Published in final edited form as:
J Consult Clin Psychol. 2008 October ; 76(5): 769–780. doi:10.1037/a0013346.

Personality Disorder Symptoms and Marital Functioning

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Abstract

Pathological personality is strongly linked with interpersonal impairment, yet, no study to date has examined the relationship between concurrent personality pathology and dysfunction in marriage—a relationship most people find central to their lives. In a cross-sectional study of a community sample of married couples (N=82), multilevel modeling was used to estimate the association of self- and spouse reported PD symptoms with levels of marital satisfaction and verbal aggression and perpetration of physical violence. Including self- and spouse report of total PD symptoms resulted in improved model fit and greater variance explained, with much of the improvement coming after the addition of spouse-report. The incremental validity of spouse-report of several of the ten PD scales was supported for marital satisfaction and verbal aggression, particularly for borderline and dependent PD features.

Keywords

personality disorders; marital adjustment; informants

Personality Pathology and Marital Adjustment

The symptoms that delineate Axis II personality pathology inevitably lead to difficulties in interacting with the interpersonal world. As others have noted, there are aspects of personality disorders (PDs) beyond trouble with relating to others (e.g., chronicity and dysfunction in multiple social roles; Pilkonis, Kim, Proietti, & Barkham, 1999), but a common overriding theme to all disorders is marked impairment in relationships. Indeed, it is well argued that an inability to pursue fundamental adult life tasks, including “close and meaningful intimate relationships” is at the core of the concept of personality disorder (Krueger, Skodol, Livesley, Shrout, & Huang, 2007). There is research linking personality pathology to the most extreme

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forms of maladaptive intimate relationships (i.e., partner violence); yet, there is no study to date that examines more normative measures of marital functioning in relation to PD features. This is a surprising gap considering that these disorders are a collection of cognitive, behavioral, and affective traits which are severe and chronic (American Psychiatric Association, 2000) and that lead to significant impairment in social functioning (Skodol et al., 2002).

The current study aims to examine the association between personality disorder symptoms and key features of marital relationships, from satisfaction to verbal conflict and physical violence. Personality pathology is currently represented in the DSM (APA, 2000) as ten disorders which are purportedly distinct from each other and from other forms of psychopathology, although they are grouped together into odd (Cluster A: Paranoid, Schizoid, Schizotypal), dramatic (Cluster B: Antisocial, Borderline, Histrionic, Narcissistic), and fearful (Cluster C: Avoidant, Dependent, and Obsessive-Compulsive) clusters. In practice, there is a great deal of comorbidity among the PDs (Zimmerman, Rothschild, & Chelminski, 2005) and between PDs and normal personality (O'Connor, 2002). There is now a general consensus that PDs are best conceptualized as dimensional constructs (Widiger & Simonsen, 2005) and that abnormal personality is best characterized as extremes of normal personality variation (O'Connor & Dyce, 2001). Krueger et al. (2007) discuss how the reconceptualization of Axis II, particularly defining the boundary between normal and abnormal, will most likely hinge on how to define the "impairment" associated with the specific constellation of traits that define a PD. An important consideration for PD research is to begin to understand when personality pathology results in clinically significant impairment. Thus, in this study we focused on how personality disorder dimensional scores in a community sample are cross-sectionally related to impairment in marital functioning.

The notion that maladaptive personality styles are linked to dysfunction in marriage is not a new concept. Almost 70 years ago, Terman and colleagues posited that certain people's individual characteristics predispose them to experiencing dissatisfaction within their relationships (Terman, Buttenwieser, Ferguson, Johnson, & Wilson, 1938). More recently, Karney and Bradbury (1995) have proposed a vulnerability-stress-adaptation model of marital quality which describes how the effect of individual differences on marital satisfaction is mediated by interpersonal processes. The enduring vulnerabilities of each spouse, including personality traits, are hypothesized to affect both the stressful events that couples encounter and the types of behavioral exchanges that occur between spouses. Within the last two decades, there has been a renewed interest in personality traits in relation to marital adjustment. This follows from several areas: resurgence in the field of personality generally (c.f., Funder, 2001); statistical advances that allow examination of the joint influence and interdependence of couples on each other (e.g., Campbell & Kashy, 2002); and the relatively modest, and at times, inconsistent, associations found between marital functioning and more process-oriented, interpersonal variables (Bradbury & Karney, 2004).

So far, research on individual differences and marital functioning has not extended to pathological personality features, even though there is growing evidence that the romantic relationships of persons with PDs are often marked by discord (Craig, 2003; Gondolf & White, 2001). In a college student sample, Oltmanns, Melley, and Turkheimer (2002) found that self-reported Paranoid, Schizoid, Schizotypal, Borderline, and Avoidant features, and peer reported Schizoid, Schizotypal, and Obsessive-compulsive features, were all correlated with poor social functioning, which included dating history. Looking specifically at relationship difficulties, Daley, Burge, and Hammen (2000) found that 4-year romantic relationship dysfunction (i.e., chronic stress, relationship quality, partner satisfaction) was best accounted for by general Axis II symptomatology. Chen et al. (2004) examined the amount of conflict in the relationships of a community sample of young adults assessed in adolescence for presence of PD criteria. Individuals with PDs experienced significantly more discord throughout the 10 year follow-

up period (from age 17 to 27). Cluster B PDs were associated with the greatest sustained amount of conflict over time. Cluster A and C PDs were related to higher conflict until the age of 23, when relationship conflict in persons with PDs actually declined relative to the no-PD controls.

Personality disorder symptoms have also been repeatedly linked with more serious forms of marital conflict, including intimate partner violence. This research comes from two lines of inquiry. Factor-analytic and behavioral analogue studies of partner-violent spouses, particularly men, have identified the importance of antisocial and borderline personality traits for intimate relationship violence (Dutton, 1995; Edwards, Scott, Yarvis, Paizis, & Panizzon, 2003; Holtzworth-Munroe, 2000; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; Holtzworth-Munroe & Stuart, 1994; Tweed & Dutton, 1998). Developmental research has also shown links between early temperament and personality traits in childhood and adolescence and later abusive behavior in romantic relationships (Capaldi & Clark, 1998; Ehrensaft, Cohen, & Johnson, 2006; Giordano, Millhollin, Cernkovich, Pugh, & Rudolph, 1999; Magdol, Moffitt, Caspi, & Silva, 1998; Moffitt, Krueger, Caspi, & Fagan, 2000; Moffitt, Robins & Caspi, 2001).

The samples utilized in these studies of intimate partner violence are varied in composition and design. They range from unselected birth cohorts (Giordano et al., 1999; Magdol et al., 1998; Moffitt et al., 2000) to at-risk community samples (Capaldi & Clark, 1998) to men who were court mandated to treatment for domestic violence (Dutton, 1995; Tweed & Dutton, 1998) or were incarcerated at the time of the study (Edwards et al., 2003). Studies examining the most severe or at-risk populations are important, in that they provide information on individuals whose level of impairment has become most detrimental to society. However, these samples may be more likely to include individuals who show a general tendency toward violence, as there is considerable overlap between intimate partner violence and both general violence and non-violent crime (Fagan & Browne, 1994; Fagan & Wexler, 1987). Given our interest in individual difference personality variables that are specifically related to partner violence (Moffitt et al., 2000), for the current study we recruited a community sample that would include individuals who had experienced all levels of conflict, thus increasing the generalizeability of our findings (Karney et al., 1995).

To our knowledge, the current study is the first to examine symptoms across the range of all DSM-IV personality disorders in relationship to marital satisfaction, and the first to examine the association between PD features and both normative (marital satisfaction) and dysfunctional (physical violence) forms of marital functioning in the same study. Previous research linking PDs to partner violence, particularly in men, have all relied on self-reported PD symptoms collected through questionnaires or interviews. Ehrensaft et al. (2006) utilized a composite PD report based on self- and parent-report, but did not directly compare the two types of report. A reliance on self-report may be a particularly important limitation for the assessment of PD criteria, as there are significant discrepancies between self- and informant report of PDs (Klonsky, Oltmanns, & Turkheimer, 2002; Oltmanns & Turkheimer, 2006). There is growing support for supplementing self-report with informant report in the assessment of psychopathology (Achenbach, Krukowski, Dumenci, & Ivanova, 2005), particularly personality disorders (Klein, 2003).

Thus, in the current study, we assessed whether self- *and* spouse report of PD would be related to marital satisfaction, verbal aggression, and physical violence. It was expected that higher levels of total self-reported personality disorder symptoms would be related to lower levels of one's own and one's spouse's marital satisfaction and higher levels of marital conflict. Further, we expected that the presence of personality pathology as reported by one's *spouse* would have a negative impact on own and spouse marital functioning, above and beyond self-report. We also explored whether any of the 10 individual PD scales would add to the explanation of

marital functioning after controlling for other personality pathology. Again, we examined marital satisfaction and conflict from self- and spouse-reports from each partner. Based on previous research (e.g., Ehrensaft et al., 2006), we expected that Cluster A and Cluster B disorder symptoms would be negatively related to measures of marital aggression. We viewed the examination of marital satisfaction from PD features as exploratory, and thus made no a priori predictions regarding specific PD scales.

Method

Participants

The sample consisted of 82 married heterosexual couples (N=164) from central Virginia, recruited through newspaper advertisements, television bulletins on a community access channel, and community flyers inviting couples to "participate in a research project examining personality and marriage." Flyers were also sent to professionals working with potential study participants (therapists, physicians). Couples responding to the advertisements were screened in a telephone interview to determine whether (a) both participants were at least 21 years old, (b) both spouses were comfortable with reading and writing English, (c) the couple had been married for at least one year but no more than 10 years[1], and (d) the couple was currently living together. Persons were excluded if they had a history of, were currently in treatment for, or were taking medication for a psychotic illness. A total of 84 couples completed data collection; we excluded two couples when it was discovered that they had been married for longer than 10 years.

Participants had been married an average of 3.7 years (*SD*=2.6), with a minimum of 12 months and a maximum of 10 years, 11 months. The number of children per couple ranged from zero to four children (*M*=0.5, *SD*=0.85). Twenty three percent of wives and twenty percent of husbands reported having been in couples counseling and/or psychotherapy with their current spouse. Husbands ranged from 23 to 69 years old, with a mean of 33.6 (*SD*=9.55). Wives ranged in age from 21 to 59 years old, with a mean of 32 (*SD*=8.60). A majority of husbands (92%) and wives (84%) identified themselves as Caucasian. Most of the husbands had at least a college degree (72%), 38% had been in individual therapy, and 18% had been married previously. A majority of the wives had at least a college degree (85.4%), 50% had been in individual therapy at some point, and 13% had been married previously. In general, the sample was slightly older than community couples recruited for marital intervention programs, but had comparable satisfaction levels and history of couples counseling as community couples who elect to participate in a marital intervention program (Rogge et al., 2006).

Measures

Assessment of personality disorders—Personality disorder symptoms were assessed with the Multisource Assessment of Personality Pathology (MAPP; see Oltmanns & Turkheimer, 2006, for a review of studies using the MAPP). The MAPP contains 105 items, 81 based on the features of the 10 personality disorders listed in DSM-IV (Paranoid, Schizoid, Schizotypal, Antisocial, Borderline, Histrionic, Narcissistic, Avoidant, Dependent, Obsessive-Compulsive) and an additional 24 items describing other, mostly positive, personality characteristics. MAPP items were constructed by translating the DSM-IV criterion sets for PDs into lay language. The 79 DSM-IV PD criteria were rewritten in such a way as to avoid the use of technical psychopathological terms and psychiatric jargon. One of the criteria for Narcissistic PD, "is often envious of others or believes that others are envious of him or her,"

[1]We decided to collect a sample that had gotten beyond the "honeymoon" period of their marriage, when any ratings of satisfaction might be most positively biased, but had not yet reached the point of already separating or divorcing because of dissatisfaction with their marriage.

was split into two items ("is jealous of other people" and "thinks other people are jealous of him/her"). Similarly, the Schizotypal PD criterion, "inappropriate or constricted affect" was split into the items "shows emotional responses that seem strange or 'out of sync'" and "is cold; doesn't show any feelings."

There are two versions of the MAPP: a self-report and an informant report version. For both, the participant assigns a score (0,1,2, or 3) on each item to the target, indicating that the person "never," "sometimes," "often," or "always" displays this characteristic. The self-report version of the MAPP has good test-retest reliability, and comparisons between the MAPP and other standard PD questionnaires and structured interviews have shown moderate agreement (Okada & Oltmanns, 2007; Oltmanns & Turkheimer, 2006). Self- and informant report scales from the MAPP show strong relationships to 1) traits from the Five Factor Model of personality (Friedman, Oltmanns, Gleason, & Turkheimer, 2006; Friedman, Oltmanns, & Turkheimer, 2007; Oltmanns, Friedman, Fiedler, & Turkheimer, 2004; South, Oltmanns, & Turkheimer, 2005), 2) impaired social and interpersonal functioning (Clifton, Turkheimer, & Oltmanns, 2005; Oltmanns et al., 2002), and 3) laboratory and life-event outcome measures of impaired functioning (Fiedler, Oltmanns, & Turkheimer, 2004; South, Oltmanns, & Turkheimer, 2003).

In the current study, each participant (husband and wife) completed the self-report version of the MAPP and the informant report version regarding their spouse[2]. Scores on individual PD items were summed to create 11 PD dimensional scales, one for each of the DSM-IV PDs and one total summary score of all PD symptoms. The means for the self-reported overall PD total scores were 37.35 (*SD*=18.89, *range*=6–94) for wives and 34.09 (*SD*=15.60, *range*=7–74) for husbands; corresponding means for spouse-reported PD total score were 33.12 (*SD*=21.24, *range*=6–105) for wives and 28.50 (*SD*=15.46, *range*=3–108). As expected given the community sample, approximately 15% of husbands and 12% of wives endorsed enough symptoms, from self-report on the MAPP, to fulfill the criteria for a personality disorder.

Assessment of marital satisfaction—All participants completed the Short Marital Adjustment Test (SMAT; Lock & Wallace, 1959), a 15-item scale that is widely used as a measure of marital satisfaction. Eight questions ask for a rating of perceived agreement across several areas of possible conflict ("sex relations", "handling family finances"), six questions assess the couples' means of conflict resolution, cohesion, and communication, and a final question asks for an overall rating of the marriage. Responses to all items are weighted and combined to form an overall index of marital satisfaction, with higher scores indicating better levels of adjustment. The SMAT demonstrates adequate cross-sectional reliability and discriminates between nondistressed spouses and spouses with documented marital problems. Alpha coefficients for the two SMAT scale scores were 0.79 (wife) and 0.76 (husband). Participants in this sample were relatively happy, averaging a score of 109 for wives and 110 for husbands, but demonstrated a wide range of variance in satisfaction (*SD* = 20.95 for wives, 18.64 for husbands). Roughly ¼ of the sample (28% of wives, 22% of husbands) was below the typical distress threshold of 100 (Rogge & Bradbury, 1999). There was no significant difference between husbands' and wives' self-reported satisfaction ($t(81)=0.60$, p=ns), and satisfaction was correlated 0.49 for husbands and wives

[2]As part of this study, we also collected informant reports of participants from family members and/or friends outside the marriage. We attempted to collect these reports from 2 persons per participant. Unfortunately, complete data was available only for 26 wives and 23 husbands, with at least one informant completing the MAPP for 41 wives and 39 husbands. The low numbers limited our power to conduct the multilevel modeling with this source of information, so the collateral informants were left out of the MLM results. Full results of these analyses are available from the first author.

Assessment of partner violence—The Conflict Tactics Scale (CTS; Straus, 1979) consists of 18 items that measure the frequency of a variety of functional, verbally aggressive, and physically aggressive conflict tactics. The CTS has demonstrated good reliability (split half=0.90; Straus, 1979) and has been used in national surveys of the prevalence of marital aggression (Straus & Gelles, 1990). The CTS lists each behavior twice, asking what the participant has done to his or her partner and what the partner has done to the participant. For each behavior listed, the participant indicates whether the behavior has ever occurred, or if it has happened in the past 12 months, how often (on a 0–6 scale representing never to more than 20 times). We used the higher of the two past-year frequencies reported by either spouse (i.e., if a wife reported a greater number of incidents than her husband, the frequency she reported was used). Therefore, the final scores were a past-year composite of both the target's report of their own behavior and a spouse's report of the target's behavior.

We used two measures of partner conflict. First, following Straus and Gelles (1990), we created a Verbal Aggression (VA) scale that included the items measuring insults, sulking, stomping, saying something spiteful, threatening to hit or throw something at one's partner, or throwing something. A sum score was calculated for each individual participant by summing the 0–6 point items, with higher scores reflecting greater violence[3]. The average for the VA scale was 11.13 (SD=7.19) for wives' perpetration, and 9.76 (SD=6.35) for husbands' perpetration. Second, we collapsed across the eight items measuring minor or severe physical violence (throwing something at one's partner, pushing/grabbing/shoving, slapping, kicking, hitting, beating, threatening or using a knife or gun) to count whether any physically violent act had been perpetrated by the target in the last year. The past year prevalence rates based on composite report were 29.27% of wives and 19.51% of husbands. Consistent with previous research, more women than men reported being physically violent, and in some cases women reported more violence for their partners than husbands reported for themselves (Browning & Dutton, 1986; Jouriles & O'Leary, 1985; O'Leary et al., 1989; Straus & Gelles, 1990).

Analyses

As a first step, reliability analyses and simple data plots were conducted to assess the psychometric adequacy of the measures. To handle the unique nature of the data (both members of married couples), we utilized two-level multilevel models (MLM). These models, also called multi-level linear models, nested models, mixed linear models, covariance components models or hierarchal linear regression models (HLM), are an extension of the general linear model in which there are multiple units of analysis, or levels, often arranged hierarchically (Raudenbush & Bryk, 2001; Snjiders & Bosker, 1999). Level 1 of the model represents the individual-level effects, while level 2 represents couple-level effects. Multilevel modeling has recently been applied to family data, particularly married persons (see Barnett, Marshall, Raudenbush, & Brennan, 1993) because married individuals are nested within families, and are thus inherently non-independent. In the current paper, we follow the work of Campbell and Kashy (2002), Kenny and Cook (1999), and Snjiders and Kenny (1999), who detailed guidelines for estimating Actor and Partner effects using multilevel modeling. A series of stepwise hierarchal linear regressions were conducted for the three outcome variables. For all models, the grouping variable (i.e., the intercept) was treated as a random effect, and all the individual difference predictor effects were fixed (i.e., no error terms in these equations) and grand mean centered.

SAS PROC MIXED was utilized for the marital satisfaction and verbal aggression outcome variables. The MAPP PD scores were normalized with a log transformation to correct for skew. To evaluate the fixed effects in PROC MIXED, regression coefficients are tested by t-tests.

[3]An alternate scoring strategy for the CTS is to substitute the midpoint frequency scores for each response category (e.g., using 0, 1, 2, 4, 8, 15, and 25 instead of 0–6). We chose not to use this strategy because it results in more skewed distributions and because the scoring methods were highly correlated.

Following Snjiders and Bosker (1994; 1999), we calculated the proportional reduction of prediction error, R^2, (or what is commonly called the amount of variance explained in multiple linear regression), by comparing the variance components in unrestricted, baseline models (containing only the dependent variable and a random intercept) with restricted models (containing all final independent variables). SAS PROC NLMIXED was used to run multilevel binary logistic regressions on the physical violence outcome measure (McMahon, Pouget, & Tortu, 2006). For these models, we report regression coefficients and odds ratios. For all models, we report Akaike's Information Criterion (AIC; Akaike, 1987), an information-theoretic fit statistic that evaluates how well the specified model reproduces the observed data. Lower AIC values generally reflect the best-fitting model.

Results

Personality disorder symptoms of both spouses as assessed by self- and spouse report were used to explain the three outcome measures: Marital Satisfaction, Verbal Aggression, and Physical Violence. Marital satisfaction was the target's own self-reported level of satisfaction with the relationship. The partner conflict measures were composite scores based on both target-and spouse-report of the target's behavior, reflecting 1) the target's level of verbal aggression toward his or her partner in the past year, and 2) whether the target had perpetrated *any* physical violence toward his or her partner in the past 12 months. A series of stepwise multilevel models were conducted by regressing the outcome variables on Total PD scores and each of the 10 individual PD scales. To account for comorbidity among the PD symptom scales, a variable summing all of the other PD symptoms was included in each of the ten separate PD models (e.g., for Paranoid PD, a variable summing all of the symptoms from the nine other PDs). In the first step, gender, age, education level, and other PD symptoms (for the ten individual PD scales) were entered into the equation as covariates. Next, in the second step, Actor—the self-report of the target, and Partner—self-report of the target's spouse, were entered. Finally, the third step included Partner-by-Spouse—how the target rated their spouse, Actor-by-Spouse—how each target was rated by their spouse, and Discrepancy—the absolute value of the difference between Actor and Actor-by-Spouse, or how different your view of yourself is from your spouse's view of you. Gender interactions for each independent variable and the interaction of the two spouse reports (Actor X Partner, Actor-by-Spouse X Partner-by-Spouse) were also added to the model; if an interaction was significant, it remained in the model.

Personality Disorder Symptoms and Marital Satisfaction

The final model predicting a target's own Marital Satisfaction from Total PD score explained 23% of the variance (see Table 1). The addition of self-reported PD symptoms of both partners in Step 2 did improve the model over the covariates-only model in Step 1, and the Actor effect was a significant, negative predictor of satisfaction. It was the addition of spouse-reported total PD symptoms of both partners in Step 3 that substantially increased the explained variance. In the final model, the Partner-by-Spouse (B=−35.84, $t(72)$= −4.41, p<.0001) and Actor-by-Spouse (B=−24.24, $t(72)$= −2.87, p<.01) effects were significant, such that higher levels of spouse-reported pathology were related to lower target satisfaction[4].

When self-report of both partners was added to the covariates only model for each of the 10 PD scales, the variance explained increased from 0 to 3%, while the AIC improved for all models (see Table 2). In Step 2, the Actor effect was significant for Schizoid (negatively related) and Schizotypal (positively related), and the Partner effect was significant and negatively related to satisfaction for Narcissistic PD. The addition of spouse-reports of PD symptoms further increased the R^2 value for several of the PD scales[5]. After controlling for other PD symptoms, the Schizotypal, Antisocial, Borderline, Dependent and Obsessive-

Compulsive PD scales explained additional variance in satisfaction with the addition of partner-report of pathology. For Dependent PD symptoms, each of the four reporter main effects was significant. Higher levels of dependency as reported by the target and his or her spouse (Actor and Partner) were associated with *higher* levels of the target's satisfaction, but higher levels of spouse-reported pathology were related to *lower* levels of satisfaction. To understand the Discrepancy X Gender interaction for Schizotypal, regression equations were examined separately for men and women. The association between higher Discrepancy scores and lower target satisfaction was significant for wives (t=3.21, p<01) but not husbands (t=−.48, ns).

Personality Disorders and Verbal Aggression

The final model predicting Verbal Aggression from PD Total score explained 18% of the variance and had an AIC of 947, improving over a model that included only self-reports (R^2=7%, AIC=986) and a model including only covariates (R^2=3%, AIC=998). In the best-fitting MLM model for Total PD features, spouse-report of the target (Actor-by-Spouse) was significantly positively related to verbal aggression (B=12.98, t(72)=4.35, p<.0001), such that higher levels of PD symptoms were related to higher levels of aggression (see Table 1). The Actor effect, which had been significant in Step 2, no longer remained significant when spouse-reports were added to the model.

The addition of self-reports to the covariates-only model resulted in greater variance explained for several of the 10 PD scales and lower AIC values for all of the scales (see Table 3). The changes in R^2 from Step 1 to Step 2 in the modeling ranged from 0 to 5%, with Antisocial and Borderline scales showing the greatest increase. Further, the only significant actor effects in Step 2 were found for Antisocial and Borderline. When spouse-reports were added to the model, five of the PD scales showed at least small increases in R^2. Of the Cluster A PDs, both Schizoid and Schizotypal showed improvement in the models with the addition of spouse-reports; for Schizoid there was a significant Partner-by-Spouse × Gender effect while for Schizotypal there was a significant Discrepancy × Gender effect. For two of the PD scales, Borderline and Dependent, spouse-report of symptoms particularly increased the percentage of variance explained and improved the fit of the model according to AIC. The Partner-by- Spouse and Actor-by-Spouse effects were each significant for the Borderline and Dependent PD scales, such that higher levels of pathology as reported by each spouse were related to high levels of verbal aggression by the target.

Personality Disorders and Physical Violence

The addition of self-reports of total PD symptoms improved the model predicting any physical violence perpetration (AIC=141) over a covariates only model (AIC=149). Both Actor and Partner were significant predictors of physical violence in Step 2. The final model incorporating

[4]In the final model, self-report PD scores of both partners were positively related to marital satisfaction such that higher PD pathology was related to greater marital happiness. This is a change from earlier in the modeling, and from the bivariate correlations, when both self-report scores (of husband and wife) were negatively related to satisfaction. (A similar pattern was found in regard to the Verbal Aggression scale). This seems to be an instance of a crossover suppressor effect, in that the beta coefficients of the Actor and Partner scores reverse sign, and the beta coefficients for the Actor-by-Spouse and Partner-by-Spouse effects in the final model increase relative to the initial beta coefficients in a model including them alone (Paulhus, Robins, Trzesniewski,& Tracy, 2004). The negative association between self-reports of pathology and marital functioning found in Step 2 of the modeling is due to the variance in self-reports that overlap with the variance in spouse-reports. Thus, in the final model, once that common variance is accounted for by including spouse-reports, the part of self-reported personality pathology not shared in common with the pathology seen by one's spouse is positively related to marital satisfaction (and negatively related to verbal aggression).

[5]Of note, in several instances the R^2 actually *decreased* with the addition of self- and spouse-reports of PD features (see Table 2). Snijders and Bosker (1999) suggest that "decrease by a magnitude of 0.05 or more" in "reasonably large data sets" may be a sign of model misspecification, but otherwise is most likely a result of chance fluctuations. Given that decreases in the current analyses were on the magnitude of 0.01 or 0.02, we feel reasonably certain that they are due to fluctuations. Further, when comparing AIC values for the models after each of the three steps, in every case the AIC for the full model (with covariates, self-reports, and spouse-reports) was the best.

spouse reports improved over the model including only self-report (AIC=138). In the final model, Actor and Partner were no longer significant, but Partner-by-Spouse (*B*=0.11, OR=1.12, $p<0.05$) did significantly predict perpetration of physical violence.

After controlling for other PD symptoms, almost none of the individual PDs demonstrated a strong relationship with physical violence with the addition of self-reports (see Table 4). Only the addition of self-report for Antisocial and Avoidant PD scales resulted in a model improvement according to AIC. Partner report of Antisocial PD approached significance (*B*=.96, OR=2.61, p=.06) when added in Step 2. When spouse reports were added to the model for the Antisocial and Narcissistic scales, this resulted in small improvement in AIC. In the final model for Antisocial, the Actor effect trended toward significance (*B*=1.91, OR=6.76, p=.08). Similarly, the Partner-by-Spouse effect for Narcissistic PD (*B*=.77, OR=2.16, p=.06) and the Discrepancy effect for Schizotypal (*B*=.59, OR=1.80, p=.06) approached significance.

Discussion

Overall personality pathology was robustly associated with all three forms of marital functioning. As expected, we found that a person's own self-reported level of total PD symptoms was associated with verbal aggression and partner violence, confirming previous research which has found significant links between greater number of PD symptoms and higher frequency of partner violence (Ehrensaft et al., 2006; Holtzworth-Munroe et al., 2000; Holtzworth-Munroe & Stuart, 1994). The evidence also demonstrated a significant partner effect for perpetration of physical violence, such that a person's level of total PD features was significantly related to greater levels of violence perpetrated by his or her partner. Findings for both the Actor and Partner effect for partner violence suggest that people with higher levels of personality pathology may be particularly likely to end up in a relationship that is marked by aggressive behavior by both members of the couple. For marital satisfaction, the target's self-report of PD symptoms explained a substantial amount of the variance, with higher levels of pathology associated with lower levels of satisfaction. Certainly, this should not be surprising in light of research which suggests that people with personality disorders intensify their interpersonal problems because they are rigid, inflexible, and either unwilling or unable to adapt to the social challenges they encounter (Chen et al., 2004; Johnson, Chen, & Cohen, 2004; Pagano et al., 2004).

A main contribution of the present study is the identification of spouse report as an important source of PD assessment in association with relationship dysfunction. It appears that self- and spouse report of personality are *not* mutually exclusive with regard to examining relationships with marital functioning The addition of spouse-reported information regarding personality pathology revealed patterns of association with marital functioning not shown by the use of self-reports alone. This was true for spouse-reports of total PD symptoms and all three outcome measures, although which spouse effects were significant differed by outcome. Differences between verbal aggression and physical violence are particularly intriguing, and may indicate either that verbal aggression precedes physical aggression (Murphy & O'Leary, 1989) or that these two forms of conflict are taxometrically different from each other and from satisfaction (Heyman & Smith-Slep, 2006).

Of the individual PDs, Borderline and Dependent PD features were strongly related to low satisfaction and high verbal aggression. The symptoms of emotional lability and identity dysregulation which define borderline PD may predispose an individual to the most serious and maladaptive forms of dysfunction, a finding that fits well with evidence that the most longitudinally stable borderline criteria are impulsivity, anger, and affective instability (McGlashan et al., 2005). It would be difficult for *any* marriage to survive if one partner was never sure how the other was going to function emotionally on a day to day basis. Of note, in

the final model, self-reports of Dependent features were *positively* related to satisfaction, as has been found in previous research (e.g., Ehrensaft et al., 2006), such that higher levels of dependent PD symptoms were related to *greater* satisfaction. However, spouse-reports of Dependent symptoms were *negatively* related to satisfaction, with higher levels of Dependent features as reported by *one's spouse* related to lower levels of satisfaction. A similar pattern was found in regard to Verbal Aggression—in the final model, higher levels of self-reported Dependent symptoms were related to the target reporting less verbal aggression against their partner, while higher levels of spouse-report were related to higher levels of verbal aggression. Thus, if I think that I'm dependent, my partner may find that acceptable, possibly even reassuring; however, if my spouse thinks that I'm dependent, her or she may find that aggravating within the context of the relationship. This seems to indicate that the form of dependent PD which is most maladaptive for the marital relationship is best captured by informant report.

Two mechanisms may operate to produce the association between partner-reports of personality pathology and poor marital functioning. First, these individuals may lack insight into their behavior, a notion inherent in most conceptualizations of personality disorder. People with PD traits may have distressed marriages because they do not understand how their dysfunctional behavior will trigger negative reactions from their spouse, thus intensifying their own distress. This hypothesis is supported by the association between ratings of the target by his or her spouse (Actor-by-Spouse) and lower levels of satisfaction and higher levels of verbal aggression. Certainly, disagreement between self- and spouse report does not necessarily imply that the target lacks knowledge of how he or she is viewed by his or her spouse. Previous research has shown that people have some incremental knowledge of how they are viewed by others along PD trait dimensions, but they do not report this information unless specifically queried (Oltmanns, Gleanson, Klonsky, & Turkheimer, 2005). Future research would do well to incorporate reports of how each target *expects* to be rated on PD symptoms by his or her spouse.

Development of greater insight into their behavior may be an important therapeutic goal for individuals with PD pathology. Therapists who are treating a couple in which one spouse presents with co-morbid personality pathology and marital distress may wish to encourage development of self-knowledge, perhaps by incorporating how one partner interprets the actions of another. Meta-perception, or the ability to see yourself as others see you, is a well-known concept in the normal personality literature (Norman, 1969). Laboratory studies which provide people with opportunities to carefully observe specific aspects of their behavior in group situations result in greater accuracy of meta-perception (Albright & Malloy, 1999). With marital intervention, focusing on how we might come to know more about ourselves (Wilson, 2002) may be one of the most important elements of the therapeutic process. Marital therapy may, in fact, be an ideal setting in which to address personality pathology. To date, there are few available therapeutic approaches for personality disorder (for exceptions, see Beck, Freeman, & Davis, 2004; Benjamin, 2003; Linehan & Dexter-Mazza, 2008). Addressing maladaptive personality dynamics in the context of their effect on relationship functioning may be a novel method of treating these disorders in a supportive and non-threatening manner.

The second possible mechanism to explain the association between partner-reported PD symptoms and general marital distress is sentiment override. A person's global evaluation of his or her marital relationship can easily bias the knowledge that they can provide regarding their partner's personality (Kurtz & Sherker, 2003) or influence perceptions of that partner's behavior (Christensen, Sullaway, & King, 1983; Jacobson & Moore, 1981). Individuals in distressed marriages report higher daily frequencies of negative events, tend to overestimate the rate of occurrence of negative behaviors, and focus on displeasing behavior by their spouse (Floyd & Markman, 1983; Jacobson, Follette, & McDonald, 1982; Johnson & O'Leary,

1996; Sillars, Roberts, Leonard, & Dun, 2000; Weiss, 1980). We found some support for this process, in that the target's report of his or her partner for total PD symptoms (Partner-by-Spouse) was negatively related to the target's own satisfaction and perpetration of physical violence. The target's rating of their partner was also significantly related to Satisfaction and Verbal Aggression for several of the individual PDs, but not to Physical Violence (although there was a trend for Narcissistic PD).

Limitations

One limitation involves the demographics of the participants. This was a largely white, well-educated, community sample. It is unknown whether the findings reported here will generalize to different ethnic groups or persons from different SES levels, who may be struggling with various issues that were largely not at play with the current sample. Further, it should be noted that this was a non-clinical sample, and as such the findings presented here have been explained in terms of personality features and traits, not personality disorders per se. It remains to be seen whether persons with a diagnosed personality disorder would have the same difficulties with marital adjustment as found here for sub-clinical levels of PDs. Third, given the high comorbidity between personality disorders and Axis I disorders (Krueger & Tacket, 2006), future research should endeavor to examine the interrelationships between personality pathology and other forms of psychopathology in marital relationships. Fourth, given that PD pathology may act to bias a person's ratings of themselves or others, future research should attempt to gather reports of PD pathology from knowledgeable informants outside the marriage. Finally, as Karney and Bradbury (1995) correctly point out, the most revealing way to examine predictors of marital satisfaction is over time. Future research using a longitudinal design will better elucidate the temporal direction between personality and marital satisfaction.

Summary

Findings from the current study suggest that the processing dynamics that occur in people with personality disorder features are particularly like to be associated with misunderstanding, misconceptions, poor communication, and even verbal and physical aggression. People with PDs may act in way that is likely to annoy their spouse, or, alternatively, people with PD features are likely to interpret actions by their spouse in a threatening or negative manner. Individuals with pathological personality features have a greater likelihood of being generally unhappy in their marriage, but more importantly, they may fail to recognize that the source of their unhappiness lies in their own way of processing and interacting with the world. For people with increased levels of PD symptoms, a lack of self-knowledge into their thoughts, behaviors, and emotions may be a prime contributor to an unhappy marriage. The results of this study suggest that presently, "personality traits should be central to any analysis of why relationships thrive or falter, and they appear to be appropriate targets for intervention" (Robins et al., 2002, p. 955).

Acknowledgements

This work was supported by National Institute of Mental Health grants MH51187 to Thomas F. Oltmanns and Eric Turkheimer and MH69020 to Susan C. South. This study was based on a dissertation completed by Susan C. South while at the University of Virginia.

The authors wish to thank Steve Malone, Wendy Johnson, and Robert F. Krueger for their comments on this manuscript.

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Table 1

Percentage of Variance Explained by Total PD Score for Two-Level Multilevel Modeling of Marital Functioning Scales

Step		Marital Satisfaction			Verbal Aggression			Physical violence		
		B	R^2	AIC	B	R^2	AIC	B	OR	AIC
1	Covariates		.03	1364		.03	998			149
2	Actor	−19.37**	.10	1343	5.51*	.07	986	.08*	1.08	141
	Partner	−11.19			3.44			.07*	1.07	
3	Actor	14.58	.23	1305	−1.02	.18	947	.01	1.01	138
	Partner	15.75			−5.89			.02	1.02	
	Actor-by-Spouse	−24.24**			12.98***			.06	1.06	
	Actor-by-Spouse X Gender									
	Partner-by-Spouse	−35.84***			3.11			.11*	1.12	
	Discrepancy	−9.33			5.46*			−.01	.99	

N=164.

* p<.05,

** p<.01,

*** p≤.0001. Step 1=a model including only covariates; Step 2=a model including covariates and self-reports of PD symptom scales; Step 3=a model including covariates, self-reports of PD symptom scales, partner-reports of PD symptom scales, and discrepancy. R^2=percentage of variance explained. Actor=target's self-reported PD symptoms; Partner=PD symptoms of the target's spouse as reported by the spouse; Actor-by-Spouse=PD symptoms of the target as reported by target's spouse; Partner-by-Spouse=PD symptoms of target's spouse as reported by the target.

Table 2

Parameter Estimates for Two-Level Multilevel Modeling of Marital Satisfaction

Step		PAR B	PAR R^2	PAR AIC	SZD B	SZD R^2	SZD AIC	STP B	STP R^2	STP AIC
Cluster A										
1	Covariates		.22	1312		.22	1314		.23	1310
2	Actor	−.72	.22	1300	−19.71*	.24	1296	13.60*	.26	1294
	Partner	−5.87			−6.50			5.61		
3	Actor	−6.26	.21	1280	−19.46	.23	1278	15.22*	.29	1264
	Partner	−6.45			−5.63			6.73		
	Actor-by-Spouse	3.00			1.87			−4.35		
	Partner-by-Spouse	3.24			−3.23			−1.43		
	Discrepancy	10.41			.67			−8.54		
	Discrepancy X Gender							−15.68**		

Step		ASP B	ASP R^2	ASP AIC	BOR B	BOR R^2	BOR AIC	HIS B	HIS R^2	HIS AIC	NAR B	NAR R^2	NAR AIC
Cluster B													
1	Covariates		.21	1315		.21	1315		.22	1313		.23	1311
2	Actor	−12.98	.23	1300	−10.51	.21	1299	−2.65	.21	1301	.53	.26	1284
	Partner	−10.56			2.17			−5.94			−13.03*		
	Actor X Partner										−44.11*		
3	Actor	−12.39	.25	1273	−3.11	.26	1274	.27	.20	1283	2.29	.25	1265
	Partner	−1.02			10.77			−2.15			−14.77*		
	Actor X Partner										−54.75*		
	Actor-by-Spouse	1.65			−12.73			−4.55			3.51		
	Partner-by-Spouse	−17.89*			−20.74**			−5.39			−3.65		
	Discrepancy	−.39			−.97			6.49			−8.04		

Step		AVD B	AVD R^2	AVD AIC	DEP B	DEP R^2	DEP AIC	OC B	OC R^2	OC AIC
Cluster C										
1	Covariates		.22	1312		.20	1315		.22	1314
2	Actor	.43	.22	1301	7.79	.22	1301	−2.43	.24	1293
	Actor X Gender							11.90*		
	Partner	3.87			9.92			−1.30		
3	Actor	.47	.21	1282	20.96**	.32	1266	−3.80	.25	1261
	Actor X Gender							18.37**		
	Partner	3.29			22.88**			2.17		
	Actor-by-Spouse	−4.39			−25.93**			−.79		
	Actor-by-Spouse X Gender							−12.60*		

	Cluster C								
	AVD			DEP			OC		
Step	B	R^2	AIC	B	R^2	AIC	B	R^2	AIC
Partner-by-Spouse	3.95			−26.03**			−7.24		
Discrepancy	−6.39			2.13			−8.35		

Note. N=164.

* p<.05,

** p<.01,

*** p<.0001. PAR=Paranoid; SZD=Schizoid; STP=Schizotypal; ASP=Antisocial; BOR=Borderline; HIS=Histrionic; NAR=Narcissistic; AVD=Avoidant; DEP=Dependent; OC=Obsessive-Compulsive. Actor=target's self-reported PD symptoms; Partner=PD symptoms of the target's spouse as reported by the spouse; Actor-by-Spouse=PD symptoms of the target as reported by target's spouse; Partner-by-Spouse=PD symptoms of target's spouse as reported by the target.

Table 3

Parameter Estimates for Two-Level Multilevel Modeling of Verbal Aggression

Step		Cluster A								
		PAR			SZD			STP		
		B	R^2	AIC	B	R^2	AIC	B	R^2	AIC
1	Covariates		.13	960		.13	962		.15	955
2	Actor	4.49	.14	948	1.66	.15	946	−2.07	.15	946
	Partner	1.36			−.30			−3.21		
	Partner X Gender				4.20*					
3	Actor	3.86	.13	937	2.75	.20	918	−4.63	.21	923
	Partner	.62			.92			−5.29*		
	Partner X Gender				7.66**					
	Actor-by-Spouse	1.80			1.32			3.92		
	Partner-by-Spouse	.95			−3.45			3.54		
	Partner-by-Spouse X Gender				−4.40*					
	Discrepancy	−.50			3.71			3.40*		
	Discrepancy X Gender							3.73*		

Step		Cluster B											
		ASP			BOR			HIS			NAR		
		B	R^2	AIC	B	R^2	AIC	B	R^2	AIC	B	R^2	AIC
1	Covariates		.15	956		.13	962		.16	956		.15	955
2	Actor	6.76**	.20	942	7.68**	.18	939	2.48	.16	948	−1.63	.14	946
	Partner	4.15			2.11			2.61			1.47		
3	Actor	9.00**	.20	928	3.23	.28	901	3.74	.17	933	−2.94	.14	934
	Partner	5.82			−1.17			4.46			.40		
	Actor-by-Spouse	−3.57			10.78***			−.68			3.19		
	Partner-by-Spouse	−2.79			5.45*			−4.07			2.08		
	Discrepancy	−3.29			1.75			.87			1.58		
	Discrepancy X Gender				2.85*								

Step		Cluster C								
		AVD			DEP			OC		
		B	R^2	AIC	B	R^2	AIC	B	R^2	AIC
1	Covariates		.15	954		.14	954		.16	958
2	Actor	−4.15	.16	944	−2.92	.14	946	2.25	.15	951
	Partner	−1.99			−1.04			.49		
3	Actor	−5.54*	.19	931	−6.50**	.22	922	2.03	.15	938
	Partner	−3.35			−4.58			.11		
	Actor-by-Spouse	3.81			6.62*			2.32		
	Actor-by-Spouse X Gender				2.87*					

	Cluster C								
	AVD			DEP			OC		
Step	**B**	**R^2**	**AIC**	**B**	**R^2**	**AIC**	**B**	**R^2**	**AIC**
Partner-by-Spouse	3.21			6.49**			−.30		
Discrepancy	2.77			.17			2.51		

Note. N=164.

* p<.05,

** p<.01,

*** p<.0001.

PAR=Paranoid; SZD=Schizoid; STP=Schizotypal; ASP =Antisocial; BOR=Borderline; HIS=Histrionic; NAR=Narcissistic; AVD=Avoidant; DEP=Dependent; OC=Obsessive-Compulsive. Actor=target's self-reported PD symptoms; Partner=PD symptoms of the target's spouse as reported by the spouse; Actor-by-Spouse=PD symptoms of the target as reported by target's spouse; Partner-by-Spouse=PD symptoms of target's spouse as reported by the target.

Table 4

Parameter Estimates for Two-Level Multilevel Modeling of Physical Violence

		Cluster A								
		PAR			SZD			STP		
Step		B	OR	AIC	B	OR	AIC	B	OR	AIC
1	Covariates			137			136			136
2	Actor	.29	1.34	139	.26	1.29	138	.06	1.06	136
	Partner	.43	1.53		.26	1.30		.15	1.17	
	Partner X Gender							−.34*	.71	
3	Actor	.08	1.08	144	.18	1.20	142	−.11	.89	138
	Partner	.23	1.25		.42	1.52		.09	1.09	
	Actor-Spouse	.21	1.23		.07	1.07		−.37	.69	
	Partner-Spouse	.30	1.35		−.19	.82		.26	1.30	
	Discrepancy	.09	1.10		.47	1.60		.59	1.80	

		Cluster B											
		ASP			BOR			HIS			NAR		
Step		B	OR	AIC	B	OR	AIC	B	OR	AIC	B	OR	AIC
1	Covariates			137			137			136			136
2	Actor	.68	1.98	134	.59	1.81	137	.12	1.13	139	−.25	.78	137
	Partner	.96	2.61		.30	1.35		.09	1.09		−.45	.64	
		.06											
3	Actor	1.91	6.76	131	.40	1.50	140	.37	1.45	143	−.42	.66	136
	Partner	1.28	3.58		.14	1.15		.18	1.20		−.65	.52	
	Actor-Spouse	−.92	.40		.49	1.64		−.33	.72		.34	1.41	
	Partner-Spouse	.00	1.00		.51	1.66		−.11	.90		.77	2.16	
	Discrepancy	−1.22	.29		−.18	.83		−.26	.77		−.15	.86	

		Cluster C								
		AVD			DEP			OC		
Step		B	OR	AIC	B	OR	AIC	B	OR	AIC
1	Covariates			135			134			136
2	Actor	−.59	.56	132	.00	1.00	137	.10	1.11	137
	Partner	−.18	.84		−.24	.79		.35	1.42	
3	Actor	−.63	.53	137	.06	1.06	141	.60	1.83	139
	Partner	−.26	.77		−.12	.88		.77	2.17	
	Actor-Spouse	−.17	.84		−.03	.97		0.28	1.32	
	Partner-Spouse	.13	1.14		−.35	.70		−.13	.88	
	Discrepancy	−.11	.89		−.19	.83		−.68	.51	

Note. N=164.

* p<.05,

** p<.01,

*** p<.0001. PAR=Paranoid; SZD=Schizoid; STP=Schizotypal; ASP =Antisocial; BOR=Borderline; HIS=Histrionic; NAR=Narcissistic; AVD=Avoidant; DEP=Dependent; OC=Obsessive-Compulsive. Actor=target's self-reported PD symptoms; Partner=PD symptoms of the target's spouse as reported by the spouse; Actor-by-Spouse=PD symptoms of the target as reported by target's spouse; Partner-by-Spouse= PD symptoms of target's spouse as reported by the target.