psychological victimization, coercive control, and fear measures. It is only through use of methods that equally account for each of these variables that researchers and practitioners will allow the fullness of victims' experiences to emerge in quantitative research.

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APPENDIX

SCV: Once in a while, Jess and Pat get into arguments that escalate into abuse. When their conflicts intensify, Jess does or says something to hurt Pat. However, Pat doesn't usually feel afraid of Jess in their daily lives. Pat doesn't typically see Jess as controlling. In fact, even if their arguments worsen sometimes, their relationship is much more than conflict episodes. Usually, Pat can predict when Jess will behave in a hurtful way, because it typically happens as part of an argument or because Jess is mad about something in particular. Overall, abuse only happens when Jess and Pat have a conflict.

IT: Kris consistently tries to control or dominate Alex. To control Alex, Kris often tries to make Alex afraid. Sometimes, Kris uses physical force to threaten or to hurt Alex. Other times, all Kris has to do is say something threatening to make Alex afraid. This makes Alex feel hurt and fearful of saying the wrong thing around Kris. Alex is always "walking on eggshells" to avoid upsetting Kris. Kris scares Alex without provocation, usually with no warning or reason. Overall, Alex often feels like Kris is being controlling and domineering.