



The Impact of the Biopsychosocial Model on the Pre- and Post-procedural Pain Experience

Antonio Ficazzola¹, Dante Mueller¹, Bina Filozov¹, William Kindschuh¹, Andrew Aboujaoude¹, Leena Mathew¹

¹. Department of Anesthesiology, Division of Pain Medicine, Columbia University, New York, New York, USA.

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Introduction

- The biopsychosocial (BPS) model conceptualizes pain as a complex condition influenced by biological, psychological, and social factors.
- Gaps in the literature about patient perspectives on the model and questions about whether specific beliefs about the model correlated with pre- and post-procedural pain and anxiety motivated this investigation at an outpatient pain clinic.

Materials and Methods

- This study was approved by the Columbia University Institutional Review Board and was conducted at the Columbia University Medical Center outpatient pain clinic from June 1, 2025, to August 1, 2025.
- After obtaining written informed consent, 41 chronic pain patients scheduled for pain procedures completed a survey to assess perspectives about factors affecting their pain experience, including those related to the BPS model.
- Patients also completed a Visual Analogue Scale for Anxiety (VAS-A) and Visual Analogue Scale for Pain (VAS-P) before and after their procedures.

Results

Table 1: Answers to BPS item 1¹ by age bracket

Age Bracket	Disagree	Agree
Age ² , n (p = 0.32)		
Boomer and older	8	8
Gen X	5	9
Younger than Gen X	0	11

1. Question was "Do you believe that your mental/psychological state impacts your pain experience?"

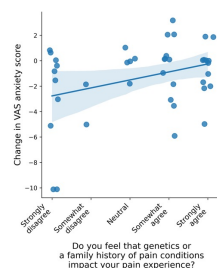
Table 2: Answers to BPS item 5¹ by age bracket

Age Bracket	Disagree	Agree
Age ² , n (p = 0.32)		
Boomer and older	7	9
Gen X	4	10
Younger than Gen X	0	11

1. Question was "Do you feel that the management of mental health is an important part of effectively managing your pain?"

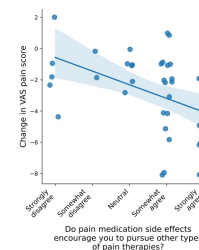
When stratified by generation, patients younger than Gen X exhibited greater agreement that mental health impacted their pain (BPS items 1 (p<0.05) and 5 (p<0.05)).

Fig 1. Patients Agreeing with BPS Item 3 vs Change in VAS-A Scores



A significant positive correlation was found between patients agreeing with BPS item 3 and change in VAS-A score (Pearson's $r = 0.34$, $p < 0.05$).

Fig 2. Patients Agreeing with BPS Item 7 vs Change in VAS-P Scores



A significant negative correlation was found between patients agreeing with BPS item 7 and change in VAS-P score (Pearson's $r = -0.43$, $p < 0.05$).

Discussion

- A generational divide exists within patients regarding mental health's impact on the pain experience.
- Patients who believe genetics play a role may have greater anxieties about their treatments being ineffective.
- Patient expectations regarding treatments may influence changes in post-procedural pain.
- Ultimately, the results demonstrate the importance of taking patients' cultural context into account when developing treatment plans as well as counseling them on how BPS factors alter their pain experience.

References

- Baral SP, Prasad P, Raghuvamshi G. Mental Health Awareness and Generation Gap. *Indian J Psychiatry*. 2022;64(Suppl 3):S636. doi:10.4103/0019-5545.341859