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Distress Tolerance and Intimate Partner Violence among Men in Substance Use Treatment

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Abstract

Intimate partner violence (IPV) is overrepresented among men in substance use treatment. Individuals who relapse following substance use treatment report greater IPV perpetration relative to individuals who remain remitted. In addition, distress tolerance has been shown to be an important treatment target in substance use treatment, with distress tolerance predicting relapse following treatment. However, we are unaware of any research that has examined the relationship between distress tolerance and IPV among men in substance use treatment, which may hold important treatment implications. The current study therefore examined this relationship in a sample of men in substance use treatment ($N = 138$). Results demonstrated that distress tolerance was negatively associated with physical and psychological IPV perpetration. After controlling for age and substance use and problems, distress tolerance remained associated with psychological, but not physical, IPV perpetration. These findings suggest that distress tolerance may be an important component of treatments for IPV, particularly for psychological aggression. Substance use treatment programs that target distress tolerance may concurrently reduce the risk for relapse to substance use and IPV perpetration.

Keywords

Intimate partner violence; distress tolerance; substance use

There is a robust literature documenting the problem of intimate partner violence (IPV) among men with substance use disorders, including men in treatment for substance use (Stuart, O'Farrell, & Temple, 2009; Temple, Stuart, & O'Farrell, 2009). Research suggests that the prevalence and frequency of both physical and psychological IPV perpetration is overrepresented among men in substance use treatment (Stuart et al., 2009). For instance, the past year prevalence of physical IPV in men seeking substance use treatment has ranged from 50–85% (Chermack & Blow, 2002; O'Farrell, Murphy, Stephan, Fals-Stewart, &

Murphy, 2004; Stuart et al., 2009), whereas the prevalence of physical IPV in the general population of men is approximately 20% (Shorey, Cornelius, & Bell, 2008). Psychological aggression is also overrepresented among men in substance use treatment, with perpetration estimates as high as 90% in the past year (Stuart et al., 2009). Fortunately research suggests that reducing substance use concurrently reduces IPV (Stuart et al., 2009), with research demonstrating that individuals who remain remitted, versus relapsed, report lower rates of IPV following treatment (e.g., O'Farrell et al., 2004). However, even among individuals who remain remitted following substance use treatment, IPV remains a prevalent problem (Stuart et al., 2009). Therefore, there is a clear need for continued research on factors that may be associated with both IPV and substance use that could be systematically targeted during substance use treatment. In the current study, we examined distress tolerance as one factor that may be related to IPV in a sample of men in substance use treatment.

Distress Tolerance and Substance Use

Distress tolerance is considered “a meta-emotion construct that consists of one’s evaluations and expectations of experiencing negative emotional states in respect to (1) tolerability and aversiveness, (2) appraisal and acceptability, (3) tendency to absorb attention and disrupt functioning, and (4) regulation of emotions, specifically, the consequent strength of action tendencies to either avoid or immediately attenuate the experience” (Simons & Gaher, 2005; pp. 83–84). That is, distress tolerance reflects an individual’s ability to withstand and experience aversive psychological states. Although conceptually similar to other emotion-related constructs, such as emotion dysregulation, experiential avoidance, and anxiety sensitivity, it is well-documented that distress tolerance is unique from these related constructs (see Zvolensky, Vujanovic, Bernstein, & Leyro 2010 for a detailed discussion). For instance, anxiety sensitivity reflects a principal concern with the negative consequences of anxiety, whereas distress tolerance may be related to a number of different emotions (e.g., fear, sadness; Zvolensky et al., 2010). Additionally, whereas experiential avoidance is primarily concerned with acceptance of negative emotional states and thoughts, distress tolerance is more concerned with the ability to withstand and tolerate distressing states (Leyro, Zvolensky, & Bernstein, 2010). It is also important to note that lowered distress tolerance is believed to contribute to the onset and maintenance of psychopathology (Zvolensky & Otto, 2007).

There is a growing body of literature demonstrating that distress tolerance is associated with level of substance use, treatment compliance, and relapse in substance using samples. For instance, a number of studies have demonstrated that low levels of distress tolerance are associated with increased substance use frequency across various populations (Buckner, Keough, & Schmidt, 2007; Howell, Leyro, Hogan, Buckner, & Zvolensky, 2010; Marshall-Berenz, Vujanovic, & MacPherson, 2011). Similarly, data suggest that distress tolerance is also related to treatment compliance, as Daughters and colleagues (2005) demonstrated that individuals in residential substance use treatment were more likely to drop out of treatment early if they demonstrated low levels of distress tolerance. This is an important finding because early treatment drop out is predictive of relapse (Simpson, Joe, & Brown, 1997). Indeed, individuals low in distress tolerance have been shown to have higher relapse rates

following substance use treatment than individuals higher in distress tolerance (Brown, Lejuez, Kahler, & Strong, 2002; Daughters, Lejuez, Kahler, Strong, & Brown, 2005).

Due to the extensive literature documenting distress tolerance as a risk factor for substance use, low treatment compliance, and relapse, Bornovalova, Gratz, Daughters, Hunt, and Lejuez (2012) recently evaluated an adjunctive 6-session distress tolerance skills treatment for individuals enrolled in substance use treatment. Results demonstrated that the distress tolerance intervention group evidenced clinically significant improvements in distress tolerance relative to standard treatment and a supportive counseling control condition. Additional research on novel treatments for distress tolerance for individuals in substance use treatment are currently being examined based on promising initial findings (e.g., Brown et al., 2014). Thus, it is clear distress tolerance is an important factor to consider among individuals in treatment for substance use disorders.

Distress Tolerance and IPV

Whereas there is a robust literature documenting the role of distress tolerance with substance use frequency and treatment, there is a dearth of research on the relationship between distress tolerance and IPV. In one study, Shorey and colleagues (2013) demonstrated distress tolerance to be negatively associated with physical, but not psychological, IPV perpetration in a sample of dating female college students. However, this study only examined this association at the bivariate level, hindering our knowledge of whether distress tolerance predicts IPV above and beyond other well-known predictors. To our knowledge, this is the only known study to empirically examine distress tolerance as it relates to IPV perpetration in any population. There are, however, a number of studies that have examined closely related constructs to distress tolerance and their relationship to IPV, such as emotion regulation and emotional skillfulness, demonstrating that these constructs are inversely associated with IPV perpetration in a number of different populations (Gratz, Paulson, Jakupcak, & Tull, 2009; Mansfield, Addis, Cordova, & Dowd, 2009; McNulty & Hellmuth, 2008; Shorey, Brasfield, Febres, & Stuart, 2011; Tager, Good, & Brammer, 2010). However, as mentioned earlier, distress tolerance, although similar to emotion regulation, is a unique construct. Thus it would be difficult to extrapolate these studies to the relationship between distress tolerance and IPV among individuals in substance use treatment.

However, there is a fairly large theoretical literature on IPV that would suggest distress tolerance to be an important factor to consider when examining risk factors for IPV perpetration. For instance, Bell and Naugle (2008) theorize that behavioral repertoire deficits, or skill deficits, are associated with IPV perpetration, such as emotion regulation, anger management, and problem-solving deficits. Theoretically, distress tolerance would be considered a behavioral repertoire skill that may therefore influence the perpetration of IPV. Similarly, the background/situational model of IPV (Riggs & O'Leary, 1996) would also implicate skill deficits, such as deficits in distress tolerance, as related to increased risk for IPV perpetration. Moreover, a number of researchers have discussed at length the appropriateness of dialectical behavior therapy (DBT) skills training for perpetrators of IPV (Fruzzetti & Levensky, 2000; Shorey et al., 2012; Waltz, 2003), which includes a focus on increasing distress tolerance skills (Linehan, 1993). Thus, the literature is clear that distress

tolerance is theoretically related to IPV perpetration, although additional empirical investigations are needed to confirm this theoretical association, as such evidence could provide important clinical information for interventions designed to reduce IPV perpetration.

Current Study

The purpose of the current study was to investigate the relationship between distress tolerance and physical and psychological IPV perpetration among men in substance use treatment. Based on theoretical conceptualizations of risk factors for IPV, and the existing substance use and distress tolerance empirical literature, we expected distress tolerance to be negatively associated with IPV perpetration. We expected these relationships to be present even after controlling for other known predictors of IPV, namely alcohol use and problems, drug use and problems, and age (O'Leary, 1999; Stuart et al., 2009). We also examined whether the association between IPV and distress tolerance varied depending on the facet of distress tolerance identified by Simons and Gaher (2005; i.e., appraisal, absorption, regulation, and tolerance), although we had no specific hypotheses regarding whether different facets of distress tolerance would be related to IPV. These findings could provide insight into whether efforts to reduce IPV among men in substance use treatment should focus on enhancing distress tolerance skills as one method to reduce these harmful behaviors.

Method

Participants

A sample of 174 men, in treatment for substance dependence, was obtained from a private Southeastern facility that consists of residential and outpatient programs. Of the initial 174, only 138 men were included in analyses, as these were the only men that reported being in an intimate relationship in the 12 months before beginning treatment. The majority were heterosexual (97.8%). Furthermore, the sample consisted of mostly non-Hispanic Caucasian men (86.9%), in addition to African American men (8.8%), and men who self-identified as "other" (4.3%; e.g., Indian). Among these men, most were employed full-time (83.2%), had an average of 14.29 years of education ($SD = 2.79$), and were, on average, 40.32 years of age ($SD = 11.28$).

Procedure

Participants were recruited in groups by a doctoral level student who explained the basic details of the study, including its primary purpose and potential risks and benefits. All patients were invited to participate and there were no exclusion criteria. In an effort to ensure confidentiality, participants were assured that all of their responses would be completely anonymous and would not be shared with outside sources or their treatment providers. For approximately one year, participants were recruited in this way. If they were interested in participating, they filled out an informed consent and then between 10 and 20 participants at a time were asked to individually complete various surveys in a large room. No compensation for participation was provided. At the time of the study, the average number of days participants had been in treatment was 19.01 days ($SD = 11.11$), and bivariate

correlations demonstrated the number of days in treatments was unrelated to all study variables. All procedures were approved by the IRB before data collection began.

Measures

IPV—The Revised Conflict Tactics Scales (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Straus, Hamby, & Warren, 2003) was utilized to measure perpetration of physical and psychological IPV in the 12 months prior to substance use treatment. Using a 7-point scale, participants were endorsed the number of times a specific act occurred (0 = “Never” and 6 = “more than 20 times”). To obtain subscale scores, the midpoint of each response was summed for each item, with higher sums indicating higher frequencies of violence perpetration. Due to positive skew and kurtosis, both IPV variables were log transformed prior to analyses. For the current study, internal consistency estimates were .73 (psychological perpetration) and .73 (physical perpetration).

Distress Tolerance—The Distress Tolerance Scale (DTS; Simons & Gaher, 2005) was used to examine distress tolerance. In the current study, all four subscales were utilized (i.e. tolerance, appraisal, absorption, and regulation, described above), in addition to the total DTS score. It is important to note that previous research utilizing factor analyses have demonstrated that the DTS subscales are unique (e.g., Leyro, Bernstein, Vujanovic, McLeish, & Zvolensky, 2011; Simons & Gaher, 2005). The DTS consists of 15 items. Participants rated each item on a 5-point scale (1=strongly agree; 5=strongly disagree). Participants were asked to think about times they felt distress or upset when answering questions. Their overall score was then calculated by adding all of their ratings and dividing by the total number of items on each scale. Higher scores indicated higher tolerance of distress. In the current study, the internal consistency was high for the overall DTS score ($\alpha = .92$), and were adequate for the tolerance ($\alpha = .77$), appraisal ($\alpha = .81$), absorption ($\alpha = .77$), and regulation ($\alpha = .80$) subscales.

Alcohol Use—Participant’s alcohol use in the 12 months prior to treatment was examined using the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Asaland, Babor, de la Fuente, & Grant, 1993). This brief 10-item measure gauges frequency of alcohol use and its negative consequences, as well as the endorsement of behaviors indicative of alcohol dependence. The internal consistency for the AUDIT in the current study was .91.

Drug Use—The Drug Use Disorders Identification Test (DUDIT; Stuart et al., 2003; 2004) was used to assess drug use (i.e., use of cannabis, cocaine, hallucinogens, stimulants, opiates, sedatives/hypnotics/anxiolytics, and other drugs) among participants in the 12 months prior to treatment. The 14 items on this measure assesses the frequency of drug use as well as the frequency of behaviors that suggest drug dependence. Previous research indicates adequate validity and reliability of the DUDIT (Stuart, et al., 2004). For the current study, the internal consistency was .92.

Results

All analyses were conducted using SPSS 19.0. Table 1 displays correlations, means, and standard deviations among study variables. Most notably, there were significant negative

correlations between all four DTS subscales, and total DTS score, and physical and psychological IPV perpetration. Alcohol use was only significantly, and negatively, associated with the Absorption DTS subscale and total DTS score. Drug use was positively associated with both forms of IPV perpetration, and negatively associated with alcohol use and the DTS Absorption subscale.

Next, to examine whether distress tolerance remained associated with IPV after controlling for known predictors of IPV (e.g., age, substance use), multiple regression analyses were employed. In the first model, age, alcohol use, and drug use were entered as predictors. In the second model, DTS was entered as a predictor. These analyses were conducted separately for each form of IPV. In addition, these analyses were conducted twice: once with the total DTS total score and once with all four DTS subscales. As displayed in Table 2, the total DTS score remained significantly associated with psychological IPV perpetration, although it did not remain associated with physical IPV perpetration. When DTS subscales were examined concurrently, only the DTS Appraisal scale was associated with psychological IPV perpetration. None of the DTS subscales were significantly associated with physical IPV perpetration.

Discussion

There is a robust literature documenting the importance of distress tolerance to substance use frequency, treatment compliance, and risk for relapse. There is also a robust literature documenting the relationship between substance use and IPV, including higher rates of IPV among men in treatment for substance use. However, there is little research on the relationship between distress tolerance and IPV, despite theoretical reasons to suspect their association. Therefore, the current study examined the relationship between distress tolerance and IPV perpetration in a sample of men in substance use treatment. Results partially supported our hypotheses that distress tolerance would be associated with psychological and physical IPV perpetration.

Findings partially supported our hypotheses, in that distress tolerance was associated with psychological IPV perpetration. This association was found even after controlling for alcohol use and problems, drug use and problems, and age, all known predictors of IPV. Additionally, when individual facets of distress tolerance were examined, the appraisal facet was negatively associated with psychological IPV perpetration. The appraisal facet of distress tolerance relates to an individual's ability to tolerate negative experiences, including negative emotions, and the ability to remain free of shame due to negative experiences (Simons & Gaher, 2005). Theoretically, it makes sense that the appraisal facet of distress tolerance would be negatively associated with psychological IPV perpetration, as some researchers believe that some individuals may utilize psychological aggression as a coping strategy in the face of negative experiences, because they are unable to tolerate and effectively regulate negative emotions (Shorey, Cornelius, & Idema, 2011). Certainly additional research is needed that examines the functional role of psychological aggression among men in substance use treatment, including whether it is being utilized as a distress tolerance strategy.

Our findings also demonstrated that distress tolerance was negatively associated with physical IPV perpetration at the bivariate level, although this relationship dissipated after controlling for alcohol use, drug use, and age. There are a number of potential explanations for this finding. First, our small sample size may have precluded the detection of a relationship between distress tolerance and physical IPV, as the majority of the sample did not perpetrate physical IPV in the past year. It is also possible that distress tolerance is not as important of a predictor of physical IPV as it is for psychological IPV. This would be consistent with research suggesting that psychological IPV is one of the strongest predictors of physical IPV (Baker & Stith, 2008). Thus, it is possible that psychological IPV perpetration would mediate the relationship between distress tolerance and physical IPV perpetration. However, longitudinal research is needed to examine this possibility.

Directions for Future Research

As this is the first known investigation of the relationship between distress tolerance and IPV in a substance use treatment population, there are a number of avenues for future research in this area. One area for future research is the assessment of distress tolerance. Although we employed a widely used measure, future research could conduct a multimodal assessment of distress tolerance, including the use of behavioral tasks to examine this construct. For instance, previous research with substance use treatment populations have employed laboratory tasks designed to induce physical and psychological stress and examine the length of time individuals persist with such tasks as a proxy for distress tolerance capabilities (e.g., Daughters et al., 2005). Combining self-report and laboratory-based tasks that measure distress tolerance in future research would likely expand our knowledge of the distress tolerance facets that are associated with IPV perpetration, while also serving to provide a more objective assessment of distress tolerance skills.

Another area for future research would be to examine the relative importance of distress tolerance as a predictor of IPV relative to other, similar constructs. That is, future research could examine whether distress tolerance, emotion regulation, dispositional mindfulness, and anger management, for example, exert unique effects on IPV perpetration or whether they contribute to IPV perpetration through a general skill deficit factor. Despite the theoretical literature suggesting differences between distress tolerance and other, similar constructs (Zvolensky et al., 2010), the importance of these unique constructs to IPV, when assessed simultaneously, is unknown. It would also be informative for future research to examine whether distress tolerance mediates the relationship between risk factors for IPV victimization and perpetration. For instance, there is a robust literature documenting childhood abuse and witnessing IPV in childhood as risk factors for future IPV perpetration (e.g., Ehrensaft et al., 2003), and there is also literature suggesting that childhood abuse is related to lower distress tolerance and emotion regulation broadly (e.g., Gratz et al., 2009). Thus, it is plausible that distress tolerance would mediate the relationship between childhood abuse/witnessing IPV in childhood and future IPV perpetration.

Finally, there is a clear need for future research to examine the impact of distress tolerance longitudinally on IPV among individuals in substance use treatment, including whether interventions aimed at increasing distress tolerance skills in this population results in

reduced IPV. Longitudinal research would inform our understanding of distress tolerance as an important risk factor for IPV over time, which would be consistent with theoretical conceptualizations of IPV (e.g., Bell & Naugle, 2008). This could also help to inform interventions for IPV, which may benefit from the incorporation of distress tolerance skills training. Approaches such as DBT (Linehan, 1993) and newly developed distress tolerance interventions for individuals in substance use treatment (Bornovalova et al., 2012) may prove beneficial in this regard. There is also preliminary research demonstrating that mindfulness-based interventions may enhance distress tolerance (Liu, Wang, Chang, Chen, & Si, 2013), and even may be a potentially helpful new intervention for IPV (Shorey, Zucosky et al., 2012). Mindfulness-based interventions have also proven efficacious for the treatment of substance use disorders, above and beyond standard Relapse Prevention treatment (Bowen et al., 2014).

Limitations

Findings from the current study should be interpreted in light of its limitations. The cross-sectional nature of the study hinders our ability to determine if distress tolerance and IPV are associated across time, or whether improvements in distress tolerance following substance use treatment is associated with reduced IPV. Longitudinal research is needed to examine these important questions. We utilized a single self-report measure to assess for distress tolerance, and future research could compliment this approach with the use of more objective measures of distress tolerance. In addition, although prior research suggests that the DTS subscales examined in the current study are distinct (e.g., Simons & Gaher, 2005), the subscales were highly correlated in the current sample, making distinctions between subscales difficult. The DTS also does not specify a time frame for answering items (e.g., the past 6 months), although the CTS2, AUDIT, and DUDIT all specified a time frame for responding to items. Thus, it is possible this difference in reporting for each measure impacted result and future research should address this possibility. The sample of men who participated in the current study were primarily non-Hispanic Caucasian in ethnicity and in treatment at a private substance use facility, limiting the generalizability to more diverse samples of men in substance use treatment, as well as to the general population. The sample size was relatively small, which may have precluded the detection of significant relationships among study variables, particularly distress tolerance and physical aggression in the regression analyses. Future research should therefore employ larger samples. Additionally, future research should include an assessment of social desirability and examine whether this impacts the relationship between distress tolerance and IPV. Finally, future research should include patients' partners to provide a more comprehensive assessment of IPV, including the examination of sexual IPV, and its relationship to distress tolerance.

Conclusion

In summary, this is the first known study to examine whether distress tolerance was associated with IPV perpetration in a sample of men in substance use treatment. Findings demonstrated that distress tolerance was associated with IPV, and that this relationship remained for psychological aggression even after controlling for alcohol use and problems, drug use and problems, and age. Pending replication and extension in future research, these findings provide preliminary support to theoretical conceptualizations of IPV, which suggest

that distress tolerance is an important risk factor for aggression. Because research suggests that reducing substance use concurrently reduces IPV, and research shows that individuals with better distress tolerance have better substance use treatment outcomes, it is plausible that interventions focused on enhancing distress tolerance may have benefit for IPV outcomes in the context of substance use treatment.

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Table 1

Bivariate Correlations, Means, and Standard Deviations among Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Psychological Perpetration	—	.41***	-.24**	-.30***	-.38***	-.27**	-.31***	.12	.24**	-.24**
2. Physical Perpetration		—	.17*	-.24**	-.28***	-.27***	-.21*	.06	.22**	-.30***
3. DTS-Tolerance			—	.82***	.66***	.57***	.83***	-.15	-.12	.03
4. DTS-Absorption				—	.77***	.61***	.88***	-.18*	-.17*	.08
5. DTS-Appraisal					—	.62***	.86***	-.15	-.16	.04
6. DTS-Regulation						—	.78***	-.12	-.12	.13
7. DTS-Total							—	-.18*	-.14	.07
8. AUDIT score								—	-.27**	.11
9. DUDIT score									—	-.50***
10. Age										—
<i>M</i>	28.49	4.71	9.98	9.95	19.90	9.14	49.05	18.57	15.01	40.32
<i>SD</i>	29.97	14.47	3.27	3.20	5.42	3.28	13.34	10.70	16.77	11.28

Note: DTS= Distress Tolerance Scale; AUDIT = Alcohol Use Disorders Identification Test; DUDIT = Drug Use Disorders Identification Test.

*
p .05,

**
p .01,

p .001

Table 2

Hierarchical Regression Analyses Predicting Psychological and Physical Perpetration

Predictors	Psychological Perpetration β (SE)	Physical Perpetration β (SE)
Step 1	$R^2 = .11$	$R^2 = .10$
Age	-.17 (.01)	-.24 (.01) *
AUDIT score	.19 (.01) *	.12 (.01)
DUDIT score	.21 (.01) *	.13 (.01)
Step 2	$R^2 = .17$ ($R^2 = .06$)	$R^2 = .12$ ($R^2 = .02$)
Age	-.17 (.01)	-.24 (.01) *
AUDIT score	.13 (.01)	.09 (.01)
DUDIT score	.16 (.01)	.10 (.01)
DTS-Total	-.25 (.01) **	-.15 (.01)
Predictors	Psychological Perpetration β (SE)	Physical Perpetration β (SE)
Step 1	$R^2 = .11$	$R^2 = .10$
Age	-.17 (.01)	-.24 (.01) *
AUDIT score	.19 (.01) *	.12 (.01)
DUDIT score	.21 (.01) *	.13 (.01)
Step 2	$R^2 = .21$ ($R^2 = .10$)	$R^2 = .17$ ($R^2 = .07$)
Age	-.18 (.01) ***	-.22 (.01) *
AUDIT score	.12 (.01)	.08 (.01)
DUDIT score	.14 (.01)	.08 (.01)
DTS-Tolerance	.03 (.06)	.10 (.05)
DTS-Absorption	.02 (.07)	-.02 (.06)
DTS-Appraisal	-.34 (.04) **	-.19 (.03)
DTS-Regulation	-.03 (.05)	-.15 (.04)

Note: DTS= Distress Tolerance Scale; AUDIT = Alcohol Use Disorders Identification Test; DUDIT = Drug Use Disorders Identification Test.

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$