

**Université de Montréal**

**To Say or not to Say: Dyadic Ambivalence over Emotional Expression and its Associations  
with Sexual Function, Satisfaction, Depression, Dyadic Adjustment, and Pain in Women  
with Provoked Vestibulodynia and their Partners**

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## Résumé

**Introduction.** La vestibulodynie provoquée (VP) est un problème de douleur génitale affectant un nombre élevé de femmes dans la communauté. Malgré le cadre intime dans lequel ce type de douleur se présente, et le fait que l'implication de variables affectives, telles que l'anxiété, dans l'expérience de cette douleur ait été démontrée, aucune étude à ce jour n'a exploré la régulation émotionnelle de couples dont la femme souffre de VP.

**Objectif.** L'Ambivalence dans l'Expression des Émotions (AEE) est une variable de régulation émotionnelle qui quantifie le degré d'inconfort qu'une personne peut avoir avec la façon dont elle exprime ses émotions. Nous avons testé l'hypothèse selon laquelle l'AEE dyadique de couples dont la femme souffre de VP serait associée à leur fonctionnement sexuel, psychologique, et relationnel.

**Méthodologie.** Deux cent cinquante quatre (N = 254) couples dont la femme souffre de VP ont complété le Questionnaire d'Ambivalence dans l'Expression des Émotions. Une typologie de couples a été créée : Les couples 'HH' dans lesquels les deux partenaires sont considérés hautement ambivalents, les couples 'LL' dans lesquels aucun des deux partenaires n'est considéré hautement ambivalent, et les couples intermédiaires. Les mesures dépendantes pour les deux partenaires des couples étaient (i) la mesure globale de l'Échelle de Satisfaction Sexuelle (ii) l'Index de Fonction Sexuelle/le score global du Formulaire d'Histoire Sexuelle, (iii) l'Inventaire de Dépression de Beck-II, et (iv) l'Échelle d'Ajustement Dyadique Révisée. Les femmes ont aussi complété le Questionnaire McGill sur la Douleur.

**Résultats.** Les couples LL avaient les scores les plus élevés en termes de satisfaction ( $p = .04$ ) et fonction sexuelles ( $p = .01$ ), les scores les plus bas en termes de symptômes dépressifs ( $p < .01$ ), et le meilleur ajustement dyadique ( $p = .02$ ). Aucune différence significative n'a été trouvée entre les couples pour la douleur des femmes.

**Conclusions.** Les résultats suggèrent que, pour les couples dont la femme souffre de VP, une régulation émotionnelle qui est relativement basse en ambivalence pour les deux partenaires est associée à de meilleurs fonctionnements psychologique, sexuel, et relationnel.

**Mots-clés:** vestibulodynie provoquée, ambivalence dans l'expression des émotions, dyadique, fonction sexuelle, couples, sexualité

## Abstract

**Introduction.** Provoked vestibulodynia (PVD) is a highly prevalent and taxing female genital pain condition. Despite the intimate nature of this pain and the fact that affective factors such as anxiety have been shown to modulate its manifestations, no study has yet explored the emotional regulation of couples in which the woman suffers from PVD.

**Aim.** Ambivalence over Emotional Expression (AEE) is an emotional regulation variable that quantifies the extent to which a person is comfortable with the way s/he expresses emotions. We examined whether the dyadic AEE of couples in which the woman suffers from PVD was differentially associated with their psychological, sexual and relational functioning.

**Methods.** Couples (N = 254) in which the woman suffered from PVD completed the Ambivalence over Emotional Expression Questionnaire. A typology of couples was created: 'HH' couples with both partners high on AEE, 'LL' couples with both partners low on AEE, and intermediate couples. Dependent measures for both members of the couple were the (i) Global Measure of Sexual Satisfaction Scale, the (ii) Female Sexual Function Index/Global Score of Sexual History Form, the (iii) Beck Depression Inventory II, and the (iv) Revised Dyadic Adjustment Scale. Women also completed the McGill Pain Questionnaire.

**Results.** 'LL' couples had the highest scores on sexual satisfaction ( $p = .04$ ) and function ( $p = .01$ ), the least depressive symptomatology ( $p < .01$ ), and the best dyadic adjustment ( $p = .02$ ). No difference in pain intensity was found between couples.

**Conclusions.** Findings suggest that, for couples in which the woman suffers from PVD, an emotional regulation that is low in ambivalence in both partners is associated with better psychological, sexual and relational outcomes.

**Keywords:** provoked vestibulodynia, ambivalence over emotional expression, dyadic, sexual function, couples, sexuality

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*A Hassane et Roula, mes parents,  
sans qui rien de tout ceci n'aurait été possible.*

*Merci de m'avoir toujours donné les moyens  
d'avancer...*

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Running Head: DYADIC AMBIVALENCE OVER EMOTIONAL EXPRESSION AND ITS ASSOCIATIONS IN A PVD POPULATION

To Say or not to Say: Dyadic Ambivalence Over Emotional Expression and its Associations with Sexual Function, Satisfaction, Depression, Dyadic Adjustment, and Pain in Women with Provoked Vestibulodynia and their Partners

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**Keywords:** provoked vestibulodynia, ambivalence over emotional expression, dyadic, chronic pain, vulvodynia, dyspareunia, sexual function, couples, sexuality

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## **Abstract**

**Introduction.** Provoked vestibulodynia (PVD) is a highly prevalent and taxing female genital pain condition. Despite the intimate nature of this pain and the fact that affective factors such as anxiety have been shown to modulate its manifestations, no study has yet explored the emotional regulation of couples in which the woman suffers from PVD.

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**Main Outcome Measures.** Dependent measures for both members of the couple were the (i) Global Measure of Sexual Satisfaction Scale, the (ii) Female Sexual Function Index/Global Score of Sexual History Form, the (iii) Beck Depression Inventory II, and the (iv) Revised Dyadic Adjustment Scale. Women also completed the McGill Pain Questionnaire.

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## Introduction

Sex is inherently relational, most commonly involving two consenting adults. If this can be said of any sexual relationship, it holds even truer for couples managing sexual difficulties and their psychological toll. Although prominent theoretical and clinical models include the role of relationship factors in the experience of sexual difficulties (e.g.<sup>1</sup>), only recently have researchers begun including both members of couples in their study designs<sup>2,3</sup>. If we now better understand how some cognitive constructs, such as sexual attitudes and beliefs, relate to problematic sexuality<sup>4,5</sup>, emotional regulation variables remain remarkably unexplored. This is surprising considering that an increasing number of studies and treatments are pointing to the importance of attending to affective factors in the experience of impaired sexuality<sup>6-8</sup>. A particularly emotionally charged sexual problem is that of dyspareunia, or genito-pelvic pain. No study to date has focused on the emotional regulation of couples in which one partner experiences painful intercourse.

Provoked vestibulodynia (PVD) is the most common cause of female dyspareunia<sup>9</sup>, affecting up to 12% of pre-menopausal women in the community and 15% of fertile women in gynaecological clinics<sup>10,11</sup>. It is a subtype of vulvodynia, a vulvar pain condition, defined by the International Society for the Study of Vulvovaginal Disease (ISSVD) as “vulvar discomfort, occurring in the absence of relevant visible findings or a specific, clinically identifiable, neurologic disorder”<sup>12</sup>. Localized in the vestibule, the pain is triggered by physical contact that can be either sexual in nature, such as sexual intercourse, or not, such as tampon insertion or tight clothing.

PVD has been associated with a number of adverse sexual and psychological consequences. This chronic recurrent pain has been linked to decreased sexual satisfaction,

sexual self-efficacy, sexual self-esteem, intercourse frequency, and sexual functioning<sup>13-17</sup>.

Furthermore, women with PVD report more depression and anxiety, as well as a reduction in self-esteem and quality of life when compared to women with no genital pain<sup>15, 18</sup>.

The risk factors that have been identified for PVD include biomedical factors, such as recurrent yeast infections, an early and prolonged use of the contraceptive pill, and sub-optimal pelvic floor muscle function<sup>18-23</sup>. Other studies have tried to elucidate the role played by psychological factors in the experience of pain and disability reported by these women.

Consistent with the larger chronic pain literature, cognitive variables such as global and stable attributional styles (i.e. thinking of the pain as enduring and affecting one's entire life) are associated with worse sexual, psychological and relational outcomes for women with PVD<sup>24</sup>.

Also, fear avoidance factors such as catastrophizing, fear of pain, and hypervigilance explain a large part of the variance in pain and sexual functioning of these women<sup>25</sup>. However, research exploring the emotional regulation, rather than the cognitive characteristics, of afflicted women remains particularly scarce.

The pain associated with PVD often occurring in a sexually intimate context, it is important to consider that the partners of these women become the usual witnesses and 'perpetrators' of the pain. Contrary to the afflicted women, their male partners do not seem to show increased levels of sexual dysfunction, psychological distress or dyadic difficulties as compared to norms<sup>26</sup>. However, similarly to what was found for women with PVD, global and stable attributional styles are associated with less sexual satisfaction and dyadic adjustment for the partners<sup>27</sup>. Also, it was found that women who perceive their partners as responding to their pain in a solicitous manner (i.e. with reactions of sympathy, attention and support) have increased pain during intercourse, and also, paradoxically, increased sexual satisfaction<sup>28</sup>.

Recently, it was found that partners' facilitative responses (i.e. reactions that encourage women's coping efforts with pain) are associated with less pain and more sexual satisfaction for women with PVD<sup>29</sup>. However, research involving the partners has mainly focused on cognitive and behavioural variables, largely ignoring emotional factors. This neglect of emotional regulation factors in the study of chronic dyspareunia, a condition which lies at the intersection of chronic pain and impaired sexuality, is surprising considering that elements of affective functioning are thought to be central predisposing, maintaining, and/or consequential factors in both domains<sup>30-34</sup>. In fact, one of the only affective factors that has been well studied in relation to genitor-pelvic pain is anxiety, shown to be both an antecedent and a consequence of vulvodynia<sup>35</sup>, thereby pointing to the relevance of examining emotional regulation in this population.

Ambivalence over Emotional Expression (AEE) is an emotional regulation variable which assumes an interpersonal context of emotional expression. It is defined as the extent to which a person is comfortable with the way he or she expresses emotions, independently of the level of expressiveness per se<sup>36</sup>. It thus goes one step beyond merely describing a person as expressive or inexpressive, by gauging what hides behind the style of expression. Is the inexpressive person making an effort to actively inhibit the expression of his or her emotions? Does the expressive person often express emotions that he or she wanted to keep private in the first place? Generally, a person would be qualified as ambivalent over emotional expression when the way in which he or she expresses emotions (or does not) is personally problematic and carries with it negative personal consequences such as feeling inadequate or fearing to hurt someone else.

AEE, as measured by the Ambivalence over Emotional Expression Questionnaire (AEQ), has been examined in chronic pain patients. It has been shown to predict more pain, disability,

and psychological distress in individuals with painful conditions such as chronic low back pain or gastrointestinal cancer<sup>37,38</sup>. Studies in which the patients and their partners are included show that AEE predicts their respective anxiety and decrease in life satisfaction<sup>39</sup>. Importantly, this holds even truer for couples in which both partners are ambivalent over emotional expression: they show the worst outcomes, independently of their levels of emotional expressiveness<sup>39</sup>. For patients diagnosed with gastrointestinal cancer, it was found that the caretaker's AEE was predictive of an increase in the patient's intensity of pain and pain behaviors and of a decrease in the patient's well-being, independently of the patient's own level of ambivalence<sup>38</sup>. When investigating the construct of ambivalence in a dyadic fashion, it is again found that the couples with the worst outcomes regarding pain and disability are the ones in which both partners are ambivalent over the expression of emotions<sup>38</sup>.

Recently, Ben-Ari & Lavee<sup>40</sup> suggested that AEE is, in fact, better conceptualized as a relational variable, rather than as an individual difference measure. These researchers have found that an individual's AEE could predict his marital quality better than other measures commonly thought to be strongly associated with various interpersonal variables (e.g. neuroticism). More importantly, it was shown that dyadic conflict over emotional expression, or looking at the ambivalence across the couple as a single variable rather than in each individual, could predict relationship quality better than each individual's level of conflict. Overall, couples in which both partners are high in AEE show the worst relationship quality outcomes as compared to couples where one or both partners are low on ambivalence. This suggests that future studies should examine AEE from an interpersonal perspective.

## **Aims**

The present study aimed to compare couples based on their dyadic AEE and examine whether they differ on the intensity of pain reported by the women, and levels of sexual satisfaction, sexual functioning, depressive symptomatology, and dyadic adjustment reported by the women and their partners. Four types of couples were compared: ‘LL’ (Couples in which none of the partners are considered highly ambivalent over the expression of emotions), ‘LH’ (Couples in which men are considered highly ambivalent over the expression of their emotions, but women are not), ‘HL’ (Couples in which men are not considered highly ambivalent over the expression of their emotions, but women are), and ‘HH’ (Couples in which both partners are considered highly ambivalent over the expression of emotions). We expected that ‘HH’ couples would report worse sexual satisfaction, sexual functioning and dyadic adjustment than ‘LL’ couples, as well as more depressive symptomatology. We also expected that women in ‘HH’ couples would report more pain than women in ‘LL’ couples. Although we aimed to compare the results for ‘HL’ and ‘LH’ couples with those of other types of couples, we did not have specific hypotheses concerning this comparison. Finally, we explored whether sexual, psychological and relationship adjustment differed by gender in each couple type.

## **Methods**

### *Participants*

Couples were recruited through the clinics of two gynecologists from a large metropolitan university hospital, and through references from other health care professionals (53% of the sample). Announcements were also posted in local newspapers and several websites (40% of the sample), and some couples were recruited because they had participated in past research projects that had taken place in the same laboratory (6% of the sample). A remaining 1% of the sample

was recruited through word of mouth. About half of the women in our sample, a total of 117, had received a formal diagnosis of PVD from the gynecologists involved in the study. However, all women were screened using a telephone semi-structured interview in order to ensure that their symptoms were PVD-like. For women, the inclusion criteria were: (1) pain during intercourse lasting for at least 6 months, occurring at a minimum of 75% of intercourse attempts, and a source of subjective distress, (2) pain limited to intercourse and other activities in which pressure is exerted on the entry of the vagina (i.e. vulvar vestibule), (3) pain localized and limited to the vulvo-vaginal area, and finally (4) being in a committed relationship for a minimum duration of six months. Exclusion criteria were: (1) vulvar pain not limited to penetration or to an exerted pressure on the vulvo-vaginal area and (2) the presence of any of the following conditions: serious medical or psychiatric disorder, active infection, vaginismus, pregnancy, or being younger than 18 years old. Men were recruited by asking their female partners whether they would be interested in participating, the only exclusion criteria being an age below 18 years and/or having a serious medical or psychiatric disorder. Of the 274 couples who were eligible and participated in this study, 20 had missing data for a complete questionnaire or for more than 10% of a measure. The final sample size consisted of 254 couples. The only significant difference between couples in which the woman was formally diagnosed with PVD and those in which the woman was screened via a semi-structured interview was that women were younger in the former group ( $p = .003$ ).

### *Measures*

Ambivalence over emotional expression (AEE): Men and women's AEE was measured with the Ambivalence over Emotional expression Questionnaire (AEQ) <sup>36</sup>. This self-report measure consists of 28 items, with the total score ranging from 1 to 5 and higher scores



indicating more AEE. The AEQ has been shown to have good psychometric properties, including good internal stability ( $\alpha = .89$ ), test-retest reliability and convergent validity<sup>36</sup>. While this questionnaire has not yet been validated in French, it had a very high internal consistency in our sample ( $\alpha = .93$ ) and a similar factorial structure than that of the original questionnaire.

#### *Main outcome measures*

Pain: Women's pain was assessed with the 20-item Pain Rating Index of the McGill Pain Questionnaire (MPQ) with reference to vulvo-vaginal pain during intercourse in the last six months<sup>41</sup>. This multidimensional scale is a widely used measure consisting of an adjective list that women rate as qualifying their pain or not. Scores range from 0 to 78 with higher scores indicating more severe pain. This measure has been shown to have very good psychometric properties, including good test-retest reliability, discriminant validity and sensitivity to treatment<sup>42</sup>. The French version of this questionnaire has previously been validated<sup>43</sup> and the internal consistency for our sample was high ( $\alpha = .79$ ).

Sexual satisfaction: Men and women's sexual satisfaction was measured with the Global Measure of Sexual Satisfaction scale<sup>44</sup>. This scale consists of five items yielding a total score from 5 to 35 with higher scores indicating greater satisfaction. This measure has been shown to have good psychometric properties, including good internal consistency ( $\alpha = .90$ ), test-retest reliability and convergent validity<sup>44</sup>. The French version of the test has previously been used with French-speaking participants with an excellent internal consistency ( $\alpha = .92$ )<sup>24</sup>, a finding which was replicated in our sample ( $\alpha = .90$ ).

Sexual functioning: Women's sexual functioning was measured with the Female Sexual Function Index (FSFI). This questionnaire consists of 19 items measuring five components of sexuality: desire, lubrication, orgasm, satisfaction and pain. Total scores range from 2 to 36 with

higher scores indicating better functioning. This questionnaire has been shown to have good psychometric properties, including good internal consistency ( $\alpha > .82$ ), test-retest reliability, divergent and discriminant validity, as well as being validated with women suffering from vulvodynia<sup>45-48</sup>. The French version of the test has previously been used with a French-speaking population yielding a similar factorial structure as the original version and an excellent internal consistency ( $\alpha = .92$ )<sup>24</sup>. The internal consistency for our sample was also high ( $\alpha = .83$ ).

Men's sexual functioning was measured with the Global Sexual Functioning score of the Sexual History Form (SHF)<sup>49</sup>. This score is calculated using only 12 items of the entire test, chosen so as to evaluate different facets of male sexual functioning: frequency of sexual activities, desire, arousal, as well as orgasmic and erectile abilities. It ranges from 0 to 1, with higher scores indicating worse functioning and has been shown to have good psychometric properties, including excellent test-retest reliability, good internal consistency ( $\alpha = .65$ ), as well as good discriminant and convergent validity. The French version of the test used in this study has previously been validated<sup>50</sup> and the internal consistency for our sample was good ( $\alpha = .61$ ). For the sexual functioning scores of men to be on the same scale and range as the sexual functioning scores of women, we recoded this score into 'newSHF = ((1 - SHF) \* 34) + 2', and it is this score which is reported in the present paper, with higher scores indicating better functioning.

Depression: Men and women's levels of depressive symptomatology were measured with the Beck Depression Inventory II (BDI-II). This questionnaire consists of 21 items, with total scores ranging from 0 to 63, and higher scores indicating more depressive symptoms. This measure has been shown to have excellent psychometric properties, including excellent internal

consistency ( $\alpha = .93$ ) and discriminant validity<sup>51</sup>. This test has also been validated with a French speaking population<sup>52</sup>, and had a high internal consistency in our sample ( $\alpha = .86$ ).

Dyadic adjustment: Men's and women's dyadic adjustment were measured with the revised Dyadic Adjustment Scale (R-DAS). This questionnaire consists of 14 items applicable to cohabiting and/or married couples, with scores ranging from 0 to 69 and higher scores indicating better dyadic adjustment. This questionnaire has been shown to have good psychometric properties, including good internal stability ( $\alpha = .90$ ), as well as good discriminant and convergent validity<sup>53</sup>. Also, the French version of the test used in this study has previously been validated<sup>54</sup> and the internal consistency for our sample was high ( $\alpha = .83$ ).

### *Procedure*

Upon being recruited, women and their partners each received questionnaire packages to be returned by mail. These included consent forms, a sociodemographic questionnaire, and the above-mentioned measures of vulvo-vaginal pain (for women, only), ambivalence over emotional expression, sexual satisfaction, sexual function, depression and dyadic adjustment. Follow-up phone calls were conducted every two weeks by a research assistant in order to ensure that the couple was still interested in participating and to answer questions that they might have, to a maximum of five calls. As compensation, participating couples were offered a thirty minute telephone consultation with a sexologist who is part of the research team. This consultation consisted in explaining the diagnosis of PVD: its causes, consequences and the available treatments. The sexologist also answered the couple's questions and referred them to appropriate health care professionals, in addition to sending them educational documentation by email. These procedures were approved by the Institutional Review Boards of the university and university hospital where the research took place.

## **Results:**

### *Sample characteristics*

Table 1 summarizes the descriptive statistics for this sample. The women had had vulvo-vaginal pain for an average of more than five years, accurately reflecting the chronicity of this type of pain. They also had significantly higher scores on AEE than their male counterparts ( $t(253) = 3.995, p < .01$ ), a result which is consistent with previous research<sup>36</sup>. Finally, the women in our sample were significantly less sexually satisfied/functional and more depressed than their partners ( $t(253) = -2.646, p = .009$  for sexual satisfaction,  $t(253) = -16.194, p < .001$  for sexual function,  $t(253) = 8.626, p < .001$  for depression).

### *Zero-order correlations*

Sociodemographic variables with a correlation superior to .3 with a dependent variable were controlled for in this study<sup>55</sup>. Only a worse sexual function for men was highly correlated with being older ( $r = -.36, p < .01$ ) and having an older partner ( $r = -.36, p < .01$ ). Because of the very high correlation between ages of men and women in this sample ( $r = .88, p < .01$ ), it was decided that only the ages of partners would be controlled for in analyses including their sexual functioning.

Table 2 presents the intercorrelations between the independent and dependent variables of the study. In accord with our hypotheses, ambivalence over emotional expression of women was associated with their reduced sexual satisfaction ( $r = -.21, p < .01$ ), sexual function ( $r = -.15, p < .05$ ) and dyadic adjustment ( $r = -.29, p < .01$ ), with more pain ( $r = .20, p < .01$ ), and more depressive symptomatology for both the women ( $r = .52, p < .01$ ) and the partners ( $r = .14, p < .05$ ). AEE of men was associated with their reduced sexual satisfaction ( $r = -.14, p < .01$ ), sexual function ( $r = -.16, p < .01$ ) and increased depressive symptomatology ( $r = .47, p < .01$ ). Also, it

was correlated with a reduced dyadic adjustment for both men ( $r = -.15, p < .01$ ) and women ( $r = -.25, p < .01$ ). Sexual satisfaction and sexual function of women were highly correlated ( $r = .54, p < .01$ ), as were sexual satisfaction of men and women ( $r = .41, p < .01$ ), and sexual satisfaction of men with sexual function of women ( $r = .35, p < .01$ ). Adding the conceptual interdependency to the empirical association of these measures, it was decided that sexual function and satisfaction of men and women would be combined in a same MANOVA in subsequent analyses.

### *Couple typology*

As per Porter et al., 2005<sup>38</sup>, median breaks were applied to the AEE scores of men and women, coding 'H' for high AEE and 'L' for low AEE. Couples were then regrouped into a four-unit typology: 27.6% were LL couples in which both partners were coded low on AEE; 22.8% were LH couples in which the woman had 'L' AEE and the partner had 'H' AEE; 24% were HL couples in which the woman had 'H' AEE and the partner had 'L' AEE; and 25.6% were HH couples in which both partners had 'H' AEE.

### *Associations of couple typology with sexual satisfaction, sexual function, depression, dyadic adjustment, and pain*

Graphs 1 and 2 show the results for sexual satisfaction and sexual functioning scores. A multivariate analysis of covariance (MANCOVA) with repeated measures and controlling for the ages of partners was conducted in order to compare the four types of couples on their sexual satisfaction and sexual function. As was done in subsequent analyses, a repeated measures model was used in order to account for the interdependency of the couples data. The couple was thus considered the unit of analysis. Therefore, when gender differences were present in the same

couple type, they were reported. Gender differences between couple types were considered beyond the scope of this paper, however, and were not explored. For sexual satisfaction and sexual function, main effects of couple type ( $F(6, 496) = 2.323, p = .032$ ), age ( $F(2, 247) = 13.354, p < .001$ ), and gender ( $F(2, 247) = 6.553, p = .002$ ) were significant. Further, it was found that the couple typology yielded significant effects for both the sexual satisfaction ( $F(3, 248) = 2.901, p = .036$ ) and the sexual function of couples ( $F(3, 248) = 4.063, p = .008$ ). The simple effect of gender, however, was only significant for sexual function, with women being significantly more sexually impaired than their partners in the four types of couples ( $F(1, 248) = 425.7, p < .001$ ). Post-hoc analyses showed that 'LL' couples had significantly higher sexual satisfaction and sexual function than the other three types of couples, the latter being statistically equivalent to one another.

Graph 3 shows the results for depressive symptomatology scores. An ANOVA with repeated measures conducted in order to compare the four types of couples on depressive symptomatology yielded a significant main effect of gender ( $F(1, 250) = 80.3, p < .001$ ), and couple type ( $F(3, 250) = 15.8, p < .001$ ). Notably, there was a significant interaction effect between gender and couple type ( $F(3, 250) = 11.6, p < .001$ ): Women were more depressed than their male partners in 'LL', 'HL' and 'HH' couples, but not in 'LH' couples. The post-hoc analyses showed that 'LL' couples were significantly less depressed than the other three types of couples, and that 'LH' couples were significantly less depressed than 'HH' couples.

Graph 4 shows the results for dyadic adjustment scores. An ANOVA with repeated measures was conducted in order to compare the four types of couples on dyadic adjustment ( $N = 207$ ). The main effect of couple type was significant ( $F(3, 203) = 3.54, p = .016$ ). Furthermore, there was an interaction effect between gender and couple type ( $F(3, 203) = 3.0, p = .032$ ): It

was found that women in 'HH' couples had significantly lower dyadic adjustments than their partners, a result which was not replicated in the other three types of couples. Post-hoc analyses showed that 'HL' and 'HH' couples had significantly reduced dyadic adjustment compared to 'LL' couples.

A univariate analysis of variance (ANOVA) conducted in order to compare the four types of couples on pain intensity was not significant ( $F(3, 250) = 1.301, p = .275$ ).

### **Discussion:**

Although an increasing number of PVD research has focused on psychosexual variables, studies pertaining to the emotional regulation and dyadic aspects of this sexual health problem remain scarce. The purpose of this study was to examine the dyadic AEE of couples in which the woman suffers from PVD, and its associations with their sexual satisfaction, sexual function, depressive symptomatology, dyadic adjustment, and pain. In accord with our main hypothesis, we found that couples in which both partners were lower on AEE (LL) were more sexually satisfied and functional, had less depressive symptoms, and better relationship adjustment than the couples in which both partners were more ambivalent over the expression of their emotions (HH). Women's pain intensity did not differ significantly between the four groups of couples, although women's lower AEE was associated with their reduced pain.

Couples in which both partners were considered low on AEE (LL) were more sexually satisfied than the other three couple types (LH, HL, and HH). High AEE being characterized by a style of emotional expression that is generally accompanied by negative personal consequences and inner conflict, it is likely that the highly ambivalent men and women of our sample experienced this same discomfort when communicating about their sexuality. In fact, general

communication apprehension, a closely related variable which concerns the anxieties and fears that may accompany interpersonal communication, has been linked to a reduced satisfaction with sexual communication in a non-clinical sample<sup>56</sup>. Further, better communication about sexuality is a robust correlate of increased sexual satisfaction in both community and clinical samples of men and women<sup>57-60</sup>. The vulvo-vaginal pain experienced by women in our study and its consequences on the relationship may be an emotionally charged subject that both partners have to communicate about. Couples in which partners are relatively free of AEE (LL) may find it easier to manage the genitor-pelvic pain condition, if only in terms of expressing their sex-related emotions, and negotiating their sexual repertoire and preferences in a less internally conflicted way. This could allow these couples to experience better sexual satisfaction, as compared to couples in which one or both partners experience more AEE. To this effect, sexual intimacy, which broadly qualifies the interaction between members of a couple around sex-related disclosures<sup>2</sup>, was positively associated with PVD women's sexual satisfaction in a recent study. It thus appears that regulating one's emotions may protect against sexual dissatisfaction in couples confronted with genito-pelvic pain.

Women were found to report significantly more sexual dysfunction than their partners in the four types of couples, a result which is not surprising considering their pain during intercourse and the sexual impairment associated with it<sup>14</sup>. Similarly to the results for sexual satisfaction, LL couples were significantly more sexually functional than the other three types of couples (LH, HL, and HH). In a sample of women struggling with chronic pelvic pain, it was found that those who were higher on AEE and/or catastrophizing benefited the most from an expressive writing task in terms of their sexual impairment<sup>61</sup>. It is possible that women with PVD who are highly ambivalent are less able to appropriately regulate or communicate their



preoccupations and emotions during sex, thereby interfering with their sexual experience and function. Preoccupying thoughts during sex, which have been found to often concern the emotional consequences of engaging in the sexual activity<sup>62</sup>, may be particularly charged for men and women dealing with painful intercourse. It is possible that when one or both partners of these couples have relatively high AEE, they will feel more conflicted over expressing these emotional preoccupations and, in turn, also more anxious and less able to refocus on the sexual activity at hand – thereby negatively impacting the sexual function of the couple as a whole<sup>8</sup>. This is in accord with the cognitive distraction model of sexual dysfunction<sup>63</sup>, which has been found to be relevant to women who suffer from painful intercourse<sup>64</sup>. In an eye-tracking visual attention study, women with dyspareunia were found to spend less time focusing on erotic aspects of images than a control group of women. Interestingly however, women with painful intercourse seemed to not only be distracted away from erotic stimuli, but also actively avoidant of them, likely because of how these relate to their pain-related fear and anxiety<sup>64, 65</sup>. One mechanism that could explain why higher AEE couples struggling with PVD have worse sexual function may be that they have more difficulty regulating their preoccupations, fears, and anxiety together during sex, making it harder for them to refocus on erotic, arousing thoughts<sup>66</sup>.

LL couples also reported less depressive symptomatology than the other three types of couples. Higher AEE couples could be more psychologically distressed because of their attributions about PVD, whereby in the absence of clearly identifiable physical pathology and treatment, they could be more inclined to blame themselves for the genital pain and/or to see it as enduring and affecting their entire life. Such negative attributions in women with PVD and their partners have been found to predict an increase in their respective psychological distress<sup>24, 27</sup>. It is possible that if more conflicted over their emotional regulation and expression, the negative

pain attributions of higher AEE couples could be maintained, leading them to experience guilt, helplessness, and other such negative emotions, and thereby also increasing their depressive symptomatology. Higher levels of AEE and depressive symptoms have also been found to be correlated in student and chronic pain samples, and this relation was partly mediated by catastrophizing in both populations<sup>38, 67</sup>. This may be another pathway that links AEE and psychological distress in couples struggling with painful intercourse: catastrophizing is associated with negative overall outcomes for both partners of PVD couples<sup>6, 28, 68, 69</sup>. Higher AEE couples, through their emotional regulation difficulties, could come to develop a more catastrophic cognitive appraisal of the genital pain, thereby increasing their distress. Interestingly, in a disease-related chronic pain sample, patient catastrophizing has been found to partially mediate the relationship between the caregiving partner's AEE and the patient's distress<sup>38</sup>. It is perhaps not surprising then that in our study, couples in which only the male partners were considered ambivalent (LH) were less distressed than those in which both partners were (HH). This may indicate that women in our sample who scored lower on AEE contribute, perhaps through a mechanism of reduced patient pain catastrophizing, to diminish the overall emotional distress in the relationship.

Lastly, dyadic adjustment was found to be superior in LL couples when compared to couples in which only the woman or both partners were ambivalent over the expression of their emotions (HL and HH). Inexpressive ambivalents in particular have been found to more often interpret facial expressions of emotion with the opposite valence of that which is conveyed<sup>70</sup>, which may partly account for the increased relational distress in ambivalent couples. They may be providing and receiving the wrong kind of support to and from their significant others<sup>71</sup>. Importantly, emotional support from one's partner is thought to be a need which is particularly

central in chronic pain patients<sup>72</sup>. Ambivalent women have also been found to be less congruent regarding their verbal and nonverbal communications<sup>71</sup>, a finding which may contribute to the reduced dyadic adjustment which is reported by couples in which only the woman or both partners are ambivalent (HL and HH) as compared to low ambivalence couples (LL). Little is known however about the nonverbal communication correlates of ambivalent men. Finally, it is noteworthy that women were significantly more relationally distressed than their partners in HH couples. This may reflect their difficulty expressing their need for emotional support for their pain from their partners, who are also ambivalent<sup>73</sup>.

The fact that dyadic AEE was not associated with pain suggests that a couple's level of AEE is perhaps more relevant to their psychological, sexual, and relational well-being rather than with the intensity of the pain reported by the woman, per se. However, higher AEE of women was significantly associated with their higher pain intensity, a result which is consistent with previous findings in the chronic pain literature<sup>38, 39, 67</sup>.

Taken together, findings of the present study indicate that when faced with the challenge of PVD, low ambivalence couples are more sexually satisfied and functional, less psychologically distressed, and more relationally adjusted than high ambivalence couples. One important difference between our results and previous findings concerning dyadic AEE is that in our sample, low ambivalence couples were generally doing better than the three other types of couples, whereas in other chronic pain populations, high ambivalence couples were doing the worst. This may be due to the highly emotional and intimate nature of the pain experienced by the women in our sample. Pain in the context of sexuality may be particularly difficult to regulate and/or to communicate about for both partners, perhaps especially for those who would generally be qualified as ambivalent over the expression of emotions.

This study is not without limitations. The cross-sectional design cannot account for causal links or directions between variables. All the measures consisted of self-report questionnaires. Also, not all women in our sample had been diagnosed with PVD by a physician and they were all in stable, mostly cohabiting relationships or married, which may not be generalizable to the PVD population as a whole. Despite these limitations, this study adds to the growing body of research which explores the associations between emotional regulation and the adjustment to various chronic pain conditions, and which includes the caregivers/partners in their conceptualization of the experience of pain<sup>31,33</sup>. It is also the first study to explore the emotional regulation of couples struggling with genito-pelvic pain. Clinically, results suggest that AEE is an affective variable that needs to be considered in the assessment and treatment of couples with PVD.

**Conclusion:**

PVD couples in which both partners were low on ambivalence over emotional expression were more sexually satisfied and functional, less psychologically distressed, and more relationally adjusted than couples in which both partners reported higher ambivalence in the expression of their emotions. Future research should focus on better defining these associations and informing them by examining potential mediators and moderators, such as satisfaction with sexual communication, catastrophizing, and intimacy.

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**Annexe A -**

**Table 1.** Descriptive statistics of the sample

	Women		Men	
	M or N	SD or %	M or N	SD or %
<b>Sociodemographic</b>				
Age (years)	31 (18-64)	10.9	33 (18-66)	11.0
Education level (years)	16 (7-26)	2.9	16 (7-27)	3.4
Duration of pain (months)	65.9 (6-526)	69.4	-	-
Length of relationship (months)	83.0 (6-532)	91.9	-	-
<b>Marital status</b>				
Co-habiting	154	60.6	-	-
Married	56	22	-	-
Committed but not co-habiting	44	17.3	-	-
<b>Couple annual income</b>				
\$0 – 39,999	65	25.6	-	-
\$40,000 – 79,999	108	42.5	-	-
> \$80,000	81	31.9	-	-
<b>Mother tongue</b>			(N = 234)	
French	230	90.6	191	75.2
English	15	5.9	20	7.9
Other	9	4.5	23	9.1
<b>Culture</b>				
French Canadian	222	87.4	211	83.1

English Canadian	11	4.3	21	8.3
Other	21	8.3	22	8.7
Independent variable				
Ambivalence over emotional expression (AEE)	2.6 (1-5)	.75	2.4 (1-5)	.68
Dependent variables				
Vulvo-vaginal pain	29.3 (3-69)	12.7	-	-
Sexual satisfaction	23 (5-35)	6.5	24 (5-35)	6.6
Sexual function	18.1 (2-35)	7.5	25 (15-29)	2.3
Depression	13 (0-45)	9.6	7 (0-34)	6.6
Dyadic adjustment (DA) (N = 207)	51 (28-67)	7.0	51 (23-67)	6.7

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Ambivalence over emotional expression = Ambivalence over Emotional expression

Questionnaire (AEQ); Vulvar pain = McGill Pain Questionnaire (Pain Rating Index subscale);

Sexual satisfaction = Global Measure of Sexual Satisfaction; Sexual function = Female Sexual

Function Index (Women); Sexual History Form – Modified score (Men); Depression = Beck

Depression Inventory II; Dyadic adjustment = Revised Dyadic Adjustment Scale

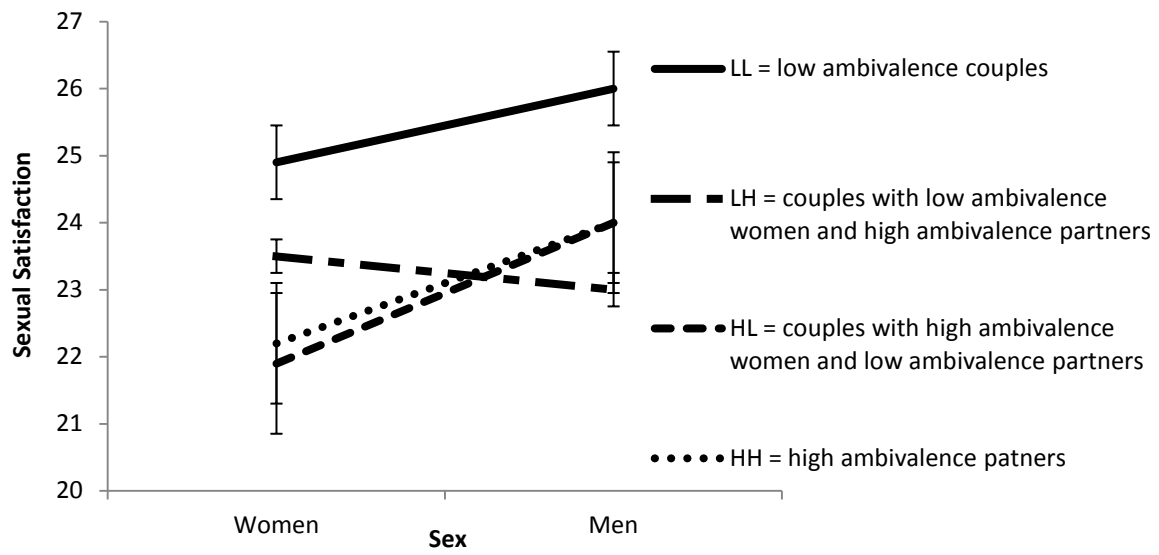
**Annexe B - Table 2.** Intercorrelations between ambivalence over emotional expression of men and women and the dependent variables of the study

	AEE – M	SexSat-W	SexSat-M	SexFct-W	SexFct-M	Dep-W	Dep-M	DA-W	DA-M	Pain
AEE - W	.12	-.21**	-.08	-.15*	-.09	.52**	.14*	-.29**	-.12	.20**
AEE - M	-	-.04	-.14**	-.09	-.16**	.09	.47**	-.25**	-.15**	.07
SexSat-W	-	-	.41**	.54**	.12	-.27**	-.10	.30**	.19**	-.09
SexSat-M	-	-	-	.35**	.16*	-.21**	-.24**	.24**	.35**	.01
SexFct-W	-	-	-	-	.19**	-.25**	-.10	.21**	.14	-.01
SexFct-M	-	-	-	-	-	-.08	-.12	.03	.04	-.03
Dep-W	-	-	-	-	-	-	.19**	-.24**	-.18**	.22**
Dep - M	-	-	-	-	-	-	-	-.23**	-.25**	.13*
DA – W	-	-	-	-	-	-	-	-	.58**	-.14*
DA - M	-	-	-	-	-	-	-	-	-	-.07

\*\*p < .01; \*p < .05; AEE = Ambivalence over Emotional expression Questionnaire (AEQ); Pain = McGill Pain Questionnaire (Pain Rating Index subscale); SexSat = Global Measure of Sexual Satisfaction; SexFct = Female Sexual Function Index (Women); Sexual History Form – Modified score (Men); Dep = Beck Depression Inventory II; DA = Revised Dyadic Adjustment Scale

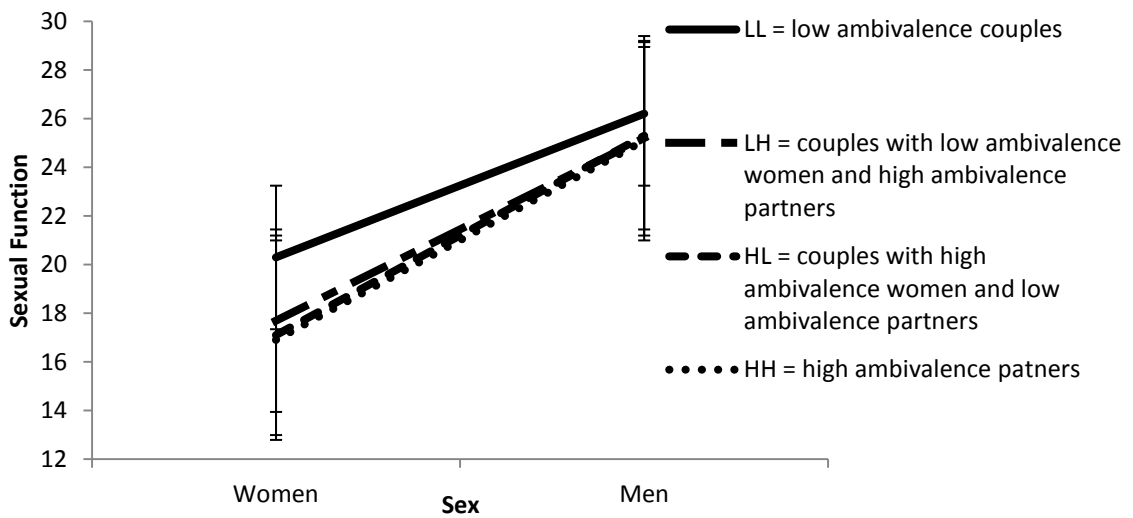


Annexe C -



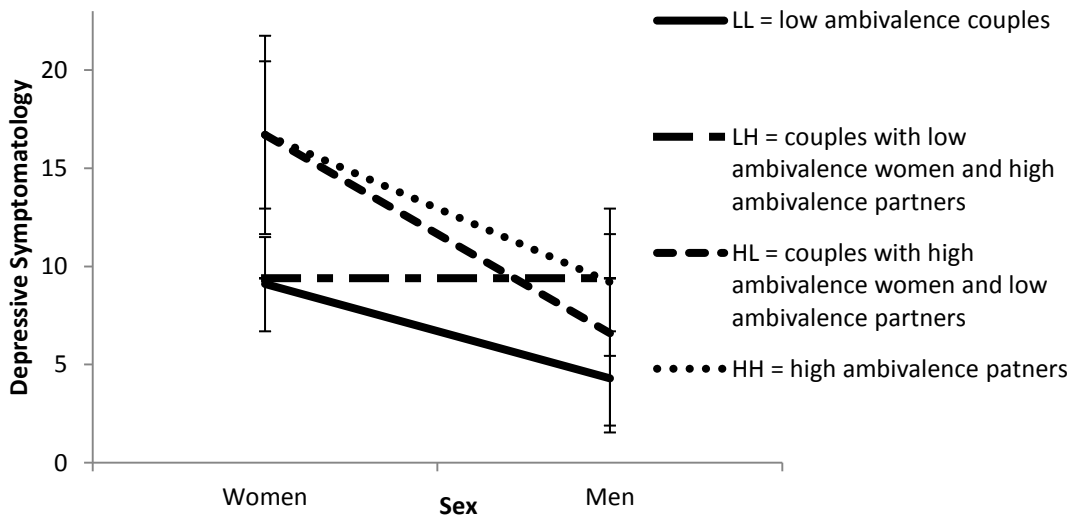
**Graph 1:** Results of the repeated measures MANCOVA for sexual satisfaction scores

Annexe D -



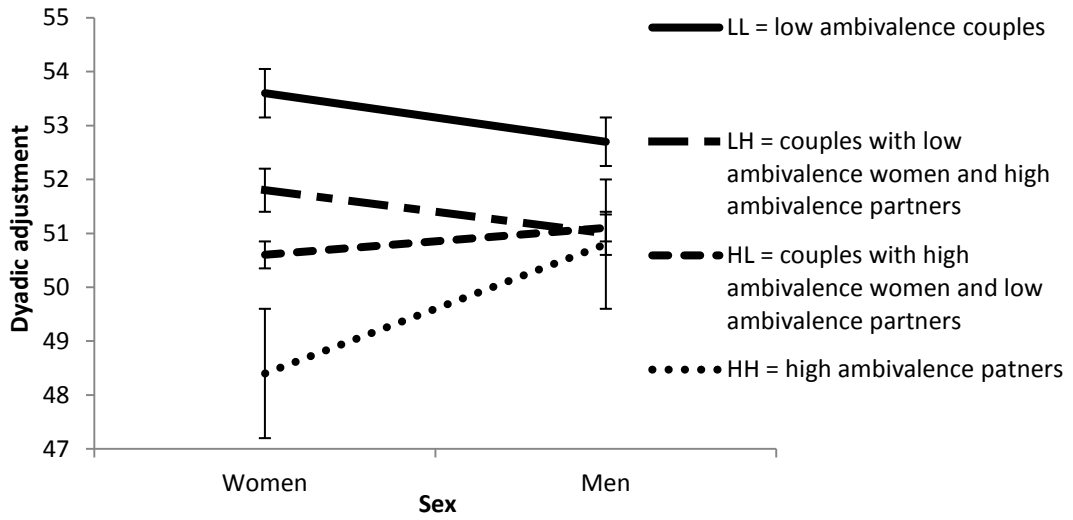
**Graph 2:** Results of the repeated measures MANCOVA for sexual function scores

Annexe E -



**Graph 3:** Results of the repeated measures ANOVA for depressive symptomatology scores

Annexe F -



Graph 4: Results of the repeated measures ANOVA for dyadic adjustment scores