Does Self-compassion Benefit Couples Coping With Vulvodynia? Associations With Psychological, Sexual, and Relationship Adjustment

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Objectives: Vulvodynia, a chronic vulvovaginal pain condition, has deleterious consequences for the psychological, relational, and sexual well-being of affected women and their partners. Protective factors, which can reduce these negative effects, are increasingly studied in the field of chronic pain. One of these, self-compassion, entails qualities such as kindness toward oneself, and has been associated with better adjustment in individuals with chronic pain. Because many women with vulvodynia have a negative image of themselves in the context of sexuality, self-compassion may be especially relevant for this population. This study aimed to investigate self-compassion among couples coping with vulvodynia and its associations with psychological, sexual, and relationship adjustment, as well as pain during sexual intercourse.

Materials and Methods: Data were gathered from 48 women diagnosed with provoked vestibulodynia—a subtype of vulvodynia—and their partners, using self-report questionnaires pertaining to anxiety, depression, sexual distress, relationship satisfaction, and pain intensity during sexual intercourse.

Results: For both women and their partners, higher levels of self-compassion were associated with their own lower anxiety and depression. When partners reported higher levels of self-compassion, they were more satisfied with their relationship, and both partners and women reported lower sexual distress. No significant association was found for pain during intercourse.

Discussion: Findings suggest that self-compassion is a promising protective factor in the experience of vulvodynia and associated distress. Interventions aimed at increasing self-compassion could enhance the efficacy of psychological treatments for these women and their partners. Further studies are needed to better understand the correlates of self-compassion among this population.

Key Words: vulvodynia, provoked vestibulodynia, chronic pain, couples, self-compassion, sexual distress, relationship satisfaction

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Vulvodynia, a chronic vulvovaginal pain condition, is a common symptom among women. Its population prevalence ranges between 8% and 20% in adolescent girls and adult women.[1,2] In premenopausal women, the most common form of vulvodynia is provoked vestibulodynia (PVD).[1] PVD is characterized by a burning pain at the vestibule at the entrance of the vagina, when pressure is applied, mainly during intercourse, but also in nonsexual situations (eg, tampon insertion, riding a bike).[3]

Controlled studies indicate that PVD has multiple deleterious consequences in affected women and their partners, hence greatly affecting their quality of life.[4] Women with PVD report significantly more sexual distress, less sexual satisfaction, and poorer sexual functioning, in comparison to women without PVD.[5–7] These women also report more psychological distress, namely anxiety and depression.[5,8,9] Several studies also suggest the presence of an altered self-image in women with PVD. Controlled research shows that they report a more negative image of themselves as a sexual partner (ie, sexual self-schema)[5,7] and that this negative self-image is associated with increased pain, sexual distress, and sexual dysfunction.[10] In qualitative studies, these women describe feeling inadequate in a sexual context and they report feelings of shame and guilt for experiencing pain during intercourse.[11–14] In addition, women with vulvovaginal pain often report feelings of isolation and invalidation.[15] Taken together, findings suggest that women with PVD tend to be self-critical in relation to their PVD. Because of its relational context, this type of chronic pain has consequences not only for women, but also for their partners and the relationship.[16] Partners of women with PVD report significantly more psychological distress, less sexual satisfaction, and poorer sexual functioning, compared with partners of women without PVD.[17–19]

Protective factors, which can reduce these deleterious effects and improve quality of life, are increasingly studied in the field of chronic pain. One of these, self-compassion, entails qualities such as kindness and understanding toward oneself in instances of pain or failure, and has been associated with better adjustment in individuals with chronic pain.[20–23] Self-compassion may be particularly important for women with PVD, as they often report a negative self-image in the context of sexuality and feelings of inadequacy and isolation.

An increasing body of literature suggests that self-compassion promotes better mental health.[24] A meta-analysis including studies with clinical and nonclinical populations found a large effect size for the association between greater self-compassion and lower levels of several common expressions of distress, such as anxiety and depression.[25] Still, only a

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handful of studies have examined how self-compassion relates to psychological adjustment to chronic pain. In 4 cross-sectional studies and 1 vignettes study conducted among individuals with various types of chronic pain, self-compassion was associated with reduced negative outcomes such as less stress, anxiety, depression, negative affect, catastrophizing, rumination, and experiential avoidance,[20–23,26] and was also linked with more pain acceptance.[21,26] In all those studies among chronic pain populations—specifically, samples of individuals with various forms of chronic pain,[21,22] persistent musculoskeletal pain[20] and inflammatory bowel disease or arthritis[26]—self-compassion was not associated with pain.[23]

Recent biopsychosocial models have emphasized the social context of pain, but to date, studies on self-compassion among chronic pain populations have not considered its relational context.[20–23,26] In women with PVD, pain mainly occurs in a particularly intimate context in which the partner is intricately involved in the pain experience. Indeed, a growing number of studies on PVD have been conducted among couples.[27] Cross-sectional, prospective, and daily diary studies have demonstrated that one partner's individual experience of PVD is associated with the psychological and sexual adjustment to pain of the other partner, and that the healthy partners' pain appraisals are associated with women's pain intensity and sexual impairment.[28] The relevance of including partners in studies of women with PVD is thus well established.[6]

In parallel, research on self-compassion points toward the importance of studying this way of relating to oneself in the context of interpersonal relationships. In studies with nonclinical samples of individuals, self-compassion was associated with more positive interpersonal outcomes in friendship,[29] parenting,[30] relationships in general,[31] as well as in romantic relationships.[32–35] Still, self-compassion has been measured among couples in very few studies.[34,35] In a first one, involving couples from the community, self-compassion was a stronger predictor of positive behavior in the relationship (eg, being more affectionate, attentive, and friendly) than self-esteem and attachment style.[34] Moreover, when one person reporter higher self-compassion, not only were they more satisfied with their relationship, but their partners were more satisfied as well. In a second study, conducted among couples struggling with infertility, self-compassion was related, for both men and women, to better psychological adjustment to infertility,[35] a medical condition that puts a strain on the couple's relationship and sexuality,[36] similar to PVD. Nevertheless, this study did not examine sexual and relational outcomes.

In summary, no study to date has examined self-compassion among a chronic pain population by taking into account the social context of pain, which is particularly relevant for women with PVD, as their pain occurs during partnered sexual activities. Studying self-compassion among this population is also important because of the impact of pain on women's self-image as a sexual partner and the feelings of isolation and inadequacy that they report. Having a caring and kind attitude toward themselves could serve to decrease their psychological, sexual, and relational distress. Further, self-compassion could decrease distress in partners, for whom PVD also generates negative psychological, sexual, and relational repercussions.

The aim of the present study was to investigate self-compassion among women with PVD and their partners, and its associations with psychological distress (anxiety and depression), sexual distress, relationship satisfaction, and pain. Because both members of the couple were included, we examined the influence of each partners' self-compassion on their own and their partner's outcomes. We hypothesized that women's and partners' greater self-compassion would be associated with both their own and their partner's lower psychological (anxiety and depression) and sexual distress. Moreover, we hypothesized that greater self-compassion in both partners would be associated with their own higher relationship satisfaction, as well as their partner's higher reported relationship satisfaction. Given prior findings, we hypothesized no significant association between self-compassion and pain.

MATERIALS AND METHODS

Participants

The present study was conducted in 2 North American cities among couples participating in a randomized clinical trial comparing the efficacy of cognitive-behavioral couple therapy to topical lidocaine for the treatment of PVD (reference blinded for review). Data were gathered at the pretreatment baseline assessment from 48 women diagnosed with PVD and their partners. Several recruitment strategies were used. First, women with PVD who had participated in previous studies and consented to being contacted for future projects were invited to take part in the current study. Women and their partners were also recruited in centers specialized in vulvovaginal pain, as well as through ads in newspapers, universities and online sites such as Facebook, Craigslist, and Kijiji.

To confirm couples' eligibility, a member of the research team first conducted a brief telephone screening interview. Moreover, all women took part in a gynecologic examination to confirm their PVD diagnosis. This diagnostic gynecologic examination included the standardized cotton-swab test, involving the use of a dry cotton swab to palpate the 3, 6, and 9 o'clock positions of the vulvar vestibule, while the woman rated her pain intensity for each location on a numerical rating scale of 0 to 10.[3] Inclusion criteria were (1) women experiencing pain during sexual intercourse that occurred on at least 80% of vaginal penetration attempts in the last 6 months; (2) women's pain limited to sexual intercourse or other activities involving pressure to the vulvar vestibule (eg, during tampon insertion); (3) women experiencing medium to severe pain intensity in one or more places in the vulvar vestibule during the gynecologic examination, operationalized as a minimum of 4, as assessed by the participant on a scale of 0 to 10; (4) sexual activity at least once a month during the last 3 months (penetration or attempted penetration); (5) couples had been together for at least 6 months and were cohabitating or had at least 4 in-person contacts per week; (6) women were aged between 18 and 45 years, and partners were at least 18 years of age.

Exclusion criteria were: (1) vulvovaginal pain not clearly related to sexual intercourse or pressure exerted on the vestibule (ie, continuous, unprovoked pain); (2) actively receiving treatment for PVD; (3) presence of one of the following factors: severe medical or psychiatric condition in either partner; active infection (eg, candida); dermatological lesions; pregnancy or planning to become pregnant in the coming months (duration of the clinical trial); having started menopause.

A telephone screening interview was conducted with 187 women, but 129 were not eligible to participate.

Reasons for ineligibility were the following: 16 (8%) were not in a relationship, 21 (11%) had time commitment and distance difficulties, 9 (5%) had partners who declined participation, 14 (7%) were outside of the age range (17 to 45), 8 (4%) did not attend the gynecologic examination, 2 (1%) did not have a PVD diagnosis, as confirmed by a physician , and 59 (31%) were ineligible for other reasons (ie, menopause, pregnancy, other infections, pain location, frequency of the pain, relationship and pain duration, pursuing other treatments). In addition, 10 couples declined participation before the pretreatment baseline assessment. Thus, this study included a final sample of 48 couples (46 heterosexual couples and 2 same-sex couples).

Procedure

Data were obtained at the pretreatment baseline assessment of the randomized clinical trial in which this study took place (reference blinded for review). During this assessment, conducted by a research assistant at one of the 2 research sites, couples completed a structured interview together and online self-report questionnaires separately in the laboratory. The structured interview covered demographic information, relationship history, gynecologic history, pain history as well as current pain and sexual activity. The self-report questionnaires were completed independently by the partners, on separate tablet computers using Qualtrics Research Suite online software. As data were obtained for a larger study, self-report questionnaires pertained to many other variables in addition to those included in the present study. All couples provided free and informed consent before participation and received a compensation of $30 for the time and travel related to the assessment. Women were invited to a gynecologic examination to confirm the diagnosis of PVD before or after this assessment. This study was approved by the health centers and the 2 universities institutional review boards where the research took place.

Measures

Demographic Variables

The structured interview gathered demographic information of the participating couples, including their age, education level, couples' annual income, relationship duration, and pain duration.

Self-compassion

Both partners completed the Self-compassion Scale,[37] a 26-item self-report inventory that assesses the 3 different aspects of self-compassion, each divided in 2 opposite poles, for a total of 6 subscales: (1) self-kindness versus self-judgment; (2) common humanity versus isolation; (3) mindfulness versus over-identification. Self-kindness implies being kind and understanding toward oneself rather than self-critical. Common humanity implies the recognition that all human beings are imperfect, with their weaknesses and failures, such that difficult experiences can be processed with a sense of connection to others rather than isolation. Mindfulness involves holding painful thoughts and feelings in mindful awareness rather than overidentifying with them. Items are all rated on a scale of 1 (almost never) to 5 (almost always). Negative items (self-judgment, isolation and over-identification) are reverse coded and mean scores on the 6 subscales are averaged to produce an overall self-compassion score. Higher scores indicate more self-compassion and total scores can range from 1 to 5. This self-compassion scale has an original Cronbach α of 0.92,[37] with good reliability and validity. The total score has been used with chronic pain patients[20,22] and couples.[34] The factor structure was stable across those studies[20,22,34] and for this sample. Cronbach α was 0.91 for women and 0.90 for partners in this sample. A factorial analysis with direct oblimin rotation was performed, and 6 factors were obtained, explaining 73.02% of the variance. Cronbach α's of the 6 subscales ranged between 0.73 and 0.85 for women and from 0.69 to 0.81 for partners.

Main Outcome Measures

Trait Anxiety

Both partners completed the Trait Anxiety scale (20 items) of the Spielberger State-Trait Anxiety Inventory.[38] The psychometric properties of this well-known and frequently used scale have been demonstrated in clinical and nonclinical populations, including those with chronic pain.[39–41] Participants answered on a 4-point Likert-type scale ranging from 1 (almost never) to 4 (almost always). Total scores can range from 20 to 80. Higher scores indicate a higher general tendency to experience anxiety symptoms. For this sample, Cronbach α was 0.90 for women and 0.92 for partners.

Depression

Depressive symptomatology was measured by the Beck Depression Inventory-II.[42] On this 21-item measure, participants answered on a Likert-type scale ranging from 0 (low intensity) to 3 (high intensity). Total scores can range from 0 to 63. This popular measure of depressive symptoms is validated and used with many individuals with chronic pain.[43] Cronbach α was 0.82 for women and 0.89 for partners in the present sample.

Sexual Distress

Both partners completed the Female Sexual Distress Scale assessing sexuality-related personal distress. On this 13-item measure, participants answered on a 5-point Likert-type scale ranging from 0 (never) to 4 (always). Initially designed for women, this measure can be used for both women and men because all items are gender nonspecific.[44] Therefore, no adaptation was needed for use with male partners. Good psychometric properties have been demonstrated for this scale, including high internal consistency, test-retest reliability, discriminant validity, and construct validity.[45] Total scores range from 0 to 52. Cronbach α was 0.90 for women and 0.90 for partners in the present sample.

Pain

A numerical rating scale ranging from 0 (no pain at all) to 10 (worst pain ever) was used to assess women's pain intensity during sexual intercourse. Women were asked to rate their average pain intensity in the last 6 months. This method for measuring pain is recommended by the "Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials" (IMMPACT) guidelines for chronic pain clinical trials[46] and the recent "Recommendations for Self-report Outcome Measures in Vulvodynia Clinical Trials."[47] It has a significant positive correlation with other measures of pain intensity.[48]

Relationship Satisfaction

Both partners completed the Couple Satisfaction Index.[49] This self-report measure of relationship satisfaction has 32 items. Good psychometric properties have been demonstrated for this measure with participants having different relationship

status (eg, dating, engaged, married), and a strong convergent validity with other well-known relationship satisfaction measures has been established.[49] Total scores range from 0 to 161. Higher scores indicate higher satisfaction with one's relationship. For the present sample, Cronbach α was 0.96 for women and 0.97 for partners.

Data Analytic Strategy

The associations between outcomes (anxiety, depression, sexual distress, relationship satisfaction, and pain) and sociodemographic variables (pain duration, relationship duration, age, income, and education level) were examined to assess the need to include covariates in subsequent analyses. Differences on outcomes between research sites were also examined. Correlation analyses between self-compassion (independent variable) and outcome variables were conducted.

The associations between self-compassion and psychological, sexual, and relational outcomes were examined with the Actor-Partner Interdependence Model (APIM).[50] This statistical approach was adopted because it accounts for the interdependence (ie, the nonindependence) of the partners' data. In the APIM analysis, the interdependence of the data can be estimated because data of both partners are modeled concurrently. Thus, the residual variance of their dependent variables can correlate and the associations between the independent variable of each partner with their own outcomes (actor effect) and the outcomes of the other member of the couple (partner effect) can be estimated.

Four APIM models were examined. Anxiety, depression, sexual distress, and relationship satisfaction of both partners were entered as dependent variables in distinct models. Self-compassion of both partners was entered as the independent variable in all models. The associations between women and partners' self-compassion and their own outcomes (actor effects) were examined. The associations between each partner's self-compassion and the outcomes of the other member of the couple (partner effects) were examined as well. Amos (Version 19.0.0) was used to estimate those four models. Finally, a linear regression was conducted to assess the association between both partners' self-compassion and women's pain.

RESULTS

Sample Characteristics

Table 1 displays descriptive statistics for the sample and the mean and SD for independent and dependent variables. On average, women had had their pain condition for 6 years, which reflects the chronicity of vulvodynia.

Of this final sample of 48 couples, 20 (41.67%) were recruited through advertisements in newspapers, websites, universities, hospitals, and medical clinics, 19 (39.58%) through their participation in a previous study conducted by the authors, 7 (14.58%) were referred by a physician and 2 (4.17%) by a friend. Research Site A recruited 27 couples and Research Site B recruited 21 couples.

Differences between research sites across dependent variables were found for women's sexual distress ($F_{1,\ 46} = 4.35$, $P < 0.05$) and women's pain intensity ($F_{1,\ 46} = 4.21$, $P < 0.05$). Thus, research site was included as a covariate in related analyses.

Correlations

A set of preliminary analyses was conducted to examine correlations between participants' outcomes and their age, education level, couples' annual income, relationship duration, and pain duration.

TABLE 1. Descriptive Statistics of Sample Demographics and Key Variables for Women With PVD and their Partners

Variables	Women With PVD (N = 48)	Partners (N = 48)
Age (y)	26.83 (5.98)	28.71 (7.93)
Pain duration (mo)	73.85 (57.59)	—
Cultural background		
English Canadian	14 (29.17%)	19 (39.58%)
French Canadian	19 (39.58%)	18 (37.50%)
Other	15 (31.25%)	11 (22.92%)
Education level (y)	16.89 (2.24)	15.86 (2.93)
Marital status		
Not living together	12 (25%)	—
Cohabiting	28 (58.33%)	—
Married	8 (16.67%)	—
Relationship length (mo)	59.05 (47.95)	—
Couple's annual income		
$0-$19,999	8 (16.67%)	—
$20,000-$39,999	9 (18.75%)	—
$40,000-$59,999	9 (18.75%)	—
$60,000 and over	21 (43.75%)	—
Does not wish to disclose	1 (2.08%)	—
Self-compassion (SCS)	2.81 (0.61)	3.42 (0.62)
Anxiety (STAI)	43.92 (9.60)	36.13 (10.38)
Depression (BDI)	10.69 (6.25)	7.06 (6.62)
Sexual distress (FSDS)	33.48 (9.83)	16.65 (9.23)
Relationship satisfaction (CSI)	131.19 (18.83)	127.56 (22.26)
Pain intensity (NRS)	6.86 (1.83)	—

Percentage values are % of the total sample; other values are mean (SD).
BDI indicates Beck Depression Inventory II; CSI, Couple Satisfaction Index; FSDS, Female Sexual Distress Scale; NRS (pain during intercourse), Numerical Rating Scale; PVD, provoked vestibulodynia; SCS, Self-Compassion Scale; STAI, Spielberger Trait Anxiety Inventory.

Women's pain duration was negatively associated with partners' relationship satisfaction ($r = -0.45$, $P < 0.01$). Furthermore, income was negatively associated with women's relationship satisfaction ($r = -0.51$, $P < 0.001$). We thus controlled for income and pain duration in subsequent analyses with relationship satisfaction. No other significant associations between sociodemographic data and outcomes were found.

Pearson product-moment correlations were computed to examine zero-order associations among the study variables. Those associations are displayed in Table 2.

Because self-compassion was highly correlated with both depression and anxiety within each member of the couple, we controlled for depression of both partners in our models with sexual distress and relationship satisfaction as outcomes. We controlled for depression because compared with anxiety, its associations with relationship satisfaction and sexual distress are better documented in the literature.[51,52] Controlling for depression did not change the statistical significance and the strength of the associations between variables. Thus, the more parsimonious models, without depression as a covariate, are presented.

Associations Between Self-compassion and Anxiety

Both partners' self-compassion accounted for 41% and 42.3% of the variance in women's and partners' anxiety,

TABLE 2. Correlations Between Self-compassion and Outcomes Variables for Women With Provoked Vestibulodynia and their Partners

	1	2	3	4	5	6	7	8	9	10	11
1. Self-compassion (W)	—	−0.20	−0.64**	0.25	−0.48**	0.04	−0.01	0.09	−0.25	−0.21	−0.10
2. Self-compassion (P)		—	0.17	−0.65**	0.03	−0.68**	0.35*	−0.48**	−0.06	0.31*	−0.03
3. Anxiety (W)			—	0.00	0.66**	−0.06	0.16	0.05	0.06	0.04	−0.00
4. Anxiety (P)				—	0.14	0.68**	0.12	0.40**	0.33*	−0.30*	−0.01
5. Depression (W)					—	0.05	0.17	0.20	0.29	0.08	−0.17
6. Depression (P)							0.20	0.44**	0.27	−0.20	0.07
7. Sexual distress (W)							—	0.33*	−0.03	−0.20	0.17
8. Sexual distress (P)								—	0.16	−0.42**	−0.02
9. Relationship satisfaction (W)									—	0.19	0.19
10. Relationship satisfaction (P)										—	0.07
11. Pain											—

*$P < 0.05$.
**$P < 0.01$.
P indicates partners' reports; W, women's reports.

respectively. As shown in Table 3, women's higher self-compassion was associated with their own lower anxiety and partners' higher self-compassion was associated with their own lower anxiety. There were no partner effects, indicating that women's and partners' self-compassion was not associated with the level of anxiety of the other (Table 3).

TABLE 3. Actor-Partner Interdependence Model With Self-compassion as the Independent Variable and Anxiety, Depression, Sexual Distress and Relationship Satisfaction, as Outcome Variables

	Self-compassion				
	b	β	SE	CR	*P*
Anxiety					
Actor effects					
Women	**−0.38**	**−0.63**	**0.07**	**−5.50**	**< 0.001**
Partner	**−0.43**	**−0.66**	**0.07**	**−5.85**	**< 0.001**
Partner effects					
Women	−0.03	0.05	0.07	0.43	0.66
Partner	−0.05	−0.08	0.07	−0.71	0.48
Depression					
Actor effects					
Women	**−0.20**	**−0.50**	**0.05**	**−3.83**	< 0.001
Partner	**−0.29**	**−0.70**	**0.05**	**−6.50**	< 0.001
Partner effects					
Women	−0.03	−0.07	0.05	−0.55	0.58
Partner	−0.04	−0.10	0.05	−0.93	0.35
Sexual distress					
Covariate					
Site	−4.74	−0.24	2.59	−1.83	0.07
Actor effects					
Women	−0.68	−0.04	2.21	−0.31	0.76
Partner	**−7.16**	**−0.48**	**1.96**	**−3.65**	< 0.001
Partner effects					
Women	**−5.21**	**−0.33**	**2.17**	**−2.40**	< 0.05
Partner	−0.10	−0.01	1.99	−0.05	0.96
Relationship satisfaction					
Covariates					
Pain duration	**−0.17**	**−0.44**	**0.05**	**−3.50**	< 0.001
Income	**−2.59**	**−0.47**	**0.72**	**−3.59**	< 0.001
Actor effects					
Women	−0.22	−0.18	0.15	−1.39	0.16
Partner	**0.42**	**0.30**	**0.17**	**2.41**	< 0.05
Partner effects					
Women	−0.05	−0.04	0.15	−0.32	0.750
Partner	−0.09	−0.07	0.18	−0.51	0.61

Significant effects are bolded.
b indicates unstandardized betas; CR, critical ratio; β, standardized betas.

Associations Between Self-compassion and Depression

Self-compassion of both partners accounted for 23.8% of the variance in women's depressive symptoms and 47.4% in partners' depression. As shown in Table 3, women's greater self-compassion was associated with their own lower depressive symptoms. Partners' greater self-compassion was also associated with their own lower depressive symptoms. There were no partner effects, showing that self-compassion of one partner was not associated with the depressive symptoms of the other (Table 3).

Associations Between Self-compassion and Sexual Distress

Self-compassion of both partners accounted for 18.6% of the variance in women's sexual distress and 22.7% in partners' sexual distress. As shown in Table 3, after controlling for research sites, partners' greater self-compassion was associated with their own lower sexual distress. Moreover, partners' greater self-compassion was associated with women's lower sexual distress. Women's self-compassion was not associated with their own sexual distress or their partner's sexual distress (Table 3).

Associations Between Self-compassion and Relationship Satisfaction

Self-compassion accounted for 27.9% and 30.8% of the variance in relationship satisfaction for women and partners, respectively. As shown in Table 3, after controlling for pain duration and income, partners' greater self-compassion was associated with their own higher relationship satisfaction, but women's self-compassion was not associated with their own relationship satisfaction. There were no partner effects, showing that self-compassion of one partner was not associated with the relationship satisfaction of the other (Table 3).

Associations Between Self-compassion and Pain

Self-compassion of both partners accounted for 8.7% of the variance in women's pain intensity during sexual intercourse. As shown in Table 3, after controlling for research sites, women's self-compassion was not related to their pain intensity in the regression analysis. The cross-partner path was not significant, indicating that partners'

self-compassion was not associated with women's pain (Table 3).

DISCUSSION

This dyadic study aimed to investigate self-compassion among women with PVD and their partners, and its associations with anxiety, depression, sexual distress, relationship satisfaction, as well as women's pain intensity during sexual intercourse. Hypotheses were partially confirmed. Women's and partners' higher self-compassion was significantly related to their respective lower anxiety and depressive symptoms. When partners reported higher levels of self-compassion, they were more satisfied with their relationship, and both partners and women reported lower sexual distress. Finally, both women and partners' self-compassion were not associated with women's pain during sexual intercourse. This study contributes to a growing literature examining the role of self-compassion in chronic pain, and suggests that being compassionate toward oneself is associated with better psychological, sexual and relational adjustment to pain in couples coping with PVD.

Consistent with our expectations, women's and partners' higher levels of self-compassion were associated with their own lower levels of depression and anxiety. This result is consistent with those of previous studies, in nonclinical and chronic pain populations, as well as in infertile couples, showing negative correlations between self-compassion and indicators of psychological distress.[20,22,23,25,35] Indeed, as with other forms of chronic pain, a compassionate attitude toward oneself was associated with less psychological distress in both members of couples coping with PVD. This is an important result because anxiety and depression are highly prevalent among women with PVD and both have been identified as precursors and consequences of this pain condition.[8] Psychological distress is also shown to be more prevalent among partners of women with PVD, in comparison to partners of women without PVD.[17,18]

Many psychological mechanisms could explain the negative associations between self-compassion and psychological distress in our sample. One of them could be that self-compassion entails a reduced likelihood of engaging in coping responses that are associated with poorer psychological health.[23,53–55] Self-compassion has been associated with less catastrophizing, rumination, and avoidance in response to diverse negative events among nonclinical and chronic pain samples.[23,53] Thus, the negative associations between self-compassion and psychological distress in women with PVD and their partners could be explained by a reduced likelihood of engaging in nonadaptive strategies to cope with the pain. Moreover, qualitative studies have shown that women with PVD tend to feel inadequate as romantic partner.[11–14] A caring and understanding attitude toward themselves might protects them from this negative self-image, and therefore be associated with lower levels of psychological distress. Nevertheless, it is possible that more anxious or depressed people have a negative cognitive bias such that they find it difficult to be compassionate toward themselves. However, longitudinal studies have shown that interventions increasing self-compassion can significantly improve mental health, which suggests that self-compassion enhances well-being and reduces distress.[24,56–58]

Self-compassion of both women and partners was not associated with the level of anxiety or depression of the other member of the couple, contrary to our hypothesis. It is possible that variance in depression and anxiety symptoms is better explained by more interpersonal factors, for example partner responses to pain.[59] Also, self-compassion in one partner might be associated with distress in the significant other that is related to a more interpersonal context, such as their shared sexuality, as suggested by the partner effect found for sexual distress.

Surprisingly, we did not find a significant association between women's self-compassion and their own sexual distress but, as expected, partners' higher self-compassion was associated with their own lower sexual distress as well as lower sexual distress in women with PVD. Even if previous research suggests that being compassionate toward oneself could be a protective factor for individuals with chronic pain, as self-compassion has been associated with lower levels of psychological distress and disability in this population,[20–23] no study to date has investigated self-compassion in relation to sexual adjustment. The absence of an actor effect for women's sexual distress may be due to the fact that our measure of self-compassion was too distal, not being directly related to the specific context of sexuality. Consistent with this idea, having a negative sexual self-schema has been associated with more sexual distress in women with PVD.[10] Lastly, women's levels of self-compassion were lower than that of men, and their levels of sexual distress, higher, which could also explain the lack of actor effect.

In partners, being compassionate toward themselves could be linked to fewer negative self-related emotions in the sexual context, such as guilty feelings from causing pain to the woman, allowing them to be more attentive to the pleasure of being sexually intimate with her, despite the pain, which could benefit the shared sexuality of the couple and thus be related to lower sexual distress in partners and women. Inversely, being self-critical, feeling isolated and overidentifying with negative self-related emotions may be associated with a type of self-absorption that blocks intimacy and connection in the context of sexuality. Further, in a study on self-compassion among couples from the general population, individuals reporting more self-compassion were described by their romantic partner as being significantly more accepting of them and less verbally aggressive.[34] Therefore, women with more self-compassionate partners may feel more accepted and validated, despite the impact their pain has on the couple's sexuality, which could be related to less concerned and worried about their sexual relationship. Also, partners with more self-compassion may be less emotionally reactive when they experience frustration related to sexual difficulties, which could also be associated with less sexual distress in women. These hypotheses are congruent with the literature on PVD showing that partner responses to women's pain are associated with women's sexual adjustment and more specifically, that partners' negative responses (expressions of hostility and frustration) are associated with poorer sexual adjustment in women.[60]

Contrary to our hypotheses, only partners' self-compassion was significantly associated with their own higher levels of relationship satisfaction. In a previous study on self-compassion among couples, greater self-compassion of each partner was associated with their own higher relationship satisfaction as well as that of the other member of the couple.[34] One explanation could be that more self-compassionate partners evaluate the quality of their relationship more positively because they can cope with PVD in

an adaptive manner that limits its negative consequences on their relationship in general. However, in women with PVD, self-compassion was not related to their own relationship satisfaction and no partner effects were found. These unexpected findings could be due to the low variance in relationship satisfaction among this sample, especially in women (Table 1). Indeed, levels of relationship satisfaction were high in the present sample, in comparison with studies of couples seeking therapy for relationship distress. It is possible that couples seeking treatment have better relationship satisfaction than couples who are more avoidant and not willing to participate in this type of study. In addition, the study of Neff and Beretvas,[34] on which our hypotheses were based, was among community couples. In our clinical sample, it is possible that other factors, more specific to PVD, are more likely to play a role in women's relationship satisfaction. For example, important concerns raised by women with PVD are the fear of losing their partner because of the pain and the feeling of being an inadequate partner.[11,14,61] Therefore, women's relationship satisfaction may tend to be more associated with interpersonal variables, which capture these issues, than intrapersonal variables such as self-compassion. Further, it is possible that partner effects for relationship satisfaction are more likely to be found when examining pain-related factors. For example, a daily diary study among couples coping with PVD showed that on days when women perceived higher facilitative and lower negative partner responses, their relationship satisfaction was higher.[60] Future research should replicate our findings regarding relationship satisfaction in couples coping with PVD, using a broader sample in which there is more variance in relationship satisfaction.

Consistent with our hypothesis, self-compassion of both women with PVD and their partners was not associated with women's pain intensity during sexual intercourse. This result is in line with those of previous studies on self-compassion among chronic pain populations, showing no significant association with pain.[20–23] It is possible that even if self-compassion is associated with pain adjustment, it may be too distal from pain to be related to its intensity. In the literature on vulvodynia, psychological variables associated with pain intensity are generally more proximal to women's pain experience, such as pain acceptance, painful intercourse self-efficacy, and pain catastrophizing.[62,63]

Findings should be interpreted in light of the study limitations. First, we measured how women and partners have compassion for themselves in general, not specifically in the context of PVD. A measure of self-compassion adapted to the context of painful intercourse might have been more relevant, as we wanted to investigate the potential protective role of self-compassion in this specific context. Therefore, our general measure of self-compassion represents a conceptual limitation of this study. Second, the cross-sectional design does not allow for any causal inferences to be formulated. Thus, alternative explanations for our results are possible. Third, all variables were assessed by self-reported questionnaires, on a single occasion.

Despite these limitations, this study has numerous strengths. It is the first investigation of self-compassion among women with PVD and their partners, and the first study to investigate self-compassion in the social context of pain by including couples. The use of a dyadic design and analytic approach are important strengths of the present study. In research on chronic pain, a growing number of studies incorporate a dyadic perspective to better understand the onset and course of chronic pain, which improves knowledge concerning the social component of the biopsychosocial model of pain.[64] This dyadic perspective is especially relevant considering that vulvodynia primarily occurs in the intimate context of sexual intercourse. Lastly, another strength of this study is that all women received a clinical diagnosis of PVD, resulting in a homogeneous sample.

In a context where research on self-compassion in chronic pain is sparse, this study suggests that self-compassion is a promising protective factor in the experience of vulvodynia and associated distress. These findings highlight the importance of examining the role of positive factors such as self-compassion in the adjustment to chronic pain, as well as the relevance of adopting a dyadic perspective. Moreover, results of the present study may have clinical applications. Interventions aimed at increasing self-compassion could enhance the efficacy of psychological treatments for women with vulvodynia and their partners. Self-compassion captures an important aspect of the experience of women with PVD, namely their feelings of inadequacy, isolation and shame, that may be addressed more directly and effectively in treatment for PVD by integrating interventions to enhance compassionate attitudes toward oneself. Furthermore, being more self-compassionate could also help partners to cope with the negative consequences of this pain. To date, one study suggests that loving-kindness meditation, aimed at increasing compassion for oneself and others, could be an effective intervention to decrease pain and distress in individuals with chronic pain.[65]

Further research is needed to better understand the correlates of self-compassion among women with vulvodynia. Longitudinal studies could provide information on the directionality of the associations found in the present study, and thus greatly improve our knowledge concerning the role of self-compassion in the experience of PVD and other chronic pain conditions. Finally, the development of a measure of self-compassion adapted to the context of pain could be a fruitful avenue for future research.

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