

Psychological factors contributing to pain during vaginal intercourse: The role of response expectancy

Kelly S. Clemens¹, John Matkovic¹, & Camila Fontes¹



HP² Lab
Health Psychology &
Health Promotion Lab

Illinois State University | ksclem1@ilstu.edu

1 = Illinois State University

BACKGROUND

- While dyspareunia (pain during sex) is common, there is a dearth of research concerning dyspareunia in women.
- Psychological factors, such as an individual’s expectations to experience pain during sex, can exacerbate pain through cognitive factors and physiological mechanisms (Colloca, 2017; Rooney et al., 2023).
- Response expectancies (RE), which refer to individuals’ anticipations of internal, automatic responses to stimuli, may be particularly important to understanding dyspareunia, as they are self-confirming in nature.
- Previous studies have begun to establish the link between RE and dyspareunia (e.g., Palace, 1999), but the topic has been widely neglected.
- The goal of the present study is to understand how RE influences experiences of pain during sex in relation to other common predictors.

METHOD

- Participants ($N = 150$, $M_{age} = 32.4$, $SD = 10.4$) who were assigned female at birth were recruited from Prolific and responded to a questionnaire about RE for dyspareunia, experiences of pelvic pain during sexual activity, and other possible predictors of dyspareunia.
 - RE was measured using the Symptom Response Expectancy Scale (Clemens et al., in preparation).
 - Depression, anxiety, and stress were measured using the DASS-21 (Henry & Crawford, 2005).
 - Pain catastrophizing was measured using the Pain Catastrophizing Scale (Sullivan et al., 1995).
 - Pain anxiety was measured using the Pain Anxiety Symptoms Scale (McCraken & Dhingra, 2002).
 - Descriptive and prescriptive social norms around sexual activity, sexual health awareness, and pelvic sexual pain history and diagnosis were also measured.
 - Participants also responded to demographic items.

RESULTS

- Variables were first examined for normality and to ensure assumptions of regression were met.
- After examining correlations between the variables, data were first submitted to a simple linear regression to determine if RE predicted dyspareunia frequency and intensity.
- Data were submitted to a multiple regression including the predictor variable, RE, and covariates to determine their relative predictive strength toward dyspareunia frequency and intensity.
- Six participants indicated they had never had vaginal, penetrative intercourse and were excluded from future analyses.
- Of the remaining 144 participants, 94.4% indicated that there were times when vaginal, penetrative sex was painful.

Outcome variable: Dyspareunia frequency			
	β	t	p
Response Expectancy	.76	12.51	<.001
Depression	.05	.64	.521
Anxiety	-.03	-.33	.741
Stress	.01	.13	.897
Pain Catastrophizing	.15	1.99	.048
Pain Anxiety	-.05	-.65	.520
Sexual Pain Norms	.05	.96	.338
Gynecological History	.02	.36	.720

Outcome variable: Dyspareunia severity			
	β	t	p
Response Expectancy	.53	6.43	<.001
Depression	-.06	-.55	.582
Anxiety	.08	.72	.470
Stress	.03	.25	.802
Pain Catastrophizing	.18	1.72	.087
Pain Anxiety	-.08	-.85	.398
Sexual Pain Norms	.01	.15	.883
Gynecological History	.15	2.12	.036

RESULTS

- Results of simple linear regressions indicate response expectancy is a predictor of self-reported dyspareunia severity, $F(1,142) = 87.45$, $b = .44$, $p < .001$, $R^2 = .38$ and frequency $F(1,142) = 289.86$, $b = .87$, $p < .001$, $R^2 = .67$.
- Multiple regressions indicated that when other common predictors of dyspareunia were added to the model, only RE ($\beta = .76$, $t = 12.51$, $p < .001$) and pain catastrophizing ($\beta = .15$, $t = 1.99$, $p = .048$) predicted dyspareunia frequency, $F(8,142) = 37.63$, $p < .001$, $R^2 = .69$.
- Similarly, only RE ($\beta = .53$, $t = 6.43$, $p < .001$) and gynecological history ($\beta = .15$, $t = 2.12$, $p = .036$) predicted dyspareunia severity, $F(8,142) = 12.68$, $p < .001$, $R^2 = .43$.

DISCUSSION

- These results indicate that RE is a strong predictor of dyspareunia, even when accounting for commonly suggested predictors of pain during sex, such as psychological distress, gynecological history, norms regarding sexual pain, pain anxiety, and pain catastrophizing.
- This suggests that response expectancy may play an important role in understanding dyspareunia, possibly to a greater degree than commonly cited correlates of sexual pain.
- The present study is limited by cross-sectional and correlational design. With the current design it is not possible to determine if RE is a causal mechanism for dyspareunia. The sample also lacked diversity in age and race. It is important to ensure adequate representation of these groups to ensure the results generalize.
- Future researchers should aim to determine if expectancies for sexual pain predict future dyspareunia, as opposed to recalled, and should continue to examine how facets of RE influence painful sexual experiences in order to develop interventions that may help address the issue for women.