

Impulsivity and Decision-Making among Men Engaging in Mild Intimate Partner Violence

Randall C. Nedegaard¹, Tracy Sbrocco² & Dheeshana S. Jayasundara³

Abstract

Research has been conducted supporting a Social Information Processing (McFall, 1982) conceptualization of intimate partner violence perpetration (Holtzworth-Munroe & Hutchinson, 1993; Nedegaard & Sbrocco, 2014). However, it has also been suggested that several transitory factors can influence the individual steps of this model (Crick & Dodge, 1994; McFall, 1989; Lemerise & Aresenio, 2000). One possible transitory factor is impulsivity. This study was designed to evaluate the effect of impulsivity on the perceived ability and utility of abusive behaviors among abusive men. Thirty-two abusive men, thirty-two maritally distressed, nonabusive men, and thirty-two maritally satisfied, nonabusive men were asked to complete a decision-making questionnaire where the subjective expected utilities (SEUs) and perceived ability ratings for specific behaviors were calculated using Multi-Attribute Utility Theory (MAUT). One-way ANOVAs revealed low impulsive abusers rated the SEUs of abusive behaviors significantly higher than any other group. Interestingly, non-impulsive abusers also rated their perceived ability to carry out healthy behaviors lower than all other groups. These findings suggest that there may continue to be value in conceptualizing abusive behavior within an impulsive/reactive and proactive/instrumental context. These findings suggest that abusive men who are low - impulsive may be at greater risk of choosing abusive behaviors in marital conflict situations.

Keywords: Intimate Partner Violence; Impulsivity; Decision-making; Empathy

1. Introduction

1.1 Understanding characteristics

Much research over the past several years has attempted to increase the understanding of specific characteristics of men who are physically aggressive with their intimate partners. Early research focused on personality characteristics of men engaging in intimate partner violence (IPV) and relied the assessment of personality disorder features in their formulations and categorization of IPV behavior. For example, Hamberger and Hastings (1988) concluded that the preponderance of physically abusive men shows evidence of personality disorders according to psychological assessments such as the Millon Clinical Multiaxial Inventory. Later, Holtzworth-Munroe and Stuart (1994) identified three specific subtypes of men-who-batter in their review of the literature - the “family only” batterer, the “borderline/dysphoric” batterer and the “generally violent/antisocial” batterer. Babcock, Jacobson, Gottman and Yerington (2000) examined behavior patterns of secure, preoccupied, and dismissing violent and non-violent husbands, and theorized that violent behavior associated with the preoccupied men in their study took on an

¹ Department of Social Work Education, California State University, Fresno. 5310 N. Campus Drive, M/S PH102, Fresno, CA, 93710, E-mail: nedegaard@csufresno.edu. Phone: 559-278-6129. Fax: 559-278-7191.

² Department of Medical and Clinical Psychology, Uniformed Services University of the Health Sciences. 4301 Jones Bridge Road, Bethesda, MD 20814

³ Department of Social Work Education, California State University, Fresno. 5310 N. Campus Drive, M/S PH102, Fresno, CA, 93710

Expressive or Reactive quality similar to that found among those diagnosed with borderline personality disorder while violence associated with dismissing men had an instrumental or proactive nature that many consider more commonly characteristic of diagnoses such as antisocial personality disorder.

Interest regarding the value of batterer categorization continued when Chase, O'Leary, and Heyman, (2001) developed a system that categorized batterers as reactive or proactive, citing implications with regard to treatment and potential overlap with previously identified batterer subtypes. However, some have criticized the reactive/proactive dichotomy, suggesting it may not be a particularly useful construct (e.g., Bushman & Anderson, 2001). Yet, more recent research has tested the validity of the reactive/proactive dichotomy and has found further evidence of its existence and potential utility (e.g., Tapscott, Hancock, & Hoaken, 2012). However, a better understanding of the precipitants and motivations behind IPV perpetration is clearly needed.

1.2 Social information processing and decision-making

The Social Information Processing (SIP) model (McFall, 1982, 1989) has been applied to better understand these precipitants and motivations of IPV perpetration (e.g., Holtzworth-Munroe & Hutchinson, 1993; Nedegaard & Sbrocco, 2014). The SIP model has been frequently used to understand aggressive behavior both among children and adults, supporting the reactive and/or proactive construct (Beldin, 2008). The SIP model postulates that violence is perpetrated for multiple reasons and articulates distinct component processes in one's cognitive processing. McFall (1982) sets out these component processes in a sequential, three-stage system where the individual transforms incoming stimulus information (situational task demands) into observable behaviors that are then evaluated as competent or incompetent. Each step in this sequence must be adequately carried out if behavioral performance is to be deemed competent. The three stages of social-information processing are: decoding information, making decisions based on one's perceptions, and enacting the decided behavioral response. This study focuses on the second stage by seeking to more fully understand the decision-making processes among IPV offenders.

It has also been suggested that several transitory factors can influence the SIP model (McFall, 1989). Factors such as state anger, depression, and empathy are thought to have an influence on decision-making. Another possible transitory factor is impulsivity. In fact, several studies (e.g., Tweed & Dutton, 1998; Cohen, Brumm, Zawacki, Paul, Sweet, & Rosenbaum, 2003) suggest a relationship between impairments of impulse control and the propensity for marital violence.

1.3 Impulsivity

An association between impulsivity and IPV has been cited in the literature for many years now and has been suspected to contribute to violent behavior. In a presentation regarding characteristics of men-who-batter, Rosenbaum (1997) cited research suggesting that abusive men tended to exhibit increased levels of impulsivity. This research involved studies such as Gottman, et al, (1995), who established different patterns of psychophysiological reactivity in IPV offenders in what they deemed "antisocial" (Type 1) batterers and "impulsive" (Type 2) batterers. Hamberger and Hastings (1986) is another example, as they factor analyzed the Millon Clinical Multiaxial Inventory for batterers and found three factors that they labeled "schizoid/borderline" (impulsive), "narcissistic/antisocial" (instrumental), and "passive/dependent/compulsive" (overcontrolled).

A review of treatment programs for IPV perpetrators suggests an implicit assumption that this group has deficits in empathy and may benefit from social skills training that increase awareness of the consequences of their actions on other individuals (e.g., Saunders, 2008; Rosenbaum & Leisring, 2003). The presumption is that many IPV perpetrators impulsively act out without considering the ramifications of their violent actions. More recently, impulsivity research has broadened in scope to include examining impulsivity amongst sex offenders (e.g., Turner, Laier, Brand, Bockshammer, Welsch, & Rettenberger, 2018) and even examining the differences between sex offenders and non-sex offenders (e.g., Perley-Robertson, Helmus, Derkzen & Serin, 2016). The relationship between impulsivity and decision-making has also been examined in the more recent literature (e.g., Demos, Hart, Sweet, Mailloux, Trautvetter, Williams, Wing & McCaffery, 2016; Morrison, Madden, Odum, Friedel, & Twohing, 2014; Caswell, Bond, Duka, & Morgan, 2015). Therefore, this study sought to better understand the roles of impulsivity and empathy as measured by the Eysenck Impulsivity Questionnaire (I.7; Eysenck, Pearson, Easting and Allsopp, 1985) on IPV decision-making behavior in men. It was expected that higher levels of impulsivity would increase the perceived utility and ability scores for abusive and manipulative behaviors and decrease these perceived ability ratings for healthy behaviors among the abusive group.

It was also hypothesized that controls (both non-maritally distressed and maritally distressed) would have significantly greater empathy scores than the abusive group as low empathy and violent offending has been found to have a relatively strong relationship (e.g., Jolliffe & Farrington, 2004).

2. Methods

2.1 Participants

Participants were 32 abusive men, 32 maritally distressed nonviolent men, and 32 nondistressed nonviolent men who were recruited and placed into their three respective groups (abusive, maritally-distressed but non-abusive, and non-distressed/non-abusive) that were matched for age, race, and education. Demographic comparisons were made to ensure there were no significant differences between groups. All participants had been married for at least one year and had to be cohabitating with their spouses. Abusive participants must have engaged in at least one act of physically abusive behavior toward their spouse within the last three months. The abusive group did not include individuals who engaged only in verbal aggression toward their spouse. The average participant was 34.8 years old with 14.1 years of education. Forty-one percent of the sample was white, 46.8% were African American, and the remainder was Hispanic.

2.2 Procedure

Participants were administered a phone screen assessing marital status, marital conflict, physical abuse, and demographic variables with those meeting inclusionary criteria scheduled for an appointment. During the appointment, participants were administered several well-established, widely validated scales to include the Modified Conflict Tactics Scale (MCTS), Family Assessment Device (FAD-III), Dyadic Adjustment Scale (DAS), State Trait Anger Scale (STAS), Michigan Alcohol Screening Test (MAST), Beck Depression Inventory (BDI) and the Eysenck Impulsivity Questionnaire (I.7; Eysenck & Eysenck, 1978). Participants were then administered the decision-making task (DMT) following the procedures delineated below (see Nedegaard & Sbrocco, 2014, for further details).

The Modified Conflict Tactics Scale (MCTS; Pan, et al., 1994) was used to determine physical abuse. A score of 1 or more on any physically abusive item on the MCTS placed participants in the abusive group. Marital distress was operationalized based on a cut-off score of 95 or less on the Dyadic Adjustment Scale (DAS; Spanier, 1976) and a score of 24 or more on the general functioning subscale of the McMaster Family Assessment Device-III (FAD-III; Epstein, Baldwin, & Bishop, 1983).

The FAD-III is a 60-item questionnaire designed to evaluate family functioning according six dimensions of family functioning: problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control. The FAD-III demonstrates fairly good internal consistency, with alphas for the subscales ranging from .72 to .92. (Epstein, Baldwin, & Bishop, 1983).

As previously mentioned, McFall (1989) indicated that transient factors could mediate the decision-making process. As such, measures were used to assess alcohol use, depression, and anger. The Beck Depression Inventory (BDI; Beck & Steer, 1993) is a 21-item inventory used to measure depressive symptomatology. The State Anger subscale of the State/Trait Anger Scale (STAS; Spielberger, Jacobs, Crane, & Russell, 1983) is a 30-item instrument employed to measure state anger. The Michigan Alcohol Screening Test (MAST; Seltzer, 1971), a 24-item inventory, was used to assess potential alcohol problems. Finally, The Eysenck Impulsivity Questionnaire (I.7) was administered to assess the impact of impulsivity and empathy on decision-making.

The I.7 was constructed for the measurement of three personality traits: impulsiveness, venturesomeness (sensation seeking), and empathy (Eysenck & Eysenck, 1978). The original impulsivity scale (I.5) was developed in 1978. Eysenck, Pearson, Easting and Allsopp (1985) conducted a study to both replicate the findings of Eysenck and Eysenck (1978) as well as revise and refine the I.5 by improving the scale's reliability and minimizing the intercorrelation between impulsiveness and venturesomeness (for a detailed discussion of the concept of impulsiveness see Eysenck, Easting and Pearson, 1984).

The I.7 is a 54-item questionnaire containing three scales 1) impulsiveness (19 items); 2) venturesomeness (16 items) and 3) empathy (19 items). It was validated on a sample of 1320 participants with an age range of 16-87. The authors concluded that the I.7 questionnaire is an adequate measure of the three factors as the consistency reliabilities of the impulsivity subscale and venturesomeness subscales are high (.83 and .84, respectively) and the reliability of the empathy subscale is fair (.69).

2.3 Decision-making Task

The Decision-making Task (DMT) was developed for this study as a tool to better understand how participants make behavioral decisions during conflict situations with their spouses. The DMT developed for this study was based on the responses and feedback of 6 intimate partner violence experts who were licensed clinical social workers or licensed clinical psychologists currently working in the family violence field. Following the Multi-attribute Utility Theory (MAUT) procedure specified by von Winterfeldt and Edwards (1986), a list of situation-specific behaviors and the attributes used to justify the choice of these behaviors were developed. The attributes and behaviors were elicited from these mental health professionals during a group interview. These experts were asked to list all the ways that IPV offenders might respond to two conflict vignettes. The vignettes were selected from several high-risk situations deemed especially problematic for IPV couples (Holtzworth-Munroe & Hutchinson, 1993).

The experts were encouraged to list multiple behavioral choices that study participants might choose for both of the vignettes. Based on consensus, each of the following 8 behavioral options were chosen: (1) Try to compromise with your spouse; (2) Rethink your position, talk with your partner; (3) Do nothing; (4) Act in a physically aggressive manner; (5) Act in a verbally aggressive manner; (6) Threaten or intimidate your partner; (7) Beg and plead with your partner; and (8) Act aggressively against property or pets. Similarly, the experts described the values, goals, outcomes, and expectations (attributes) deemed important in understanding participants' responses. A list of attributes was generated by these experts along with their respective scaling. Based on consensus, 7 attributes were selected: (1) Ability to influence or be in control; (2) Quickly ending the conflict; (3) Fixing the problem; (4) Other people's evaluation or opinion of me; (5) Outcome on my self-image; (6) Outcome on my partner's self-image; and (7) Impact on my marital relationship.

Participants completed the DMT for two vignettes, a high-risk and a control situation, in counterbalanced order. The vignettes were presented both orally and in writing. Participants were provided with a list of the 8 behaviors and 7 attributes. Definitions were provided next. Participants then rated their ability to perform each behavior as well as how important each attribute was by distributing 100 points across the 7 attributes. The majority of the task involved completing behavior by attribute ratings. For each behavior, participants rated the behavior's outcome on each of the 7 attributes resulting in 7 ratings for each behavior and a total of 56 ratings for all 8 behaviors. This procedure was then repeated for the second vignette. Subjective Expected Utilities (SEU) were computed as a weighted average for each behavior by multiplying the attribute importance weight times the attribute by outcome rating and summing these across attributes.

3. Results

3.1 Sample Description

The mean DAS and FAD-III (general functioning scale) scores for the distressed (DAS: $M = 77.6$; $SD = 12.7$; GF: $M = 2.56$; $SD = 0.22$) and abusive group (DAS: $M = 89.4$; $SD = 15.2$; GF: $M = 2.11$; $SD = 0.21$) indicate moderate levels of marital impairment. The nondistressed group was not impaired (DAS: $M = 113.9$; $SD = 7.1$; GF: $M = 1.91$; $SD = 0.47$). Statistically, the distressed group was significantly more impaired than the abusive and nondistressed groups on the DAS (Abusive vs. Distressed: $F_{(2,94)} = 3.26$, $p < .05$; Nondistressed vs. Distressed: $F_{(2,94)} = 5.96$, $p < .001$) and on the General Functioning scale of the FAD-III (Abusive vs. Distressed: $F_{(2,94)} = 3.54$, $p < .01$; Nondistressed vs. Distressed: $F_{(2,94)} = 4.97$, $p < .001$). This finding that the maritally distressed group was slightly more distressed than the abusive group, while not predicted, is not without precedent (Gearan & Rosenbaum, 1997).

3.1 Transitory factors potentially impacting decision-making

In this study, alcoholism, depression, and impulsivity were measured in order to control for the possible effects such factors might have on decision making during marital conflict. The means, standard deviations, and range of scores for the MAST, BDI, and I.7 are listed in Table 1 by group (abusive, distressed, control). Significant differences are noted by superscripts.

Table 1. Demographic and Baseline Self-Report Means by Group

	Abusive (<i>n</i> =32) Mean (SD)	Distressed (<i>n</i> =32) Mean (SD)	Controls (<i>n</i> =32) Mean (SD)
Demographics			
Age	35.1 (8.7)	35.9 (6.9)	33.6 (3.7)
Education	13.8 (1.9)	14.6 (2.1)	13.9 (2.0)
Group membership			
FAD-II General Functioning	2.11 (.21)	2.56 (.22) ^a	1.91 (.47)
DAS	89.4 (15.2)	77.6 (12.7)	113.9 (7.1) ^b
Influencing factors			
Alcohol use (MAST)	2.4 (3.7)	1.9 (1.3)	2.2 (1.4)
Depression (BDI)	7.1 (5.3)	6.9 (4.1)	4.3 (4.2) ^c
State Anger (STAS)	16.1 (1.5)	17.6 (2.9)	16.6 (2.5)
Impulsivity (I.7)	9.2 (4.9)	8.6 (4.7)	8.1 (3.8)

Note. ^aDistressed group significantly higher than Control and Abusive group ($F_{2,94} = 3.54, p < .01$).

^bControl group significantly lower ($F_{2,94} = 5.96, p < .001$).

^cControls are significantly different ($F_{1,95} = 3.96, p < .05$).

3.1.1 Alcohol.

One-way Analysis of Variance with follow-up comparisons revealed no differences in MAST scores between groups. The means across all three groups were also within normal limits on the MAST, suggesting minimal problems with alcohol in this sample. A score of 5 or greater on the MAST is indicative of past or current alcohol dependence. Scores below 4 are considered normal (Seltzer et al, 1975). All participants scored a 4 or below with the exception of two in the abusive group. These individuals each scored 15 and 17. When asked about these high scores, both participants reported a past history of drinking problems. Each individual stated that they had been sober at least one year and were not currently drinking. Although no formal checks were made to determine whether or not participants were under the influence of alcohol at the time they completed the decision-making task, the primary investigator looked for evidence of intoxication in each participant and found none.

3.1.2 Depressive Symptomatology.

Published norms for the BDI suggest that scores ranging from 0 to 9 fall into the “minimal” category and are considered asymptomatic (Beck & Steer, 1993). Interestingly, group means are all within these normal limits. However, between groups analysis revealed that abusive and distressed groups have higher BDI scores but fall into the normal range. Because the means for the MAST and BDI both fall within a normal range for each group, this suggests that depression and alcohol use issues are all non-significant transitory factors in this sample. Therefore, these factors were not used as covariates in the analysis of the following hypotheses.

3.1.3 Impulsivity.

A one-way analysis of variance with follow-up comparisons revealed no differences in impulsivity between groups. The average score for men aged 18-50 for the impulsivity scale is approximately 8.8 (Corulla, 1987). All three groups scored within the normal range for impulsivity. That is, the average participant, regardless of group membership, was about as impulsive as the average adult male in the sample used to validate this instrument. Behavioral options on the DMT were collapsed into three separate categories (healthy, manipulative, abusive) with the SEUs and perceived ability ratings being computed for each category.

Median splits were employed in order to categorize the abusive, distressed, and control participants into high - impulsivity and low - impulsivity groups, resulting in 16 participants per cell. One-way ANOVAs with Bonferonni follow-up comparisons revealed no differences between groups in mean empathy scores (see Table 2).

Table 2. Empathy and Decision Making Subjective Expected Utilities by Group

	Participant Group					
	Abusive		Distressed		Controls	
	Mean (SD)		Mean (SD)		Mean (SD)	
Impulsivity Group:	High (n=16)	Low (n=16)	Hi (n=16)	Low (n=16)	High (n=16)	Low (n=16)
Empathy	12.8(2.0)	11.5 (2.1)	13.1(4.4)	10.8 (2.1)	12.0 (2.9)	11.1 (2.5)
Decision Making SEUs						
Abusive Behavior	22.1(11.3)	40.3 (15.3)*	9.5 (7.8)	11.8(8.4)	10.7 (5.7)	12.7 (7.0)
Healthy Behavior	77.2(8.2)	65.3 (14.8)*	86.0(12.4)	80.1(13.0)	85.9 (9.0)	90.3 (9.6)

Note. SEU = Subjective Expected Utility

*Low-impulsive abusive group significantly higher ($F_{5,91} = 4.47, p < .05$).

A one-way ANOVA with Bonferonni follow-up comparisons was used to determine if differences between groups existed for the SEUs for healthy, manipulative, and abusive behaviors. No differences existed between groups for the SEUs of healthy and manipulative behaviors. However, Table 2 suggests that the mean utility score of abusive behaviors was significantly higher for the low-impulsive abusive group than for any other group.

A one-way ANOVA with Bonferonni follow-up comparisons was also used to see if differences between groups existed for the perceived ability ratings for healthy, manipulative, and abusive behaviors. As expected, the perceived ability ratings of the abusive group were significantly higher for abusive behaviors than the other groups ($F_{(2,94)} = 3.9, p < .05$). This finding is largely based upon the fact that these are the only participants who had actually performed physically abusive acts toward their spouses. No between groups differences were found for manipulative behaviors. Interestingly, Table 2 suggests the mean perceived ability ratings for healthy behaviors were significantly lower for the low-impulsive abusive group than any other group.

4. Discussion

This study sought to examine the impact of empathy and impulsivity on decision making, using social information processing theory, among men reporting IPV. The findings suggest that empathy, as measured by the I.7, does not have an influence on decision making in the expected direction. No significant relationship was found between self-reported empathy and the utility and perceived ability scores for any of the behavioral options. Additionally, impulsivity appears to have had an unanticipated effect on the utility ratings for abusive behavior. Low-impulsive, abusive participants rated the utility of abusive behavior significantly higher than any other group. This group also rated their perceived ability to engage in healthy behaviors significantly lower than all other groups. Both perceived ability and perceived utility are considered to be vital steps in the decision-making process (McFall, 1982). One may presume that many abusive men simply act out in an impulsive manner with little to no thought given to the consequences of their actions. Contrary to this belief, this study suggests evidence of a subset of abusive men who are not impulsive and these men appear to conceptualize abusive behavior as useful behavior compared to their impulsive peers. Recent research suggests potential benefit to treatment that may be tailored to fit the needs of individuals who engage in IPV. In particular, better understanding the function of partner violence as either proactive or reactive may be a useful way to match treatment with IPV offenders (Ross & Babcock, 2009). The findings support such a matched treatment approach instead of a "one size fits all" approach to intervening with IPV perpetrators.

Besides the fact that these kinds of programs enjoy only limited success (e.g., Babcock, Green, & Robie, 2004), they may also miss the unique intersectionality between various aspects that ultimately lead to IPV behavior. Initial screening and assessment in order to help customize interventions may be fruitful. For instance, those found to engage in more reactive IPV may benefit from a greater focus on managing emotional dysregulation, such as certain treatment aspects commonly found in Dialectical Behavioral Therapy (e.g., Linehan, Bohus, & Lynch, 2007). A link has been established between emotional dysregulation, as is commonly found in Borderline Personality Disorder, and reactive aggression (Ross & Babcock, 2009). This link may support treatment efforts specifically incorporating certain DBT principles when working with this population (e.g., Fruzzetti & Levensky, 2000; Rathus, Cavuoto, & Passarelli, 2006).

The findings also do not support the idea of empathy, at least not empathy as measured by the I.7, as a protective factor against IPV perpetration (e.g., Jolliffe & Farrington, 2004). Several factors could account for this. First, participants may have been influenced by a desire to engage in impression management (e.g., Mills & Kroner, 2006). The use of self-report measures always carries the risk of being influenced by positive or negative impression management, and this research is no exception. Additionally, empathy as measured by the I.7, may not accurately capture the construct of empathy needed to impact a decision to perpetrate IPV. The empathy scale is a measure of general empathy and may not have translated well to empathy for one's victim/partner. Better measures, especially when it comes to understanding violent offending, are needed (Jolliffe & Farrington, 2004).

Low-impulsive abusive participants were found to assess abusive behaviors as having significantly higher SEUs along with a lower perceived ability to perform healthy behaviors. This seems to suggest a benefit in addressing the cognitive misperceptions commonly found in IPV perpetrators as well as the enhancement of specific social skills training as part of a comprehensive IPV treatment regimen. Clearly, more information is needed on the decision-making process and the intervening factors in decision making, especially with proactive IPV perpetrators.

Finally, this research appears to validate and support the utility of reactive and proactive typologies (e.g., Chase, O'Leary, & Heyman, 2001; Merk, deCastro, & Koops, 2005), even when the severity of IPV is reportedly low. For instance, high-impulsive abusers did not assess the SEUs of violent behaviors nearly as high as low-impulsive abusers and reported a much higher perceived ability to perform healthy behaviors. These distinctions suggest a different treatment need, with potentially different precipitants and reinforcers.

4.1 Limitations and Future Directions

The study was limited to self-report data from a sample of abusive men. Reports of violence were not corroborated by a secondary source. Several family violence researchers indicate that intimate partner reports are the gold standard by which to measure abusive behavior and verify the accuracy of self-reports (e.g., Brannen & Rubin, 1996). More research is needed in order to better understand the decision-making processes of men who engage in IPV as well as the many other factors that impact abusive behavior. Impulsivity and empathy appear to play a complex role in influencing the choice to be violent (e.g. Caetano, Vaeth & Ramisetty-Mikler, 2008; Echeburúa, Fernández-Montalvo & Amor, 2006) and future research that better illustrates the complex relationship could be useful in better understanding the components and tailoring interventions that are provide greatest efficacy.

5. References

- Beck, A. T. & Steer, R.A. (1993). Beck Depression Inventory Manual. San Antonio, TX. The Psychological Corporation.
- Babcock, J. C., Green, C. E., & Robie, C. (2004). Does batterers' treatment work? A meta-analytic review of domestic violence treatment. *Clinical psychology review*, 23(8), 1023-1053.
- Babcock, J. C., Jacobson, N. S., Gottman, J. M., & Yerington, T. P. (2000). Attachment, emotional regulation, and the function of marital violence: differences between secure, preoccupied and dismissing violent and nonviolent husbands. *Journal of Family Violence*, 15, 391-409.
- Beldin, K.L. (2008). Social information processing, program completion, and recidivism: One court's referrals to a batterer intervention program. (Unpublished doctoral dissertation). Case Western Reserve University, Cleveland, Ohio.
- Brannen, S.J., & Rubin, A. (1996). Comparing the effectiveness of gender-specific and couple's groups in a court-mandated spouse abuse treatment program. *Research on Social Work Practice*, 6, 405-424.

- Bushman, B. J., & Anderson, C. A. (2001). Is it time to pull the plug on the hostile versus instrumental aggression dichotomy? *Psychological Review*, 108, 273-279.
- Caetano, R., Vaeth, P. A. C., & Ramisetty-Mikler, S. (2008). Intimate partner violence victim and perpetrator characteristics among couples in the United States. *Journal of Family Violence*, 23, 507-518.
- Caswell, A. J., Bond, R., Duka, T., & Morgan, M. (2015). Further evidence of the heterogeneous nature of impulsivity. *Personality and Individual Differences*, 76, 68-74. <http://dx.doi.org/10.1016/j.paid.2014.11.059>
- Chase, K. A., O'Leary, K. D., & Heyman, R. E. (2001). Categorizing partner-violent men within the reactive-proactive typology model. *Journal of Consulting and Clinical Psychology*, 69(3), 567.
- Cohen, R. A., Brumm, V., Zawacki, T. M., Paul, R., Sweet, L., & Rosenbaum, A. (2003). Impulsivity and verbal deficits associated with domestic violence. *Journal of the International Neuropsychological Society*, 9(5), 760-770.
- Corulla, W. J. (1987). A psychometric investigation of the Eysenck Personality Questionnaire (revised) and its relationship to the I. 7 Impulsiveness Questionnaire. *Personality and Individual Differences*, 8(5), 651-658.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological bulletin*, 115(1), 74.
- Demos, K., Hart, C., Sweet, L., Mailloux, K., Trautvetter, J., Williams, S., Wing, R. & McCaffery, J. (2016). Partial sleep deprivation impacts impulsive action but not impulsive decision-making. *Physiology & behavior*, 164, 214-219.
- Echeburúa, E., Fernández-Montalvo, J., & Amor, P. J. (2006). Psychological Treatment of Men Convicted of Gender Violence A Pilot Study in Spanish Prisons. *International Journal of Offender Therapy and Comparative Criminology*, 50(1), 57-70.
- Epstein, N. B., Baldwin, L. M., and Bishop, D. S. (1983). The McMaster Family Assessment Device. *Journal of Marital and Family Therapy*, 9, 171-180.
- Eysenck, S. B., Easting, G. & Pearson, P. R. (1984). Age norms for impulsiveness, venturesomeness and empathy in children. *Personality and Individual Differences*, 5, 315-321.
- Eysenck, S.B. & Eysenck, H.J. (1978). Impulsiveness and venturesomeness: Their position in a dimensional system of personality description. *Psychological Reports*, 43, 1247-1255.
- Eysenck, S. B., Pearson, Paul R., Easting, G. & Allsopp, J. F. (1985). Age norms for impulsiveness, venturesomeness and empathy in adults. *Personality and Individual Differences*, 6, 613-619.
- Fruzzetti, A. E., & Levensky, E. R. (2000). Dialectical behavior therapy for domestic violence: Rationale and procedures. *Cognitive and Behavioral Practice*, 7(4), 435-447.
- Gearan, P., & Rosenbaum, A. (1997, July). Cognitive Differences Between Batterers and Nonbatterers. Paper presented at the Fifth International Conference for Family Violence Researchers, University of New Hampshire, Durham.
- Gottman, J. M., Jacobson, N. S., Rushe, R. H., & Shortt, J. W. (1995). The relationship between heart rate reactivity, emotionally aggressive behavior, and general violence in batterers. *Journal of Family Psychology*, 9, 227-248.
- Hamberger, L.K., & Hastings, J.E., (1988). Skill training for treatment of spouse abusers: An outcome study, *Journal of Family Violence*, 3, 121-130.
- Hamberger, L. K., & Hastings, J. E. (1986). Personality correlates of men who abuse their partners: A cross-validation study. *Journal of family violence*, 1(4), 323-341.
- Holtzworth-Munroe, A. & Hutchinson, G. (1993). Attributing negative intent to wife behavior: The attributions of maritally violent versus nonviolent men. *Journal of Abnormal Psychology*, 102, 206-211.
- Holtzworth-Munroe, A. & Stuart, G (1994). Typologies of male batterers: Three subtypes and the differences among them. *Psychological Bulletin*, 116, 476-497.
- Jolliffe, D., & Farrington, D. P. (2004). Empathy and offending: A systematic review and meta-analysis. *Aggression and violent behavior*, 9(5), 441-476.
- Lemerise, E. A., & Arsenio, W. F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child development*, 71(1), 107-118.
- Linehan, M. M., Bohus, M., & Lynch, T. R. (2007). Dialectical behavior therapy for pervasive emotion dysregulation. *Handbook of emotion regulation*, 581-605.
- McFall, R. (1982). A review and reformulation of the concept of social skills. *Behavioral Assessment*, 4, 1-33.

- McFall, R. (1989). The enhancement of social skills: An information-processing analysis. In W.L. Marshal, D. R. Laws, & H.F. Barbaree (Eds.), *Handbook of sexual assault: Issues, theories, and treatment of the offender*. (pp. 311-330). New York: Plenum.
- Merk, W., deCastro, B. O., & Koops, W. (2005). The distinction between reactive and proactive aggression: utility for theory, diagnosis, and treatment. *European Journal of Developmental Psychology*, 2(2), 197–220.
- Mills, J. F., & Kroner, D. G. (2006). Impression management and self-report among violent offenders. *Journal of Interpersonal Violence*, 21(2), 178-192.
- Morrison, K., Madden, G., Odum, A., Friedel, J., & Twohig, M. (2014). Altering impulsive decision making with an acceptance-based procedure. *Behavior therapy*, 45(5), 630-639.
- Nedegaard, R.C. & Sbrocco, T. (2014). The impact of anger on the intimate partner violence decision-making process, *Journal of Family Violence*. 1-12.
- Neidig, P.H. (1986). A modified conflict tactics scale. Unpublished scale. Stony Brook, NY: The State University of New York at Stony Brook.
- Perley-Robertson, B., Helmus, L. M., Derkzen, D., & Serin, R. (2016). Do sex offenders against adults, sex offenders against children, and non-sex offenders differ in impulsivity? *Sexual Offender Treatment*, 11, 1–21. Retrieved from <http://sexual-offender-treatment.org/index.php?id>
- Rathus, J. H., Cavanaugh, N., & Passarelli, V. (2006). Dialectical behavior therapy (DBT): A mindfulness-based treatment for intimate partner violence. *Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications*, 333-358.
- Rosenbaum A. (1997, July). Completion and Recidivism Among Court and Self-referred Batterers in a Psychoeducational Group Treatment Program. Paper presented at the Fifth International Conference for Family Violence Researchers, University of New Hampshire, Durham.
- Rosenbaum, A., & Leisring, P. A. (2003). Beyond power and control: Towards an understanding of partner abusive men. *Journal of Comparative Family Studies*, 7-22.
- Ross, J. M., & Babcock, J. C. (2009). Proactive and reactive violence among intimate partner violent men diagnosed with antisocial and borderline personality disorder. *Journal of Family Violence*, 24(8), 607-617.
- Saunders, D. G. (2008). Group interventions for men who batter: A summary of program descriptions and research. *Violence and victims*, 23(2), 156-172.
- Seltzer, M. L. (1971). The Michigan Alcohol Screening Test: The quest for a new diagnostic instrument, *American Journal of Psychiatry*, 127, 89-94.
- Seltzer, M.L., Vinokur, A., & van Rooijen, L. (1975). A self-administered Short Michigan Alcohol Screening Test, *Journal of Studies on Alcohol*, 36, 117-126.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15-28.
- Spielberger, C.D., Jacobs, G., Crane, R., & Russell, S.F. (1983). On the relation between family smoking habits and the smoking behavior of college students. *International Review of Applied Psychology*, 32, 53-69.
- Tapscott, J. L., Hancock, M., & Hoaken, P. N. (2012). Severity and Frequency of Reactive and Instrumental Violent Offending Divergent Validity of Subtypes of Violence in an Adult Forensic Sample. *Criminal Justice and Behavior*, 39(2), 202-219.
- Turner, D., Laier, C., Brand, M., Bockshammer, T., Welsch, R., & Rettenberger, M. (2018). Response inhibition and impulsive decision-making in sexual offenders against children. *Journal of abnormal psychology*. 127(5), 471-481.
- Tweed, R. G., & Dutton, D. G. (1998). A comparison of impulsive and instrumental subgroups of batterers. *Violence and victims*, 13(3), 217-230.
- Von Winterfeldt, D., & Edwards, W. (1986). *Decision analysis and behavioral research*, Cambridge: Cambridge University Press.