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# Construct Validity of the Conflict Tactics Scales: A Mixed-Method Investigation of Women's Intimate Partner Violence

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***Objective:*** The Conflict Tactics Scales 2 (CTS; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is the most widely used measure of intimate partner violence (IPV), and it consistently indicates high rates of IPV by young women in dating relationships. However, the CTS has been criticized for not assessing the context of the acts it measures. This study undertook a mixed-method investigation of women's IPV, incorporating both the CTS and in-depth interviews, to contextualize women's CTS reports of their use of violence against dating partners. ***Method:*** Four hundred seventy-six female undergraduates who had been in a heterosexual dating relationship in the past year completed the CTS. Women were then purposively recruited for follow-up interviews in a balanced design across 4 groups defined by self-reports of IPV perpetration on the CTS, ranging from none to severe and/or frequent violence. Thirty-four women completed interviews. ***Results:*** Although women's CTS reports were consistent with rates reported in the literature, there were discrepancies with the interview data. Findings indicate that women report endorsing acts of playful wrestling/fighting (i.e., "roughhousing") and mock violence on the CTS, and that such behavior is common among undergraduate women. The directionality of IPV identified by the CTS was also inconsistent with interview data. ***Conclusions:*** The CTS may potentially miscategorize acts and individuals and inflate estimates of the frequency and severity of women's IPV in young, dating, nonclinical samples. Research and clinical implications include the need for clearer definitions of the construct of IPV and the development of alternative or complementary assessment measures.

*Keywords:* assessment, Conflict Tactics Scales, intimate partner violence, mixed-methods, play, women

As Langhinrichsen-Rohling (2005) argued in her review of influential developments in research on intimate partner violence (IPV), the Conflict Tactics Scales (CTS) has been "revolutionary" in shaping the empirical study of violence against intimates. Since its development in the 1970s and revision in 1996 (Straus, Hamby, Boney-McCoy, & Sugarman) this measure has become the gold standard for assessing IPV (Archer, 2000; Straus, 2007). The relative brevity and ease of administration of the CTS has led to its widespread use in research on the prevalence, predictors, correlates, outcomes, and treatment of IPV. Despite its ubiquity, however, the CTS has been controversial for consistently identifying high rates of self-reported IPV perpetration by women (Archer, 2000), findings at odds with criminal justice and social service data on IPV and with rates of other forms of women's violence (Hamby, 2009; Langhinrichsen-Rohling, 2010; Tjaden & Thoennes, 2000). In response, there has been growing interest in measuring and understanding women's IPV (e.g., Bair-Merritt et al., 2010; Buttell, Wong, & Powers, 2012; Carney, Buttell, & Dutton, 2007; Swan,

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Gambone, Van Horn, Snow, & Sullivan, 2012). Some critics have argued that the decontextualized assessment of IPV provided by the CTS challenges the validity and interpretability of results on women's IPV (e.g., Dobash & Dobash, 2004; Kimmel, 2002; Woodin, Sotskova, & O'Leary, 2013). Given these critiques and repeated calls for more contextualized investigations of IPV (e.g., Foshee, Bauman, Linder, Rice, & Wilcher, 2007; Lindhorst & Tajima, 2008; Ryan, 2013; Woodin et al., 2013), this study undertook a mixed-method investigation of women's IPV incorporating both the CTS and in-depth interviews.

It is widely stated that the validity of the CTS is well-established (e.g., Straus, 2004, 2012). The 12-item Physical Assault Scale, commonly used alone to assess IPV, is divided into minor and severe acts, and is composed of putatively face valid and objective items such as *pushed or shoved my partner*, and *kicked my partner*. Straus et al. (1996) observe that, consistent with theoretical predictions, psychological aggression and physical assault as measured by the CTS are highly correlated (Straus et al., 1996), and that CTS scores correlate with other theoretically based risk factors for IPV such as low socioeconomic status and power imbalance in the relationship (Straus, 2007). However, correlations between scales or with other self-report measures are affected by shared method variance and a similar operationalization of IPV (Ryan, 2013). Furthermore, if the CTS systematically inflates rates of IPV, for example, it is possible that hypothesized patterns of correlations with risk or predictor variables could be found, but the strength of these correlations would be misinterpreted as indicators of strong construct validity. The validity of the CTS has been evaluated based on investigations of concordance rates within couples with mixed results (e.g., Archer, 1999; Caetano, Schafer, Field, & Nelson, 2002). Studies comparing CTS classifications with clinical interviews in adults and audiotaped scenarios in adolescents have found limited concordance in classifications of victims and perpetrators, with higher prevalence rates estimated by the CTS (Heyman, Feldbau-Kohn, Ehrensaft, Langhinrichsen-Rohling, & O'Leary, 2001; Hilton, Harris, & Rice, 2003).

Although the CTS is widely used across student, clinical, and nationally representative samples, Straus et al. (1996) argue that it is particularly important that the CTS be applicable to student populations:

> Students are a large and important population who are often victims or perpetrators of partner violence. Numerous studies show that the 12-month prevalence rate of dating violence . . . is almost double the 16% rate for married couples . . .. It is important to have an instrument that is applicable to this substantial population that is at high risk of partner violence (p. 292).

The high rates of IPV reported by young women in student samples have been widely reported and have important policy and practice implications. Given the high profile of these findings and Straus' own emphasis on the validity of the instrument for college students, the current study was conducted with a sample of undergraduate women. The study design was premised on the assumptions that consistent with the literature, roughly half the participants would report IPV on the CTS, and that these reports would be valid indicators of meaningful dating violence. The purpose of this investigation was to (a) integrate CTS and qualitative interview data, and to (b) generate an analysis of women's IPV taking relational and social contexts into account.

## Method

### Participants

Four hundred seventy-six female undergraduates from a large, Midwestern university who reported having been in a heterosexual dating relationship in the past year completed the CTS in the first stage of this study. Participants ranged in age from 18 through 24 years ($M \pm SD = 19.22 \pm 1.07$). The sample was 67.9% Caucasian, 17.4% Asian/Asian American/Asian Pacific Islander, 10.9% Latina/Hispanic, 7.6% African American, .6% Native American, and 1.9% biracial. An estimate of socioeconomic status (using parental educational level as a proxy for SES) indicated that the majority of this sample was middle- to upper-middle class. Study participants reflected multiple social milieu, including sorority, religious, dorm and activity-based (e.g., band, sports) activities. Participants were grouped based on their scores on the CTS Physical Assault Scale into one of four levels of self-reported assault that took both frequency and severity into account: none (level 1), minor violence 1–2 times (level 2), minor

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violence 3–5 times (level 3), minor violence 6 times or more and/or any severe violence (level 4). Partner violence was grouped along a continuum rather than dichotomized (present/absent) in acknowledgment of the potential heterogeneity of groups simply dichotomized using the CTS (Follingstad et al., 1999; Hamby & Turner, 2013). In the second stage of the study, a subset of participants were randomly recruited from each group for in-depth interviews in a balanced design across the four groups with modest oversampling in the severe violence group. Given the study aim of investigating women's IPV, the recruitment strategy was designed to ensure adequate sampling of women reporting a full range of violence frequency and severity on the CTS rather than to achieve a representative sample of the population. Of the 36 participants recruited, 34 completed interviews. Eight reported no violence on the CTS (level 1), and 26 reported violence perpetration on the CTS (8 in level 2, 8 in level 3, and 10 in level 4).

## Measures

**Conflict Tactics Scales 2 (CTS).** The Physical Assault Scale of the CTS (Straus et al., 1996) was used to assess violence by self and partner over the past 12 months. Response items are Likert-style frequency choices ranging from 0 to 7 (i.e., *never* to *more than 20 times*). The 12 Physical Assault Scale items are divided into 5 minor (e.g., *grabbed my partner*) and 7 severe (e.g., *used a knife or gun on my partner*). Internal reliabilities for assault by self were $\alpha = .65$ ($M = 4.7 \pm 11.07$) and for assault by partner were $\alpha = .72$ ($M = 3.06 \pm 10.57$).

**Semistructured interview.** A semistructured interview protocol developed for this study, building on Dobash and Dobash (2004) and Miller (2008), was used to investigate the following: dynamics and nature of violence in the current relationship (e.g., first, worst, and typical incidents of perpetration), the social contexts of dating and dating violence (e.g., peer experiences, witnessed IPV), attitudes and norms regarding dating and IPV, and history of family violence. The first author conducted all interviews, which were recorded and transcribed verbatim. To build rapport, avoid leading participants, and maintain independence between interview and CTS data, participants were not initially asked specifically about their CTS endorsements; rather participants were asked general questions about their dating relationships (e.g., overview of dating history), followed by questions about relationship conflict in general (e.g., *All couples fight or disagree sometimes. Can you tell me about what usually happens when you two fight or disagree?*) followed by more specific questions about worst conflicts (e.g., in the past year).

Finally, a timeline followback calendar method was used to gather data regarding the frequency and intensity of IPV perpetration. This method has been used successfully to assess patterns and frequency of IPV (Fals-Stewart, Birchler, & Kelley, 2003). Participants were given the list of items from the Physical Assault Scale of the CTS and asked about times when fights or arguments *got physical in any way* in the relationship, and the first and worst times participants *got physical* with their boyfriends. Probes included questions about the setting, precipitating events and emotions, motives, and outcomes for any reported incidents. The interview protocol also asked about the most common situations when physical force is used in the relationship, the consequences of any physical violence, and responses by the partner, any witnesses, and peers. The interview protocol was revised in an iterative process in response to data analysis of initial interviews (Maxwell, 2012), in which the calendar and questions about conflict or physical aggression in the relationship generated no endorsements of any relationship violence perpetration or victimization, despite participants' categorization as violent by the CTS. In the revised protocol, follow up questions were included that asked participants specifically about their CTS responses and gathered information about the context of any additional reported violence following the protocol above.

## Data Analysis

CTS data was used to characterize participants based on levels of reported violence and victimization, and to generate mutuality categories of violence perpetration (i.e., self, partner, or both). Interview transcripts were analyzed using multiple strategies. First, each interview was analyzed holistically to generate a phenomenologically informed narrative including the

story line (what happened), the larger context, and the participant's understanding of the story (what it means, why it happened). Second, transcripts were coded using qualitative software (NVivo8) using a process of open (i.e., unrestricted) coding to identify themes and generate hypotheses and using a constant comparison approach (Glaser & Strauss, 1967). Coding categories were determined using inductive and deductive approaches (Berg, 2001). "In Vivo" codes emerged inductively, grounded in the literal terms and experiences described by participants (e.g., "real" vs. "fake" violence). "Sociological constructs" were deductively generated based on theory (Berg, 2001) and emphasized contexts and interpretations of violence. For example, transcripts were coded for types of violence (e.g., minor, severe, self-defensive, playful and the antecedents and consequences of violence). At each analytic stage, transcripts were read, summarized, and coded across the dataset without regard to CTS subgroup categorization. A final step in the qualitative analysis involved checking the validity and applicability of hypotheses through a search for negative cases and checking that conclusions were representative of broad patterns in the data (Berg, 2001). Lastly, themes identified from the interview data were compared with CTS categorizations. Emergent themes of *playful violence* and *mock violence* from the qualitative data are reported here with verbatim from exemplars of each theme. Estimates of the prevalence of these themes are provided to characterize the extent to which these themes emerged spontaneously (i.e., inductive themes not generated a priori), and to indicate that the themes reflected patterns in the data rather than unique reports. Comparisons of interview and CTS self-report data are provided, including regarding self-defense and directionality.

## Results

### CTS Results

Similar to other studies employing undergraduate samples and consistent with study expectations, almost half the survey sample, 48.7% (232 participants), endorsed perpetration of at least one item on the CTS physical assault scale (see Table 1). Of the total sample, 35.1% ($n$ = 167) reported only minor violence, and 13.7% ($n$ = 65) endorsed at least one severe item. Approximately one third of the sample reported violence by their male dating partner, primarily minor violence, although 8% did report at least one incident of severe IPV by their partner. Looking at the directionality of all reported violence, the majority endorsed violence by self and partner (31.1%), followed by self only (17.4%), and partner only (2.3%; Table 1). The pattern is quite different when looking only at severe violence, when unidirectional severe violence by women is more commonly reported than bidirectional violence.

Table 1
*Conflict Tactics Scales: Physical Assault*

| Assault | *n* | % of total |
|---|---|---|
| Physical assault | | |
| Total assault by self | 232 | 48.74 |
| Minor assault | 228 | 47.90 |
| Severe assault | 65 | 13.66 |
| Total assault by partner | 160 | 33.61 |
| Minor assault | 153 | 32.14 |
| Severe assault | 38 | 7.98 |
| Mutuality types | | |
| Assault total | 243 | 51.05 |
| Partner only | 11 | 2.31 |
| Self only | 83 | 17.44 |
| Both | 149 | 31.30 |
| Severe assault total | 79 | 16.60 |
| Partner only | 14 | 2.94 |
| Self only | 41 | 8.61 |
| Both | 24 | 5.04 |

### Mixed-Method Results: Comparisons of CTS and Interview Data

As described above, women endorsing more frequent and/or severe violence on the CTS were purposively oversampled for interviews to ensure a range of violence perpetration in the sample. As expected, women did report and describe a range of violent behaviors toward their boyfriends, including instances of severe violence. However, despite the sampling strategy and contrary to expectations, mixed method analyses suggested ways in which the CTS might be vulnerable to the overestimation of women's IPV through the identification of play as violence and by failing to distinguish mock violence from meaningful violence (see Table 2). Furthermore, interview data suggested that

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Table 2
*Comparison of CTS Versus Interview Coding*

| Interview coded | CTS violent ($n$ = 26) | CTS nonviolent ($n$ = 8) |
|---|---|---|
| No violence | — | 5 (62.5%) |
| Playful | | |
| Only playful | 5 (19.23%) | 2 (25%) |
| Any playful | 10 (38.46%) | 1 (12.5%) |
| Total playful | 15 (57.69%) | 3 (37.5%) |
| Self-defense (SD) | | |
| Only *SD* | 1 (3.85%) | — |
| Total *SD* | 3 (11.54%) | — |
| Any intentional and/or mock violence | 20 (76.92%) | 1 (12.5%) |

the CTS mutuality scores may not adequately distinguish victims from perpetrators or mutual combatants.

The interview context may have generated a stronger press for socially desirable responding than the more anonymous survey format of the CTS, contributing to possible minimization or denial in the interviews. Yet many participants did in fact describe their own meaningfully violent behavior in significant detail. Frequently these women also described instances of playful or mock violence. Further, participants identified some situations as justifying, or even requiring, physical violence (Lehrner, 2011); in these cases it may be less likely that women minimized violence. Interviews provide another form of self-report data, and participant reports may not provide more accurate reflections of reality than CTS endorsements. However, interviews allow for participants to describe the contexts and meaning of their behaviors and their understanding of their CTS endorsements. Verbatim and context from the interviews are provided to establish the credibility of the themes reported, and are intended to provide proof of concept that such behaviors exist and may be reflected in CTS scores.

## Playful Violence Versus IPV

The first theme is the use of nonaggressive, nonviolent play in undergraduate dating couples. Play fighting, or "roughhousing," was commonly reported across the entire interview sample; more than half of the interview participants (53%, $n$ = 18) reported at least one incidence of playful violence. Among those interview participants coded as violent by the CTS, almost 20% ($n$ = 5) reported *only* playful violence, and an additional 38% ($n$ = 10) reported playful violence in addition to describing serious violence. Therefore, 58% of those coded violent by the CTS report having endorsed at least some playful violence. Three participants coded nonviolent by the CTS also reported playful violence in the interviews.

Descriptions of play fighting included behaviors coded as severe assault by the CTS, such as kicking, punching, or resulting in injury to self or partner. An exemplar of this pattern is Participant 106 (level 4), who endorsed significant frequency and severity of violence on the CTS, including items such as throwing something, twisting arm or hair, pushing, shoving, grabbing, slapping, and two instances of having had an injury for herself and her boyfriend. When asked about times when arguments or fights have ever "gotten physical," she replied:

> P: Honestly, not when we're fighting have we ever been physical. I mean when we're joking around and you know, things like that? We like to just play around and like pretend to beat each other up. But it's not anything that would really inflict pain on each other. And if it is, it's very minor and it's accidental. But . . .
>
> Q: Not in the context of like an argument or a conflict?
>
> P: No. I honestly cannot remember a single time where we were fighting and it had gotten physical. Usually if anything we're on the phone or we are 5 feet away from each other.

When questioned more directly about her CTS endorsements she responded, "I think I might have been thinking in context of playing sort of thing . . . it probably, I thought it was in the context of just at all? . . . And when we are like at all, you know, physical like that it's just like all in fun." When asked for examples she reported:

> A: Well I'll either just like go up to him—"let's fight" or something—and then I'll just like you know lightly punch him or something like that. And then you know he would like pick me up and throw me on the couch, and like start tickling me. Usually that's what ends up stopping it is that he'll just keep tickling me until I can't breathe anymore. But I mean that's pretty much it.
>
> Q: And so you'll get to that point where you're trying to really overpower him and see if you can do it, and you never can?

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> A: Yeah. Usually the only thing I can do is like pinch him or something? I pull his hair and he'll stop tickling me. But that's about it.
>
> Q: So when are the times where you'd be in the mood to say, "hey let's fight?"
>
> A: I don't know, a lot of times when I'm at home, I get bored and there's really not a lot to do in my town. So watching TV and movies gets kind of old. So we're just you know, something to do? Like kind of like a brother/sister type of thing, where you just have nothing else to do so let's beat up on each other kind of . . .

This participant's description of her relationship across the interview is consistent with this report, and she provides no indication of IPV by either partner in the interview data. Although coded as severely and frequently assaultive by the CTS, her endorsements on the CTS appear to miscategorize her playful behavior as IPV.

### Mock Violence Versus IPV

The second theme is the prevalence of reported mock violence. This form of behavior deploys a "violent" act in a context that renders it clearly teasing or playful to both parties. Participants described what one called "fake" violence, or joking or teasing contact such as a push or shove. Mock violence may also occur in quasi-protest against some behavior or comment by a boyfriend that might have been seen as sexist, insulting, annoying, or dismissing. Some of the mock violence endorsed by participants on the CTS and described in the interviews may be inappropriate or risky, but the interpretation of these common behaviors as instances of IPV misses the context and function of these behaviors. Almost 20% of the interview participants ($n = 5$) coded as violent by the CTS clearly described mock violence.

Participant 90 described a pattern of her boyfriend playfully provoking her and apologized when she thought she had misled the researcher to understand her behavior as an act of violence. She provided an example: "[I say] 'you're getting on my nerves,' like, 'stop' [indicates a playful shove]. He plays around and stuff like that so I'm sorry but I didn't . . ." Mock violence generally involves a "minor" form of violence, but as with playful violence, it can include more severe items. An exemplar is provided by Participant 239 (level 4). In the interview she described multiple incidents of serious violence, which she identified as such, against her boyfriend. However, she laughed when she realized her endorsement of "kicking" her boyfriend (a severe item) had been interpreted as an act of violence. She described the incident as follows: "he came to visit and we were just like messing around. . . . he was like on the floor and I like kicked him like 'get up, like be serious, like just get up . . .' So that's probably like a tap, like that was probably . . . I shouldn't have wrote that." She continued, "Well that was like a joke. I wasn't yelling or anything." She distinguishes her real violence, which was intended as violence, expressed in anger or frustration, and described in detail, from this kind of "messing around."

Playful wrestling and mock violence were widely recognized and reported as common among peers. For example, a participant [63] who was categorized as nonviolent by the CTS described mock violence as normative in her social network: "a lot of my friends, we do a lot of like playful fighting. Like me and my boyfriend used to wrestle a lot . . .. So we're used to like hitting people but not like in a bad way. Just like in a, you know, we don't try to hurt them. It's just like you know, they said something stupid so, just like a punch in the arm."

### Classifying Victimization as Perpetration

In this sample, 30% of the interview participants ($n = 3$) classified as severe perpetrators by the CTS described acts of self-defense. Two of them reported self-defense *only*, and the third proved to be severely victimized. The violent victimization as described was serious, intentional, and always initiated by the boyfriends. For example, Participant 167 (level 4) reported 3 severe assaults by her boyfriend. She reported being afraid and sustaining injuries during these incidents, and she described using violence to defend herself every time. She described each of these three incidents in detail, including her own violence, and reported them as the only occasions of IPV in her relationship:

> He was really upset at me about something and then he tried to like . . . he wanted to hook up like I was like, "No like I'm upset," you know. And I don't want to do whatever so he got on top of me . . .. He like thinks it's funny to do weird things like he fish-hooked me [demonstrates by hooking finger in mouth and pulling toward cheek], like he does that all the time . . .. So I bit his finger. And he just slammed me across the face like—I was like I will never forget this because—and

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> he goes, "I bet that fucking hurt, bitch, right?" Like all of a sudden I was like shocked. I just ran out of my apartment.

She also described fighting back the first time her boyfriend became violent:

> He grabbed my arm and it hurt really bad and I was like, "Let go of me! Get off me!" Like he always gets on top of me to control me kind of because obviously I can't push him off of me when he is in control. So I like smacked him . . . he took my fist and started punching me with it . . .. Only way I could get him off me, this is gonna sound so horrible, but only way I could get him to get off me I was scratching at his face because I couldn't get him off me. I was scared.

This participant also reported playful wrestling with her boyfriend, resulting in a CTS profile that appears to conflate self-defense and play, inflating her frequency and severity results.

Likewise, Participant 405 described a pattern of severe verbal and physical abuse from her boyfriend over the duration of the relationship, including choking and being thrown down stairs. Some of these incidents left her bruised, and more than once she was afraid for her life.

> Q: So when he choked you, did it happen repeatedly or did it only happen once?
>
> A: It only happened like a couple of times. But it was pretty bad like, he, like I would be coughing for a while until I could actually catch my breath.
>
> Q: Were there times, any of the times he choked you, that you were afraid he might kill you?
>
> A: Yeah. Like every time, 'cause I didn't know, because I would tell him to stop, and stop and he like he just stopped whenever he wanted.

At one point, she expressed suicidal feelings to her boyfriend and he hit her in response, suggesting that he could kill her if she wanted to die:

> I would talk to him about it, and how it made me feel. I was like, "why do you hit me? Why do you make me feel so bad?" And he would just yell at me and tell me like, "I can make you feel like however I want." And then I, I think I mentioned once that I didn't want to be here anymore because I had like so much pain in my life. I remember that he hit me, and he's like, "You don't want to live anymore? Because I can help you." . . . I started crying, I was like, "No, no, no. It's okay."

This participant, coded by the CTS as using severe violence, reported that at some point in the relationship she began to fight back, although it led to an escalation of violence by her boyfriend.

> A: Well yeah because I didn't feel like it was right for him, to hit me. So I started defending myself, after a while, it was like a year after he had started everything.
>
> Q: So what would happen if you would hit him or kick him back?
>
> A: He would hit me harder.

These two participants, coded as perpetrating severe violence, describe clear instances of IPV victimization. A third participant who reported only self-defense did not describe an ongoing pattern of abuse by one boyfriend, but reported multiple incidents with different boyfriends or dating partners that involved an assault or attempted assault and the participant's self-defensive response. Of the other seven interview participants reporting severe violence on the CTS, one reported playful violence *only* in the interview (Participant 106, described above), and five reported some playful violence in addition to mock violence and/or meaningful violence.

### Identifying Directionality or Mutuality of Violence

CTS directionality scores group participants who report any violence into one of three categories: self-only, partner-only, or both. Results of these categorizations have led to widespread reports that the majority of IPV is mutual or bidirectional (although without more contextual information mutual violence cannot be distinguished from a pattern of violent perpetration and self-defensive response). Consistent with the literature, more than half of the interview sample reported bidirectional violence on the CTS. Of the 26 interview participants who reported any violence on the CTS, 18 reported violence by both partners (69.2%), eight reported violence by self only (30.8%), and one reported violent victimization only (3.8%). When read against the qualitative data, however, there were discrepancies between CTS mutuality scores and patterns of victimization, perpetration, or mutual violence as reported by participants.

For example, the single interview participant (22) who reported violence by partner only on the CTS described an incident where her boyfriend grabbed her as follows: "that

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was like because I was just about to like walk out, but he just like grabbed my arm and told me not to leave. But that's not like – [that's] as physical as it gets." She stated in the interview that she thought she endorsed having pushed her boyfriend on the CTS (she had not), and then described engaging in playful violence (not endorsed on the CTS). As the sole "victim" of partner-only violence identified by the CTS, her narrative was more similar to the majority of other participants than those of the victims described above. In fact, she described herself as more likely to be physical with her boyfriend ("I can push him around . . . it's really not gonna do anything"), and did not experience his behavior as threatening or violent.

Interestingly, the two participants who reported violence only in self-defense in the interview were distinguished by one score on the CTS: they were the only two interview participants who endorsed severe violence by self *and* partner. Those identified as mutually violent by the CTS include Participant 405 (described above), who reported severe victimization in the interview (coded by the CTS as severe perpetration and minor victimization); Participant 178, who reported unidirectional violence against her boyfriend; and two others who reported playful contact only in the interview (106, 155). With the exception of the three victims already described, participants generally denied IPV by their boyfriends (despite mutuality per the CTS).

### Inconsistent Reporting on the CTS

When asked about their endorsements of violent acts on the CTS, a number of participants reported having been unsure whether to include violence that may have been playful or that they had not intended as "real" violence. Some women reported feeling that they should report all physical acts, regardless of their meaning or context. It is also possible that given the length of the measure (72 items in total), participants drifted away from the instructional frame as they moved through the pages of discrete behaviors. Participant 256 (level 4) endorsed CTS items such as pushing/shoving, slapping, punching/hitting, and being grabbed. When asked about the incidents in which these behaviors occurred she said, "See I wasn't really sure how to answer those questions . . .. Just because a lot of it isn't, you know, in conflict situations either, but I figured it still kind of counted if we're doing like type of physical thing in a relationship." In the interview she explained that she had thus reported both playful and real violence on the CTS, whereas during the interview she described examples of play and of violence perpetration during conflicts. Participant 353 (level 4) also noted a dilemma about what to endorse on the CTS. When asked about specific endorsements, she replied, "sometimes it doesn't apply like the way they word it? It doesn't apply but I don't want to say 'no' flat out because it kind of is 'yes.'" Yes, the behavior may have occurred, but "it doesn't apply" because the incident was not understood as an act of "real" violence. In other cases, participants described comparable acts of playful aggression in the interview but had not endorsed these behaviors on the CTS. For example, three participants in the nonviolent CTS group reported playful violence in the interview. The CTS also did not capture all violence reported in interviews; one of the eight participants in the nonviolent CTS group reported perpetrating violence in the interview.

## Discussion

Given the widespread use of the CTS to measure IPV, this study was designed to use the CTS to identify undergraduate women who used violence against dating partners in order to conduct in-depth follow up interviews regarding their IPV perpetration. Although women did describe meaningful acts of IPV in the interviews as expected, there were important discrepancies between CTS and interview data in this sample of undergraduate women. Interview data suggested that both play and mock violence may have been reported as acts of IPV on the CTS. Such findings indicate that the CTS has the potential to miscategorize some women as violent, as well as to overestimate the frequency and severity of IPV. The discrepancy in categorizations between interview and CTS data affected 58% of the interview participants coded as violent by the CTS. Mutuality scores on the CTS were also not consistent with behavior patterns described in the interview data. It is of note that in the interview narratives, women did report a range of significant, meaningful, and

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nondefensive violence (not reported here), so that findings do not suggest that women's IPV is not a real phenomenon.

The playful aggression and mock violence reported by the young women in this study ranged from clearly playful to more ambiguous. Playful wrestling and physical contact may serve many functions, from flirting and relatively "low-risk" touching, to nonverbal communication of irritation, displeasure, or anger. The use of mock violence may indicate the presence of poor communication skills or impulse control problems, or function as a proxy for other important risk factors of IPV. Such contact may also increase risk for serious violence. For example, Gonzalez-Mendez and Hernandez-Cabrera (2009) found that aggressive play and simulated jealousy and anger were associated with risk of violence by dating partners. However, although pretend "violence" may increase risk for victimization and may not reflect exemplary relationship skills, it is not a reflection of the construct of IPV as commonly understood.

One goal of mixed-method research is to minimize confounds and single-method bias through triangulation. The exemplar responses reported here, illustrating significant divergences between survey and interview data, suggest another goal, to identify and elaborate contradictions through the "recasting of questions or results from one method with questions or results from the other method" (Greene, Caracelli, & Graham, 1989, p. 259). In attempting to answer questions about the context and nature of young women's IPV as identified by the CTS, interview results pose questions about the meaning of behaviors assessed by the CTS. The divergent reports across methods in this sample "trouble" the confidence with which CTS data can be safely assumed to assess only meaningful instances of IPV in an undergraduate sample of women.

The current findings accord with similar results in studies of adolescent dating violence that report frequent joking and playful aggression in dating contexts (Baxter, 1992; Capaldi & Crosby, 1997; Gonzalez-Mendez & Hernandez-Cabrera, 2009; Perry & Fromuth, 2005; Ryan, 1998; Ryan & Mohr, 2005). A few studies, using both interview and survey data, have shown that such playful aggression can be miscategorized as violence by act-based measures of IPV. For example, among female high school students identified as perpetrators of IPV, 17.5% denied committing any partner violence, and an additional 29% described their violence as only playful (Foshee et al., 2007). Ultimately, more than half of the Foshee et al. sample (52.4%) was excluded from analyses for having been apparently miscategorized. Similarly, among female high school students who completed a modified CTS designed for adolescents followed by questions about the context of each act in a design similar to the current study, 48.8% of the reported perpetration was recategorized as joking, and researchers "corrected" the rate of female IPV perpetration from 42% to 21% (Fernández-González, O'Leary, & Muñoz-Rivas, 2013).

These findings do not just reflect the influence of social desirability on self-reports of perpetration; a study of high school students assessing victimization only found that 78% of the sample rated every single act of physical aggression against them as an instance of their partner "playing around" (Jouriles, Platt, & McDonald, 2009). Only 10% of the sample endorsed experiencing an act of nonplayful physical aggression. It is important when interpreting this literature to consider that victims of high levels of IPV who are highly committed to their partners may minimize even severe violence by their partners as joking (Arriaga, 2002), but this is unlikely to substantially account for the findings from both survey and interview research. Findings from the current study suggest that playful and mock violence are frequent in undergraduate, as well as high school, populations.

The almost complete absence of any reference to playful or mock violence in the IPV literature highlights the apparent disconnect between the literature on dating violence and aggression, usually conducted with high school students, and the "adult" literature on IPV. Fernández-González et al. (2013) note that the issue of joking mistaken as violence, and the need to potentially correct for it, has been neglected in IPV research. In their discussion of validity concerns in the measurement of IPV, Follingstad and Rogers (2013) observe that the problem of potential overreporting is rarely mentioned. Yet much of the knowledge about IPV is based on research with undergraduates; Archer's (2000) frequently cited meta-analysis

was primarily comprised of studies with college student samples. The validity of a measure may vary, and thus needs to be established, in different populations. Although the CTS is widely used across clinical, criminal justice, community, and student populations, Cascardi, Avery-Leaf, O'Leary, and Slep (1999) noted that there is a general lack of evidence for the validity of the CTS with adolescents. The small literature showing high levels of joking and playful violence among adolescents has not yet raised a warning flag about the potential for overestimation of IPV by the CTS among adolescent or young adult samples. Even amid concerns regarding potential underreporting of IPV, Hamby (2009) argues that the reduction of false positives has the greatest potential to increase accurate measurement of IPV.

Decades ago, Margolin (1987) voiced concern about potential misinterpretation of CTS endorsements in adults, observing that although "CTS items appear behaviorally specific, their meanings still are open to interpretation" (p. 83). She discovered that an endorsement of kicking on the CTS in an adult couple was actually play under the bedcovers. The wife in another couple reported one instance of serious violence perpetration that was in fact an act of self-defense against longstanding abuse by her husband. Failure to adequately assess these behaviors compromises prevalence estimates of IPV using the CTS or other act-based measures, and risks trivializing the meaningful violence that occurs in relationships (Dobash, Dobash, Wilson, & Daly, 1992; Foshee et al., 2007).

## Limitations

Just as survey data may reflect response style bias, misinterpretation of instructions, and so forth, interview data may be influenced by the interpersonal interview context, social desirability, and so forth. Interview participants may have minimized or distorted their responses in a socially desirable direction. This is a particular concern given the sensitive topic. However, the mixed-method analysis presented here is intended to exemplify plausible domains in which the CTS may overestimate IPV rather than to definitively document rates of overreporting. The credibility of the interview data is supported by participants' willingness to describe many instances of intentional violence, their minimization of the seriousness of women's violence (therefore potentially reducing stigma or shame at reporting IPV; Lehrner, 2011), and the consistency of the current report with the literature on joking violence among adolescents. In addition, social desirability correlates only weakly with disclosure of IPV perpetration (Hamby, 2009). Further quantification of miscategorization or inflation of violence by the CTS requires replication with larger and diverse samples.

Findings reported here may be specific to undergraduate women, and it is likely that patterns of responding in samples from battered women's shelters and criminal justice settings, for example, would be different. The current sample was also primarily white and middle-class, and patterns of behaviors and responding are likely to vary across different cultural and class contexts. However, the few studies that have identified playful violence have found consistently high rates across diverse samples, including high school and university students from Spain, rural high school students from a southern state, and young at-risk dating couples (Capaldi & Crosby, 1997; Foshee et al., 2007; Gonzalez-Mendez & Hernandez-Cabrera, 2009). Finally, as this study was not designed to be comparative, but to investigate women's experiences and perceptions of their use of IPV against partners, there were no male participants. Thus, it cannot be inferred whether men would report engaging in similar rates of playful and mock violence, or how they experience women's playful aggression or meaningful violence. Findings support future research on the validity of the CTS with men and women, with more diverse samples.

## Research Implications

Although this study used the CTS because of its prominence in the literature, the fundamental problem of potential oversensitivity in assessment of IPV holds for any measure that counts discrete behaviors in the absence of contextual information. Those concerned with the assessment of IPV argue for the need to incorporate methods that can capture information about the incident in which the behavior occurred, and the meanings and consequences of the behavior (Fernández-González et al., 2013; Foshee et al., 2007; Ryan, 2013; Woodin et al., 2013). As

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long as IPV is defined only by the presence of an endorsement of a specific act on a measure, without information about the larger incident in which it occurred, IPV research will be hindered by potential heterogeneity of the index behaviors and group classifications.

Straus (2012) argued that it is methodologically erroneous to criticize the CTS for failing to account for context. He stated: "The belief that the CTS is not valid because it provides only a simple count of assaultive acts is analogous to believing that a spelling test is invalid because it provides only a simple count of how many words the child can spell and does not include context and consequence on why a child spells poorly" (p. 541). In this case, the question is whether the CTS always provides "a simple count of assaultive acts," or potentially captures nonassaultive acts as well, at least in some populations. To establish the validity of the CTS with any population, the definition of an assaultive act must be clarified (as the correct spelling must be agreed upon prior to any spelling test). It is likely that at least some of the behaviors reported on the CTS by participants in this study would not be considered acts of "assault" by lay audiences.

Clarification of the definition and meaning of IPV is essential for improved assessment (Fincham, Cui, Gordon, & Ueno, 2013). Different conceptualizations yield different measures and prevalence estimates, with different validity claims (Follingstad & Rogers, 2013). The CTS-2 includes questions regarding impact and injury, but these are not conventionally used for classification. Hamby and Turner (2013) suggest identification of a minimum threshold of frequency or severity, rather than the present/absent dichotomy, to characterize an act as violent. Woodin et al. (2013) suggest a distinction between "clinically significant" IPV and the occurrence of specific behaviors. As the field continues to interpret CTS findings and develop new measures of IPV, it must also pursue consensus on what "counts" as IPV.

## Clinical and Policy Implications

Research reporting high rates of female IPV using the CTS have begun to influence social policy and can be seen in contentious debates about policy responses to IPV including law enforcement, prevention, and intervention services. The widespread reporting of playful and teasing behaviors on the CTS in this sample and others cautions against social policies based on this literature. Understanding the contexts of women's use of physical force is essential for identifying prevention and intervention strategies and priorities (Foshee et al., 2007).

In recognition of the limitations of act-based assessments, alternative measures have been proposed for screening and assessment of IPV in both research and clinical settings (see Rathus & Feindler, 2002, for a review of assessment measures). For example, researchers suggest the inclusion of interview data (Woodin et al., 2013; Foshee et al., 2007; Hamby & Turner, 2013). Gordon (2000) suggested development of a structured assessment tool similar to the Structured Clinical Interview for the DSM–IV (SCID-IV; First, Spitzer, Gibbon, & Williams, 2002) that would include screening questions and different modules for different dimensions of abuse. Others have also suggested developing a "gold-standard" assessment using multiple methods, such as screening followed by interview (Ryan, 2013; Fernández-González et al., 2013). Another potential model is the Clinician-Administered PTSD Scale for DSM–IV (CAPS; Blake et al., 1995), considered the gold standard assessment measure in research on posttraumatic stress disorder. The CAPS, a structured interview, allows detailed assessment of the frequency and intensity of psychological and behavioral symptoms. A similar measure could be developed including the multiple domains of IPV that have been established in the literature (e.g., emotional abuse, physical violence, sexual assault) incorporating both objective behaviors and subjective experiences. One downside of a more detailed assessment tool is that it would be more time consuming. However, brevity at the cost of validity is false economy.

Other self-report measures of IPV have also been proposed, including a measure assessing the victim's perception and experience (Women's Experience of Battering [WEB]; Smith, Earp, & DeVellis, 1995). Smith, Thornton, DeVellis, Earp, and Coker (2002) provide empirical support for a construct of battering that is distinct from (although overlapping with) physical or sexual assault and that comprises behaviors that "create or sustain fear, provoke a loss

of power and control, and induce shame and disempowerment in the relationship" (p. 1222). Although the WEB assesses dimensions of abuse such as perceived threat and a pervasive experience of disempowerment and loss of sense of self, it has been criticized for overemphasizing the respondent's subjective experience and failing to objectively measure behavior (Dutton, 1999). However, a measure incorporating subjective experience has the potential to contextualize and validate (from the victim's perspective) the results from purely act-based measures like the CTS. For example, the WEB has been shown to distinguish severity of victimization, showing higher levels of experienced battering in women than in men, regardless of their victimization or perpetration status on act-based measures (Houry et al., 2008).

Attempts to generate alternative measures for more specific constructs, such as coercive control (Dutton & Goodman, 2005), may successfully improve measurement specificity and redefine the construct of interest. Although it may be that coercive control is a better characterization of the phenomenon of interest for battered women's advocates and violence against women researchers, the move to shift the focus of inquiry to "battering" or "coercive control" risks side-stepping the CTS-based literature entirely, allowing parallel literatures to develop without addressing the potential problems inherent in act-based assessments of IPV using the CTS or other measures. Furthermore, most alternative measures have emphasized the assessment of victimization; an additional challenge before the field is how to develop more sophisticated measures of IPV perpetration (Swan et al., 2012). Given the social significance of IPV and the prevention, treatment, and policy implications of its accurate assessment, continued investigation into the validity of the CTS with diverse populations and the further development of more nuanced and developmentally sensitive assessment strategies appears warranted.

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