PREDICTING FUTURE INTIMATE PARTNER VIOLENCE WITH PAST INTIMATE PARTNER VIOLENCE

The Moderating Role of Proactive and Reactive Criminal Thinking

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Intimate partner violence (IPV) is a major public health concern with serious consequences for individuals, families, and society in general. In an effort to expand knowledge in this area, this study assessed whether proactive (planned, calculated, amoral) and reactive (impulsive, irresponsible, emotional) criminal thinking mediated or moderated the past IPV–future IPV relationship in 1,238 individuals released from federal prison. Evaluating the indirect effect of past IPV on future IPV via proactive and reactive criminal thinking failed to produce any significant mediated effects. There was evidence, however, of a moderating effect for proactive criminal thinking, such that prior IPV predicted subsequent IPV recidivism only when proactive criminal thinking was elevated. Reactive criminal thinking, by contrast, failed to moderate the past IPV–future IPV relationship. These findings suggest that proactive criminal thinking may serve as a risk factor for future IPV in individuals with a prior history of domestic violence.

Keywords: intimate partner violence; proactive criminal thinking; reactive criminal thinking; moderation; prediction

Although intimate partner violence (IPV) has declined since the early 1990s (Catalano, 2012), it remains a major public health concern. A survey performed on a nationally representative sample of 16,507 U.S. adults revealed that one in 17 women and one in 20 men reported experiencing rape, stalking, or physical violence at the hands of an intimate partner within the past 12 months. Longer term estimates have shown that three in 10 women and one in 10 men had been sexually, psychologically, or physically victimized by an intimate partner at some point in their lives (Black et al., 2011). The consequences of such abuse can be severe and long-lasting. Women subjected to IPV are at increased risk

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for illness, injury, mental health difficulties, suicide, and death at the hands of an intimate partner (World Health Organization, 2012). Studies from several different countries indicate that 40% to 70% of female murder victims are killed by a husband or boyfriend (Heise & Garcia-Moreno, 2002). The negative consequences of IPV are not confined to the victim. Those who perpetrate IPV may experience depression, shame, and problems at work and with the law (Walker et al., 2010). Dependent children who witness IPV in the home frequently experience negative emotional and physical health outcomes and are at increased risk for future IPV perpetration and victimization (Kishor & Johnson, 2004). It should also be noted that there is strong evidence of IPV continuity, both within and across relationships (Greenman & Matsuda, 2016; Schumacher & Leonard, 2005; Whitaker et al., 2010). The principal objective of this study was to probe this continuity for mediating and moderating effects.

THEORIES OF IPV

Before we can meaningfully assess and treat IPV, we must first understand it. Several theories have been advanced in an effort to explain IPV and domestic violence. In reviewing some of the more popular theories of IPV, it would seem that they coalesce around two general themes. One of these themes takes note of the power and control IPV affords the perpetrator and the other converges on the perpetrator's lack of personal control over his or her emotions and behavior. Feminist theory is an example of the former. According to feminist theorists, IPV, when perpetrated by males against females, is a reflection of the power and authority males have over females, particularly in patriarchal families and male-dominated societies (Abrar et al., 2000). IPV in women, according to this theory, is often in retaliation for violence perpetrated against them by their male partners (Dobash & Dobash, 2004). Power theory (Straus, 1977) also assumes that IPV is grounded in power imbalances between partners, but acknowledges that some females use IPV to control their partners, and not just as a means of retaliation (Sagrestano et al., 1999). Social learning theory (Bandura, 1986; Mihalic & Elliott, 1997), like the feminist and power models, views opportunities to observe domestic violence within the home and elsewhere as the principal means by which IPV is acquired and the reinforcement obtained in getting one's own way and achieving power and control over others as the principal reason why this behavior continues.

In contrast to power/control theories of IPV, which assume that IPV is used to control and exert power over others, theories built on themes of impulsivity and low self-control postulate that IPV is an extension of a person's frustration and poor ability to cope with their emotions. Person $\times$ situation interactive theories of IPV, for instance, maintain that situational factors like substance misuse, interpersonal conflict, and conditional distress interact with background characteristics like a history of early physical, psychological or sexual abuse, emotional and behavioral difficulties, maladaptive personality traits, or poor social, coping and problem-solving skills (Riggs & O'Leary, 1996). General strain theory (Agnew, 1992) likewise proposes that internal and external strains lie at the heart of aberrant behavior, which includes both domestic assault and IPV (Anderson & Lo, 2011). Several batterer and domestic violence perpetrator typologies have also been proposed, and one of the main themes of one of these typological theories is that those who perpetrate IPV suffer from genetically and environmentally based personal, emotional, and psychological deficits that make it difficult for them to control their behavior. Factors commonly cited as causes of IPV

by proponents of this approach include impulsivity and weak behavioral control, poor social skills, and negative attitudes toward women (Holtzworth-Munroe & Stuart, 1994).

CRIMINAL THOUGHT PROCESS AND IPV

After identifying major themes in theories of IPV, the next order of business is to find a model that embodies both themes. The model selected was Walters' (2017) criminal lifestyle model in which criminal thinking plays a leading role. The focus of this model was originally on eight criminal thinking styles believed to be instrumental in supporting and maintaining a criminal lifestyle (Walters, 1990). These thinking styles include mollification (blaming external factors for the consequences of one's own antisocial decisions), cutoff (rapid elimination of common deterrents to crime), entitlement (sense of ownership and privilege), power orientation (desire for power and control over others), sentimentality (justifying criminal behavior by performing various good deeds), superoptimism (belief that one can indefinitely avoid the negative consequences of a criminal lifestyle), cognitive indolence (short-cut, impulsive thinking), and discontinuity (lack of consistency in thought and action). Results from several confirmatory factor analyses and item response theory analyses (Walters, 2014; Walters et al., 2011), however, indicate that these individual thinking styles are perhaps best organized into two high-order factors or dimensions, a proactive dimension and a reactive dimension.

The proactive and reactive dimensions of criminal thought process are believed to measure two inter-related aspects of criminal cognition. Whereas the proactive dimension assesses the planned, calculated, amoral, and callous aspects of criminal thought process, the reactive dimension appraises the impulsive, irresponsible, reckless, and emotional aspects (Walters, 2017). The two themes identified in the literature review on theories of IPV found in the previous section, power/control and impulsivity/low self-control, appear to reflect these two dimensions of criminal thought process. Whereas the power/control motives and issues central to feminist, power, and social learning theoretical explanations of IPV blend well with the instrumental nature of proactive criminal thinking, the impulsivity/low self-control motives and issues central to person $\times$ situation interaction and general strain theories of IPV are more congruent with the reactive dimension of criminal thought process. Given the overlap that appears to exist between the proactive and reactive dimensions of criminal thought process and the power/control and impulsivity/low self-control themes that run through major theories of IPV, it was anticipated that these two dimensions of criminal thought process might mediate and/or moderate the relationship between prior IPV and future IPV recidivism.

Criminal thinking styles, whether assessed with the Psychological Inventory of Criminal Thinking Styles (PICTS: Walters, 1995) or another criminal thinking scale, are conceptualized as quasi-time stable cognitive variables rather than as personality traits. Their quasi-time stable character makes them sufficiently malleable to serve as mediators and sufficiently stable to serve as moderators (Walters, 2017). There is a growing body of literature that indicates proactive and reactive criminal thinking are capable of both mediating and moderating the effect of other criminological variables. Reactive criminal thinking, for instance, has been found to mediate the past crime–future crime relationship (Walters, 2016, 2019), whereas proactive criminal thinking is known to moderate the relationship between the certainty of punishment and a person's decision to commit crime (Walters, 2020; Walters

et al., 2019; Walters & Morgan, 2019). The two main themes covered by theories of IPV, power/control and impulsivity/low self-control, correspond reasonably well to the proactive and reactive dimensions of criminal thought process, respectively. The principal objective in conducting this study was to determine whether the proactive and reactive dimensions of criminal thought process are capable of mediating and/or moderating relationships involving past and future IPV.

A review of the literature on criminal cognition and IPV identified three studies that have explored the relationship between criminal thinking and IPV. Two of these studies uncovered significant pre–post reductions on several Texas Christian University–Criminal Thinking Styles inventory (TCU-CTS, Knight et al., 2006) criminal thinking scales in men enrolled in treatment for IPV (Mennicke et al., 2015; Yorke et al., 2010). The Power Orientation scale, however, was the only TCU-CTS scale to achieve significant reductions in both studies. In a third study using the TCU-CTS, Stacer and Solinas-Saunders (2018) ascertained that the TCU-CTS Criminal Rationalization scale was significantly higher in veteran as opposed to civilian men charged with domestic violence. Many of the TCU-CTS items were modeled after the PICTS but the items and scales primarily assess proactive criminal thinking. Reactive criminal thinking is not exclusively covered by any TCU-CTS scale, and so the PICTS was employed instead of the TCU-CTS because of its ability to cover both power/control and impulsivity/low self-control motives. For both practical (assessing recidivism risk) and theoretical (power/control vs. impulsivity/low self-control) reasons, there is a need to assess the degree to which both proactive and reactive criminal thinking mediate and/or moderate the relationship between past and future IPV; this, then, became the rationale for conducting the current investigation.

PRESENT STUDY

In conducting the literature review for this study, it was discovered that research investigations on IPV victimization outnumbered investigations on IPV perpetration somewhere in the neighborhood of four or five to one. And while studying the victims of IPV is important, so is understanding why people perpetrate this highly destructive and readily transmittable behavior. In fact, one of the best ways to reduce the number of IPV victims is to reduce the number of people who commit IPV. Before this can happen, however, there is a need for more information on the factors that motivate and maintain IPV perpetration. One potentially fruitful avenue of investigation is the attitudes and thoughts that underlie perpetration (Lelaurain et al., 2018). This study sought to fill a gap in the literature on IPV by exploring the possibility that criminal thinking mediates or moderates the well-established relationship between past and future domestic assault and IPV (Greenman & Matsuda, 2016; Schumacher & Leonard, 2005; Whitaker et al., 2010).

The research question upon which this study was based inquired as to whether criminal thinking is capable of mediating and moderating IPV continuity. In this study, proactive and reactive criminal thinking represented two main themes in IPV theorizing: power/control and impulsivity/low self-control, respectively. Based on prior research showing that crime continuity is mediated by reactive, but not proactive criminal thinking (Walters, 2016, 2019), it was hypothesized that reactive, but not proactive criminal thinking would mediate IPV continuity, with significant positive correlations between prior IPV and reactive criminal thinking (*a* path of the indirect effect) and between reactive criminal thinking and

subsequent IPV recidivism (*b* path of the indirect effect). Prior research also indicates that proactive, and to a lesser extent, reactive criminal thinking, are capable of moderating the effect of certainty on criminal decision-making (Walters, 2020; Walters et al., 2019; Walters & Morgan, 2019). The second hypothesis therefore tested the premise that both proactive and reactive criminal thinking would moderate IPV continuity.

METHOD

PARTICIPANTS

Participants for this study were 1,238 males released from federal prison sometime between November 2003 and December 2009. The sample was part of a larger cohort of 3,039 males who had completed the Psychological Inventory of Criminal Thinking Styles (PICTS) as part of a routine intake evaluation at a medium security federal prison. These evaluations normally occurred within a week of admission to the prison where the PICTS was administered (March 2003 to August 2010). Nearly half the sample ($n = 1{,}435$) had been released from custody by the end of the follow-up period and all were included in this study except for 135 inmates who presented with excessive test-release intervals (>42 months) and 62 inmates who produced invalid PICTS profiles (Confusion–revised > *T*-score 95 or Defensiveness–revised > *T*-score 68).

The average age of the 1,238 participants at the time they completed the PICTS was 34.72 years ($SD = 9.96$). The racial/ethnic breakdown of the sample was 68.6% Black, 19.1% White, 11.4% Latinx, 0.4% Asian, and 0.6% Native American. The mean educational level of participants was 11.38 years ($SD = 1.94$). Participants were serving time for the following offenses: drug distribution/sales (28.2%), parole/supervised release violations (26.3%), firearm violations (16.1%), robbery (9.3%), violent crimes (5.8%), property crimes (4.0%), and miscellaneous offenses (10.3%). The average sentence being served by participants in the current sample was 46.17 months ($SD = 60.49$).

MEASURES

Independent Variable

The number of times a participant had been arrested for IPV (including the instant offense, although there were no cases in which the instant offense was IPV) prior to their most recent incarceration served as the independent variable in this study. This information was obtained in a review of the past offending and current offense sections of the inmate's pre-sentence investigation (PSI) report. Ninety-one out of 1,238 (7.3%) participants had one or more prior arrests for IPV, according to a review of each individual's PSI.

Mediating and Moderating Variables

Proactive and reactive criminal thinking served as mediating and moderating variables in this study. Scores were obtained from the Psychological Inventory of Criminal Thinking Styles (PICTS), which is an 80-item self-report measure with good psychometric properties designed to assess various criminal thinking styles (Walters, 1995). Each item on the PICTS is rated on a 4-point Likert-type scale (*strongly agree* = 4, *agree* = 3, *uncertain* = 2, and *disagree* = 1) and item scores are summed to produce several scales, two of which are the

Proactive Criminal Thinking (PCT) and Reactive Criminal Thinking (RCT) scales. The PCT and RCT are composed of 32 and 24 items each and yield scores that can range from 32 to 128 and from 24 to 96, respectively. The internal consistency of both scales was good to excellent in the current sample of participants ($\alpha = .88–.91$).

Dependent Variable

The dependent or outcome measure in this study was the presence of a subsequent arrest for IPV following release from prison. This censored variable was measured over a period of one to 76 ($M = 25.33$, $SD = 16.23$) months, ending with first arrest or final month of follow-up (January 2010). Arrest data were obtained from a review of electronic files maintained at the Federal Bureau of Investigation National Crime Information Center (NCIC) and Federal Bureau of Prisons federal inmate database. Twenty-five out of 1,213 participants (2.0%) were arrested 1 or more times for IPV following their release from prison.

Control Variables

Five control variables were included in this study: age (in years), White ethnic/racial status (*White* = 1, *Non-White* =0), education (in years), violent instant offense (*violent* = 1, *nonviolent* = 2), and prior misuse of alcohol or other drugs (*yes* = 1, *no* = 0). The rationale for including age as a control variable in this study is that it has been found to correlate negatively with being both a victim and perpetrator of IPV (Caetano et al., 2008). Research also indicates that those who engage in IPV are more likely be non-White (Lipsky et al., 2012), less well educated (Gilchrist et al., 2015), and more prone to violence (Straus & Ramirez, 2004) than justice-involved persons who do not engage in IPV. A meta-analysis by Cafferky et al. (2018) revealed that the abuse of alcohol and other substances was a major correlate of IPV. Because the length of time between administration of the PICTS and release from prison (test-release interval in months) varied across participants, this variable was also controlled.

RESEARCH DESIGN AND STATISTICAL ANALYSES

A longitudinal analysis was performed using prospective data. Because the PSI report was based on information obtained prior to the individual entering prison, the PICTS was administered while the individual was in prison, and IPV recidivism was assessed after the individual left prison, there was no overlap between the three waves or time periods included in this study. A mediation analysis was conducted for the purpose of determining whether PCT or RCT mediated the past IPV–future IPV relationship. The mediation analysis was performed with MPlus 8.3 (Muthén & Muthén, 1997–2017) using a dichotomous outcome measure (IPV recidivism), a WLSMV (weighted least square parameter estimates using a diagonal weight matrix) estimator, bias-corrected bootstrapped 95% confidence intervals (5,000 replications), and with both the test–retest interval and time at risk in the community controlled. Significance was assessed using bootstrapped confidence intervals. Research indicates that bootstrapped confidence intervals are superior to normal theory procedures like the Sobel (1982) test in determining significance because they do a better job of modeling the nonnormality of indirect effects (pathway running from past IPV to

PCT/RCT to future IPV) and in accounting for nonnormality in the dependent variable (Hayes, 2018; Preacher, 2015). Interactions between the independent (prior arrests for IPV) and moderator (PCT and RCT) variables for the moderator analysis were calculated with centered variables.

A Cox proportional hazards regression model was used to perform a survival analysis of censored and noncensored recidivism data. Time-to-event was calculated in two different ways for the purposes of this study. For the main analysis, time-to-event was calculated as the number of months until first arrest for any offense, not just IPV. From here, IPV recidivists were classified as noncensored (status = 1) and non-IPV recidivists were classified as right censored (status = 0). In a supplemental analysis, time-to-event was calculated as the number of months from release until the end of the data collection period in January 2010 for those individuals with no subsequent arrests for IPV (status = 0) or number of months until first arrest for IPV or another offense[1] (status = 1) following release from prison for those individuals with a subsequent arrest for IPV. All of the descriptive and Cox regression analyses were computed with SPSS Version 26 (IBM Corp., 2019). None of the 11 variables included in this study had any missing data.

RESULTS

Descriptive statistics and inter-correlations for the 10 study variables are summarized in Table 1. It should be noted that only about 25% of the inter-variable correlations were significant using a Bonferroni-corrected alpha level. Inconsistent with a mediating effect for either PCT or RCT, both scales correlated negatively, contrary to predictions, with the independent variable (prior IPV) and neither correlated at all with the dependent variable (subsequent IPV recidivism). Prior and subsequent IPV, however, correlated significantly with each other. There was no evidence of multicollinearity between predictor variables when collinearity diagnostics were applied to the predictors included in the Cox regression: tolerance = .448 to .967; variance inflation factor = 1.035 to 2.230.

The first hypothesis tested in this study predicted that RCT but not PCT would mediate the relationship between prior and future IPV. To evaluate this hypothesis a causal mediation path analysis was performed with prior IPV serving as the independent variable, PCT and RCT serving as the mediating variables, and IPV recidivism serving as the dependent variable. Neither PCT (95% CI [−0.045, 0.021]) nor RCT (95% CI [−0.049, 0.031]) was found to mediate the relationship between past and future IPV.

Table 2 lists the results of a Cox regression analysis in which time-to-event was measured to first arrest for all offenses, although only those arrested for IPV were classified as noncensored. As indicated by the results found in Table 2, only the IPV main effect and IPV × PCT interaction were significant predictors of IPV recidivism.[2] The hazard ratio for the IPV × PCT interaction indicates that with a one unit increase in prior IPV and a one unit increase in PCT, the odds of arrest for subsequent IPV should increase by 71%, holding all other variables in the equation constant. When RCT and the IPV × RCT interaction were removed from Cox regression equation, the IPV × PCT interaction remained significant ($p = .011$), and when PCT and the IPV × PCT interaction were removed from the regression equation, the IPV × RCT interaction remained nonsignificant ($p = .217$).

TABLE 1: Descriptive Statistics and Correlations for the 12 Variables Included in the Current Investigation (*N* = 1,238)

Variable	*M*	*SD*	Range	2	3	4	5	6	7	8	9	10
1. Age	34.72	9.96	18–83	.16*	.16*	.06	–.12*	–.10*	–.02	.02	–.05	–.04
2. White	0.19	—	0–1		.15*	.13*	–.05	–.16*	–.04	.06	–.05	.07
3. Education	11.38	1.94	3–20			.09	–.06	–.13*	–.12*	.01	–.03	–.00
4. Violent instant offense	0.16	—	0–1				–.11*	–.05	–.00	–.04	.03	.07
5. Past substance abuse	0.72	—	0–1					.06	.09	.02	–.01	–.07
6. PCT	52.63	13.19	32–106						.72*	–.07	.02	.03
7. RCT	43.95	13.30	24–92							–.07	.00	–.01
8. Prior IPV	0.09	0.35	0–4								.11*	–.04
9. Subsequent IPV	0.02	—	0–1									–.03
10. Test-release interval	13.52	10.32	1–41									

Note. Range = range of scores in current sample; Age = chronological age in years; White = 1 (White racial/ethnic status) versus 0 (non-White racial/ethnic status); Education = years of education; Violent instant offense = 1 (violent) versus 0 (nonviolent); Past substance abuse = 1 (yes) versus 0 (no); PCT = Proactive Criminal Thinking; RCT = Reactive Criminal Thinking; Prior IPV = prior arrests for intimate partner violence; Subsequent IPV = subsequent arrests for intimate partner violence; Test-release interval = interval (in months) between test administration and release from prison.
*$p < .0011$ (Bonferroni-corrected alpha: .05/ 45 correlations).

TABLE 2: Cox Regression Analysis With Proactive and Reactive Criminal Thinking as Moderators of the Past IPV–Future IPV Relationship (*N* = 1,238)

Predictor	*B*	*SE*	Wald	*p*	Exp(*B*)
Age	–0.040	0.026	2.39	.122	0.961 [0.913, 1.011]
White	1.957	1.045	3.51	.061	0.141 [0.018, 1.096]
Education	–0.021	0.109	0.04	.846	0.979 [0.791, 1.212]
Violent instant offense	0.521	0.504	1.07	.301	1.684 [0.628, 4.520]
Past substance abuse	–0.197	0.458	0.18	.667	0.821 [0.335, 2.014]
Test-release interval	–0.020	0.023	0.77	.380	0.980 [0.937, 1.025]
Prior IPV	0.776	0.354	4.81	.028	2.174 [1.086, 4.351]
PCT	–0.003	0.023	0.02	.887	0.997 [0.954, 1.042]
IPV × PCT	0.535	0.228	5.51	.019	1.707 [1.092, 2.669]
RCT	0.016	0.023	0.49	.486	1.016 [0.972, 1.062]
IPV × RCT	–0.030	0.137	0.05	.824	0.970 [0.741, 1.269]

Note. IPV = intimate partner violence; *B* = unstandardized coefficient; Wald = Wald statistic; *p* = significance level of the Wald statistic; 95% Exp(*B*) = hazard ratio; Subsequent IPV (Outcome) = Cox regression equation with subsequent intimate partner violence (base rate = 2.0%) as the dependent variable; Age = chronological age in years; White = 1 (White racial/ethnic status) versus 0 (non-White racial/ethnic status); Education = years of education; Violent instant offense = 1 (violent) versus 0 (nonviolent); Past substance abuse = 1 (yes) versus 0 (no); Test-release interval = interval (in months) between test administration and release from prison; Prior IPV = prior arrests for intimate partner violence; PCT = proactive criminal thinking from the Psychological Inventory of Criminal Thinking Styles (PICTS); IPV × PCT = interaction between prior arrests for intimate partner violence and proactive criminal thinking; RCT = reactive criminal thinking from the PICTS; IPV × RCT = interaction between prior arrests for intimate partner violence and reactive criminal thinking.

To investigate the significant interactive effect between PCT and prior IPV further, PCT scores were split into two groups at a median score of 49.5. When correlations between prior IPV and subsequent IPV were calculated separately for participants with higher (above the median) and lower (below the median) PCT scores, prior and subsequent IPV

correlated significantly with each other when PCT was above the median ($r = .21$, $p < .001$), but not when PCT was below the median ($r = .04$, $p = .378$).

A supplemental analysis was performed with a recalculated time-to-event estimate that ran to the end of the study for all participants except those who were subsequently arrested for IPV. This time, the IPV × PCT interaction was the only predictor variable or effect to achieve significance in a Cox regression survival analysis: $B = 0.557$, $SE = 0.255$, Wald = 4.78, $p = .029$, Exp(B) = 1.746.

DISCUSSION

There were two hypotheses tested in this study. Based on research showing that reactive but not proactive criminal thinking mediates crime continuity (Walters, 2016, 2019), the first hypothesis predicted that reactive criminal thinking would mediate IPV continuity or the relationship between prior IPV and future IPV recidivism, and that proactive criminal thinking would not. Mediation, a role reserved for reactive criminal thinking when it comes to explaining crime continuity, failed to find support in this study as the mechanism responsible for IPV continuity. A causal mediation analysis using a dichotomous outcome variable, a WLSMV estimator, and bias-corrected bootstrapped confidence intervals revealed that the effect of prior IPV on future IPV recidivism did not run indirectly through either proactive or reactive criminal thinking. From these results, it can be deduced that neither proactive nor reactive criminal thinking was capable of mediating IPV continuity in the current investigation, a finding inconsistent with prior research showing that reactive criminal thinking mediates the connection between past and future episodes of general offending (Walters, 2016, 2019).

The second hypothesis, which held that both proactive and reactive criminal thinking would moderate the past IPV–future IPV relationship, received partial support. Regardless of whether a two-moderator model or two single-moderator models were analyzed, proactive criminal thinking moderated the past IPV–future IPV relationship and reactive criminal thinking did not. Separate correlations on participants with above average and below average scores on the PCT disclosed that prior IPV and future IPV recidivism only correlated when PCT was elevated. According to these results, proactive criminal thinking magnifies the effect of prior IPV on future IPV, perhaps by providing a sense of power and control over the victim. This conclusion supports previous research showing that criminal thinking, particularly proactive criminal thinking, moderates the connection between certainty of punishment and offending (Walters, 2020; Walters et al., 2019; Walters & Morgan, 2019). By providing those who perpetrate IPV with an enhanced sense of power and control, IPV may be viewed as a way of compensating for feelings of powerlessness by expressing dominance over others. It is noteworthy that the TCU-CTS scale demonstrating the greatest declines over the course of IPV treatment is the Power Orientation scale (Mennicke et al., 2015; Yorke et al., 2010).

THEORETICAL AND PRACTICAL IMPLICATIONS

The theoretical significance of the current findings is that they support proactive criminal thinking and various related moral issues as important in IPV recidivism, consistent with the power/control theme that runs through feminist (Abrar et al., 2000), power (Straus, 1977), and social learning (Bandura, 1986) theories of IPV. It is tempting to view domestic

and IPV as an angry, impulsive response to frustration and strain, yet the present results suggest that it is the planned and calculated aspects of criminal thought process and attendant weak morality that moderate IPV continuity. Hence, in a fair number of cases, IPV may be used to intimidate and exert power and control over others, rather than simply being a reflection of an uncontrolled emotional response to a frustrating set of circumstances. In a study conducted on a group of 144 individuals convicted of IPV and enrolled in a community-based program of treatment, Romero-Martinez et al. (2016) identified empathy deficits as central in predicting future IPV recidivism. The principal impairments identified by Romero-Martinez et al. (2016) were weak cognitive empathy (perspective-taking) and poor ability to recognize emotions, whereas the primary mechanism of effect was an interaction between these empathy deficits and diagnoses of antisocial and borderline personality disorder. Given that low empathy is often associated with proactive forms of criminal thought and behavior (Walters, 2017), the fact that it predicted recidivism in persons convicted of IPV by interacting with features of an antisocial or borderline personality disorder is consistent with findings from this study, which insinuate that moderate to high levels of proactive criminal thinking predict future recidivism in those with prior IPV convictions by interacting with prior IPV.

Complementing the theoretical implications of this study are several practical implications. With respect to clinical assessment and risk management, the current findings suggest that prior IPV only predicts future IPV when proactive criminal thinking is elevated. Prior IPV, however, failed to correlate with future IPV when proactive criminal thinking was below average. These results imply that administering the PICTS prior to a person's release from prison may provide useful information to clinicians, administrators, and parole board members seeking guidance on the likelihood of someone with a prior history of IPV committing a new domestic violence offense upon release from prison. With respect to treatment, proactive criminal thinking can serve as a target for intervention and as such, may be useful in gauging change in response to treatment. If, as the current results suggest, a moderate to high PCT score denotes above average risk of IPV recidivism in persons convicted of IPV, then efforts to challenge and reduce proactive criminal thinking and associated moral deficits like low empathy and callous-unemotional traits, may well serve to reduce the risk. Proactive criminal thinking, like most forms of irrational cognition, lends itself to cognitive behavioral intervention, which research indicates is particularly effective in reducing offending in both juveniles and adults (Landenberger & Lipsey, 2005; Lipsey et al., 2001; Pearson et al., 2002; Wilson et al., 2005). In fact, several studies have specifically found that proactive criminal thinking responds to cognitive behavioral intervention (Folk et al., 2016; Warner et al., 2018).

LIMITATIONS

The current results need to be considered in light of several study limitations, not the least of which was the use of official arrest data rather than self-report data to estimate prior IPV offending and subsequent IPV recidivism. Self-report data are generally seen as providing a more complete picture of a person's criminal history and subsequent recidivism than official data, which can be spotty and incomplete (Thornberry & Krohn, 2000). Hence, it could be that the current results underestimate the ability of PCT and RCT to predict future IPV, both directly and through their interaction with prior IPV. A second major limitation of this study is that a very narrow definition of recidivism was employed. Hence, the

dependent variable was restricted to cases of assault against an intimate partner and was only positive in 2.0% of all cases. Stalking incidents and rapes, many of which might also qualify as IPV, were not included in the main analysis because offense details and victim status were not recorded when these data were originally collected. Nevertheless, when all stalking incidents and rapes were incorporated into the outcome measure, PCT moderation of the past IPV–future IPV relationship did not change and neither did the conclusion that PCT, but not RCT, moderated the past IPV–future IPV connection (see Footnote 2). A third limitation of this study is that there was no measure of anger, a key concept in general strain theory (Agnew, 1992), available to serve as either a control, mediating, or moderating variable. Given studies showing that uncontrolled anger is sometimes a strong correlate of IPV (Eriksson & Mazerolle, 2013; Giordano et al., 2016) and a belief that anger is an important target for interventions targeting IPV (Ronan et al., 2014), future research on the nature and extent of IPV continuity should include anger in the analysis.

CONCLUSION

To conclude, I would like to reiterate that while proactive criminal thinking did not correlate directly with prior or subsequent arrests for IPV nor did it mediate the past IPV–future IPV relationship, it did interact with prior IPV to predict future IPV, and in so doing, showed that it may be capable of shedding light on IPV continuity. It should also be noted that only proactive criminal thinking achieved a moderating effect in this study, despite a high degree of inter-correlation between proactive and reactive criminal thinking ($r = .72$). The converse pattern was observed when criminal thinking was tested as a moderator of punishment certainty; that is, reactive, but not proactive, criminal thinking interacted with certainty of punishment to predict future offending a year later (Walters, 2020). Thus, even though proactive and reactive criminal thinking correlated highly in this and previous studies, they often correlate differentially with outside criteria (Walters, 2017). This demonstrates how diversity can occur within a person as well as between people. No two individuals charged with IPV will share the same exact criminal thinking patterns or proportions of proactive and reactive criminal thinking, yet nearly all will exhibit some degree of proactive and reactive criminal thinking. The relative strength of each will determine how the individual sizes up and responds to criminal and violent opportunities. It was the relative strength of criminal thinking and how this may mediate or moderate other variables that was at the heart of this study and which merit further investigation.

NOTES

1. Time until failure was restricted to the first event because this was the only event for which time until failure was originally collected.

2. When stalking and rape recidivism were added to intimate partner violence (IPV) recidivism to create an expanded domestic violence outcome measure (prevalence = 3.0%), the IPV × PCT interaction was the only predictor to achieve significance: $B = 0.562$, $SE = 0.203$, Wald = 7.64, $p = .006$, Exp(B) = 1.754.

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