

A Brief Tribute to Murray A. Straus

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Murray A. Straus, PhD, fathered the field of family violence research in the 1970s. He was one of the field's most influential and impactful researchers. Born in 1926, Murray passed away in 2016, just weeks before his 90th birthday. The work for which he is most well-known was violence within the family: partner violence and corporal punishment. Murray spent most of his career at the University of New Hampshire, where he founded the Family Research Laboratory.

Murray was the first scholar to reveal that Americans are far more likely to be assaulted or attacked by family members rather than by strangers. He is the creator of the Conflict Tactics Scale (CTS), which is the most widely used scale, worldwide, to measure partner violence, with well over 1,500 articles published that used or focused on the CTS. Murray's work, and the work of others, has consistently shown that women are just as likely to perpetrate partner aggression in heterosexual relationships as are men. Despite this, women are more likely to be injured as a result of partner violence. Murray believed that turning a blind eye to the role that women play in perpetrating partner aggression puts women at risk for injury. Much of his work, especially in his later years, focused on this area of partner violence.

Murray's work on corporal punishment focused on the prevalence of physical aggression between parents and children, and the potential causes and consequences of this aggression on children's well-being in all areas of life: social, health, mental health, and criminal activity. Murray was especially interested in showing the potential harmful effects of corporal punishment, even within the context of a warm and loving relationship between parents and children. When Murray's work on corporal punishment began in the 1990s, only a few countries banned that practice. Today, 50 countries ban parents from using corporal punishment against children and much of Murray's work is responsible for this change.

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Despite his fame, Murray was warm, engaging, and actively sought feedback on his work from everyone. As a result, he opened himself up to criticism and critique. This was also his foundation for collaboration with other researchers. To him, every partnership was an opportunity to learn. Throughout his life he mentored and/or partnered with thousands of undergraduates, hundreds of graduate students, dozens of postdocs, and countless colleagues. Murray retired from a full professorship at the age of 85, but he was still a highly productive scholar, coming into the office daily until just a few weeks before his death. He was engaged, enthusiastic, and totally committed to life every day, even at the end. Without a doubt, the world is a safer place because of Murray Straus.¹

Author's Note

I came to know Murray A. Straus during a postdoctoral fellowship at the Family Research Laboratory at the University of New Hampshire. Murray was a mentor to me and eventually a trusted friend and colleague. We authored several papers/chapters together, and I worked with him on his last book, *The Primordial Violence: Spanking Children, Psychological Development, Violence, and Crime* (Routledge/Taylor & Francis Group, 2014). My visits with Murray were always rich with advice, wisdom, and history, and I could never spend enough of them with him. I am a professor/department head in the Department of Social Science & Policy Studies at Worcester Polytechnic Institute in Massachusetts. It is my great honor to write this tribute to Murray. His absence is still felt by me daily.

Note

1. To read a full tribute to Murray A. Straus, see Douglas, E. M. (2016). A tribute to Murray A. Straus. *Journal of Family Violence, 31*, 927-930. doi:10.1007/s10896-016-9891-2



Eight New Developments, Uses, and Clarifications of the Conflict Tactics Scales

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Abstract

This article provides information on eight new or previously unpublished aspects of the Conflict Tactics Scales (CTS), including new subscales and scoring methods, short forms, and new or little used methods of analysis, including reevaluation and revisions of two scales. A major section describe ways in which the CTS can be used to implement dyadic analysis, which is an important new development in family research. Finally, a section describes the use of the CTS to empirically take into account gender differences in the context in which partner physical violence occurs.

Keywords

family violence, gender, context, victimization, perpetration, assault

The first version of the Conflict Tactics Scales (CTS; M. A. Straus, 1971) provided the data to empirically test the then fashionable pop-psychology recommendation that “leveling” with a partner and “letting it all hang out” would improve couple relationships. Like many other results from research using the CTS, it contradicted this idea and suggested that what most couples

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Table 1. The Eight New Developments.

1	Concordance Analysis	Provides ways to use the Conflict Tactics Scales (CTS) in a dyadic approach to understanding and intervening in partner abuse
2	New Response Categories	Reduces respondent burden and interview time and increases reporting of infrequent abuse acts
3	Poly-Victimization and Perpetration Indexes	Provide overall victimization or perpetration scales, which also identify the five domain-specific CTS scales
4	Short Forms	Makes the CTS applicable in a wider range of research and clinical situations
5	Severity Level Indexes	Permits analysis of the minor and severe level behaviors in one measure, while also distinguishing them
6	New Subscales for the Sexual Coercion Scale	Improved subscales and suggested new subscale to measure coercion by incapacitation
7	Conceptualize and Score Negotiation as Intransigence	Deals with the confounding of negotiation with conflict
8	Use of the CTS to Contextualize Partner Violence	Describes using the CTS injury, denigration, sexual coercion and intransigence scale to contextualize research on physical abuse

needed was more “civility” not more “leveling” (M. A. Straus, 1974a). That has since been confirmed by other studies (O’Leary & Woodin, 2009).

There have been major revisions of the CTS since then, and the process is continuing. Table 1 provides an overview of eight developments identified in this article. They are diverse and have in common only that each can, in principle, enable an important improvement in research and clinical application of CTS. The sequence in which each is presented starts with developments thought to be useful for the largest number of users of the CTS. Some of the new developments, although theoretically and methodologically plausible, have not been empirically tested. Readers of this article may also be interested in other methodological papers on the CTS, which can be downloaded from <http://www.pubpages.unh.edu/~mas2>.

There has been ambiguity, confusion, and dispute about the terms to use which has made research and theory about family violence more difficult, including research based on data obtained by the CTS. Therefore, an appendix to this article identifies the terminology used. Readers may or may not agree, but they will at least know what is referred to.

Concordance Analysis Using The CTS

The use of concordance analysis (CA) for a dyadic to partner abuse is the first of the new developments in this article because it is applicable to each of the abusive behaviors measured by the five CTS scales and has the broadest implications for enhancing research and treatment of partner abuse. The core requirement of a dyadic analysis such as CA is a measure of the same variable for each partner in a relationship (Rodriguez & Straus, 2016a). The CTS has always provided that dyadic measurement, but it has been used at the individual level, not at the dyadic level to investigate the characteristic of *couples* as social units.

CA is a practical way to use the CTS for one of the most important new approaches in family research. This is a dyadic approach which empirically examine the contributions of *both* partners in a relationship to what happens in the relationship. Although dyadic data have been provided by all versions of the CTS since 1979, it has been used to compare rates of men and women, and to conduct analysis of what is related to abuse in in the lives of men and women, but has rarely been used dyadically to empirically investigate the relation the behavior of both partners in a given relationship to what happens in their relationship. The small but critically important difference is illustrated by the results on physical violence by men and women in the 1975 National Family Violence Survey. It found that 12% of men and 12% of the men had assaulted (M. A. Straus, Gelles, & Steinmetz, 2006). This similarity in rates has since been found by almost 300 studies (Desmarais, Reeves, Nicholls, Telford, & Fiebert, 2012). All were living with a partner. However, the rates characterize the *individual* partners, not the couple as a social unit. In principle, behavior all of men who assaulted could have been with a woman who had not, and all the women who assaulted could have been with men who had not. In practice, that is unlikely, but can easily be investigated by CA to determine what characterize *couples*, as illustrated in the next section.

Concordance Analysis and Dyadic Concordance Types

The first part of CA classifies the cases into *Dyadic Concordance Types* (DCTs) by cross-tabulating the dichotomized CTS measure of the male partner with the measure of the same scale by the female partner. If the focal behavior is physical assault, three of the four cells identify the three DCTs: *Male-Only*, *Female-Only*, and *Both* assaulted. The fourth cell is the reference category of *Neither* assaulted. Figure 1 plots the percent in each DCT for physical assault among couples in the 1975 National Family Violence Survey (M. A. Straus et al., 2006), starting with the fact that most partner violence is perpetrated by both partners. The results add greatly to the individual-level

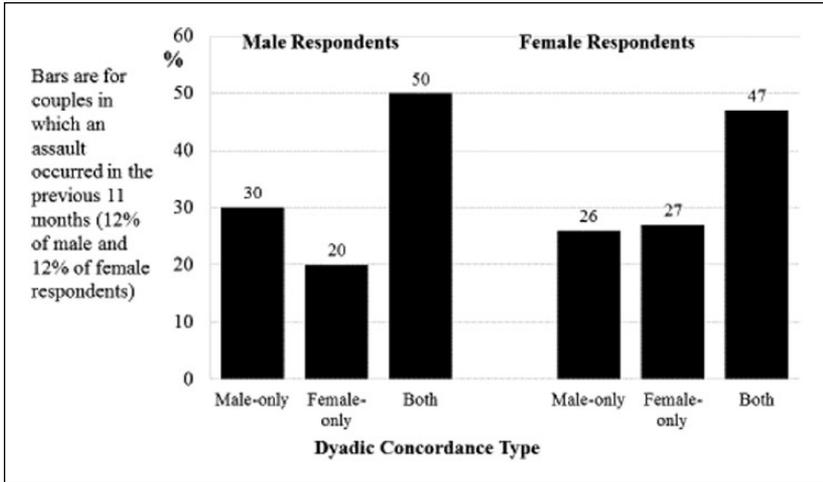


Figure 1. Concordance in assault by partners in the First National Family Violence Survey ($N = 2,143$).

finding of 12% assault rate by men and 12% rate by women. They show that when there is violence in a relationship, it is typically by both partners.

Are the results in Figure 1 unique to the 1975 survey? Figure 2 gives the CA of couples in the World Mental Health Study (Miller et al., 2011). The percentages in each DCT are similar to the 1975 U.S. survey, as are the results of a systematic review of 48 studies (Langhinrichsen-Rohling, Selwyn, & Rohling, 2012). The high percent in the *Both* DCT and the much lower, but substantial, percent of couples in the *Female-Only* DCT, raise questions about the prevailing research, theories, and interventions for partner violence, which focus on assaults by men, particularly in view of a review of 17 studies, which found that women initiated violence as often men, and that it was an act of self-defense in from 5% to 47% of the cases and a median 19% self-defense (M. A. Straus, 2012). It suggests that taking into account the characteristic of couples can enhance empirical research, theories about the causes of partner violence, and interventions to prevent and treat partner violence. CA of CTS data provides a practical way to obtain the information needed to do that.

CA also has broad applicability. It can help understand each of the other modes of partner abuse measured by the CTS, such as denigration of a partner (Hines & Saudino, 2003; Hou, Yu, Ting, Sze, & Fang, 2011), injury (Jose, O'Leary, Graña Gomez, & Foran, 2014; Tillyer & Wright, 2014), and sexual

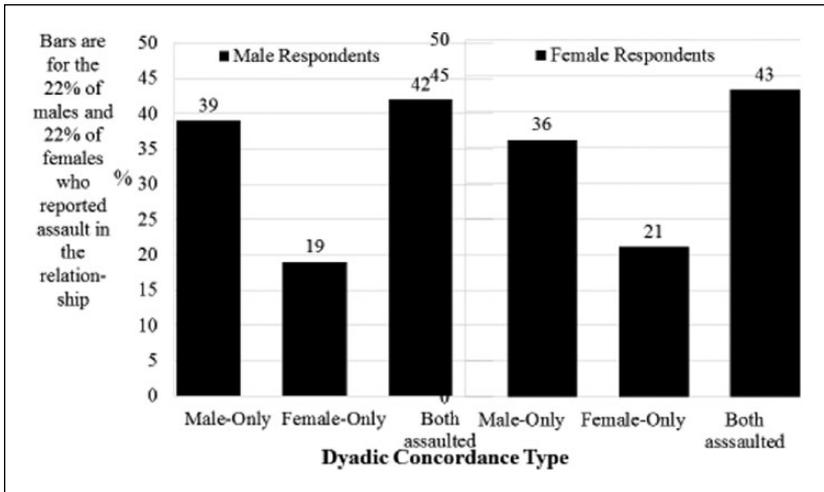


Figure 2. Concordance in partner assault perpetration as reported by 3,642 men and women in the World Mental Health Study.

coercion (Hines & Saudino, 2003; Panuzio & DiLillo, 2010; M. A. Straus & Kemmerer, 2015) and so-called intimate terrorism (M. A. Straus & Gozjolko, 2014). DCTs are also applicable to same-sex couples because the requirement of specifying the role of each partner in the relationship can be met by selecting a role that is appropriate for the population or theory, such as older and younger partner, or if no specific role is appropriate, identifying them as Partner A and B.

The implications of dyadic use of the CTS for research and for prevention and treatment are presented in the Discussion section. The theoretical basis for DCTs, some of the methodological issues, and examples of analyses testing hypotheses about the effect of being in a relationship that is *Male-Only*, *Female-Only*, or *Both* with regard to an abusive behavior are in M. A. Straus (2015). More detailed methodological guidelines are in M. A. Straus (2016a).

APIM Analysis Using CTS Data

The Actor-Partner Interdependence Model (APIM) developed by Kenny, Kashy, and Cook (2006) led the way to the exponential growth in use of a dyadic approach to family research. The CTS provides the dyadic data needed for either the APIM or the CA method of dyadic research. APIM and CA are complementary, and use of both is desirable when practical because each

does things that the other does not do can do only with difficulty. APIM permits a greater variety of analyses than dyadic analysis using DCTs but does not adequately describe the couple as a social unit, and is exclusively a research tool. It can be used by researchers to provide information of great value clinically, but cannot itself be used in clinical practice. On the other hand, a clinician can almost instantly classify the couple as *Male-Only*, *Female-Only*, *Both*, or *Neither* by asking about whether each partner engages in a chosen behavior.

Suitability of CTS Data for APIM. One reason CTS data on both partners has rarely been used in APIM analyses is the guidelines for constructing a data set and conducting an APIM analysis may seem to rule out dyadic data on both partners obtained from one of them, which is the method of obtaining dyadic data used by the CTS. This contrasts with almost all current research using APIM which uses each partner's self-perception (SP). The CTS when completed by one partner, provides data on the perception of the other by the participant, which will be labeled as other-perception (OP) data. It is important to recognize that dyadic data can be provided by either or by partners and as either SP or OP, and that SP and OP data can make different contributions to understanding couple relationships. The value of understanding the perceptions of an actor is part of a long tradition in both psychology and sociology. In sociology, almost a century ago, an influential study of Polish peasants in Europe and America analyzed data on the principle that "if men believe something is true, it is true in its consequences" (Thomas & Znaniecki, 1927).

Analyses of the SP and OP data provided by the CTS brought out an important conceptual and methodological issues which have not received the attention needed to advance dyadic research, and led to articles that analyzed this in detail (Rodriguez & Straus, 2016a; M. A. Straus, 2016a). The theoretical analyses and empirical results indicate that SP and OP data each make separate and important contributions to understanding couples of OP data to understanding couples, as shown by (Busby, Holman, & Taniguchi, 2001; Karakurt & Cumbie, 2012; Maneta, Cohen, Schulz, & Waldinger, 2013; Rodriguez & Straus, 2016a, 2016b).

Complementarity of Concordance Analysis and APIM

Because APIM and DCT are complementary, and in some respects overlap, use of both can be advantageous. A simple but important way is to begin dyadic analyses is by cross tabulating the dyadic variable for each partner to obtain the percent Male-Only, Female-Only, Both, or Neither. Like the other descriptive information on a sample, it needs to be considered in designing the analyses

and interpreting the results. It should be part of the basic descriptive information on the cases in papers on the study. A second way to incorporate APIM and DCTs is to use each for its most direct application and strength. This would be to use DCTs as a descriptive statistic and APIM to estimate the strength of the paths from the behavior of each partner to the outcome variable.

New Response Categories

The original CTS response categories have been used in hundreds of CTS studies. However, many researchers believe that the eight frequency-of-occurrence categories impose too great a burden on respondents and have replaced them with a Yes–No dichotomy. Unfortunately, the advantage of less respondent burden is gained at the cost of losing the ability of the CTS to also measuring the chronicity of each mode of abuse. The following suggested new response categories provide some reduction in respondent burden while retaining the ability to enable estimate chronicity, and have some other advantages:

- 1 = Once a week or more often
- 2 = Once a month
- 3 = Two or three times in the past year
- 4 = Once in the past year
- 5 = Not in the past year
- 6 = Never happened

New Category Advantages

First, as just indicated, the proposed response categories lessen the burden on respondents and shortens interview time by reducing the number of categories from eight to six.

Second, the categories begin by asking how often a behavior occurred in the *past week* rather than the past year. The advantage is that past-week is much more easily and accurately estimated than past-year.

Third, the suggested new categories start with the most extreme frequency of occurrence category: “Once a week or more often.” This is to reflect the results of research which has found that the “contrast effect” is created by first asking first asking about the most extreme frequency of a behavior is associated with an increased percent who report a less extreme frequency. This sequence of categories is used in a study of online sexual harassment (Mitchell, Ybarra, & Korchmaros, 2014) to obtain a contrast effect increase in reporting less frequent occurrences.

Assuming that empirical research demonstrates these three advantages, the old categories should be used, except if an important purpose of the work is comparability with previous CTS descriptive data.

Recoding and Scoring the New Categories

Separate variables need to be computed frequency, prevalence, and chronicity of each CTS scale.

Past-Year Prevalence. Past-year prevalence is the most widely used method of scoring and reporting results on the CTS Physical Assault scale. Recode values 1 to 4 as 1, and 4 to 7 as 0. If the recode values are 100 and 0 instead of 1 and 0, procedures that output the mean will show the results as percentages.

Ever-Prevalence. Recode 1 to 4 and 6 as 1m (or 100), and 5 and 7 as 0: Unless the theoretical or therapeutic issue requires ever in the relationship data, past-year data are preferable because it is less likely to be influenced by recall error and recall bias.

Past-Year Frequency. The only CTS scale for which a measure of frequency and the mean frequency is likely to be useful is Denigration of a partner (previously called Psychological Aggression), and even that scale is skewed enough to require caution. The recodes are as follows: 1 = 52, 2 = 12, 3 = 3, 4 = 1, 5 = 0, 6 and 7 = System Missing.

Chronicity. Chronicity, a statistic to describe the frequency of behavior when the distribution is extremely skewed, is the case for the physical assault, injury, and sexual coercion scales. The mean chronicity score indicates, how often these behaviors occurred but only *among the subsample in which there was at one instance*. Use the following recodes to score chronicity: 1 = 52, 2 = 12, 3 = 3, 4 = 1, 5 = 0, 6 and 7 = System Missing.

Prevalence, Frequency, Chronicity Scores

The prevalence score is the percent of cases who reported one or more instances of a behavior measured by a CTS scale; for example, the percent who reported one or more acts of physical assault. It is the most widely used method of scoring, and for many purposes the most suitable. It is particularly appropriate for assault, injury, and sexual coercion because the predominance of cases scored zero makes the mean a poor measure to use. The frequency score is not appropriate to use to describe the three extremely skewed CTS

scales (physical assault, injury, sexual coercion). Instead describe the cases by presenting the prevalence (the percent who perpetrated the behavior) in combination with the chronicity (the frequency of perpetration among the subgroup who engaged in the behavior)

Severity Level Indexes

The Severity Level indexes provide a nonoverlapping way to present both the minor and severe levels of a behavior and based on the statistical power of the entire sample. The Severity Level indexes classify respondents into three mutually exclusive categories: 0 = No abuse, 1 = Minor Only, and 2 = Severe. Respondents in the Minor Only category are those who reported one or more acts of a minor act and no instances of a severe act. Severity Level indexes are needed for analyses that require a categorical variable, such as the independent variable in analysis of variance, or as the dependent variable in multinomial logistic regression.

Poly-Victimization and Perpetration Indexes

Being a victim or a perpetrator of more than one type of abusive behavior compared with just one type of abuse is an extremely aspect of measuring and intervening in partner abuse. The sheer number of victimizations has been found to explain variance in adverse outcomes that is in addition to the variance explained by the specific victimizations that are also in the model tested (Finkelhor, Ormrod, & Turner, 2007). A Poly-Victimization index (POLY-V) is a practical way to measure this because it is count of the number of victimizations experienced by a participant. The POLY-V scores for the CTS can range from 0 (none of the five abusive behaviors) to 5. If the focus is on perpetration, a Poly-Perpetration index (POLY-P) can be constructed. A POLY-V or POLY-P index can also meet the need for a measure of overall victimization or perpetration.

A distinctive characteristic of a POLY-V is that it is a *count* of types of behavior, that is, a poly-occurrence scale as compared with a scale in which the scores for the items are summed. Therefore, the items must be dichotomized, and then scored by assigning one point for each abusive behavior that meets a designated threshold. Using the five CTS scales, this index would have a score range of 0 to 5. The same procedure can use the CTS perpetration scales to create a Poly-Perpetration of abuse index (POLY-P). The threshold to determine whether a point should be added can depend on the purpose to which the POLY-V or POLY-P index is intended. If the purpose is to describe the extent of poly-victimization or perpetration in the general

population, it may be appropriate to use a threshold for each CTS scale such as one or more instance of each of the five abusive behaviors. But the threshold for very prevalent abusive behaviors such denigration and intransigence, should probably a score at or above a certain percentile, such as the 50th percentile. If the purpose is to assess the seriousness of abuse in a clinical population, higher thresholds for five scales can be explored.

When used clinically, clients can be provided with their score, expressed as a percentile of a relevant population rather than the sum of the 0-to-5 scale. The scales on which they meet the threshold can also be identified to provide behavior-specific information on the abuse.

Short Forms

Short forms based validated by appropriate psychometric can greatly expand the research and clinical situations in which an instrument can be used. This is illustrated by the wide use of the short form of the CTS2 (M. A. Straus & Douglas, 2004) in the few years since it became available. A short form of the *Parent-Child Conflict Tactics Scales* (CTSPC; M. A. Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) is also available (M. A. Straus & Mattingly, 2007). The short form, like the full length CTSPC, measures Non-Violent Discipline, Corporal Punishment, Physical Abuse, Neglect, and Psychological Aggression. It differs from the full length CTSPC in two ways. First and most obviously, instead of 27 questions and 10 minutes completion time, it has 10 questions can be completed in 2 or 3 minutes. This brevity is needed, for example, in a community sample study of parents where a great deal of information must be obtained in a brief interview, or in clinical settings where an instrument short enough for parents to complete in a few minutes (e.g., while in a waiting room). Second, the form CTSPC includes a method for classifying cases according to severity of maltreatment, which avoids confounding of corporal punishment with physical abuse and reduces skewness and outlier problems. The short form and psychometric data can be downloaded from <http://www.pubpages.unh.edu/~mas2>. There is space in the current article for only a summary the psychometric data.

Concurrent validity was measured by the correlation between the CTSPC Short Form and the full CTSPC scales ranged from .86 to .97. These are inflated coefficients because the items in the short form are also in full scale. Construct validity analysis found that the correlation of five demographic risk factors with the maltreatment of a child parallel the correlation of these variables using the full CTSPC. The "sensitivity" of an instrument is its ability identify cases.

Comparison of the prevalence rates obtained using the short form with the full length CTSPC shows that the short form has from 80% to 96% of the

sensitivity of the full CTSPC for the Physical Abuse, Corporal Punishment, and Neglect scales. For the Psychological Aggression or Non-Violent discipline scales, the sensitivity is from 60% to 64% of the sensitivity of the full scale. Despite this, the correlation between the full and short form of these scales is .90.

Severity Level Indexes

Redundancy of Overall and Minor Scale Scores

The overall scale for each abusive behavior includes any occurrence of a behavior, including both minor levels and severe levels of the behavior. Because acts at the minor level occur much more often than severe acts, the overall scale overlaps with the scale to measure occurrence of minor acts. This is especially the case for physical assault. As a result, statistical analysis using the minor assault scale and the overall assault scale typically show very similar results. When that is the case, it is somewhat redundant to report results of using both the overall scale and the minor scale. A more focused presentation of study results can be achieved by reporting statistics first for the overall rate and then the severe rate. An exception is when the subscales also represent different concepts, not just a difference in severity. An example is the Verbal and Physical Sexual Coercion subscales.

New Subscales for the Sexual Coercion Scale

The Sexual Coercion scale of the CTS is one of the most widely used instruments in this field of research (Bagwell-Gray, Messing, & Baldwin-White, 2015). It is used for four articles in an issue of *Partner Violence*, which analyzed data on Sexual Coercion scale of the CTS (Winstok & Straus, 2016). One of the articles in that issue provides more detailed information than was previously available for the Sexual Coercion scale (M. A. Straus, 2016b). For this article, the main purpose is to call attention the revised grouping of the original items into subscales to distinguish verbal and physical sexual coercion, and to recommend addition of two items to measure sexual coercion by incapacitation.

Verbal and Physical Coercion Subscales

The original presentation on the Sexual Coercion scale (M. A. Straus, Hamby, Boney-McCoy, & Sugarman, 1996), identified and scored for Severe and Less Severe sexual coercion. More conceptually distinct subscales, which also correspond to distinction made by others are Verbal and Physical.

Verbal Coercion Subscale. The five acts of verbal coercion are in two groups. *Insisting:* “Insisted on sex when my partner did not want to (but did not use physical force).” “Insisted my partner have oral or anal sex (but did not use physical force).” “Made my partner have sex without a condom.” *Threats:* “Used threats to make my partner have sex.” “Used threats to make my partner have oral or anal sex.”

Physical Coercion Subscale. The two physical coercion items are “Used force (like hitting, holding down, or using a weapon) to make my partner have sex.” “Used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex. Results using the verbal and physical subscales are in (Michel-Smith & Straus, 2015; M. A. Straus & Kemmerer, 2015).

Conceptualize and Score Negotiation Scale as Intransigence

The CTS Negotiation scale consists of six items such as “Explained my side of the argument” and “Suggested a compromise.” Despite face validity of the items and an adequate level of internal consistency ($\alpha = .86$), results of analyses using the Negotiation scale suggest it is not an adequate instrument. An early clue was Chart 15 in the study of the first National Family Violence Survey (M. A. Straus, Gelles, & Steinmetz, 2006). It shows that when there was conflict, negotiation was associated with slightly more physical violence. We suggested this might be because more negation occurs when there is more conflict. A way to deal with this is to reconceptualize and reverse-score the scale as a measure of intransigence.

New Incapacitation Subscale

Reviewing the strengths and limitations of this instrument for the article just cited identified the absence of items to measure use of alcohol or drugs to coerce sex. This important aspect of coercion was not included in the SC scale because it is difficult to distinguish between noncoercive uses of substances to facilitate sex and because, since neither verbal nor physical force is involved. However, the following two items which do ask about incapacitation as a coercive tactic have been added to enable a new Incapacitation subscale:

“I used a drug to get my partner stoned to have sex when the partner did not want sex”

“I got my partner drunk to have sex when the partner did not want sex

These items seem to have clear face validity, but they have not yet been empirically evaluated.

Use of the CTS to Contextualize Partner Violence

The most widely voiced criticism of the CTS is that it provides only a count of the number of abusive acts and fails to take into account the context in which those acts occur. This section first addresses the validity *and necessity* of measuring act of abuse, and then addresses the use of the CTS itself to provide needed information on context. Other criticisms are discussed in (M. A. Straus, 1990a, 1990b, 1999, 2004, 2011, 2012; Straus & Mickey, 2012).

Validity of Counting Acts

The CTS measurement of partner abuse as acts of each abusive behavior is based on a fundamental principle of measurement. This is the need for measures that are not confounded with presumed causes or effects. Such measures are necessary to conduct empirical tests of hypotheses about what is related to the occurrence of an abusive behavior. Thinking of a measure of the behavior per se as a deficiency is analogous to thinking that a spelling test is invalid if it measures only the number of words correctly spelled, and does not also measure why a child spells poorly (such as limited exposure to books at home or test anxiety), and does not provide information on the harmful effects of spelling difficulty (such as low self-esteem or dropping out of school). Those of course are crucial issues, but to empirically investigate them, these phenomena must be measured separately from spelling itself. Only in this way can one determine what co-varies with spelling ability.

Similarly, measuring acts of assault unconfounded with presumed causes or effects, rather than being problematic, is a crucial basis for the validity of the CTS. Moreover, researchers and clinicians need this information on whether those acts of assault occurred and how often as part of the assessment of the seriousness of the problem and explains why the CTS is so widely used even by critics.

Contexts Measured by the CTS

The idea that the assault scale of CTS is deficient because does not take into account crucial aspects of “context” is misleading. First, it is misleading because, as explained the preceding section, it ignores the need to first measure the behavior itself, free of confounding with other variables. Second, it

is misleading because the CTS itself measures four of the most often mentioned aspects of context: injury of a partner, denigrating a partner, sexually coercing a partner, and coercion, and intransigence in disagreements with a partner. When a study reports results based on using the physical assault scale, without taking into account one or more of these four aspects of context, it is a limitation of the study, not a limitation of the CTS. There are many ways to take these or other context variables into account. One method is to examine the interaction with physical assault to determine, for example if the antecedents or consequences for the relationship are different when there was or was not also injury inflicted.

Of course, important as are these four aspects of context, there are innumerable others. What they are depends on the theory being tested or the intervention circumstances. Once a relevant context variable has been identified, it can be part of the data collected along with the CTS. For example, in India, a crucial context variable is whether a couple is living as part of an extended family joint household or a nuclear family household. A study in Mumbai, India, took the household type into account and found less male coercive control when the couple lived as a nuclear family than as part of an extended family (J. H. Straus & Straus, 1968; M. A. Straus, 1974b).

Discussion

Research and Clinical Implications of Concordance Analysis

As indicated by placing it first in this article, the new development that is likely to have the widest ramification is bringing together the CTS and a dyadic approach to understanding and intervening in partner abuse. An important aspect of that development is that enhances the likelihood of attending to one of the most important ways to end or reduce violence against women. This is to take into account the research which has found that a woman's perpetration of violence is a strong predictor of her being a victim of partner violence. The research includes cross-sectional studies by O'Keefe (1997), Whitaker, Haileyesus, Swahn, and Saltzman (2007) and longitudinal studies, by Feld and Straus (1989), Kuijpers, van der Knaap, and Winkel (2011), and Lorber and O'Leary (2011). A meta-analysis by Stith, Smith, Penn, Ward, and Tritt (2004) concluded that violence by the female partner is the largest single risk factor for victimization of women. Moreover, these results apply to clinical populations, including cases in treatment programs and clients of a shelter for battered women (Cantos, Neidig, & O'Leary, 1994; Giles-Sims, 1983; Stith et al., 2004; M. A. Straus, 2011).

Part of the explanation for these results may be studies which found that many female victims need help with social and psychological problems that

preexisted the relationship (McCauley, Breslau, Saito, & Miller, 2015). Among, female partners of men in four batterer intervention programs such as the 24% reported a drinking or drug use problem (Gondolf, 1998; M. A. Straus, 2014). The dyadic nature of risk factors for perpetration of partner violence needs to be recognized in order to help female victims. A necessary and practical step is to identify the *Dyadic Concordance Type* of each case at intake to determine the extent to which each partner has key risk factors such as drinking problems, antisocial personality, and borderline personality; or engages in abusive behaviors such physical attacks, denigration of a partner, or coercive control. Then, a treatment-plan can be developed that takes into account whether the case is *Male-Only*, *Female-Only*, or *Both* in respect to these variables. A dyadic diagnosis using the CTS and a treatment approach based on what it reveals and addresses the needs of victims as well as perpetrators is likely to be both more humane and more effective, but of course needs to be empirically tested.

Conclusion

An article commemorating the 20th anniversary of the *Journal of Interpersonal Violence*, on the “top ten greatest hits” in partner violence research, Langhinrichsen-Rohling (2005) named the CTS as number 1. It was described as revolutionary because it allowed researchers to quantitatively study events that had often been ignored culturally and typically took place in private. The eight developments described in this article and the publication each month of five or six articles using data obtained by the CTS suggest that the CTS continues to be evolving into an ever more useful instrument.

Appendix

Terminology Used

For the reasons explained in this appendix, the terminology in this article differs in important ways from that advocated by most international organizations. For example, the US Centers for Disease Control and Prevention publication *Intimate Partner Violence Surveillance: Uniform Definitions and Recommended Data Elements* (Breiding, Basile, Smith, Black, & Mahendra, 2015) defines intimate partner violence as “Intimate partner violence includes physical violence, sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner (i.e., spouse, boyfriend/girlfriend, dating partner, or ongoing sexual partner).” The strength of this definition is that it encompasses the broad range of undesirable behaviors that need to be addressed. The weakness is that it does not differentiate between them.

Readers therefore do not know which of the several undesirable behaviors is the referent, or if it is all of them. This appendix describes what is problematic about grouping this range of problems under one name, and suggests names when a multiproblem and a specific problem term is needed. Interwoven with the multiple versus single problem issue is whether "violence" should be used to refer to physical attacks or a range of problematic behaviors.

Under most current usage, as exemplified by the definition just cited, partner violence includes not only physical attack or assault but also a range of other abusive behaviors such as denigration of a partner and coercive control. This usage evolved for at least two reasons. First, a single term that refers to more than one possible type of abusive behavior, it is often necessary. Second, the single term for multiple problems reflects the societal effort to combat those multiple abusive relationships, and specifically to expand prevention and treatment beyond its original focus on physically assaulted women. In the 1970s, "family violence" generally meant physical violence, but it became more and more clear that physical assault was often a part of a larger pattern of abusive relationships which had to be addressed. The terms family violence, domestic violence, and partner violence, and intimate partner violence gradually came to be used for this *range* of possible abusive behaviors. However, terms to identify when the measure or discussion is specifically physical violence are needed and suggested below to enable readers to unambiguously know when the referent is physical assault or a range of possible abuses. The terminology below is intended to achieve that.

Partner Violence (PV). *Partner violence (PV)* is used in this document exclusively to refer to nonsexual physical attacks. If physical sexual coercion and rape is the focus, it is a distinctive phenomenon which needs to be identified by explicit use of those terms.

Partner Abusive Behavior (PAB). *Partner abusive behavior (PAB)* is used when the referent is a variety of abusive behaviors. When a specific abusive behavior is the referent a term which indicates the nature of that behavior is used, for example, Denigration, Injury of a partner, Sexual Coercion, Intransigence, Dominance, or Coercive Control.

Intimate Partner Violence (IPV). Although the Centers for Disease Control and Prevention recommends using intimate partner violence and IPV to refer to the range of possible abusive behaviors that recommendation is not followed in this article in order to enhance the focus on the distinction between PV and PAB just described. A secondary reason is that "intimate" can be taken to mean sexually intimate. Many partners (especially high school and college

dating partners, and couples just starting to date) are not are not sexually or even emotionally “intimate” when the abusive behavior occurs. Dropping “Intimate” is therefore slightly more accurate and enables a briefer label.

Causes/Risk Factors and Abusive Behaviors Overlap. The terminology problem is also complicated because of confusion between identification of the problematic behavior and the causes of the problem. Each PAB can be, and usually is, also something that is likely to lead to some other PAB by the perpetrator or the victim. For example, a large body of research stating at least in the 1970s found that denigration of a partner (psychological aggression) is not only a major form of abuse of partners, but is a major risk factor for escalation into physical abuse (O’Leary & Woodin, 2009; Salis, Salwen, & O’Leary, 2014; M. A. Straus, 1974a). Coercive control and dominance is an aspect of couple relationships in which the overlap and confusion is particular. It is widely used as a risk factor for physical assault (M. A. Straus, 2008) and as an abusive behavior itself. Of course it is both. One way, and perhaps the only way, to deal with this is for the conceptual framework and presentation of results to make clear when dominance/coercive control is analyzed as a risk factor, when it is analyzed an abusive behavior to be explained or whose consequences are examined.

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