

Original Article

Assessing Gender Dysphoria Tendencies in Adolescents: A Scale Development and Psychometric Properties in Pakistani Adolescents

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Abstract

Background: Although gender dysphoria is becoming more widely recognized, there are still very few reliable psychometric instruments available to evaluate its prevalence in Pakistani adolescents. By developing an indigenous culturally relevant scale to assess gender dysphoria tendencies in adolescents and assessing its validity and reliability this study fills this gap.

Objectives: The objective of this current study is to develop a scale on Gender Dysphoria Tendencies in adolescents.

Methods: This survey based Cross-sectional study was carried out at the Department of Clinical Psychology, University of Management and Technology Lahore Pakistan over six months from 5 March 2022 to 21 September 2022. Initially, 42 items were generated by a semi-structured open-ended interview with 20 participants (10 boys and 10 girls) with the age range 15-19 years. After validating the content, a pilot study was carried out on a self-report measure of gender dysphoria. The sample consisted of 10 participants, with 5 boys and 5 girls. In the end, 350 participants (50% boys, 50% girls) aged 15- 19 (M=17.34, SD=1.26) were tested using the Gender Dysphoria Tendency Scale (GDTS) to assess psychometric properties. The Gender Dysphoria Tendency Scale (GDTS) was analyzed using Exploratory Factor Analysis, which resulted in the generation of two factors. i.e., Gender Dissatisfaction and Body Image.

Results: The GDTS demonstrated good reliability and validity, as well as good internal consistency and construct validity. Factorial structures are discussed within the context of Pakistani culture to gain a deeper understanding of the findings.

Conclusion: This study contributed to understanding gender dysphoria tendencies and how they are prevailing in adolescents in Pakistani culture.

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Introduction

Adolescence is the most critical period of development and its comes from the word “adolescent” which means to grow into maturity. Puberty occurs around 10-12 years of age, and physiological maturity achieved at around 19 years. Girls mature two years

earlier than boys.¹ They experience appearance consciousness, attraction toward the opposite gender, cognitive and emotional development, need for autonomy, career consciousness, and focus on imagination in this age.² Being in adolescence where children are prone to independence, they still need the supervision of parents in certain matters like puberty but the parents' involvement leads them to develop mental disorders at this stage (10-20%).³

Apart from these, the emotional neglect and attachment disorganization leads to gender disturbances in children causing gender dysphoria, in which they become dissatisfied with their bodies. Children who have experienced childhood abuse i.e., physical abuse and emotional abuse are likely to suffer from depression and other extreme dissatisfaction with themselves.⁴ Gender dysphoria is a psychological condition that manifests as psychological distress arising from in-congruence between one's sex assigned at birth and gender identity. The Diagnostic and Statistical Manual of Mental Disorders (DSM-V) defines this condition as having a strong desire to alter the physical characteristics to align with their gender identity. It can begin in childhood or later, even after puberty.⁵

The phenomenon of gender dysphoria is marked by a strong desire to eliminate or prevent the development of one's genitals or secondary sexual characteristics, accompanied by an equally strong yearning to possess the genitalia or secondary sex characteristics of the opposite gender.⁶ Additionally, individuals with gender dysphoria often experience a profound desire to behave or be perceived differently based on their gender, and a firm conviction that they exhibit the typical emotions and behaviors of the opposite gender.⁷ These symptoms can have a significant impact on an individual's well-being and quality of life, and healthcare providers need to be aware of them to provide appropriate care and support.⁸

Gender dysphoria can be due to multiple reasons which can be explained through the complex bio-psycho-social link i.e., due to congenital adrenal hyperplasia or androgen insensitivity syndrome, utero exposure to phthalates in plastics⁷. Parents reported sudden onset of gender dysphoria in their children during the times of puberty and the reasons associated with it included having a company or a peer group where many peers also have gender dysphoria.⁹ However, there is rising evidence linking childhood maltreatment and physical or sexual abuse to gender dysphoria. The relationship between parents and children, as well as the dynamics within a family, can greatly impact social and psycho-

logical factors, particularly gender dysphoria in children.¹⁰ According to Gender Schema Theory, people personalize the gender related norms through mental frameworks named as gender schemas. When these societal norms mismatch with the individual's gender identity, people feel discomfort and distress.¹¹ Previously little work has been done on it in the context of Pakistani culture and no indigenous tool is there to measure the prevalence of this construct in adolescence in Pakistan, so this research aims to explore the patterns of parental rejection, emotional neglect, and gender dysphoria tendencies in adolescents across Pakistan.

Methods

The research was conducted in four phases: item generation, expert validation, pilot study, and establishment of psychometric properties of Gender Dysphoria Tendencies Scale (GDTS).

Phase I involves generating the items for the development of a culturally valid and reliable scale for measuring Gender Dysphoria tendency among adolescents. Gender dysphoria was defined as the in-congruence between a person's biological sex and their gender identity. A phenomenological approach was used to interview 20 college students, 10 males and 10 females aged 15-19 years, selected through purposive sampling. The participants were first introduced to the construct and the purpose of the interview. Their permission was granted, and they were assured about conventionality. After the consent, a question was asked "You have seen many people around you who want to become a boy or girl. Besides this, what are the characteristics of these people?" A semi-structured interview with an open-ended approach was conducted and the verbatim of the participants were recorded. By these interviews, an overall expression of gender dysphoria was taken from the participants and collected items were analyzed through content analysis. A list of 42 items was initially developed, but repetitive and ambiguous items were excluded. Eventually, a list of 21 items was finalized as Gender Dysphoria Tendency Scale (GDTS).

In phase II of expert validation, the generated items were given to the experts for evaluation i.e., whether they measure or represent the particular domain of interest or not and to establish the content validity of the GDTS on 4-point Likert scale. Experts were chosen who had a massive experience over the years regarding clinical population having gender dysphoria tendencies or disorder. Eight experts were given a list of 21 items and 50% agreement on items were kept while the items getting a score of less than 50% were discarded. After

the reviews from the experts, 2 conflicted items were discarded, and a final list of 19 items was generated for further analysis. This final list was named as the Gender Dysphoria Tendency Scale (GDTS) with 4-point Likert scale.

In phase III of Pilot Study, the final items were tested to determine the user-friendliness, understanding the construct, and instructions. For this purpose, 10 participants (5 boys & 5 girls) were taken through random sampling and rated items on 0-3 Likert scale. They took 5-10 minutes to complete the scale and did not report any difficulties in understanding and layout of the scale.

The main objective of phase IV was to establish the psychometric properties of the Gender Dysphoria Tendency Scale (GDTS), designed to measure the extent of gender dysphoria tendencies.

The 350 participants were chosen from the government and private colleges of Lahore for data collection age ranged (15-19 years) ($M=17.34$, $SD=1.26$). To ensure a balanced representation of both government and private colleges in the study sample, a multistage sampling technique was employed. The participants were categorized into two groups based on their college affiliation. They were further divided on the base of gender i.e., boys 174 and girls 176, and then the educational level i.e., first year 175 (50%) and second year 175 (50%).

The gender dysphoria tendency scale (GDTS) measure gender dysphoria tendencies in adolescents consisted of 19 items ($\alpha=.74$), with two sub scales (Gender Dissatisfaction and Body Image) measured on a 4-point Likert scale ranging from 0 (never) to 3 (most of the time). The scores ranged from 0 to 57, higher scores indicating greater tendency towards gender dysphoria.

Emotional Neglect Scale (ENS) a 24 item self-report measure which is used to assess the perception of emotional neglect. It consists of two sub scales dominance and control (16 items, $\alpha=.91$) and lack of attention (8 items, $\alpha=.77$). The response options are 0 (not at all), 1 (seldom), 2 (often) and 3 (more often). Possible scores ranged from 0 to 72 and a higher score means more emotional neglect of an individual experience.¹²

First of all, permission obtained from the Institutional Review Board. Following that, various colleges in Lahore were contacted and briefed about research's objectives. Once permission was granted, authorities were assured about confidentiality and anonymity of the entire process. Participants were selected from different classes in the form of groups (30 participants). After the introduction and informed consent from the

participants, they were given the protocol consisting of the Gender Dysphoria Tendency Scale And Emotional Neglect Scale. It took 15 minutes for the participants to complete the protocol, they were debrief about this research topic and resolve the queries.

Results

A Principal Axis Factor with Varimax rotation was executed to determine the underlying factor structure of the Gender Dysphoria Tendency Scale. Firstly, factor analysis suitability was verified, revealing .74 Cronbach alpha for current scale, the KMO measure of sampling adequacy was .79, and Bartlett's Test of Sphericity was also significant. The number of sub-factors were determine on the base of Eigenvalue greater than one and factor loading ($>.35$). A scree plot displaying the eigenvalues of each factor is provided in Figure 1. Initially, factor analysis was performed with 3 factors, but it was not clear enough, so the two-factor solution was considered the most appropriate fit due to having minimum dubious items and more interpretative factor structure. Therefore, an Exploratory Factor Analysis (EFA) with Varimax rotation was conducted on 19 items. Four items whose factor loading was less than .35 were excluded and factor loading of the remaining 15 items is shown in Table 1, and the two sub factors were labeled as Gender Dissatisfaction and Body Image.

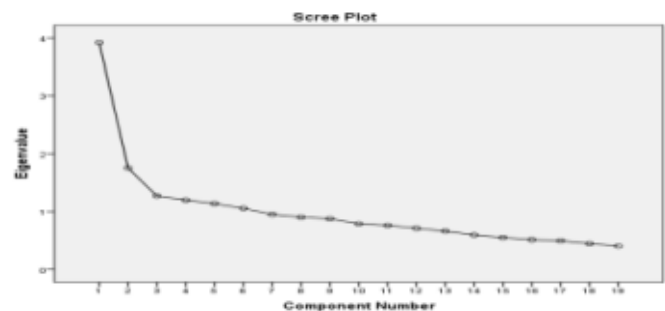


Figure 1: Scree Plot Showing The Factor Extraction For Gender Dysphoria Tendency Scale (N=350)

Factor Description

Gender dissatisfaction contained seven items, themed on dissatisfaction with one's gender. It included dissatisfaction, being ungrateful to one's gender, feeling comfortable in another gender, trying to change their body organs into the opposite gender, feeling hopeless, conflict with the assigned gender, and trying to be the opposite gender.

Body image contained eight items, themed on how people perceive their appearance and how they compare themselves with others. It included the items of inferior-

rity complex, thinking oneself ugly, feature comparison, restlessness due to your appearance, physical incompleteness, dissatisfaction with body features, disbelief in one's personality, and feeling comfortable doing opposite gender roles (Table 2).

The concurrent validity of current scale was established with emotional neglect scale, and it represents significantly high positive correlation ($r=.37^{***}$).

Table 1: Factor Structure of 20 items of Gender Dysphoria Tendency Scale on Adolescence with Rotated Component Matrix ($N=350$)

Sr. No.	Item No	Factor 1	Factor 2
1	6	.73	-.02
2	18	.67	.16
3	16	.67	.19
4	13	.66	.16
5	5	.59	-.08
6	8	.51	-.04
7	14	.46	.39
8	12	.16	.63
9	9	.09	.60
10	2	.01	.50
11	3	.03	.48
12	17	.15	.47
13	1	-.09	.47
14	11	.22	.45
15	19	.29	.39
16	Eigenvalue	3.17	2.50
17	% Variance	16.68	13.19
18	% Cumulative	16.68	29.87

Table 2: Summary of Inter Correlations, Internal Consistency Means, and Standard Deviation on Gender Dysphoria Tendency Scale ($N=350$)

Factors	M	SD	F1	F2	GD Total	EN
F1: Gender Dissatisfaction	1.90	2.82	-	-	-	-
F2: Body Image	3.99	3.24	.33***	-	-	-
GD Total	5.88	4.96	.78***	.84***	-	-
EN	12.31	9.52	.25***	.34***	.37***	-
α			.74	.62	.74	.87

Note. M=Mean, SD=Standard Deviation, GD=Gender Dissatisfaction Total

Discussion

To develop instrument for measuring gender dysphoria tendencies in the context of Pakistani culture, it was indispensable to understand the sociocultural context and its implicated challenges on people with GD.

Pakistan follows a collectivistic culture and being a religious society assumes parents as a prominent source of emotional, moral, and religious support, considering the role of both parents in rearing children.^{13,14} In cases where the parents tend to neglect their children, they develop mental health problems. However, there is rising evidence linking childhood maltreatment to gender dysphoria.¹⁵ Adolescents who are highly dissatisfied with their bodies and have Gender Dysphoria tendencies experience depression, suicidal ideation, and substance use.¹⁶ The parents child relationship and their family environment, contribute in the development of gender dysphoria in children. A parent's preference for a particular gender can greatly impact a child's development and perceived value within the family.¹⁷

Being part of the Pakistani culture, the study aimed at the development of indigenous tool on gender dysphoria tendencies in adolescents. To develop a culturally appropriate Gender Dysphoria Tendency Scale, the phenomenology was explored, and exploratory factor analysis was done on 15 items with two factors named as Gender Dissatisfaction consisting of 7 items, and the second factor named Body Image consisting of 8 items, having high reliability of .74.

Gender dissatisfaction is defined as the feeling of discomfort an individual experiences related to his or her current gender.¹⁸ It includes the items that depict dissatisfaction, being ungrateful to one's gender, feeling comfortable in the other gender, trying to change their body organs into the opposite gender, feeling hopeless for the present gender, conflict with the assigned gender, and trying to be the opposite gender. Secondly, Body image refers to the individual's perceptions relating to their own body and the feelings associated with it.¹⁹ It included the items of inferiority complex, thinking oneself ugly, feature comparison, restlessness due to your appearance, physical incompleteness, dissatisfaction with body features, disbelief in one's personality, and feeling comfortable doing opposite gender roles.

This study have some limitations as the data was only collected from Lahore and to ensure diversity, data from other cities could be added. Co-education system along with the separate education system should also be included in the study. Moreover, the class difference comparison among adolescents can also provide valuable information about their tendencies. Since this study was a preliminary validation of a newly developed scale on gender dysphoria tendencies that was a very sensitive and critical construct. It provided valuable information on Gender dysphoria and how it is prevailing in adolescents of collectivistic culture (Pakistan).

Conclusion

Current study was carried out on a very sensitive and critical construct provided a valuable information on Gender dysphoria. The Gender Dysphoria Tendency Scale (GDTS) was developed for Pakistani adolescents and through exploratory factor analysis a two-factor structure Gender Dissatisfaction and Body Image was produced. For evaluating adolescents inclinations toward gender dysphoria the GDTS provides a psychometrically sound and culturally appropriate instrument. One of the main goals of the instrument development was to incorporate cultural sensitivity. The items were carefully chosen to reflect local experiences without sacrificing scientific correctness, given the significant influence of religious beliefs and societal conventions in Pakistan. Participants and experts feedback highlighted the value of culturally relevant examples and sophisticated wording. By tackling these issues, the tool ensures its efficacy and acceptance across a range of groups by bridging the gap between general notions of gender dysphoria and the unique sociocultural dynamics in Pakistan.

Ethical Approval: The Institutional Review Board, University of Management and Technology, School of Professional Psychology approved this study vide Ref. ICPY/20/180.

Conflict of Interest: The authors declare no conflict of interest.

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Author's Contribution:

WH: Conception & design, acquisition of data, drafting of article

AK: Acquisition of data, drafting of article, critically revised it for important intellectual content

HR: Acquisition of data, drafting of article, analysis & interpretation of data, final approval

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