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Marital Satisfaction as a Risk Marker for Intimate Partner Physical Violence:

A Meta-analytic Review

Sandra M. Stith Family Studies and Human Services, 101 Campus Creek Drive, Kansas State University, Manhattan, KS 66506, USA

Narkia M. Green Virginia Polytechnic Institution and State University, Blacksburg, VA, USA

> Douglas B. Smith Texas Tech University, Lubbock, TX, USA

David B. Ward Pacific Lutheran University, Tacoma, WA, USA

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Abstract

A meta-analysis investigating the relationship between marital satisfaction and intimate partner violence (IPV) was conducted with 32 articles. Overall, a small-to-moderate effect size (r = -2.27) indicated a significant and negative relationship existed between marital satisfaction and IPV. Moderator analyses found no differences between effect size based on construct examined (discord or satisfaction). However, the magnitudes of observed effect sizes were influenced by other moderator variables, including the use of standardized versus non-standardized measures, gender of the offender and victim, role in the violence (perpetrator versus victim), and sample type (clinical versus community). The data suggests that gender is an especially important moderator variable in understanding the relationship between marital satisfaction and IPV.

Key Words: marital satisfaction, marital discord, risk markers, intimate partner violence, gender, meta-analysis

Marital Satisfaction and Marital Discord as Risk Markers for Intimate Partner Violence:

A Meta-analytic Review

Every year, 5.3 million women in the United States are victims of intimate partner violence (IPV). Almost half of these violent incidents result in injury while roughly 1,300 result in death (National Center for Injury Prevention and Control [NCIPC], 2003). Furthermore, when *physical aggression* is the subject of inquiry, studies consistently find as many women self-report perpetrating physical aggression as do men. For example, a meta-analysis (Archer, 2000) of gender differences in rates of physical aggression with intimate partners found equivalent rates of aggression by men and women. Because IPV is a societal problem that often has an overwhelming impact on victims, families, and the surrounding community, it is vital to improve our ability to assess for, prevent, and intervene in relationships characterized by violence. Doing so depends, in part, on identifying and understanding risk factors associated with IPV.

Risk factors associated with IPV have been widely studied and exist at every ecological level (e.g., individual, relational and community levels). High levels of marital discord and/or low levels of marital satisfaction have been two of the most frequently examined relational risk markers for IPV (Saunders, 1995). Although there are some discrepancies (Murphy, Meyer, & O'Leary, 1993; Prince & Arias, 1994), most research has shown a link between increased marital discord and physical aggression (Stith, Smith, Penn, Ward, & Tritt, 2004; Hotaling & Sugarman, 1990;) and between decreased marital satisfaction and physical aggression in intimate relationships (Cano & Vivian, 2003; Margolin, John, & Foo, 1998; Vivian & Malone, 1997). Studies have also found a relationship between IPV victimization and decreased marital satisfaction or increased conflict. For example, Vivian and Langhinrichsen-Rohling (1994) studied mutual victimization in a clinical sample of married couples. Their results indicated that

the highly victimized husband subgroup reported lower levels of marital satisfaction than the highly victimized wife subgroup and the mutually low levels of victimization subgroups. While it is not possible to know whether low satisfaction and/or high discord lead to violence or whether these low satisfaction and/or high discord result from experiencing or perpetrating IPV, most research finds a relationship to exist.

Previous literature reviews also suggest that across studies marital satisfaction is an important risk factor for IPV (Riggs, Caulfield, & Street, 2000; Schumacher, Slep, & Heyman, 2001), and the only previous meta-analysis of the association between marital satisfaction and IPV found a moderate effect size for male offenders (r = -.30) and a small-to-moderate effect size for female offenders (r = -.25) (Stith, et al., 2004). However, while the earlier meta-analysis found a significant relationship between satisfaction and IPV, significant heterogeneity existed among the studies. It is likely that the study variables actually encompass one or more moderating variables. The significant heterogeneity is probably the result of varying research methodologies and sample populations.

While most of the literature agrees that marital satisfaction has a significant association with IPV, it remains unclear what contributes to the variability in findings across studies.

Because of the discrepancies in the findings of research studies investigating marital satisfaction and IPV, in this study, meta-analytic techniques are used to clarify the findings by examining several variables with the potential to moderate the relationship.

Moderator Variables and Hypothesis

The present study extends the earlier meta-analysis by Stith and colleagues (2004).

Additional studies are included and moderator variables including research methodologies and sample populations are examined to further understand the association between marital

satisfaction and IPV. The study was guided by several hypotheses about how the construct under investigation (marital satisfaction or marital discord), the instrument used to measure satisfaction (standardized or non-standardized), the gender of the perpetrator of IPV, the gender of the victim of IPV, role in the violence (perpetrator or victim), and sample type (community or clinical) moderate the relationship between marital satisfaction and IPV.

Construct

To examine the impact of relationship-level factors on IPV, some studies have used measures of marital discord (Aldarondo & Sugarman, 1996; Feldbau-Kohn, Heyman, & O'Leary, 1998; Holden & Ritchie, 1991), while other studies used measures of marital satisfaction (Barbour, Eckhardt, Davison, & Kassinove, 1998; Cano & Vivian, 2003; Hanson, Cadsky, Harris, & Lalonde, 1997; Sagrestano, Heavey, & Christenson, 1999; Vivian & Malone, 1997). It is unclear whether marital satisfaction or marital discord are more highly related to IPV. Gottman (1994) found that couples who were less reactive or aroused while discussing conflictual issues were more likely to experience marital satisfaction. Reactive couples experienced greater marital dissatisfaction. In a study exploring physical aggression and verbal conflict with 3,508 married and cohabiting couples, DeMaris (2000) found that both violence and high levels of conflict were associated with decreased relationship satisfaction in couples. Thus, both Gottman's and DeMaris' work suggest that marital satisfaction is inversely related to marital conflict. However, Williams and Frieze (2005) found that although individuals in highly conflictual violent relationships experienced significantly greater psychological distress than did individuals in non-violent relationships, 27% of the respondents in violent relationships characterized the relationship as "excellent." Among participants reporting "excellent" relationships, 29.6% reported mild mutual violence and 16.2% reported severe mutual violence. The results suggested that some individuals report marital satisfaction despite high levels of conflict and even violence. Thus, it is unclear whether marital discord or marital satisfaction are more highly related to IPV.

We hypothesized that there would be no difference between the strength of the relationship of marital satisfaction with perpetrating IPV and the relationship of marital discord with perpetrating IPV. We also hypothesized a significant positive relationship between marital discord and physical aggression; and a significant negative relationship between marital satisfaction and physical aggression.

Instrument

Several instruments have been used to examine the level of satisfaction/discord reported by offenders of IPV. These include the Autonomy and Relationship Inventory (ARI; Schaefer & Edgerton, 1982), Dyadic Adjustment Scale (DAS; Spanier, 1976), Index of Marital Satisfaction (IRS; Hudson, 1982), Marital Adjustment Test or Short Marital Adjustment Test (MAT; SMAT; Locke & Wallace, 1959), and various questionnaires designed specifically for a research study (Aldarondo & Sugarman, 1996; Brinkerhoff, Grandin, & Lupri, 1992; Holden & Ritchie, 1991; Lockhart & White, 1989). It is possible that whether or not the study used a standardized measure of marital satisfaction/discord could be an explanation for the variation in effect sizes between studies. For example, Twenge, Campbell, and Foster (2003) conducted a meta-analysis to examine measures of parenting and marital satisfaction. They found that standardized measures (e.g., the Locke-Wallace and the Dyadic Adjustment Scale) yielded significantly larger effect sizes when compared with non-standardized measures (e.g., measures designed for the study). Standardized measures have been subjected to empirical validation and may be more sensitive to differences in marital satisfaction/discord. We hypothesized that standardized measures of marital discord/satisfaction (ARI, DAS, IMS, MAT/SMAT) would yield larger

effect sizes for the relationship between marital satisfaction and perpetration of IPV than nonstandardized measures.

Gender of the offender

Studies have examined the relationship between satisfaction and/or discord and IPV for both male offenders (Barbour, Eckhardt, Davison, & Kassinove, 1998; Boyle & Vivian, 1996; Holtzworth-Munroe & Stuart, 1994; McKenry, Julian, & Gavazzi, 1995; Senchark & Leonard, 1994; Vivian & Malone, 1997) and female offenders (Brinkerhoff, Grandin, & Lupri, 1992; Byrne & Arias, 1997; Sagrestano, Heavey, & Christenson, 1999; Vivian & Langhinrichsen-Rohling, 1994). There is considerable controversy over equating men's use of violence and women's use of violence in intimate relationships. The feminist perspective argues that men use violence to maintain power and control (Yodanis, 2004) and to maintain the power imbalance inherent in the larger patriarchal society (Dobash & Dobash, 1979). Women, on the other hand, may be more likely to report using violence for self-defense (O'Keefe, 1997; Olday & Wesley, 1988). In addition, there is evidence for a variety of patterns of violent aggression in relationships (Johnson & Ferraro, 2000; Kwong, Bartholomew, & Dutton, 1999; Williams & Frieze, 2005). If we accept the premise that patterns of violence differ for men and women, then it follows that the relationship between satisfaction and/or discord and IPV may differ for male and female perpetrators. In addition, if marital satisfaction and/or discord are the result of violence rather than the precursor to violence, it is possible that men and women may feel differently about their use of violence. Since previous research has found that hitting by women is more tolerated, or acceptable, than is hitting by men (Beyers, Leonard, Mays, & Rosen, 2000; Hannon, Hall, Nash, Formati, & Hopson, 2000; Simon et al., 2001; Sorenson & Taylor, 2005; Straus, 2005), men may feel more shame as a result of hitting their partners than do women.

This shame may lead violent men to experience more discord or less satisfaction than do violent women. Therefore, we hypothesized that the relationship between marital satisfaction and/or discord and IPV will be larger for male perpetrators than for female perpetrators of IPV.

Gender of the victim

Studies have examined the relationship between marital satisfaction and/or discord and IPV for male victims (Straus, 1999; Vivian & Langhinrichsen-Rohling, 1994) and female victims (Babcock, Waltz, Jacobson, & Gottman, 1993; Cordova, Jacobson, Gottman, Rushe, & Cox, 1993; Lockhart & White, 1989; Rosenbaum & O'Leary, 1981; Russel, Lipov, Phillips, & White, 1989; Senchark & Leonard, 1994; Vivian & Langhinrichsen-Rohling, 1994; Vivian & Malone, 1997). Previous research suggested that women in violent relationships experience more psychological distress than did men in violent relationships (Anderson, 2002; Swan & Snow, 2003). Katz, Kuffel, and Coblentz (2002) reported that college women experience lower relationship satisfaction than college men following domestic violence. Williams and Frieze (2005) found that female victims of IPV reported lower marital satisfaction than did male victims of IPV. This difference remained significant even when male/female differences in reported marital satisfaction in non-violent relationships were controlled. Thus, based on past research, we hypothesized larger effect sizes for the relationship between marital satisfaction and/or discord and IPV for female victims than for male victims.

Individual Role in Violence

Research examining the association between marital satisfaction and/or discord and IPV has sought to differentiate the individual's role in violence. For instance, some studies have examined victims of violence (Cordova, Jacobson, Gottman, Rushe, & Cox, 1993; Vivian & Malone, 1997), whereas others examined perpetrators of violence (Boyle & Vivian, 1996; Cano

& Vivian, 2003; Hanson, Cadsky, Harris, & Lalonde, 1997; Sagrestano, Heavey, & Christenson, 1999, 1999; Vivian & Malone, 1997). In a study of relationship factors, depressive symptomatology, and husband-to-wife aggression, Vivian and Malone (1997) found that the marital satisfaction of female victims was significantly lower than the satisfaction level of their abusive husbands. Meanwhile, in a study examining mutual victimization in bi-directional violent couples Vivian and Langhinrichsen-Rohling (1994) found that both highly victimized wives and highly victimized husbands reported greater levels of relationship dissatisfaction than mutually-low violent couples and non-violent couples. Based on past research findings, we hypothesized that the relationship between marital satisfaction and/or discord and IPV will be stronger for victims of violence than for perpetrators of violence.

Sample Type

Community samples (Barbour, Eckhardt, Davison, & Kassinove, 1998; Byrne & Arias, 1997; Sagrestano, Heavey, & Christenson, 1999) and clinical samples (Boyle & Vivian, 1996; Cano & Vivian, 2003; Hanson, Cadsky, Harris, & Lalonde, 1997) have been used to examine the level of marital satisfaction and/or discord in violent relationships. In an investigation of the relationship between life stressors and marital violence, Cano and Vivian (2003) found significant differences in marital satisfaction between clinical participants in violent relationships and community participants in violent relationships. The researchers also found that men and women participating in treatment programs had more marital discord than community men and women in violent relationships. Past research aids in understanding differences between clinical and community samples. Johnson (1995) reviewed quantitative and qualitative data from large sample survey research and from women's shelters. He suggested two different forms of violence taking place within families: patriarchal terrorism (most likely to be found in clinical

samples) and common couple violence (most likely to be found in community samples). If more severe violence is reported in clinical settings, we would expect stronger relationships between marital satisfaction and perpetration of IPV. We hypothesized that the relationship between marital satisfaction and/or discord perpetration of IPV would be stronger in clinical samples (which included samples drawn from domestic violence programs, clinical centers, and shelters) than community samples.

Method

This study uses meta-analytic techniques to review the literature on the relationship between marital satisfaction and/or discord and IPV. Meta-analyses are able to summarize the findings from a large number of studies and present them in a way that is easily understood. Inconsistencies between the findings of individual studies can be explained through examination of study characteristics.

Research Study Selection

Computer database searches were the primary method of identifying articles for inclusion in this study. The following computer databases were searched for studies conducted between 1980 and 2005: ERIC, Sociological Abstracts, Medline, PsychLit, Social Sciences Abstracts, and the Social Sciences Citation Index. The key words used in the search were spousal/spouse and violence, spousal/spouse and abuse, spousal/spouse and aggression, couples/couple and violence, couples/couple and abuse, couples/couple and aggression, relationships/relationship and violence, relationships/relationship and abuse, and relationships/relationship and aggression. In addition, references lists for each article were examined for additional studies. The literature search identified 50 studies. Studies included both cohabiting and married couples. In this manuscript, we use the term marital to represent married or cohabiting couples.

Criteria for Study Inclusion. Several criteria were used to screen studies for inclusion in the study. First, the study examined the association between marital discord and/or marital satisfaction and IPV. Second, in order to focus our meta-analysis on long-term relationships, we chose studies with data on adult heterosexual marital or cohabiting relationships. One study was excluded because the primary participants were dating couples. Third, we were interested in examining physical violence between partners. Therefore, studies that focused solely on psychological, emotional, verbal, or sexual abuse were excluded. Five studies were excluded because they focused solely on psychological or sexual abuse or combined these with physical violence. Fourth, each study needed to include the quantitative data necessary for the calculation of at least one effect size. Five studies were excluded because of incomplete or inadequate statistics. We attempted to contact authors in the case of missing data, but did not obtain additional information using this procedure. Finally, each study used an original sample. It is not uncommon for more than one study to report results based on data obtained from the same sample. Results from separate studies using the same sample were included only if they reported data that could be used to calculate effect sizes for separate variables. Seven studies were eliminated because they did not have an original sample. A total of 32 studies remained that met the inclusion criteria and were included in the meta-analysis. The studies involved 12,740 individuals and were published between 1981 and 2005.

Procedures for Coding

Each study included in the meta-analysis was coded using a codebook designed to capture bibliographical information, sample information, the quality of the study, data for each of the moderator variables, and data for the calculation of effect sizes. Studies that included samples from both community and clinical populations were coded as clinical.

A research team consisting of six members met weekly for 2-hour periods over several weeks to achieve reliability in coding and to discuss any inconsistencies. The first five studies were coded by the entire research team in order to resolve problems with the codebook and establish consistent coding guidelines. Thereafter, two members of the team independently coded each of the remaining studies. When discrepancies occurred, the coding pair was encouraged to discuss the issue and make a joint decision as to how the particular item should be coded. Any discrepancies or questions that could not be resolved by the coding pair were brought to the remaining research team members. In all cases, the occurrence of a coding disagreement was recorded in the codebook. Overall, the level of coder agreement was high (95%).

Data Analysis: Calculating Effect Sizes

Data entry and analyses were done using the D-Stat statistical package (Johnson, 1989). The program is designed specifically for use in conducting a meta-analysis. D-Stat is capable of computing effect sizes from a variety of statistics, including means and standard deviations, F tests (ANOVA), t tests, r values, χ^2 values, χ^2 values, and proportions and frequencies. D-Stat reports effect sizes as d values, g values, and r values. The value may be positive or negative, with the sign indicating the direction of the relationship. A value of 0.00 indicates no relationship. R values represent the relationship between two variables expressed as point-biserial correlations or Pearson's r. In the present study we utilized r values because they are more familiar to many readers.

Data from each study were entered and effect sizes were calculated. In some studies, the authors reported findings as significant or non-significant, but did not report specific data. In such cases, a significance level of 0.05 was entered in D-Stat for findings reported as significant and a significance level of 0.5 was entered for findings reported as non-significant (Amato &

Keith, 1991). In addition, signs were affixed to effect sizes to reflect the direction of the association between marital discord/satisfaction and partner violence (a positive sign indicating a positive relationship; a negative sign indicating a negative relationship). To be able to merge effect sizes for measures of marital satisfaction and marital discord, we recoded studies using a measure of marital discord so that all effect sizes were in the same direction. That is, a negative effect size indicates that IPV is associated with less marital satisfaction or more marital discord.

A three-step analytic strategy was used to analyze the data. First, once data entry into D-Stat was complete, a composite effect size was calculated for the relationship between IPV perpetration and relationship satisfaction/discord using the entire sample of effect size. To examine the relationship between marital satisfaction/discord and IPV perpetration, we excluded twelve effect size estimates involving IPV victimization from the composite effect size analysis. As a result, thirty-seven effect size estimates were included in this analysis.

Second, we examined the homogeneity (Q_w) of the composite effect size (Lipsey & Wilson, 1993). The Q_w statistic is a measure of the homogeneity of the sample of individual effect sizes comprising the composite effect size. A significant Q_w indicates that there is greater variation in the sample of effect sizes than would be expected by chance alone. One explanation for a significant Q_w -value is that the effect sizes in the sample represent the relationship between more than two variables. In other words, there are sub-groups within the sample.

A categorical or moderator analysis, the third step, involved examination of specific variables (e.g., construct, instrument, gender of offender, gender of victim, individual role in violence, and sample type). A between group test of homogeneity (Q_b) was conducted to determine if each group of effect sizes was significantly different based on the individual

moderator variables (Cooper & Hedges, 1994). Statistical significance was determined by post hoc p values for all of the analyses.

Results

The results of the overall offender analysis and each moderator analysis are reported in Table 1. A summary of effect sizes, sample size, variable construct (marital discord versus marital satisfaction), instrument used (standardized or non-standardized), gender of offender, and sample type (community versus clinical) are reported in Table 2 for each study used to calculate the composite effect size for offenders. A total of 37 effect estimates were calculated for perpetration of IPV. A summary of effect sizes, sample sizes and gender of victim for each study used to calculate victim effect sizes are reported in Table 3. A total of 12 effect size estimates were calculated for IPV victimization.

Insert Table 1, 2, and 3

Composite Effect Size

The composite effect size for the relationship between marital satisfaction and perpetration of IPV was calculated using 37 effect sizes weighted by sample size. The composite effect size indicated a significant relationship between marital satisfaction and perpetration of IPV (r = -.27, p < .001) (Table 1). The test of within category homogeneity for the composite effect size was significant ($Q_W(36) = 201.071$, p < .001). Moderator analyses were conducted in an attempt to understand the significant heterogeneity of the sample.

Moderator Analysis

Construct. A composite effect size was calculated for the relationship between marital discord and perpetration of IPV (r = -.27, p < .001) and for the relationship between marital satisfaction and perpetration of IPV (r = -.27, p < .001). Both marital discord and marital satisfaction were significantly related to IPV perpetration. To examine the impact that variations in the construct (marital discord vs. marital satisfaction) have on the relationship with IPV, two categorical levels included 4 effect size estimates examining marital discord/IPV and 33 effect size estimates examining marital satisfaction/IPV were compared. The result of the between category test of homogeneity was not significant ($Q_B(1) = .00003$, p > .05), indicating that the relationship between marital satisfaction and IPV perpetration is not significantly different from the relationship between marital discord and IPV perpetration.

Instrument Used. A composite effect size was calculated for the relationship between marital satisfaction/discord and IPV perpetration for studies that used standardized measures of marital satisfaction/discord (e.g., the ARI scale; DAS scale; IMS scale; and MAT/SMAT scales) (r = -.31, p < .001) and for studies that used non-standardized measures of marital satisfaction/discord (mean r = -.21, p < .001). To examine differences in the strength of the relationship between marital satisfaction/discord and IPV based on the choice of measures, 30 effect sizes for studies using standardized measures were compared with 7 effects sizes for studies using non-standardized measures. The result of the between category test of homogeneity shows a significant difference between standardized and non-standardized instruments of marital discord/satisfaction $(Q_B(1) = 24.18, p < .001)$. Furthermore, studies that used standardized measures of marital satisfaction/discord produced a significantly larger composite effect size than studies using non-standardized measures.

Gender of the Offender. To better understand the association between gender and perpetrators' levels of relationship satisfaction/discord, effect-size estimates for perpetrators were analyzed separately for men and women. Two effect sizes were omitted from the analysis because the gender of perpetrator was unspecified. Therefore, 28 effect sizes for male perpetrators were compared with 7 effect sizes for female perpetrators. The composite effect sizes for the relationship between marital satisfaction/discord and IPV perpetration were significant for both male perpetrators (r = -.28, p < .001) and female perpetrators (mean r = -.21, p > .05). The between category test of homogeneity was significant (Q_b (1) = 8.23, p < .05) indicating a stronger relationship between marital satisfaction/discord and IPV for male perpetrators than for female perpetrators.

Gender of the Victim. To better understand the association between gender and victims' levels of relationship satisfaction/discord, effect-size estimates for victims were analyzed separately for men and women. In this instance, we included only the twelve previously omitted effect sizes that obtained IPV victimization data. As a result, we omitted effect sizes that did not provide enough data to analyze victim measures exclusively. Thus, 37 effect size estimates were omitted from the victim moderator analysis. Therefore, 12 effect sizes (2 for male victims and 10 for female victims) were analyzed. Results showed that female victims had larger effect size estimates for marital satisfaction/discord (mean r = -.41, p < .001) than male victims (mean r = -.30, p < .001). The between category test of homogeneity was significant ($Q_b(1) = 5.92$, p < .01) indicating a stronger relationship between marital satisfaction/discord and IPV for female victims than for male victims.

Individuals' Role. To examine individual role in violence, we compared the twelve effect sizes that included victim data with the 37 effect sizes that included offender data. As a result,

49 effect sizes were analyzed. A composite effect size was calculated for the relationship between marital satisfaction/discord and IPV for victims (mean r = -.40, p < .001) and for perpetrators (mean r = -.27, p < .001). The results indicated that there is a significant relationship between marital satisfaction/discord and IPV for both victims and perpetrators. In order to compare the strength of the relationship for victims and perpetrators, 12 effect size estimates for victims of IPV were compared with 37 effect size estimates for perpetrators of IPV. The results of the between category test of homogeneity were significant ($Q_b(1) = 31.52$, p < .001). The relationship between marital satisfaction/discord and IPV was significantly larger for victims than for perpetrators.

Sample Type. A composite effect size was calculated for the relationship between marital satisfaction/discord and IPV perpetration in studies that used community samples (mean r = -.25, p < .001) and for studies that used clinical samples (mean r = -.31, p < .001). The results indicated a significant relationship between marital satisfaction/discord and IPV for both community and clinical samples. The results of the between category test of homogeneity were significant ($Q_b(1) = 7.66$, p < .05). The composite effect size for the relationship between marital satisfaction/discord and IPV was significantly larger for studies that used clinical samples than for studies that used community samples.

Discussion

The present meta-analysis examined marital satisfaction/discord as risk markers for IPV. The composite effect size for the relationship between marital satisfaction/discord and IPV was significant and is consistent with the findings of other studies (Stith, et al., 2004). However, there are two important factors to consider when evaluating the results of a meta-analysis. First, how does one interpret the magnitude of the composite effect size? Cohen (1969) suggests that

an effect size using the r statistic is small at .10, medium at .30, and large if above .50. Therefore, the relationship examined here is small-to-moderate. Another approach for examining the strength of an effect size is to compare it with the results of other meta-analyses. Sugarman and Hotaling (1997) calculated a weak effect size (r = -.18) for the relationship between involvement in intimate violence and measures of social desirability. In addition, Sugarman and Frankel (1996) computed effect sizes for domestic violence and attitudes toward women, gender orientation, and attitudes towards violence. The researchers reported small effects for attitudes toward women (d = .54; r = .26) and for masculine gender orientation (d = -.20; r = -.10), and a medium effect size (d = .71; r = .34) for positive attitudes toward the use of violence. The composite effect size for the relationship between marital satisfaction and IPV found in this study is small-to-moderate.

However, the within category test of homogeneity for the sample used to produce the composite effect size indicated more variability in the sample than would be expected to occur by chance. One explanation for the heterogeneity of the sample is that other variables moderate the relationship.

Moderator Analysis

Construct. The first hypothesis predicted a significant positive association between marital discord and IPV; and a significant negative association between marital satisfaction and IPV. Results from the present analysis supported this hypothesis. Furthermore, the results showed no significant difference in magnitude of relationships between constructs "marital discord" and "marital satisfaction" as they relate to IPV. Apparently, both low marital satisfaction and high marital discord have a similar association with IPV.

From a methodological perspective, this finding confirms the appropriateness of combining these constructs in meta-analytic and qualitative reviews of the literature.

Furthermore, it supports the idea that future researchers can include either a measure of marital satisfaction or marital discord, in their studies rather than including both.

Instrument. Results from this meta-analysis also supported the second hypothesis, that is, that standardized measures would yield stronger effect sizes than non-standardized measures. After combining standardized measures (e.g., the IMS scale, the ARI scale, the DAS scale, and the MAT/SMAT scale), there was a larger effect size for these measures when compared to non-standardized measures. This finding aligns with previous research by Twenge et al. (2003) who also found that standardized measures resulted in stronger effects sizes.

This finding has important implications for past and future research on IPV. In terms of past research, it suggests that research that did not find a relationship between IPV and marital satisfaction/discord, and which did not use standardized instruments may have experienced Type II error, that is, concluding that a relationship did not exist when it actually did. In addition, studies that used nonstandardized instruments that did find a relationship may have had a stronger relationship had a standardized measure been used.

In terms of future research, the results of this study confirm the importance of using standardized instruments due to their established validity and reliability, and their ability to detect the relationship between IPV and marital satisfaction/discord.

Gender of the Offender. As hypothesized, results of this study demonstrated that a stronger relationship existed between IPV and marital satisfaction/discord for male offenders than for female offenders. One possible implication of this result is that women may be less likely then men to turn to violence when marital satisfaction decreases. This line of thinking is in line with

research on power imbalances and the socialization of men (Simon, Anderson, Thompson, Crosby, Shelley, & Sack, 2001; Sorenson & Taylor, 2005). Due to the power inherent in being a man in this society, it would be logical to conclude that men would turn to violence to display their dissatisfaction and women would be less likely to do so, but instead turn to other forms of problem solving.

It is also possible that marital dissatisfaction/discord are the result of violence. It is possible that men who use violence feel more shame than women who use violence and therefore feel lower satisfaction/higher discord after using violence than do women. Since all of this data was cross-sectional, it is not known the direction of the relationship. Future longitudinal studies or qualitative studies might help us understand the relationship between gender of offender and marital satisfaction/discord.

Gender of the Victim. As predicted, the relationship between victimization and marital satisfaction/discord was stronger for female victims than for male victims. In examining this result, three possible explanations emerged. First, it is possible that men who are victimized by female aggression do not feel as much fear as do female victims and thus do not view assaults by their female partner as having as negative an impact on the relationship as do female victims. Research by Rosen, Stith, Few, Daly, and Tritt (2005) supports this idea. In their qualitative examination of bidirectionally violent couples, they found that men do not have the same level of fear as do women in these relationships.

Second, for men, being hit probably does not affect their marital satisfaction as much as women because, in society's view, hitting by women is more tolerated, or acceptable, than is hitting by men (Beyers, Leonard, Mays, & Rosen, 2000; Cook & Harris, 1995; Hannon, Hall, Nash, Formati, & Hopson, 2000; Simon et al., 2001; Sorenson & Taylor, 2005; Straus, 1999;

2005). Finally, the injury rate for violence by women is much lower than for violence by men (Crandall, Nathens, Kernic, Holt, & Rivara, 2004) which again supports the idea that a male victim's marital satisfaction may not be affected by IPV as much as a female victim's satisfaction.

Individual's Role. The violence-role hypothesis posited that offenders would have a smaller effect size estimate than victims. Our hypothesis was supported by our findings that showed a larger effect size for the relationship between marital satisfaction/discord and IPV for victims than for offenders. That is, victims of IPV report lower levels of marital satisfaction and higher levels of discord than do offenders. It seems that being a victim of IPV may be more damaging to the individual's perception of the relationship than does being an offender. It is also possible that offenders minimize the effect of their violence on the relationship. Previous research indicates that offenders tend to minimize violence or under report their own use of violence (Berns, 2000; Goodrum, Umberson, & Anderson, 2001; Heckert & Gondolf, 2000). Offenders may also minimize the effects of this violence.

Sample Type. Congruent with our hypothesis, clinical samples of IPV reported larger effect sizes for marital satisfaction/discord than did community samples. This finding may support Michael Johnson's (1995) theory that there are two distinct groups of individuals involved in violent relationships: those who use patriarchal terrorism (most frequently in clinical samples) and those who participate in common couple violence (most frequently found in the community), allowing researchers to identify distinct populations of victims and offenders. Clinical samples are those couples who come into treatment because they are experiencing more severe problems than community samples. Therefore, it makes sense that the violence in their

relationship may be more highly related to low satisfaction and high discord than is violence in community samples.

Limitations

There are a number of limitations that should be considered when interpreting these results. First, as presented in Table 1, significant within-group variance remained in many of these analyses. Greater confidence in the findings results when differences occur between groups and within-group variation is limited. A second limitation is that it is impossible to include every source of relevant data in our analysis. Thus, studies that would have influenced the results may have been overlooked because of our exclusionary criteria. We searched references of several large literature reviews and references of studies used in this meta-analysis; thus, database searches were heightened using this technique. In spite of our efforts, some studies were probably excluded because they were not located. However, the results of a file-drawer analysis (Orwin, 1983) demonstrated that 62.9 studies with null results would be required to negate our findings that there is a significant association between marital satisfaction and IPV.

Suggestions for Future Research

Meta-analysis often highlights areas in which more research is needed. In conducting this meta-analysis, we discovered that most research focuses on male perpetrators and female victims. In the present meta-analysis, only one study exclusively examined female perpetrators, and no studies exclusively examined male victims. More research is needed to examine male victims and female perpetrators and how gender influences the relationship between marital satisfaction and IPV.

We also found most studies examined violence among white-middle class couples, failing to examine lower SES couples and/or couples of diverse ethnic backgrounds. Consequently, it is

impossible to make conclusions regarding the influence of class and ethnicity on marital satisfaction and IPV. Future studies need to break the sample down by ethnicity and SES and/or study more diverse groups of couples.

Surprisingly, several studies were excluded from this meta-analysis because they failed to report basic statistics needed to calculate effect sizes (i.e., means, standard deviations, zero-order correlation matrix, sample sizes for all groups). Sufficient descriptions of measures, procedures, samples, and reliability and validity of measures also were also frequently omitted. As meta-analysis procedures are becoming more commonly utilized, it becomes clear and imperative that for future researchers to include basic data needed to compute effect sizes.

Conclusion

The results of this meta-analysis show that that decreased marital satisfaction and increased marital conflict are positively associated with physical aggression in intimate relationships. There was no difference between the effect size of marital satisfaction and IPV and marital discord and IPV. Standardized measures resulted in stronger relationships between satisfaction/discord and IPV than did non-standardized measures. In addition, male offenders of IPV reported lower levels of satisfaction then did female offenders, however female victims had significantly lower levels of marital satisfaction than did male victims. Victims reported less marital satisfaction than did perpetrators of IPV. Furthermore, clinical samples had lower satisfaction levels than community samples.

Marital satisfaction/discord and IPV continues to be an important area of study in the area of intimate violence. It is important to also keep in mind that because the measure of marital satisfaction and IPV were taken at the same time, it was not possible to determine if low levels of

marital satisfaction/discord led to the abuse or resulted from the abuse. Future research should investigate the causal association between marital satisfaction/discord and IPV.

NOTE

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Table 1

Average Effect-Sizes of Moderators for the Relationship between Marital Satisfaction/Discord and IPV

Variable and Categories	Number of Effects	Mean r	H Within
Overall Perpetration	37	27***	201.071***
Construct (perpetration)			
Marital discord	4	.27***	32.33***
Marital satisfaction	33	27***	168.74***
Instrument (perpetration)			
Standardized	30	31***	135.47***
Unstandardized	7	21***	41.42***
Gender of the Offender Comparisons			
Male	28	28***	148.96***
Female	7	21*	15.61
Gender of the Victim Comparisons			
Male	2	30***	17.71***
Female	10	41***	109.35***
Individual Role Comparisons			
Victim	12	40***	134.00***
Perpetrator	37	27***	201.07***
Sample Type (perpetration)			
Community	17	25***	85.16***
Clinic	20	31***	108.25***

^{*}*p* < .05; ***p* < .01; ****p* < .001

Table 2 $Overall\ Effect\ Size\ Estimates\ for\ the\ Relationship\ between\ Marital\ Satisfaction/Discord\ and\ IPV\ Perpetration$

Author	r	n	Construct	Instrument	Gender of Offender	Sample
Aldarondo & Sugarman (1996)	40	230	MD	Oth.	M	Comm.
Babcock et al. (1993)	34	95	MS	Stand.	M	Comm.
Barbour et al. (1998)	53	88	MS	Stand.	M	Comm.
Barling & Rosenbaum (1986)	32	48	MS	Stand.	M	Clin.
Barnett & Fagan (1993)	43	182	MS	Stand.	M	Cin.
Boyle & Vivian (1996)	45	312	MS	Stand.	M	Clin.
Brinkerhoff et al. (1992)	14	403	MS	Oth.	M	Comm.
Brinkerhoff et al. (1992)	20	506	MS	Oth.	F	Comm.
Byrne & Arias (1997)	26	66	MS	Stand.	M	Comm.
Byrne & Arias (1997)	35	66	MS	Stand.	F	Comm.
Cano & Vivian (2003)	19	240	MS	Stand.	M	Clin.
Cano & Vivian (2003)	06	258	MS	Stand.	F	Clin.
Cordova et al. (1993)	49	57	MS	Stand.	M	Comm.

Table 2 Continued

Author	r	n	Construct	Instrument	Gender of Offender	Sample
Delsol, Margolin, & John (2003)	01	153	MS	Stand.	M	Comm.
Feldbau-Kohn et al. (1998)	16	89	MD	Stand.	M	Comm.
Goldstein & Rosenbaum (1985)	21	78	MS	Stand.	M	Clin.
Hanson et al. (1997)	28	997	MS	Stand.	M	Clin.
Holden & Ritchie (1991)	71	74	MD	Oth.	M	Clin.
Holtzworth-Munroe et al. (1991)	26	56	MS	Stand.	M	Clin.
Holtzworth-Munroe et al. (1994)	65	75	MS	Stand.	M	Clin.
Hurlbert et al. (1991)	29	60	MS	Stand.	M	Comm.
Julian & McKenry (1993)	41	92	MS	Stand	M	Comm.
Lockhart & White (1989)	19	155	MD	Oth	F	Comm.
McKenry et al. (1995)	31	102	MS	Stand.	M	Clin.
Meredith et al. (1986)	45	304	MS	Stand.	U	Comm.
Prince & Arias (1994)	08	72	MS	Stand.	M	Clin.

Table 2 Continued

Author	r	n	Construct	Instrument	Gender of Offender	Sample
Rosenbaum & O'Leary (1981)	59	92	MS	Stand.	M	Clin.
Russell et al (1989)	18	42	MS	Stand.	M	Clin.
Sagrestano et al. (1999)	44	42	MS	Stand.	M	Clin.
Sagrestano et al. (1999)	30	42	MS	Stand.	F	Clin.
Senchak & Leonard (1994)	27	109	MS	Stand.	M	Comm.
Telch & Lindquist (1984)	29	50	MS	Stand.	U	Clin.
Vivian et al. (1994)	63	49	MS	Stand.	M	Clin.
Vivian et al. (1994)	54	44	MS	Stand.	F	Clin.
Vivian & Malone (1997)	16	277	MS	Stand.	M	Clin.
Williams & Frieze (2005)	12	1511	MS	Oth.	M	Comm.
Williams & Frieze (2005)	25	1512	MS	Oth.	F	Comm.

Note. N = 8628; MS = marital satisfaction; MD = marital discord; Stand. = standardized instruments; Oth. =unstandardized instruments; M = male offender; F = female offender; U = unknown gender; Comm. = community sample; Clin. = clinical sample.

Table 3 Overall Effect Size Estimates for the Relationship between Marital Satisfaction/Discord and IPV Victimization

Author	r	n	Gender of Offender
Babcock et al. (1993)	43	95	F
Cascardi et al. (1995)	66	94	F
Cordova et al. (1993)	48	57	F
Lockhart & White (1989)	19	155	F
Rosenbaum & O'Leary (1981)	78	92	F
Russell et al (1989)	07	42	F
Senchak & Leonard (1994)	39	109	F
Vivian et al. (1994)	79	44	M
Vivian et al. (1994)	54	49	F
Vivian & Malone (1997)	24	327	F
Williams & Frieze (2005)	59	1488	F
Williams & Frieze (2005)	25	1560	M

Note. N = 4112; M = male victim; F = female victim.