Journal of Social Sciences Review (JSSR) DOI: https://doi.org/10.54183/jssr.v3i1.197

How to Cite This Article: Yasir, W., & Kanwal, S. (2023). The Role of Age and Gender in Developing Body Focused Repetitive Behavior Disorders among Adolescents. *Journal of Social Sciences Review*, 3(1), 562-571. https://doi.org/10.54183/jssr.v3i1.197

The Role of Age and Gender in Developing Body-Focused Repetitive Behavior Disorders among Adolescents

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Vol. 3, **No.** 1 (Winter 2023)

Pages: 562 – 571

ISSN (Print): 2789-441X

ISSN (Online): 2789-4428

Key Words

Adolescence, BFRBD, Pakistan, Gender

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Abstract: *This study sought to examine the role of age and gender in developing Body-Focused Repetitive Behavior Disorders (excoriation, trichotillomania, and nail-biting) among adolescents. The sample(n=130) of this study was comprised of adolescents, including both educated males and females. The scales that were used in the current study are; The Trichotillomania Scale for Children/adolescents (Tolin et al., 2008), skin picking scale (Snorrosam et al., 2012), and Nail-Biting Scale (Claes & Vandereycken, 2007). There was no significant difference found between age and gender with respect to BFRBD. The findings of the study will increase the understanding of the knowledge of critical age period of adolescence with respect to Body focused repetitive disorders. The findings of this study will help psychologists, counselors, psychiatrists, and therapists to design and plan therapeutic interventions for BFRBD.*

Introduction

Our mental well-being defines how the individual face or cope the stressful events and incidents. The decision-making abilities and social interaction skills, and mental well-being are not specific to a particular age. It is as important for children as it is for adults and people of old age. Compulsive behaviors, for example, show certain features which might specify spoor mental health. There are two terms that are interchangeably used in literature to describe these persistent behaviors. One is Body focused Compulsive Behaviors, and the other is Body-Focused Repetitive Behaviors. These behaviors are repetitive in nature and mostly marked by the use of hands and show particular behavioral signs such as face-touching, skin-picking, hair-pulling, etc. If these behaviors are not diagnosed and treated at an earlier stage, they might lead to deterioration of the physical appearance or cause irreversible physical damage in extreme cases (Bohne et al., 2005), and these behaviors have also been associated with the severe mental health difficulties (Burns et al., 2011).

Body-Focused Repetitive Behavior disorders refer to recurrent repetitive behaviors that are concentrated on the body along with repeated efforts to minimize or halt these behaviors [American Psychological Association (APA, 2013)]. These disorders were included in DSM-V under the class of Obsessive Compulsive and related disorders regardless of many concerns about categorizing these habits (Stein et al., 2010). Body-focused repetitive behaviors disorders (BFRBD) are recurrent behaviors that target one or more body regions, especially nails, skin, and hair (McGuire et al., 2012). According to the research, BFRBD can be linked with negative

outcomes such as medical and esthetical problems and a wide range of socio-emotional complications (Franklin et al., 2008; Ghanizadeh, 2011; Odlaug et al., 2010). In BFRBD, an individual consistently squirms with his body, which results in physical harm (Houghton et al., 2017; Houghton et al., 2018; Morand-Beaulieu et al., 2016; Roberts et al., 2013; Tucker et al., 2011; Woods et al., 2006).

Trichotillomania

Obsessive-compulsive disorders cover a varied variety of diseases and signs, several of which center around the basic theme of monotonous and repetitious thoughts and behaviors. Obsessive-compulsive disorder (OCD) is, in its most generic definition, an obsession characterized by recurrent thoughts or compulsions specified by repeated acts. Trichotillomania (TTM), often known as a hair-pulling disorder, falls under this category of illness. Hair is frequently plucked from any area of the body in such circumstances, resulting in hair loss that is induced by the victim's actions. Because this ailment has such a significant impact on the patient's guises, it is associated with societal shame. This taboo encourages a lack of reporting and attempts to conceal the disease, and patients frequently seek therapy from a skin specialist instead of or in addition to a mental health professional.

Trichotillomania is chronic hair pulling those results in obvious hair loss, recurrent efforts to halt or minimize pulling behavior, and substantial distress, damage, or impairment instigated by hair pulling (American Psychiatric Association, 2013). The first case of trichotillomania, also known as trichinellosis, was reported in 1889 by a French dermatologist, Hallopeau, and he coined the term trichotillomania (Hallopeau, 1889). Trichotillomania is the derivative of Greek words, the Thrix (hair), Tillein (to pull), and Mania (madness).

Excoriation Disorder

Excoriation disorder is also called dermatillomania, skin-picking, and neurotic/psychogenic excoriation (American Psychiatric Association, 2013). It's an impulse control disorder marked by a strong desire to pick at the skin up to the point of causing mutilation. Traditionally Excoriation disorder has been linked with obsessive-compulsive disorder, but now it is categorized under the Obsessive-Compulsive and Related Disorders (DSMV) section as a distinctive diagnosis (Kasar & Yurteri, 2020; Ravindran et al., 2009).

Nail Biting

Snyder and Friman (2012) reported that it is the habit of putting the fingers into the mouth and linking up with the teeth and nails. Several people use their teeth to groom their nails when they don't have nail scissors, but this can be dangerous. In clinical nail biting, individuals intensively bite their nails and nail beds, which results in bleeding, scarring, and infection in the fingers. It is generally known to be a meek habitual practice that does not cause any impairments in social, personal, and occupational life. If this behavior comes to the extent that it starts causing problems in the daily functioning of the victim and chronic damage to the nails and fingers. BFRBD includes nail biting, which can affect us both physically and mentally. Nail biting can cause result in damage to the nails, paronychia, and bacterial infection.

Trichotillomania: Trichotillomania is a mental disorder characterized by recurrent, irresistible urges to pull out hairs from the scalp, eyebrow, or any other part of the body (Grant & Odlaug, 2008). It is operationally defined as the scores of the participants on the Trichotillomania Scale for Children /Adolescents. Higher scores on this scale indicate a high tendency of trichotillomania, and a low score indicates a low tendency of trichotillomania.

Excoriation Disorder: The repeated urges or impulses to pick own skin, along with psychological and physical damage, is the main characteristics of this disorder. A skin lesion is caused by repeated skin picking, which leads to significant distress (Lochner et al., 2017). It is operationally defined as the scores of the participants on the Excoriation scale. Higher scores on the Skin Picking Scale indicate a high tendency for excoriation, and low scores on the scale indicate a low tendency for excoriation behavior.

Nail biting: Nail biting refers to putting one's nail in his mouth and biting the nails with the teeth (Dufrene et al., 2008). It is operationally defined as the scores of the participants on the Nail Biting Scale. The higher scores on this scale indicate a high tendency of nail-biting behavior, and low scores on this scale indicate a low tendency of nail-biting behavior.

Research Design

A cross-sectional research design is used in the current study.

Sample

The sample of this study was comprised of adolescents, including both educated males and females. Only educated males and females were included in the current study because the scales that were used are in the English language, and uneducated people do not usually cooperate in research studies. The proposed sample size was 320, according to Cochran's formula (n= z2. [p*q]/d2) for an unknown population, but BFRBD is not a common disorder, that's why only 280 expected cases were identified in a time period of almost six months. A purposive sampling technique was used for the selection of the sample. The sample was selected from both diagnosed adolescents and adolescents from the general population. The reason for selecting a sample from these two populations is due to the fact that most of the people suffering from BFRBD do not take health services in this particular culture. The participants (both male and female) who obtained scores on BFRBD greater than the cutoff scores were selected as a sample of the study. The areas for sample collection were Abbottabad, Mansehra, Haripur, Mardan, Swabi, Peshawar, Rawalpindi, Islamabad, Jhelum, and Karachi.

Inclusion Criteria: Those participants were taken as a sample who were between the age of 13 to 19. The other inclusion criteria were that all the participants were educated and from both genders (male and female).

Exclusion Criteria: Uneducated and below and above the age limit (13 -19) were excluded from the sample. Only those participants who scored less than the cutoff score of respective scales were selected as a sample, and the rest were excluded.

Procedure

The sample was collected from different hospitals and educational institutes. Prior to data collection, permission from the administration of each department of the participating institutes was sought, and the booklet of the scales was shown to the administrative authorities. The assurance of protection of the dignity, rights, and welfare of the participants was given to the head of institutes. After taking prior approval from the head institution, the class teachers were approached and briefed about the purpose of the study. After taking their permission, informed consent along with the demographic sheet and questionnaires were distributed to the students (adolescents) who were in accordance with the research inclusion criteria.

The participants were motivated to fill out the booklet by highlighting the benefits of the current study. Scales were distributed within a group setting and individual setting. The participants were given surety of confidentiality of their given information. The obscurities of the questionnaires were made clear to the

respondents on the spot. The maximum time required to respond to the questionnaire was 60 to 90 minutes. After completion, the participants were thanked for their cooperation. For the clinical sample, permission was granted from the head of the respective hospital, and then the head of the psychiatric ward was debriefed about the purpose of the research. Then the patients in the Outpatient department were approached with the permission of the head of the department to collect the data.

Initially, 280 questionnaires were distributed, and 180 were answered and recollected. Among these, only 130 fulfilled the required criteria for BFRBD. Those participants who scored more than the cutoff point were selected for further analysis. The cutoff point was 160 for BFRBD. A control group has also been added to the study by collecting data from the general population having no symptoms of BFRBD.

Data Analysis

At this stage, the data were analyzed using Spss 23. Initially, reliabilities and intercorrelation were computed as an indicator of the psychometric properties of the scales that were found satisfactory. For internal consistency, Cronbach Alpha was calculated for all the scales as well as subscales that lie in the satisfactory range.

Instruments

Skin Picking Scale-Revised

The Skin Picking Scale-Revised; SPS-R is an eight-item scale developed by Snorrosam et al. (2012) with a reliability of .83 and a validity of 0.86. This is a five-point Likert scale with response categories of 0 (None) to 4 (extremely). SPS-R has satisfactory psychometric properties. The validity and reliability of the sub-scales are satisfactory and measure symptom severity and impairment. The Cronbach alpha reliability for the current study data is 0.87.

Exploratory and confirmatory factor analyses identified two factors, one measuring impairment and the other factor measuring symptom severity. There are four items for each factor.

The Trichotillomania Scale for Children/adolescents

This scale was developed by Tolin et al. (2008). It is 12 item scale that has two versions, one is for children or adolescents, and the other is the parent version. This is a three-point Likert scale of response categories from 0 to 2. The reliability of the Trichotillomania Scale for Children (TSC) is .82, and the validity is .74(Tolin et al., 2008). The reliability of the scale for the current study data is 0.98.

Nail Biting Scale

This scale is developed by Claes and Vandereycken (2007). The nail-biting scale is the subscale of a new self-reporting questionnaire: the Self-Injury Questionnaire - Treatment Related (SIQ-TR), which measures not only the taxonomic specifications of Self-injurious behavior but also the affective background and outcomes along with the functions of every single type of SIB distinctly. This is a five-point Likert scale with the response categories from 0 (no urge) to 4 (constant urge). The reliability of the nail-biting scale is .77(Claes & Vandereycken, 2007). The reliability of the scale for the current study data is 0.88.

The relationship between Age and Gender with BFRBD among adolescents.

One of the objectives of the current study was to find the relationship between Age and Gender among adolescents. For this, in the first step, the relationship between two variables was determined by using the MANOVA analysis, and the results are presented below.

Table 1

The summary of Descriptive Statistics of age, gender, and BFRBD for Two Way MANOVA analysis

	Age	Gender	M	SD	N
	13-16	Male			9
	17-19	Female	.55	.72	53
		Total	11.47	12.32 12.02	62
		Male	14.65	11.98 6.20	52
		Female	11.64	12.15	16
BFRBDN		Total			68
		Male	12.57	12.15	61
	Total	Female	9.24	11.88	69
		Total	10.80	12.07	130
		Male	7.22	.44	9
		Female	19.00	14.67	53
		Total	15.88	13.18	62
	13-16	Male	9.31	7.13	52
BFRBDS	17-19	Female			16
		Total	14.33	12.31	68
		Male	14.60	12.54	61
	Total	Female	16.75	13.89	69
		Total	15.74	13.27	130
		Male	20.33	2.00	9
		Female	4.00	8.943	53
		Total	3.23	6.83	62
	13-16	Male	17.06		52
BFRBDT	17-19	Female			16
		Total	6.48	9.03	68
		Male	5.75	8.85	61
	Total	Female	7.02	9.06	69
		Total	6.43	8.95	130

Note: BFRBDT = Body-focused repetitive behavior disorder trichotillomania scale, BFRBDN = Body-focused repetitive behavior disorder nail-biting scale, BFRBDS = Body-focused behavior disorder excoriation scale.

Table 1 shows the values of Mean (.55), Standard deviation (.72) of 9 males aged between 13 to 16, and mean (11.4), standard deviation (12.3) of 53 female participants in the age range of 13-16 who indulge in nail biting. The mean (14.6) standard deviation (11.98) of 52 male participants in the age range of 17 to 19 and the mean (1.87) standard deviation (6.20) of 16 female participants in the age range of 17-19 involved in the nail-biting disorder.

The table also shows that the mean (12.5), standard deviation (12.1) of 61 male participants aged between 13 to 16 and mean (9.24) standard deviation (11.88) of 69 female participants of age range 13-16 indulged in excoriation disorder. The table shows the mean (15.88), standard deviation (13.18) for52 male participants aged between 13 to 16, and mean (9.31) standard deviation (7.13) of 68 female participants within the age range of 17-19 involved in excoriation disorder.

The table also reveals that the mean (20.33), standard deviation (13.27) of 9 male participants within the age range of 13 to 16 and mean (6.37), standard deviation (7.32) of 52 female participants within the age range of 13-16 involved in trichotillomania disorder. Similarly, the mean (3.23) and standard deviation (6.89) of 52 male participants within the age range of 17 to 19and mean (17.06) and standard deviation (6.83) for 16 female participants within the age range of 17-19 indulged in trichotillomania disorder.

Table 2

Multivariate analysis of Age and Gender in BFRBD

Effect	Λ	F	df1	df2	P	η^2p
Age	.97	.89	3.00	124.00	.44	.02
Gender	.99	.42	3.00	124.00	.73	.20

Table 2 shows that there is no significant difference between the male and female participants; f (df1, df2.990(3.00, 124.00) p>.05) with respect to age (early or late adolescence) in developing Nail biting, Excoriation, and Trichotillomania; f (df1, df2) =.896(3.00,124.00) p>.05) comprising BFRBD.

Table 3

Tests of Between-Subjects Effect of Age and Gender on BFRBD

Source	D V	SS	DF	MS	F	P	η^2p
	BFRBDN	95.71	1	95.71	.763	.38	.02
Age	BFRBDS	4.96	1	4.96	.030	.86	
	BFRBDT	77.097	1	77.09	1.63	.204	
	BFRBDN	16.389	1	16.38	.13	.71	
Gender	BFRBDS	128.000	1	128.00	.77	.381	.20
	BFRBDT	29.55	1	29.55	.62	.43	
	BFRBDN	15806.94	126	125.45			
Error	BFRBDS	20842.30	126	165.41			
	BFRBDT	5952.16	126	47.23			

Note. SS = Sum of squares, DF = Degree of freedom, MS = Mean squares

Table 3 shows that age has no significant effect on trichotillomania; f (.76,1), excoriation;(1,.03), nail biting; f (1,1.6) p.05. The table also indicates that gender has no significant effect on trichotillomania; f (1,.16), nail biting; f (1,.13), excoriation; f (1,.77) p>.05.

Discussion

Age, Gender, and BFRBD

The current study also sought to determine the relationship between age, gender, and BFRBD. The results revealed that there is no significant relationship between age and gender with respect to BFRBD (Table 1, 2, 3). The MANOVA test was applied in order to find out the expected relationship between age, gender, and BFRBD. But there was no significant relationship found among the three study variables. There is no significant difference found in males and females in developing BFRBD. The results are not supporting the study hypothesis, but these results are coherent with the previous literature in which some of the studies did not find any

remarkable gender difference in developing BFRBD (Houghton et al., 2018: Selles et al., 2018).

According to Tucker et al. (2011), there is no gender difference found in developing excoriation disorder. Solley (2018) and colleagues reported that males and females are coequally engrossed in pathological nail biting. Similar findings were reported by Pacan (2014) and Tanaka (2008) and their associates. There is no remarkable gender difference in the intensity or frequency of hair pulling in trichotillomania (Christenson et al., 1994: Chang et al., 1991: Grant et al., 2016: Grant et al., 2020: Jafferany et al., 2020). One study that is conducted on 171 children from Karachi found no significant gender difference in nail-biting disorder (Waseem et al., 2021).

"This study manifested that age and BFRBD are not substantially correlated. But the age is specifically limited to early adolescents (13-16) and late adolescents (17-19) in the present study. In the previous research studies, the age difference is not much studied with reference to BFRBD. "Only a few researchers took it into account, as in one study trichotillomania has been studied among children and adults (Franklin et al., 2008)". Literature also revealed that the rate of nail-biting increases in adolescence while it declines in later ages (Tanaka et al., 2006), but the comparison is between adolescence and adulthood, not early and late adolescence. BFRBD are considered "to be the disorders that are majorly associated with late childhood and adolescence period that can be the reason that age, either early adolescence or late adolescence, "did not show a significant difference for the prescribed age limit with respect to BFRBD in this study. Some studies confirm that there is an increase in Focused hairpulling along with the increase with age, while Automatic pulling is persistent with time (Panza et al., 2013)".

"The intensity and frequency of BFRBD, either trichotillomania, excoriation or nail biting is independent of age and gender but depends somewhat on underlying factors; psychiatric or psychological, for example, anxiety, depression, Tourette syndrome and ADHD (Ghanizadeh, 2008, 2009, 2010: Ghanizadeh & Ghanizadeh et al., 2008; Pelc & Jaworek, 2003: Rangu & Castelo-Soccio, 2020). This factor strengthened the result of the current study that BFRBD is not dependent on age and gender".

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