Patient Preference and Adherence

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ORIGINAL RESEARCH

Exploring the Relationship Between Psychological Constructs and Decision-Making Preferences in Psychiatric Outpatients

Carlos De las Cuevas[1], Omaira Benadero[2]

[1]Department of Internal Medicine, Dermatology and Psychiatry and Instituto Universitario de Neurociencia (IUNE), University of La Laguna, La Laguna, Canary Islands, Spain; [2]School of Medicine of the University of La Laguna, San Cristóbal de La Laguna, Santa Cruz de Tenerife, Spain

Correspondence: Carlos De las Cuevas, Department of Internal Medicine, Dermatology and Psychiatry, School of Medicine, University of La Laguna, Campus de Ofra s/. 38071, San Cristobal de La Laguna, Canary Islands, Spain, Email ccuevas@ull.edu.es

Objective: This study aimed to elucidate the relationships among health locus of control, psychological reactance, attitudes toward psychiatric treatment, and patient decision-making preferences within a psychiatric outpatient population.

Methods: A total of 200 consecutive psychiatric outpatients from a community mental health center in Tenerife, Spain, were approached for participation between September 2023 and March 2024. Of these, 151 patients consented to participate in this cross-sectional study. Participants were selected based on their willingness to participate and were provided with informed consent forms. Data were collected using the Patient's Health Belief Questionnaire on Psychiatric Treatment (PHBQPT) and the Control Preferences Scale (CPS). The PHBQPT evaluates health beliefs impacting adherence to psychiatric treatment, while the CPS assesses the preferred level of involvement in medical decision-making. Sociodemographic data were also collected to contextualize the findings.

Results: Significant correlations were found between patients' control preferences and their attitudes towards medication, compliance with psychiatric advice, and perceptions of treatment control. A collaborative control preference was notably associated with positive attitudes toward medication and trust in the psychiatrist. These findings suggest that tailored treatment approaches prioritizing patient involvement could enhance adherence and outcomes.

Conclusion: The study underscores the importance of considering psychological constructs in psychiatric care to foster a holistic, patient-centered approach. Recognizing and integrating patients' control preferences, attitudes towards medication, and psychological reactance can improve the therapeutic relationship and treatment adherence. Future research should explore longitudinal and interventional studies to further understand the impact of aligning treatment approaches with patient preferences and psychological profiles.

Plain Language Summary: In today's fast-paced world, understanding how we can better cater to the needs of psychiatric patients is more important than ever. This study, conducted in Tenerife, Spain, with 151 participants, shines a light on the intricate relationship between a patient's psychological mindset and their involvement in psychiatric care. Researchers explored how patients' beliefs about health control, their resistance or openness to psychiatric advice, and their preferences in treatment decisions intertwine to affect their approach to psychiatric treatment.

The core findings reveal a fascinating tapestry of patient attitudes and behaviors. For example, patients who prefer a joint approach with their psychiatrists toward managing their treatment tend to have a more positive outlook on medication and a deeper trust in their doctors. This suggests that when patients feel they are part of the decision-making process, they are more likely to follow through with treatment plans, leading to better outcomes.

What does this mean in everyday terms? Essentially, the study highlights the power of listening and integrating patients' viewpoints into their care plans. When patients see their insights and preferences reflected in their treatment, their engagement and adherence to medication improve. This not only fosters a more supportive environment for healing but also paves the way for more personalized, effective psychiatric care.

In essence, this research is a call to action for healthcare providers to delve deeper into understanding each patient's unique psychological makeup. By doing so, they can tailor treatments that resonate more closely with the patient's own beliefs and preferences, ultimately leading to a more positive healthcare experience for everyone involved.

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Introduction

Integrating advancements in clinical psychology into psychiatry fosters a more holistic understanding of mental health, enhancing patient-centered care and improving treatment outcomes.[1–5] In psychiatric outpatient care, understanding psychological constructs—health locus of control, psychological reactance, attitudes toward psychiatric treatment, and patient decision-making preferences—is essential. These constructs are central to patient engagement and treatment efficacy, highlighting the importance of considering individual psychological profiles.[6–8]

Health locus of control (HLC) refers to an individual's belief about the extent to which their health is controlled by internal versus external factors.[9] Patients with a strong internal HLC tend to be more engaged in their healthcare, showing higher levels of treatment adherence and participation in therapeutic activities.[10–16] Conversely, psychological reactance occurs when an individual perceives their freedom to choose or engage in certain behaviors as being threatened, leading to resistance against treatment recommendations.[17–23]

Attitudes toward psychiatric treatment, influenced by personal and cultural beliefs, previous healthcare experiences, and societal stigma, significantly impact patients' willingness to seek treatment and their adherence to prescribed interventions. Positive attitudes facilitate treatment engagement and enhance the therapeutic alliance, while negative attitudes can act as barriers to care.[24–28]

Patient participation preferences in decision-making are crucial in psychiatric care. Some patients prefer an active role, while others trust their healthcare providers to make decisions on their behalf.[29–31] Recognizing and respecting these preferences is vital for fostering a therapeutic relationship and improving treatment adherence.[32–36]

This study aims to investigate the interplay between health locus of control, psychological reactance, attitudes towards psychiatric treatment, and participation preferences in a psychiatric outpatient population. By elucidating the relationships among these constructs, we seek to enhance patient engagement and optimize treatment strategies in psychiatric settings.

Methods

Study Design

This study is a cross-sectional, observational study designed to explore the relationships between health locus of control, psychological reactance, attitudes toward psychiatric treatment, and patient decision-making preferences.

Study Setting

The study was conducted at a community mental health center located on Tenerife Island, Canary Islands, Spain.

Study Duration

Data collection occurred over six months, from September 2023 to March 2024.

Sample Size

A total of 200 consecutive psychiatric outpatients were approached for participation. Of these, 151 patients agreed to participate, providing a sufficient sample size for statistical analysis.

Sampling Method

Convenience sampling was used, with participants selected based on their availability and willingness to participate in the study. Patients were approached consecutively during their visits to the mental health center.

Inclusion and Exclusion Criteria

- *Inclusion Criteria*: Patients aged 18 and older receiving outpatient psychiatric care at the community mental health center, who provided informed consent to participate.
- *Exclusion Criteria*: Patients who declined to participate or did not provide informed consent, those unable to complete the questionnaires due to cognitive impairments, and those under the age of 18.

Study Variables

- *Independent Variables*: Health locus of control, psychological reactance, and attitudes toward psychiatric treatment.
- *Dependent Variable*: Patient decision-making preferences.

Data Collection Procedure

Participants were provided with a comprehensive explanation of the study's aims, procedures, and potential impacts upon their visit to the mental health center. After obtaining informed consent, participants completed a sociodemographic survey along with the Patient's Health Belief Questionnaire on Psychiatric Treatment (PHBQPT) and the Control Preferences Scale (CPS).

- *Patient's Health Belief Questionnaire on Psychiatric Treatment (PHBQPT)*: A 17-item self-reported questionnaire assessing attitudes toward psychiatric medication, psychological reactance, and health locus of control.[37] The PHBQPT is divided into five pivotal subscales yielding five distinct scores: Positive and Negative Aspects of Medications, Doctor-Health Locus of Control, Internal-Health Locus of Control, and Psychological Reactance, thereby providing a multifaceted understanding of factors influencing medication adherence. With an approximate completion time of 15 minutes, the PHBQPT is both efficient and practical for use in clinical settings, allowing for a refined assessment of beliefs and attitudes that could significantly affect treatment outcomes. The scores from five different dimensions of the questionnaire can be simplified into groups based on their median values. This lets us identify patients' attitudes and beliefs which are important for understanding how likely they are to follow their treatment plans. Scores on how patients view the positives and negatives aspects of their medications can be categorized into four groups: those wary of medications (***pharmacophobic***: low positive, high negative), those unsure about medication benefits (***indecisive***: high positive, high negative), those not worried about medication effects (***unconcerned***: low positive, low negative), and those positive towards medication (***pharmacophilic***: low negative, high positive). Similarly, by combining how patients perceive their own control over their health and the control they attribute to their doctors, we identified four belief patterns regarding who is responsible for managing their psychiatric disorder: ***the patient*** themselves (low doctor, high internal), ***both*** the patient and the psychiatrist (high doctor, high internal), neither (***no control***: low doctor, low internal), or primarily the ***psychiatrist*** (low internal, high doctor). Finally, by looking at patients' willingness to accept their psychiatrists' guidance combined with their views on control, we created four profiles describing their relationship with their psychiatrist: resistant (***defiance***: low doctor, high reactance), conflicted (***struggle***: high doctor, high reactance), detached (***apathy***: low doctor, low reactance), and agreeable (***trust***: low reactance, high doctor).
- *Control Preferences Scale (CPS)*: A validated instrument measuring the degree of control patients desire in medical decision-making, ranging from active to passive roles.[38,39] This validated scale offers a structured approach to understand the degree of control patients desire over their treatment choices, articulating this continuum of preferences through five well-defined categories. These range from an *active role*—where the patient independently decides on their treatment after considering their doctor's advice—to a *passive role*—where the patient defers all decision-making responsibilities to their healthcare provider. Between these extremes lie the *semi-active role* (decision-making is a shared process with the doctor), the *collaborative role* (a balanced partnership in decisions), and the *semi-passive role* (the doctor decides, but patient's preferences are considered).

Ethical Consideration

The study adhered to the ethical principles outlined in the Declaration of Helsinki. Informed consent was obtained from all participants, and their rights and well-being were safeguarded throughout the study. The study protocol, including consent forms and procedures, was reviewed and approved by the Ethics Committee of the University Hospital Nuestra Señora de la Candelaria in Santa Cruz de Tenerife.

Statistical Analysis

Data were analyzed using descriptive statistics to summarize participant characteristics and responses. Correlation analyses were conducted to examine the relationships between health locus of control, psychological reactance, attitudes toward psychiatric treatment, and decision-making preferences. One-way ANOVA was used to assess the impact of control preference scales on health beliefs. Cross-tabulation and chi-square analysis were performed to explore the relationships between control preferences and attitudinal groups towards medications, types of psychiatric relationships, and perceptions of treatment control. All statistical analyses were performed using SPSS software, version 25.

Results

Participant Characteristics

The study included 151 psychiatric outpatients (64 males, 87 females) from a community mental health center on Tenerife Island, Canary Islands, Spain. Participants ranged in age from 18 to 86 years (mean age = 43.21 years, SD = 14.961 years). The duration of psychiatric treatment varied from 1 to 516 months (mean = 94 months, SD = 124 months). Educational attainment varied, with 4% able to read and write, 16.6% having primary education, 47.7% having secondary education, and 31.8% having university-level education. Diagnoses included schizophrenia (11.4%), bipolar disorder (7.9%), depressive disorder (32.1%), anxiety disorder (35%), personality disorder (3.6%), and other diagnoses (10%).

Control Preferences

Control Preferences Scale (CPS) data revealed a spectrum of decision-making preferences among participants: 9.3% favored an active role, 19.9% a semi-active stance, 47% a collaborative role, 15.2% a semi-passive position, and 8.6% a passive role (Figure 1).

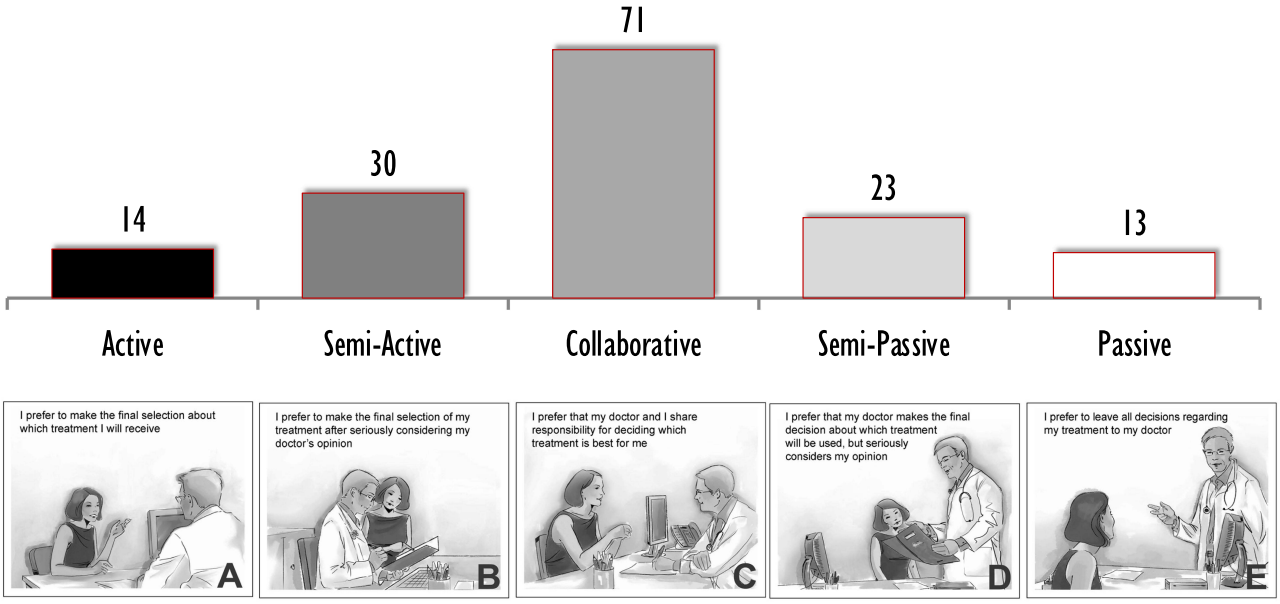

Figure 1 Results of the Control Preferences Scale in the global sample.

Attitudes Towards Medications

Participants were categorized into four groups based on their attitudes towards medication: pharmacophobic (30.5%), indecisive (21.9%), unconcerned (17.9%), and pharmacophilic (29.8%) (Figure 2).

Types of Psychiatric Relationships

The study identified four profiles describing patient-psychiatrist relationships: apathy (13.9%), defiance (23.8%), trust (25.2%), and struggle (37.1%) (Figure 3).

Perceptions of Control

Out of 151 participants, 21.2% felt they had no control over their treatment, 25.8% believed their psychiatrist was in control, 16.6% felt they personally had control, and 36.4% perceived shared control with their psychiatrist (Figure 4).

One-Way ANOVA Results

As Table 1 shows, the one-way ANOVA revealed significant differences among control preference groups regarding insight into mental illness ($F(4, 146) = 10.534$, $p < 0.001$), doctor health locus of control ($F(4, 146) = 11.931$, $p < 0.001$), and perceptions of the positive aspects of psychiatric medications ($F(4, 146) = 9.434$, $p < 0.001$).

- *Insight into Mental Illness*: Patients with a more passive control preference reported higher insight (mean scores: active = 9.64, passive = 16.85).
- *Doctor Health Locus of Control*: Passive participants showed the highest mean score (17.00), indicating a stronger belief in doctors' control.
- *Positive Aspects of Psychiatric Medications*: Scores ranged from active (12.43) to passive (24.77), with less active groups having more positive views.

No significant differences were found in internal health locus of control ($F(4, 146) = 0.861$, $p = 0.489$) or psychological reactance ($F(4, 146) = 1.953$, $p = 0.105$).

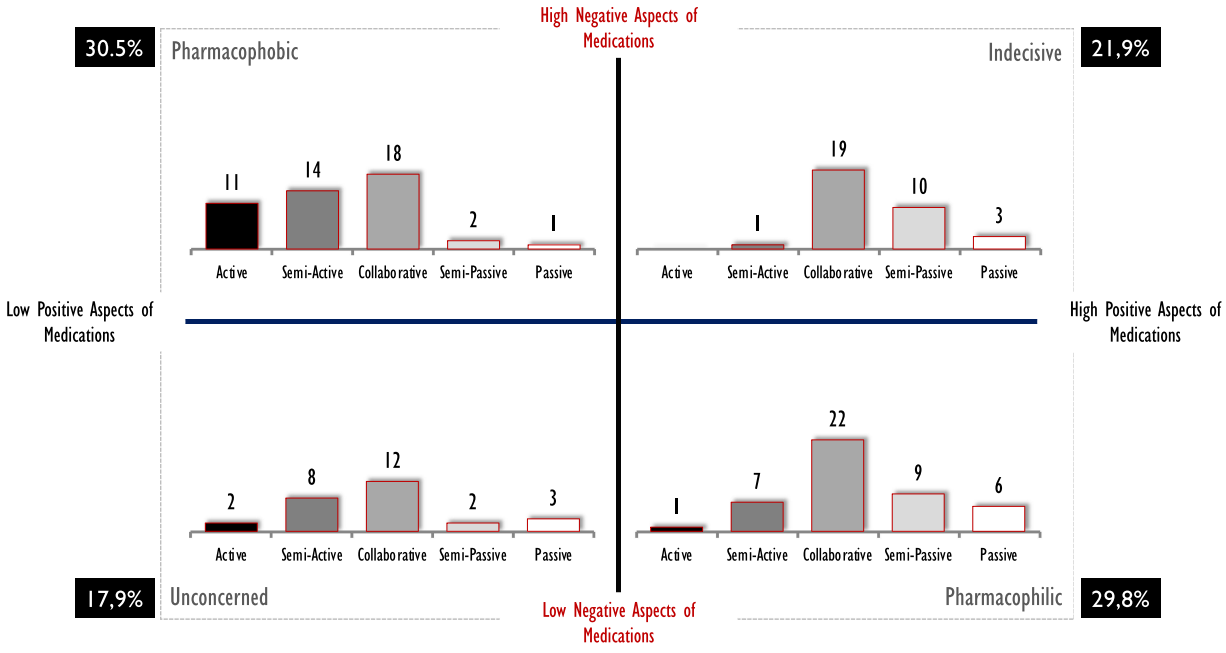

Figure 2 Graphic representation of the interaction between the dimensions positive and negative aspects of medication and Control Preference Scales results.

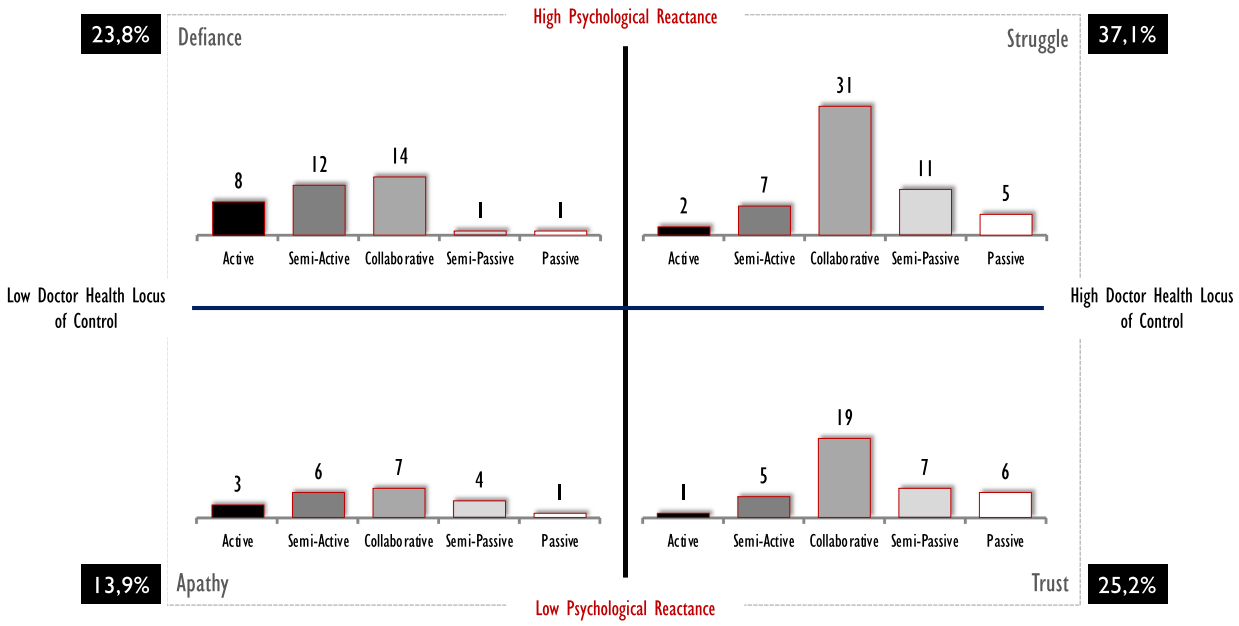

Figure 3 Graphic representation of the interaction between the dimensions doctor health locus of control and psychological reactance and Control Preference Scales results.

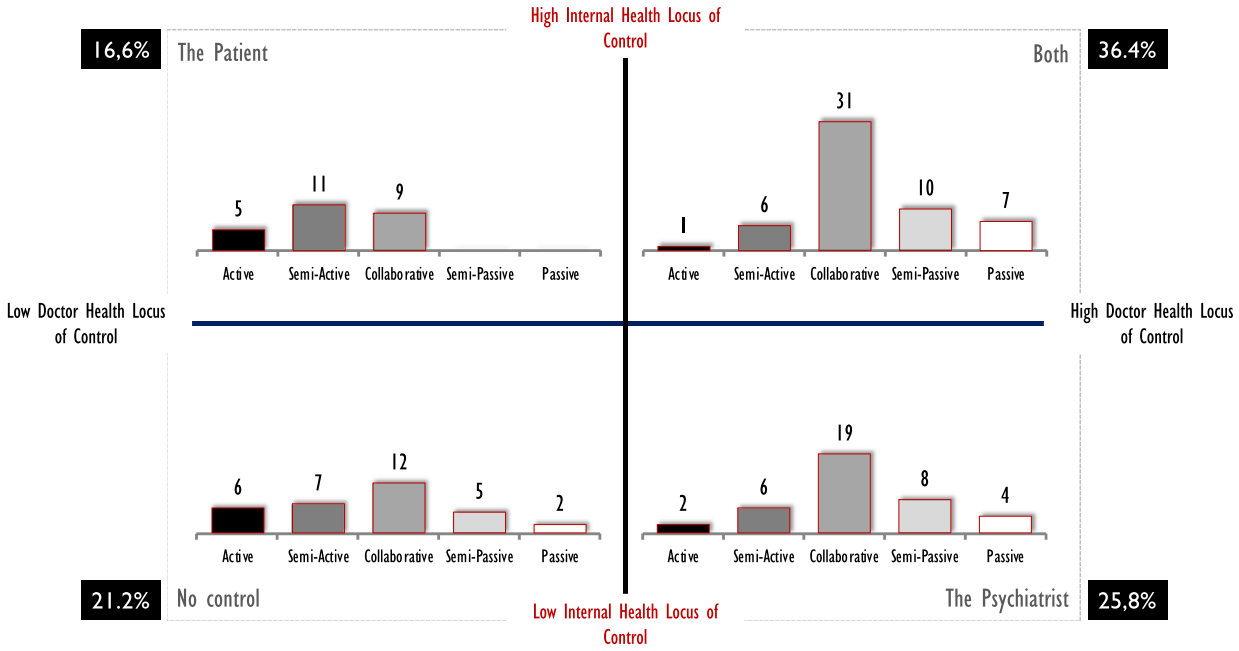

Figure 4 Graphic representation of the interaction between the dimensions internal and doctor health locus of control and Control Preference Scales results.

Cross-Tabulation and Chi-Square Analysis

Significant relationships were found between control preferences and attitudes towards medications ($\chi^2(12) = 40.522$, $p < 0.001$), types of psychiatric relationships ($\chi^2(12) = 28.472$, $p = 0.005$), and perceptions of control ($\chi^2(12) = 30.944$, $p = 0.002$) (see Table 2).

Table 1 Results of One-Way ANOVA Analyzing the Impact of Control Preference Scale on Health Beliefs: Insight in Mental Illness, Internal Health Locus of Control, Doctor Health Locus of Control, Psychological Reactance, and Perceptions of Psychiatric Medications' Positive and Negative Aspects

		N	Mean	Std. Deviation
Insight in Mental Illness	Active	14	9.64	5.032
(F(4, 146) = 10.534, p < 0.001)	Semi-Active	30	13.40	4.022
	Collaborative	71	15.37	3.669
	Semi-Passive	23	16.26	2.527
	Passive	13	16.85	1.951
	Total	151	14.71	4.069
Internal Health Locus of Control	Active	14	10.93	5.824
(F(4, 146) = 0.861, p = 0.489)	Semi-Active	30	12.43	3.308
	Collaborative	71	12.69	3.520
	Semi-Passive	23	11.78	4.441
	Passive	13	13.23	4.381
	Total	151	12.38	3.953
Doctor Health Locus of Control	Active	14	9.79	4.807
(F(4, 146) = 11.931, p < 0.001)	Semi-Active	30	13.10	3.220
	Collaborative	71	15.10	3.234
	Semi-Passive	23	15.74	3.003
	Passive	13	17.00	1.683
	Total	151	14.47	3.722
Psychological Reactance	Active	14	12.00	4.385
(F(4, 146) = 1.953, p = 0.105)	Semi-Active	30	10.83	3.687
	Collaborative	71	11.21	3.776
	Semi-Passive	23	9.65	3.915
	Passive	13	8.77	3.940
	Total	151	10.76	3.900
Positive Aspects of Medication	Active	14	12.43	6.454
(F(4, 146) = 9.434, p < 0.001)	Semi-Active	30	18.93	6.888
	Collaborative	71	21.65	6.719
	Semi-Passive	23	24.43	6.163
	Passive	13	24.77	6.057
	Total	151	20.95	7.301
Negative Aspects of Medication	Active	14	12.93	4.599
(F(4, 146) = 2.172, p = 0.075)	Semi-Active	30	9.83	4.202
	Collaborative	71	9.97	4.154
	Semi-Passive	23	9.65	3.511
	Passive	13	8.62	4.331
	Total	151	10.05	4.195

Discussion

Despite the growing recognition of the importance of shared decision-making (SDM) in mental healthcare,[40–42] there is a notable gap in research specifically exploring the psychological constructs that influence psychiatric patients' participation in decision-making about their treatment. While several studies have begun to shed light on factors affecting patient involvement across various medical fields,[43–46] the unique context and challenges of psychiatric care necessitate a more focused investigation.

The present study elucidates the relationships among health locus of control, psychological reactance, attitudes toward psychiatric treatment, and patient decision-making preferences within a psychiatric outpatient population. The

Table 2 Cross-Tabulation and Chi-Square Analysis Results Between Control Preferences and Patients' Attitudes Towards Medications, Their Relationships with Psychiatrists, and Their Perceptions Regarding the Control of Their Treatment

Attitude toward Medications ($\chi^2(12)= 40.522$, $p< 0.001$)		**Pharmacophobic**	**Indecisive**	**Unconcern**	**Pharmacophilic**	**Total**
Control Preferences Scale	Active	11	0	2	1	14
	Semi-Active	14	1	8	7	30
	Collaborative	18	19	12	22	71
	Semi-Passive	2	10	2	9	23
	Passive	1	3	3	6	13
Total		46	33	27	45	151
Who Control? ($\chi^2(12)= 30.944$, $p= 0.002$)		**No Control**	**My Psychiatrist**	**Me**	**Both**	**Total**
Control Preferences Scale	Active	6	2	5	1	14
	Semi-Active	7	6	11	6	30
	Collaborative	12	19	9	31	71
	Semi-Passive	5	8	0	10	23
	Passive	2	4	0	7	13
Total		32	39	25	55	151
Type of Relationship ($\chi^2(12)= 28.472$, $p= 0.005$)		**Apathy**	**Defiance**	**Trust**	**Struggle**	**Total**
Control Preferences Scale	Active	3	8	1	2	14
	Semi-Active	6	12	5	7	30
	Collaborative	7	14	19	31	71
	Semi-Passive	4	1	7	11	23
	Passive	1	1	6	5	13
Total		21	36	38	56	151

findings underscore the importance of considering these psychological constructs to enhance patient-centered care and treatment adherence.

Control Preferences and Insight into Mental Illness

Our results indicate that patients with a more passive control preference reported higher insight into their mental illness. This finding aligns with previous research suggesting that patients who defer control to their healthcare providers may be more receptive to information and guidance, thus developing greater insight into their conditions. Conversely, active patients may feel more empowered but might also experience more conflict or doubt regarding their condition, leading to lower insight scores.[47–49]

Doctor Health Locus of Control

Participants with a passive control preference also showed a stronger belief in doctors' control over their health. This result is consistent with studies indicating that patients who trust their healthcare providers are more likely to attribute control to them, enhancing the therapeutic alliance and potentially improving treatment adherence. In contrast, those with

an internal health locus of control may experience challenges in accepting external guidance, which could affect their adherence and engagement negatively.[50]

Attitudes Toward Medications

Our study found that participants with less active control preferences had more positive views of psychiatric medications. This is in line with findings from previous studies where patients who rely on their doctors' expertise tend to trust prescribed medications more and exhibit better adherence. On the other hand, patients with active control preferences often have more skepticism toward medications, possibly due to a desire for more control over their treatment decisions.[51,52]

Psychological Reactance and Decision-Making Preferences

Psychological reactance was not significantly different among the control preference groups, although a pattern was noted. Active participants showed higher psychological reactance, suggesting a resistance to perceived threats to their autonomy. This aligns with the theory of psychological reactance which posits that individuals with high autonomy needs resist externally imposed control.[17,26] Reducing reactance in these patients might involve strategies that emphasize patient autonomy and choice within the treatment plan.[53,54]

Types of Psychiatric Relationships

The study identified four distinct profiles in patient-psychiatrist relationships, with collaborative control preferences correlating with more trustful relationships. This finding supports existing literature that emphasizes the importance of collaboration in enhancing therapeutic relationships and improving treatment outcomes.[55] Contrastingly, defiant and apathetic relationships often stem from a lack of perceived control and engagement, highlighting the need for tailored communication strategies to address these attitudes.[56]

Perceptions of Control

Patients with shared control perceptions reported better outcomes in terms of treatment adherence and engagement. This is corroborated by studies advocating for shared decision-making as a means to enhance patient satisfaction and health outcomes.[57–59] The challenge lies in balancing patient preferences with clinical expertise to foster a cooperative therapeutic environment.

Limitations of the Study

Despite its valuable insights, this study has several limitations that warrant consideration. The reliance on self-reported questionnaires may introduce biases, including social desirability and recall biases, potentially compromising the accuracy of the collected data. Additionally, the utilization of a consecutive convenience sampling method, while practical, may limit the generalizability of the findings to the broader psychiatric outpatient population. The non-participation of some individuals introduces the possibility of selection bias, potentially biasing the results towards those more likely to engage in research studies.

A critical limitation is the study's cross-sectional design, which constrains our ability to infer causal relationships between the psychological constructs examined and patient outcomes in psychiatric care. This design provides a snapshot in time; thus, it is challenging to determine whether the psychological constructs cause changes in patient outcomes, or if patients with specific outcomes are predisposed to exhibit certain psychological characteristics. Longitudinal research is necessary to establish causality and to explore the evolving dynamics among these constructs, patient engagement, adherence, and overall satisfaction with psychiatric treatment over time. Furthermore, the cross-sectional approach does not accommodate potential shifts in psychological constructs or patient attitudes throughout treatment, factors that could significantly influence treatment outcomes and the dynamics of patient-provider interactions.

Acknowledging these limitations is essential for an accurate interpretation of the study's findings and for directing future research endeavours to address these shortcomings.

Implications for Practice

The findings suggest that understanding and integrating patients' psychological constructs into psychiatric care can improve treatment adherence and outcomes. Tailoring treatment approaches to align with patient preferences for control and engagement can foster a more supportive and effective therapeutic environment.

Future Research

Future research should explore longitudinal and interventional studies to further understand the impact of aligning treatment approaches with patient preferences and psychological profiles. Investigating the dynamic nature of these constructs over time and their influence on long-term treatment outcomes will be essential.

Conclusion

This study reveals significant relationships between health locus of control, psychological reactance, attitudes toward psychiatric treatment, and patient decision-making preferences in a psychiatric outpatient population. Key findings indicate that patients with passive control preferences show higher insight into mental illness, greater trust in doctors, and more positive attitudes towards medications. Active participants display higher psychological reactance, highlighting the necessity of emphasizing patient autonomy. Collaborative control preferences correlate with more trustful psychiatrist relationships, and shared control perceptions improve treatment adherence and engagement. These insights advocate for personalized, patient-centered psychiatric care strategies, aligning treatment with individual psychological profiles to enhance outcomes. Future research should examine the long-term effects of these tailored approaches and explore methods to reduce psychological reactance.

Disclosure

The authors report no conflicts of interest in this work.

References

1. Menninger WC. The relationship of clinical psychology and psychiatry. *Am Psychol*. 1950;5(1):3–15. doi:10.1037/h0054783
2. Singh A, Singh S. Psychiatrists and clinical psychologists. *Mens Sana Monogr*. 2006;4(1):10–13. doi:10.4103/0973-1229.27599
3. Fried EI. What are psychological constructs? On the nature and statistical modelling of emotions, intelligence, personality traits and mental disorders. *Health Psychol Rev*. 2017;11(2):130–134. doi:10.1080/17437199.2017.1306718
4. Stein DJ, Shoptaw SJ, Vigo DV, et al. Psychiatric diagnosis and treatment in the 21st century: paradigm shifts versus incremental integration. *World Psychiatry*. 2022;21(3):393–414. doi:10.1002/wps.20998
5. Nguyen AD, Medrano O, Syed S. A call for integrated psychiatry-psychology collaboration on consult-liaison services: experiences of a psychology extern and recommendations for collaborative care. *Cureus*. 2023;15(8):e43874. doi:10.7759/cureus.43874
6. Kelly GR, Mamon JA, Scott JE. Utility of the health belief model in examining medication compliance among psychiatric outpatients. *Soc Sci Med*. 1987;25(11):1205–1211. doi:10.1016/0277-9536(87)90367-4
7. Strecher VJ, Rosenstock IM. The health belief model. In: Glanz K, Marcus Lewis F, Rimer BK, editors. *Health Behavior and Health Education. Theory, Research and Practice*. 2nd edn ed. San Francisco, CA: Jossey-Bass; 1996:41–59.
8. Muller N. Revitalizing the health belief model in support of shared decision-making. *Ostomy Wound Manag*. 2012;58(6):12–14. PMID: 22866340.
9. Rotter JB. Generalized expectancies for internal versus external control of reinforcement. *Psychol Monogr*. 1966;80(1):1–28. [PMID: 5340840]. doi:10.1037/h0092976
10. De Las Cuevas C, Peñate W, Betancort M, Cabrera C. What do psychiatric patients believe regarding where control over their illness lies? Validation of the multidimensional health locus of control scale in psychiatric outpatient care. *J Nerv Ment Dis*. 2015;203(2):81–86. doi:10.1097/NMD.0000000000000244
11. De Las Cuevas C, Peñate W, Cabrera C. Perceived health control: a promising step forward in our understanding of treatment adherence in psychiatric care. *J Clin Psychiatry*. 2016;77(10):e1233–e1239. doi:10.4088/JCP.15m09769
12. Náfrádi L, Nakamoto K, Schulz PJ. Is patient empowerment the key to promote adherence? A systematic review of the relationship between self-efficacy, health locus of control and medication adherence. *PLoS One*. 2017;12(10):e0186458. doi:10.1371/journal.pone.0186458
13. De Las Cuevas C, Baptista T, Motuca M, et al. Poor adherence to oral psychiatric medication in adults with schizophrenia may be influenced by pharmacophobia, high internal health locus of control and treatment duration. *Neuropsychopharmacol Hung*. 2021;23(4):388–404. PMID: 34971496.
14. Brincks AM, Feaster DJ, Burns MJ, Mitrani VB. The influence of health locus of control on the patient-provider relationship. *Psychol Health Med*. 2010;15(6):720–728. doi:10.1080/13548506.2010.498921
15. Gerland HE, Prell T. Association between the health locus of control and medication adherence: an observational, cross-sectional study in primary care. *Front Med*. 2021;8:705202. doi:10.3389/fmed.2021.705202
16. Rodriguez A, Delbourgo Patton C, Stephenson-Hunter C. Impact of locus of control on patient-provider communication: a systematic review. *J Health Commun*. 2023;28(3):190–204. doi:10.1080/10810730.2023.2192014

17. Brehm JW. *A Theory of Psychological Reactance*. New York, NY: Academic Press; 1966.
18. De Las Cuevas C. Psychiatric patients' perceived health control and reactance: implications for medication adherence. *Patient Prefer Adherence*. 2023;17:1591–1601. doi:10.2147/PPA.S417608
19. Lazary J, Pogany L, De Las Cuevas C, Villasante-Tezanos GA, De Leon J. Adherence to psychiatric medications: comparing patients with schizophrenia, bipolar disorder and major depression. *Neuropsychopharmacol Hung*. 2021;23(4):363–373. PMID: 34971494.
20. Dillard JP, Shen L. On the nature of reactance and its role in persuasive health communication. *Commun Monogr*. 2005;72(2):144–168. doi:10.1080/03637750500111815
21. Richards AS, Bessarabova E, Banas JA, Bernard DR. Reducing psychological reactance to health promotion messages: comparing preemptive and postscript mitigation strategies. *Health Commun*. 2022;37(3):366–374. doi:10.1080/10410236.2020.1839203
22. Steindl C, Jonas E, Sittenthaler S, Traut-Mattausch E, Greenberg J. Understanding psychological reactance: new developments and findings. *Z Psychol*. 2015;223(4):205–214. doi:10.1027/2151-2604/a000222
23. Rosenberg BD, Siegel JT. A 50-year review of psychological reactance theory: do not read this article. *Motiv Sci*. 2018;4(4):281–300. doi:10.1037/mot0000091
24. De Las Cuevas C, Sanz EJ. Attitudes toward psychiatric drug treatment: the experience of being treated. *Eur J Clin Pharmacol*. 2007;63(11):1063–1067. doi:10.1007/s00228-007-0358-5
25. Asher M, Roe D, Hasson-Ohayon I. Attitudes toward and patterns of medication use among people with serious mental illness: there's more than meets the eye. *Front Psychiatry*. 2023;14:1133140. doi:10.3389/fpsyt.2023.1133140
26. De Las Cuevas C, de Leon J. Reviving research on medication attitudes for improving pharmacotherapy: focusing on adherence. *Psychother Psychosom*. 2017;86(2):73–79. doi:10.1159/000450830
27. De Las Cuevas C, Motuca M, Baptista T, Villasante-Tezanos AG, de Leon J. Ethnopsychopharmacology study of patients' beliefs regarding concerns about and necessity of taking psychiatric medications. *Hum Psychopharmacol*. 2019;34(2):e2688. doi:10.1002/hup.2688
28. De Las Cuevas C, Peñate W, Cabrera C. Are acceptance and skepticism determinant factors for adherence to drug treatment in psychiatric patients? *J Clin Psychopharmacol*. 2016;36(6):724–725. doi:10.1097/JCP.0000000000000584
29. Entwistle VA, Carter SM, Cribb A, McCaffery K. Supporting patient autonomy: the importance of clinician-patient relationships. *J Gen Intern Med*. 2010;25(7):741–745. doi:10.1007/s11606-010-1292-2
30. Thompson AG. The meaning of patient involvement and participation in health care consultations: a taxonomy. *Soc Sci Med*. 2007;64(6):1297–1310. doi:10.1016/j.socscimed.2006.11.002
31. Stiggelbout AM, Pieterse AH, De Haes JC. Shared decision making: concepts, evidence, and practice. *Patient Educ Couns*. 2015;98(10):1172–1179. doi:10.1016/j.pec.2015.06.022
32. De Las Cuevas C, Rivero A, Perestelo-Perez L, Gonzalez M, Perez J, Peñate W. Psychiatric patients' attitudes towards concordance and shared decision making. *Patient Educ Couns*. 2011;85(3):e245–250. doi:10.1016/j.pec.2011.02.015
33. De Las Cuevas C, Peñate W. To what extent psychiatric patients feel involved in decision making about their mental health care? Relationships with socio-demographic, clinical, and psychological variables. *Acta Neuropsychiatr*. 2014;26(6):372–381. doi:10.1017/neu.2014.21
34. Mundal I, Lara-Cabrera ML, Betancort M, De Las Cuevas C. Exploring patterns in psychiatric outpatients' preferences for involvement in decision-making: a latent class analysis approach. *BMC Psychiatry*. 2021;21(1):133. doi:10.1186/s12888-021-03137-x
35. Duncan E, Best C, Hagen S. Shared decision-making interventions for people with mental health conditions. *Cochrane Database Syst Rev*. 2010;2010(1):CD007297. doi:10.1002/14651858.CD007297.pub2
36. Aoki Y, Yaju Y, Utsumi T, et al. Shared decision-making interventions for people with mental health conditions. *Cochrane Database Syst Rev*. 2022;11(11):CD007297. doi:10.1002/14651858.CD007297.pub3
37. De Las Cuevas C, de Leon J. Development and validation of the patient's health belief questionnaire on psychiatric treatment. *Patient Prefer Adherence*. 2019;13:527–536. doi:10.2147/PPA.S201144
38. Degner LF, Sloan JA, Venkatesh P. The control preferences scale. *Can J Nurs Res*. 1997;29(3):21–43. PMID: 9505581.
39. De Las Cuevas C, Peñate W. Validity of the control preferences scale in patients with emotional disorders. *Patient Prefer Adherence*. 2016;10:2351–2356. doi:10.2147/PPA.S122377
40. Hamann J, Leucht S, Kissling W. Shared decision making in psychiatry. *Acta Psychiatr Scand*. 2003;107(6):403–409. doi:10.1034/j.1600-0447.2003.00130.x
41. Slade M. Implementing shared decision making in routine mental health care. *World Psychiatry*. 2017;16(2):146–153. doi:10.1002/wps.20412
42. Kaminskiy E, Zisman-Ilani Y, Morant N, Ramon S. Barriers and enablers to shared decision making in psychiatric medication management: a qualitative investigation of clinician and service users' views. *Front Psychiatry*. 2021;12:678005. doi:10.3389/fpsyt.2021.678005
43. Schneider A, Körner T, Mehring M, Wensing M, Elwyn G, Szecsenyi J. Impact of age, health locus of control and psychological co-morbidity on patients' preferences for shared decision making in general practice. *Patient Educ Couns*. 2006;61(2):292–298. doi:10.1016/j.pec.2005.04.008
44. Marton G, Pizzoli SFM, Vergani L, et al. Patients' health locus of control and preferences about the role that they want to play in the medical decision-making process. *Psychol Health Med*. 2021;26(2):260–266. doi:10.1080/13548506.2020.1748211
45. Dopelt K, Bashkin O, Asna N, Davidovitch N. Health locus of control in cancer patient and oncologist decision-making: an exploratory qualitative study. *PLoS One*. 2022;17(1):e0263086. doi:10.1371/journal.pone.0263086
46. Keenan A, Le HH, Gandhi K, et al. Shared decision-making in the treatment of multiple sclerosis: results of a cross-sectional, real-world survey in Europe and the United States. *Patient Prefer Adherence*. 2024;18:137–149. doi:10.2147/PPA.S440410
47. Protheroe J, Rogers A, Kennedy AP, Macdonald W, Lee V. Promoting patient engagement with self-management support information: a qualitative meta-synthesis of processes influencing uptake. *Implement Sci*. 2008;3(1):44. doi:10.1186/1748-5908-3-44
48. World Health Organization. *Patient Engagement: Technical Series on Safer Primary Care*. Geneva: World Health Organization; 2016.
49. Duffett L. Patient engagement: what partnering with patient in research is all about. *Thromb Res*. 2017;150:113–120. doi:10.1016/j.thromres.2016.10.029
50. Totura CMW, Fields SA, Karver MS. The role of the therapeutic relationship in psychopharmacological treatment outcomes: a meta-analytic review. *Psychiatr Serv*. 2018;69(1):41–47. doi:10.1176/appi.ps.201700114
51. De Las Cuevas C, Peñate W. Explaining pharmacophobia and pharmacophilia in psychiatric patients: relationship with treatment adherence. *Hum Psychopharmacol*. 2015;30(5):377–383. doi:10.1002/hup.2487

52. de Leon J, De Las Cuevas C. The art of pharmacotherapy: reflections on pharmacophobia. *J Clin Psychopharmacol*. 2017;37(2):131–137. doi:10.1097/JCP.0000000000000675
53. De Las Cuevas C, Peñate W, Sanz EJ. The relationship of psychological reactance, health locus of control and sense of self-efficacy with adherence to treatment in psychiatric outpatients with depression. *BMC Psychiatry*. 2014;14(1):324. doi:10.1186/s12888-014-0324-6
54. Reynolds-Tylus T, Martinez Gonzalez A. The utility of choice-enhancing language in emergency preparedness messages: an application of psychological reactance theory. *Disaster Med Public Health Prep*. 2021;15(3):282–285. doi:10.1017/dmp.2020.11
55. Ricci L, Villegente J, Loyal D, Ayav C, Kivits J, Rat AC. Tailored patient therapeutic educational interventions: a patient-centred communication model. *Health Expect*. 2022;25(1):276–289. doi:10.1111/hex.13377
56. Baumeister RF, Leary MR. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull*. 1995;117(3):497–529. [PMID: 7777651]. doi:10.1037/0033-2909.117.3.497
57. Faiman B, Tariman JD. Shared decision making: improving patient outcomes by understanding the benefits of and barriers to effective communication. *Clin J Oncol Nurs*. 2019;23(5):540–542. doi:10.1188/19.CJON.540-542
58. Siebinga VY, Driever EM, Stiggelbout AM, Brand PLP. Shared decision making, patient-centered communication and patient satisfaction - A cross-sectional analysis. *Patient Educ Couns*. 2022;105(7):2145–2150. doi:10.1016/j.pec.2022.03.012
59. Montori VM, Ruissen MM, Hargraves IG, Brito JP, Kunneman M. Shared decision-making as a method of care. *BMJ Evid Based Med*. 2023;28(4):213–217. doi:10.1136/bmjebm-2022-112068