








Investigation of Differences in Early Maladaptive Schemas and Defense Mechanisms in Individuals with Gender Identity Disorder Compared to Normal Individuals

Zahra Namavari^{*1}, Mojgan Jalil², Samira Khashei³, Sanaz Shah Sanaei⁴, Esmat Sadeghi⁵

¹ Department of Psychology, Arsanjan Branch, Islamic Azad University, Arsanjan, Iran

² Department of Counseling, Roudehen Branch, Islamic Azad University, Roudehen, Iran

³ Department of Nursing, Khorasgan (Isfahan) Branch, Islamic Azad University, Khorasgan (Isfahan), Iran

⁴ Department of Counseling, Science and Research Branch, Islamic Azad University, Tehran, Iran

⁵ Department of Psychology, Quranic Education University of Isfahan, Isfahan, Iran

* Corresponding author email address: zahranamavar123@gmail.com

Article Info

Article type:

Original Research

How to cite this article:

Namavari, Z., Jalil, M., Khashei, S., Shah Sanaei, S., & Sadeghi, E. (2023). Investigation of Differences in Early Maladaptive Schemas and Defense Mechanisms in Individuals with Gender Identity Disorder Compared to Normal Individuals. *Health Nexus*, 1(2), 87-93. <https://doi.org/10.61838/kman.hn.1.2.1>



© 2023 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

This study aimed to investigate the differences in early maladaptive schemas and defense mechanisms between individuals with gender identity disorder and normal individuals. The research design was causal-comparative. The study population comprised all individuals with gender identity disorder (female to male and male to female) and normal individuals in Shiraz city in the year 2023. Out of the population, 30 individuals with gender identity disorder who attended forensic medicine, psychiatric clinics, and gender change centers in Shiraz, and 30 normal individuals were selected through convenience sampling and studied. Young's Schema Questionnaire (YSQ) and the Defense Style Questionnaire (DSQ) were used for data collection. After data collection and extraction, the participants' scores were analyzed using univariate and multivariate analysis of variance with the SPSS-24 statistical software. The findings indicated significant differences in early maladaptive schemas (rejection and disconnection, impaired autonomy and performance, other-directedness, overvigilance and inhibition, and impaired limits) between individuals with gender identity disorder and normal individuals ($p < .01$). The results also showed significant differences in neurotic defense style and immature defense style between individuals with gender identity disorder and normal individuals ($p < .01$); and a significant difference was found in the mature defense style between the two groups ($p < .05$). Therefore, by identifying immature defense mechanisms and early maladaptive schemas and measuring their severity in individuals with gender identity disorder, psychological interventions (psychodynamic and psychoanalytic therapy) alongside other medical actions can be employed to reduce the severity of these mechanisms and schemas.

Keywords: Early maladaptive schemas, defense mechanisms, gender identity disorder.

1. Introduction

Defense mechanisms, as conceptualized in psychoanalytic theory, play a significant role in mediating an individual's reaction to emotional conflicts and internal or external stressors (1). The study of defense mechanisms began with S. Freud's investigation into certain forms of psychopathology, and it has evolved to encompass both pathological and non-pathological mental mechanisms used by individuals in conflict situations (2, 3). Furthermore, defense mechanisms have been recognized as normal cognitive processes used by individuals in their adaptation to the environment. The relevance of defense mechanisms in personality research has been highlighted, raising the question of why defenses have been largely overlooked in this domain (4).

In the context of Gender Dysphoria, understanding the interplay between early maladaptive schemas and defense mechanisms is essential for providing effective therapeutic interventions. Research has shown that an increase in patients' capacity to mentalize may be a practicable approach to diminish maladaptive defense mechanisms in therapy (5). Additionally, the mediating role of defense mechanisms in the relationship between social phobia and alexithymia has been investigated, indicating the intricate interplay between defense mechanisms and psychological conditions (6). Moreover, the relation between defense mechanisms and job burnout among Iran AIR staff highlights the potential impact of defense mechanisms on occupational well-being (7).

The validation of self-report defense styles and the correlation between maladaptive defense styles and clinical ratings of mature defenses further emphasize the significance of understanding defense mechanisms in clinical populations (8). Additionally, the hierarchical structure of defense mechanisms has been evaluated, shedding light on the prevalence and correlates of defense mechanisms in adults (9). The study of defense mechanisms in developmental, emotional, and disruptive behavior disorders provides insights into the diverse manifestations of defense mechanisms across different psychological conditions (10).

Furthermore, the role of defense mechanisms in psychiatric disorders, such as obsessive-compulsive disorder and anorexia nervosa, has been investigated, indicating the potential implications of defense mechanisms in understanding and treating these conditions (11, 12). The interrelation between defensive mechanisms and coping strategies in psychiatry trainees underscores the relevance of

defense mechanisms in the context of mental health professionals' well-being (13).

In conclusion, the investigation of differences in early maladaptive schemas and defense mechanisms in individuals with Gender Dysphoria compared to cisgender individuals requires a comprehensive understanding of defense mechanisms across diverse populations and psychological conditions. The synthesis of research on defense mechanisms from various perspectives provides a robust foundation for exploring the intricate interplay between defense mechanisms and psychological well-being.

2. Methods and Materials

2.1. Study Design and Participants

The present study is descriptive and of a causal-comparative type. The study population included all individuals with gender identity disorder (female to male and male to female) and normal individuals in Shiraz city in the year 2023. The sampling method in this study was convenience sampling. For this purpose, 30 individuals with gender identity disorder who visited forensic medicine, psychiatric clinics, and gender change centers in Shiraz in 2023 were selected through convenience sampling based on inclusion and exclusion criteria. In the group of normal individuals, 30 people were also selected through convenience sampling from among companions and family members of individuals with the disorder. The two sample groups were matched in demographic variables such as age, education, and marital status. The inclusion criteria for the study were: - No diagnosis of personality disorders or severe clinical disorders in the sample group that would disrupt the research process. - Suffering from gender identity disorder (in the group of individuals with the disorder). - Being in the age group of 20 to 40 years. - Willingness and interest in voluntarily participating in the research and responding to questionnaires. - Having at least a high school diploma. The exclusion criteria included: - Drug addiction. - Borderline personality disorder. - Unwillingness to participate in the research.

2.2. Measures

2.2.1. Young's Schema Questionnaire (YSQ)

The short form of the Young Schema Questionnaire was developed by Young in 2005. This questionnaire consists of 75 questions that assess the participant's schemas across 15 subscales. The questions are rated on a Likert scale, and the

subscales include: Emotional Deprivation (questions 1 to 5); Abandonment/Instability (questions 6 to 10); Mistrust/Abuse (questions 11 to 15); Social Isolation/Alienation (questions 16 to 20); Defectiveness/Shame (questions 21 to 25); Failure (questions 26 to 30); Dependence/Incompetence (questions 31 to 35); Vulnerability to Harm and Illness (questions 36 to 40); Enmeshment/Undeveloped Self (questions 41 to 45); Subjugation (questions 46 to 50); Self-Sacrifice (questions 51 to 55); Emotional Inhibition (questions 56 to 60); Unrelenting Standards (questions 61 to 65); Entitlement/Grandiosity (questions 66 to 70); Insufficient Self-Control/Self-Discipline (questions 71 to 75). The questionnaire uses a 6-point Likert scale ranging from "Completely untrue of me" to "Describes me perfectly," with scores ranging from 1 to 6, respectively. The reliability of this questionnaire has been reported with a Cronbach's alpha coefficient of 0.94 (14)

2.2.2. Defense Style Questionnaire (DSQ-40)

The Defense Style Questionnaire (DSQ-40) was formulated by Andrews et al. in 1993. This questionnaire evolved based on the original questionnaire by Bond et al. created in 1983. It distinguishes 20 defense mechanisms

across three factors: mature, immature, and neurotic styles. An individual scores between 2 to 18 for each defense mechanism, and scores above 10 indicate the use of that mechanism. The overall style scores are averaged and compared to determine the predominant defense style. This questionnaire has been evaluated in countries such as Japan, France, Brazil, Portugal, and Iran. Studies in Japan showed that this instrument has concurrent validity with the Maudsley Personality Inventory. In France, Brazil, and Portugal, it was also found to be a useful and reliable tool with good validity (15).

2.3. Data Analysis

Finally, to analyze the collected data, the SPSS-24 statistical software, descriptive statistics (mean, standard deviation), and inferential statistics (univariate and multivariate analysis of variance) were used.

3. Findings and Results

As observed in the Table 1, descriptive indices for the variables of defense mechanisms and early maladaptive schemas in both groups of individuals with gender identity disorder and normal individuals are reported. The results indicate a difference between the two groups.

Table 1

Mean and Standard Deviation of Variables in Two Groups of Individuals with Gender Identity Disorder and Normal Individuals (N=60)

Variables	Groups	Mean	Standard Deviation
Mature Defense Style	Individuals with Gender Identity Disorder	15.15	6.11
	Normal Individuals	17.14	5.58
Immature Defense Style	Individuals with Gender Identity Disorder	16.54	7.56
	Normal Individuals	13.54	6.65
Neurotic Defense Style	Individuals with Gender Identity Disorder	16.06	5.77
	Normal Individuals	13.71	6.84
Rejection and Disconnection	Individuals with Gender Identity Disorder	67.97	8.92
	Normal Individuals	55.23	7.99
Directed by Others	Individuals with Gender Identity Disorder	19.59	6.57
	Normal Individuals	17.70	4.74
Impaired Autonomy and Performance	Individuals with Gender Identity Disorder	52.30	5.40
	Normal Individuals	46.90	6.35
Overvigilance and Inhibition	Individuals with Gender Identity Disorder	42.43	5.63
	Normal Individuals	40.29	5.10
Impaired Limits	Individuals with Gender Identity Disorder	30.70	7.72
	Normal Individuals	28.91	6.41

The results related to the normality of the distribution of data in the variables under study showed that since the significance level of the Kolmogorov-Smirnov test in all the variables under study is greater than 0.05, the null hypothesis (normality of data distribution) is confirmed.

Another of the main assumptions of parametric tests is the equality of variances. The Levene's F-tests for equality of variances were used in this research. The results of the Levene's test showed that the significance level of each of the relationships mentioned is more than 0.05; therefore, the

assumption of equality of variances in the scores of the two groups, which is one of the assumptions of parametric tests, is established in this research.

Based on the values in the Table 2, the effect of all the mentioned tests was significant at a level less than 0.01 ($p <$

.01). In other words, all interactions and effects between components of early maladaptive schemas in the two groups of individuals with gender identity disorder and normal individuals were significant in the model.

Table 2

Results of Multivariate Analysis of Variance for Examining the Difference in Components of Early Maladaptive Schemas in Two Groups of Individuals with Gender Identity Disorder and Normal Individuals (N=60)

Effect	Value	F Statistic	Hypothesis df	Error df	Significance Level	Eta Squared (Effect Size)
Constant	Pillai's Trace	0.99	2508.51	6	53	<0.000
	Wilks' Lambda	0.003	2508.51	6	53	<0.000
Group	Pillai's Trace	0.64	12.11	6	53	<0.000
	Wilks' Lambda	0.35	12.11	6	53	<0.000

Table 3

Results of Multivariate Analysis of Variance (MANCOVA) for Examining Patterns of Difference in Components of Early Maladaptive Schemas in Two Groups of Individuals with Gender Identity Disorder and Normal Individuals (N=60)

Variables	Sum of Squares	Degrees of Freedom	Mean Square	F Statistic	Significance	Effect Size
Rejection and Disconnection	31.36	1	31.36	5.01	0.027	0.04
Impaired Autonomy and Performance	132.25	1	132.25	14.68	<0.001	0.13
Directed by Others	62.41	1	62.41	24.76	<0.001	0.20
Overvigilance and Inhibition	46.24	1	46.24	14.10	<0.001	0.12
Impaired Limits	43.56	1	43.56	21.21	<0.001	0.17

The results shown in the Table 4 indicate that there is a significant difference in the components of early maladaptive schemas among individuals with gender identity disorder compared to normal individuals ($p <$.01). The effect size of this "practical significance" difference in the schemas of rejection and disconnection, impaired autonomy and performance, other-directedness, overvigilance and inhibition, and impaired limits were respectively 0.04, 0.13, 0.20, 0.12, and 0.17. This means that

respectively, 4%, 13%, 20%, 12%, and 17% of the total variance difference between the two groups in the present variables can be explained.

Based on the values in the Table 4, the effect of all the mentioned tests was significant at a level less than 0.01 ($p <$.01). In other words, all interactions and effects between one of the defense mechanisms and its subscales in the model were significant.

Table 4

Multivariate Test Results for Examining Differences in Defense Mechanisms Between Groups of Individuals with Gender Identity Disorder and Normal Individuals (N=60)

Effect	Value	F Statistic	df Hypothesis	df Error	Significance Level	Eta Squared (Effect Size)
Constant	Pillai's Trace	0.98	1237.64	4	55	<0.000
	Wilks' Lambda	0.02	1237.64	4	55	<0.000
Group	Pillai's Trace	0.19	5.67	4	55	<0.000
	Wilks' Lambda	0.80	5.67	4	55	<0.000

Table 5

Analysis of Variance Results for Examining Defense Mechanisms Between Groups of Individuals with Gender Identity Disorder and Normal Individuals (N=60)

Variables	Sum of Squares	Degrees of Freedom	Mean Square	F Statistic	Significance	Effect Size
Mature Defense Style	240.25	1	240.25	10.71	<0.001	0.09
Immature Defense Style	86.49	1	86.49	4.96	0.02	0.04
Neurotic Defense Style	88.36	1	88.36	5.82	0.01	0.05

The results shown in the Table 5 indicate that there is a significant difference in the neurotic defense style and the immature defense style among individuals with gender identity disorder compared to normal individuals ($p < .01$); and in the mature defense style, a significant difference was found between the two groups at the level of ($p < .05$).

The effect size of this "practical significance" difference in the mature defense style is 0.09, and in the subscales of the immature defense style 0.04, and the neurotic defense style 0.05, meaning respectively, 9%, 4%, and 5% of the total variance difference between the two groups in the present variables can be explained. Moreover, the high power of the statistical test in the current hypothesis indicates that the null hypothesis is correctly rejected with a probability of 90%, 59%, and 66%, respectively.

4. Discussion and Conclusion

The study explored significant disparities in early maladaptive schemas and defense mechanisms between individuals with gender identity disorder and the normative population, highlighting critical psychological differences that underscore the unique challenges faced by the gender-diverse group. These findings suggest a heightened prevalence of certain maladaptive cognitive patterns and defensive strategies in individuals with gender identity disorder, potentially contributing to their psychological distress and complicating their identity formation and social integration.

For instance, studies have demonstrated the predictive role of early maladaptive schemas and defense styles in hoarding behaviors (16), the association between defense mechanisms and attachment patterns in improving affective symptoms (17), and the impact of defense mechanisms on treatment outcomes in psychotherapy (18). These findings underscore the intricate interplay between early maladaptive schemas, defense mechanisms, and psychological well-being, emphasizing the need for a comprehensive understanding of these constructs in clinical populations.

Moreover, the literature review also sheds light on the potential implications of defense mechanisms in various psychiatric disorders, such as panic disorder (19), obsessive-compulsive disorder (20), and borderline personality disorder (4). The association between defense styles and

severity of mental disorders highlights the relevance of defense mechanisms in understanding the clinical manifestations and treatment outcomes of psychiatric conditions (21). Additionally, the role of defense mechanisms in predicting personality disorder traits and their association with maladaptive coping styles further emphasizes the significance of defense mechanisms in the context of psychological distress and psychopathology (22).

In conclusion, the findings from the study provide valuable insights into the differences in early maladaptive schemas and defense mechanisms in individuals with GID compared to normal individuals. The synthesis of the literature review underscores the complex interplay between early maladaptive schemas, defense mechanisms, and psychological well-being across diverse populations and psychological conditions. These findings have important implications for the development of tailored therapeutic interventions and the promotion of psychological resilience in clinical populations.

Limitations of the study include its cross-sectional design, limiting causal inferences, and reliance on self-report measures, which may introduce bias. The sample size and demographic scope may also restrict the generalizability of the findings.

Future Directions should focus on longitudinal studies to explore the development and transformation of these schemas and mechanisms over time, particularly in response to gender-affirming interventions. Further research could also diversify the sample to include a broader spectrum of gender identities and explore the impact of cultural, social, and environmental factors on these psychological constructs.

Implications for clinical practice include the need for tailored therapeutic approaches that address the specific maladaptive schemas and defensive mechanisms identified in individuals with gender identity disorder. Psychoeducation, schema therapy, and interventions aimed at enhancing coping strategies could be beneficial. Additionally, these findings underscore the importance of supportive, affirmative care environments that validate individuals' gender identities and experiences, contributing to their overall mental health and well-being.

Authors' Contributions

Zahra Namavari led the research design and coordinated the study focusing on individuals with gender identity disorder in Shiraz, including the application of psychological assessments.

Mojgan Jalil played a pivotal role in the methodological framework and data analysis, ensuring the scientific rigor of the study.

Samira Khashei contributed significantly to the nursing perspective, particularly in understanding the clinical implications of the findings for individuals with gender identity disorder.

Sanaz Shah Sanaei offered expertise in counseling and guidance, enriching the research with insights on therapeutic interventions.

Esmat Sadeghi brought a unique viewpoint from positive psychology, focusing on the potential for psychological growth and resilience building among the study's participants.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

References

- Giuseppe MD, Perry JC. The Hierarchy of Defense Mechanisms: Assessing Defensive Functioning With the Defense Mechanisms Rating Scales Q-Sort. *Frontiers in Psychology*. 2021. [PMID: 34721167] [PMCID: PMC8555762] [DOI]
- Cramer P. The Development of Defense Mechanisms. *Journal of Personality*. 1987. [DOI]
- Cramer P. Defensiveness and Defense Mechanisms. *Journal of Personality*. 1998. [DOI]
- Lee Y-J, Keum M-S, Kim H-G, Cheon EJ, Cho Y-C, Koo B-H. Defense Mechanisms and Psychological Characteristics According to Suicide Attempts in Patients With Borderline Personality Disorder. *Psychiatry Investigation*. 2020. [PMID: 32791818] [PMCID: PMC7449843] [DOI]
- Hayden M, Müllauer PK, Beyer KJP, Gaugeler R, Senft B, Dehoust MC, Andreas S. Increasing Mentalization to Reduce Maladaptive Defense in Patients With Mental Disorders. *Frontiers in Psychiatry*. 2021. [PMID: 33776819] [PMCID: PMC7991294] [DOI]
- Nasiri M, Donyavi R, Dousti Y. The Mediating Role of Defensive Mechanisms in the Relationship Between Social Phobia and Alexithymia in University Students. *Journal of Holistic Nursing and Midwifery*. 2020. [DOI]
- Sepidehdam FS, Yousef K, Besharat M. The Relation Between Defense Mechanisms and Job Burnout Among Iran AIR Staff. *International Journal of Social Science and Humanity*. 2013. [DOI]
- Bond M, Christopher J, Gautier M, Goldenberg M, Oppenheimer J, Simand J. Validating the Self-Report of Defense Styles. *Journal of Personality Disorders*. 1989. [DOI]
- Blanco C, Kampe L, Wall MM, Liu S-M, Wang S, Caligor E, Olfson M. Approximating Defense Mechanisms in a National Study of Adults: Prevalence and Correlates With Functioning. *Translational Psychiatry*. 2023. [PMID: 36690611] [PMCID: PMC9870881] [DOI]
- Jamilian H, Zamani N, Darvishi M, Khansari M. Study of Defensive Methods and Mechanisms in Developmental, Emotional (Internalization), and Disruptive Behavior (Externalization) Disorders. *Global Journal of Health Science*. 2014. [DOI]
- Conversano C, Giuseppe MD, Linguardi V. Case Report: Changes in Defense Mechanisms, Personality Functioning, and Body Mass Index During Psychotherapy With Patients With Anorexia Nervosa. *Frontiers in Psychology*. 2023. [PMID: 36895755] [PMCID: PMC9989464] [DOI]
- Rubino IA, Saya A, Siracusano A. Signs of Defense in Obsessive-Compulsive Disorder: A Validation Study of the Defense Mechanism Test. *Perceptual and Motor Skills*. 2007. [PMID: 18380111] [DOI]
- Panfil A-L, Frandes M, Nirestean A, Hurmuz M, Lungeanu D, Cristanovici M, et al. Interrelation Between Defensive Mechanisms and Coping Strategies in Psychiatry Trainees in Romania: A Multicenter Study. 2020. [DOI]
- Ammari S, Deyreh E, Keykhosrovani M, Ganji K. The Effectiveness of Couple Therapy on Depressive Symptoms and Sexual Function in Women Affected by Infidelity. *Razi Journal of Medical Sciences*. 2023;29(7):54-63.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

15. Moazzami Goudarzi B, Monirpor N, Mirzahoseini H. The the effectiveness of intensive and short-term dynamic psychotherapy on reducing the symptoms and defense mechanisms of obsessive-compulsive and avoidant personality disorders. *medical journal of mashhad university of medical sciences*. 2021;64(1):2482-95.
16. Yousefi R, Hashemi SGS, Sohrabi L, Abadi MH. The Association Between Early Maladaptive Schemas and Defense Styles With Hoarding Behaviour Among University Students. *Practice in Clinical Psychology*. 2018. [DOI]
17. Khademi M, Hajiahmadi M, Faramarzi M. The Role of Long-Term Psychodynamic Psychotherapy in Improving Attachment Patterns, Defense Styles, and Alexithymia in Patients With Depressive/Anxiety Disorders. *Trends in Psychiatry and Psychotherapy*. 2019. [PMID: 30994785] [DOI]
18. Laaksonen MA, Sirkiä C, Knekt P, Lindfors O. Self-reported Immature Defense Style as a Predictor of Outcome in Short-term and Long-term Psychotherapy. *Brain and Behavior*. 2014. [PMID: 25161816] [PMCID: PMC4075638] [DOI]
19. Kipper L, Blaya C, Teruchkin B, Elizeth Paz da Silva H, Isolan L, Mezzomo KM, et al. Evaluation of Defense Mechanisms in Adult Patients With Panic Disorder. *The Journal of Nervous and Mental Disease*. 2005. [PMID: 16131945] [DOI]
20. Atmaca M, Yildirim H, Koç M, Korkmaz S, Ozler S, Erenkuş Z. Do Defense Styles of Ego Relate to Volumes of Orbito-Frontal Cortex in Patients With Obsessive-Compulsive Disorder? *Psychiatry Investigation*. 2011. [PMID: 21852988] [PMCID: PMC3149106] [DOI]
21. Samallahti PR, Aalberg V, Pentinsaari JP. Does Defense Style Vary With Severity of Mental Disorder? *Acta Psychiatrica Scandinavica*. 1994. [PMID: 7832000] [DOI]
22. Lotfi-Hajilo N, Zarabian M-K, Ghodsi P, Shamsaei MM. Comparing of Symptoms, Defense Mechanisms and Coping Styles in Women and Men With Borderline Personality Disorder. *Avicenna Journal of Neuro Psych Physiology*. 2017. [DOI]