



Effect of Psychoticism on Symptoms of Eating Disorder in Indian Female Athletes from Different Socio-Economic Background

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ABSTRACT

The present study was conducted to assess the interaction effect of psychoticism and socioeconomic status on symptoms of eating disorders in Indian female athletes. To conduct the study 1000 Indian female intercollegiate athletes were randomly selected from different sports such as gymnastics, judo, basketball, badminton, volleyball, hockey, softball and handball respectively. The average age of selected female athletes was 20.11 years. The symptoms of an eating disorder were measured by Eating Disorder Inventory prepared by Agashe and Karkare (2007). The socioeconomic status of selected female athletes was assessed by the SES inventory prepared by Agashe and Helode (2010). The personality dimension namely psychoticism was assessed through the Hindi version of the PEN inventory prepared by Menon et al. (1978). For 3x3 factorial design, subjects whose psychoticism scores fall above Q_3 were grouped in as having high psychoticism; subjects whose psychoticism scores fall below Q_1 were grouped in as having a low level of psychoticism and subjects whose scores fall between Q_1 and Q_3 were treated as having a moderate level of psychoticism. The classification of subjects into high, average and low socioeconomic status was done as per the author's manual. Result reveals a significant main effect of psychoticism and socio-economic status on symptoms of eating disorder in Indian female athletes. The magnitude of symptoms of eating disorders was significantly more in high psychotic intercollegiate female athletes as compared to average and low psychotic female athletes whereas symptoms of an eating disorder were significantly more in female athletes with a high socio-economic background as compared to female athletes from the average and low socio-economic background. The two-factor interaction between personality dimension psychoticism and socio-economic status did not yield significant variance in symptoms of eating disorders in Indian female intercollegiate athletes. It was concluded that the symptoms of eating disorders in Indian female athletes can be predicted through the psychoticism personality dimension and their socio-economic status individually and not collectively.

Keywords: eating disorder, psychoticism, socio-economic status

Introduction

The involvement of women in sports saw exponential growth during the last three decades. Just like male athletes, female athletes are also prone to develop an eating disorder. Smolak et al. (2000) stated that female athletes are also susceptible towards disordered eating. Eating disorders are of major concern because it leads to starvation, overeating and the use of diet pills or too much exercise. The eating disorder starts with following a strict diet plan followed by the use of improper weight gain/loss methods. Irregular eating routines/patterns with excessive or too little consumption of food are considered eating disorders. The eating disorder in athletes may not fulfil the norms under diagnostic criteria however is a serious issue because it carries a greater risk of developing mental and physical health problems. There are various forms of eating disorders such as anorexia nervosa, bulimia nervosa, and binge and obsessive eating. In sports, the

prevalence of disordered eating as reported by Ahmed et al. (2019) is as high as 61.9 although the majority of them do not qualify for a clinical eating disorder. It has been observed that eating disorder is also linked with certain psychiatric and mental health issues namely depression, suicidal tendencies and anxiety disorder (Hudson et al., 2007). Sundgot-Borgen and Torstveit (2004) reported that females are at greater risk of developing an eating disorder than males and the ratio is roughly 9:1. Nattive et al. (2007) reported that athletes with an eating disorder also use diet pills along with diuretics to control their body type. Age is also a major contributor to an eating disorder in female athletes with the maximum incidence reported by Deering (2001) under the age group of 25 years. In sports anorexia athletica is more common with an intent to obtain high physical performance by controlling their diet. The incidence of eating disorders differs in athletes on basis of the nature of sports. Athletes participating in gymnastics, diving and figure skating events are more prone to develop disordered eating because these games require leanness but the disordered eating often leads to a decrease in performance (Krentz and Warschburger, 2011) It has been also reported that psychological characteristics also play a major role in the development of the eating disorder. One such characteristic perfectionism has been proven to be associated with disordered eating in athletes which is both a symptom and risk factor (Brown et al., 2012).

Perfectionism is also closely related to the psychoticism dimension of Eysenck's personality theory. According to Eysenck et al. (1985) psychoticism is related to a lack of empathy and increased aggression as well selfish behaviour. The person high on psychoticism try hard to do things perfectly and it may be possible that psychoticism is one of the risk factors for the development of eating disorder in athletes.

Another aspect of disordered eating which is widely researched is socioeconomic status. The effect of socioeconomic status on eating disorders has been a point of discussion for ages. In an attempt to establish the relationship between SES and eating disorders, researchers like Rogers (1997) Reagon (2005) conducted studies and found that eating disorder is more prevalent in the upper socio-economic class. Disordered eating is found among adolescent girls of higher socioeconomic status (Neumark-Sztainer et al., 2008). On the other hand, Jones et al., 2001 observed that socioeconomic status (SES) was not significantly associated with disturbed eating behaviours in a school-based study in Ontario.

REVIEW OF LITERATURE :

Striegel-Moore (1997) reported that cultural homogenization leads to the spread of eating disorders even in middle and low socio-economic strata.

Dhokrat (2018) in a study on eating disorders established some personality dynamics related to it. He concluded that psychoticism and neuroticism have a 54% variance in eating disorder symptoms in adolescents.

Kidd (2021) in a study reported that although participation in sports does not affect the prevalence of eating disorders in collegiate students but cultural and societal norms have a significant effect on the development of eating disorders in collegiate students.

Goswami et al. (2022) conducted a study to assess various facets of eating disorders in adolescents and children participating in competitive sports such as basketball, boxing, table tennis, judo, cricket, gymnastics and badminton. It was found that the chances of adolescent athletes developing disordered eating and especially anorexia and bulimia nervosa are very high.

OBJECTIVE :

The objective of the present study was to evaluate the impact of psychoticism and socioeconomic status on symptoms of eating disorders in female athletes.

HYPOTHESIS :

It was hypothesized that psychoticism and socio-economic status alone and jointly will significantly affect symptoms of eating disorders in female athletes.

METHODOLOGY

Sample

To conduct the study 1000 Indian female intercollegiate athletes were randomly selected from different sports such as gymnastics, judo, basketball, badminton, volleyball, hockey, softball and handball respectively. The average age of selected female athletes was 20.11 years.

Tools

(A) Eating Disorder Inventory:

The eating disorder inventory prepared by Agashe and Karkare (2007) was used to assess the disordered eating in Indian female athletes. This inventory consists of 25 self-reported statements with positive and

negative natures. The inventory enjoys high reliability through a test-retest coefficient of 0.82. It also has a good construct and concurrent validity. Higher scores indicate inferior eating behaviour is the direction of scoring.

(B) Socio-Economic Status Inventory:

For measuring the socio-economic status of the selected female athletes, the SES inventory prepared by Agashe & Helode (2010) in Hindi was adopted. This inventory consists of 10 items for measuring the educational status of family members, occupational status, monthly income, housing condition, households, periodicals used by the family, monthly expenditure, participation in social functions, and assessment for the opinion of the friends and others about the family. It is a highly reliable and valid inventory to assess socioeconomic status.

(C) PEN Inventory:

To tap the psychoticism in female athletes, the Hindi version of Eysenck's PEN inventory prepared by Menon et al. (1978) was preferred. This Hindi PEN Inventory comprises 78 items of which 20 items are for tapping P, 20 items for measuring E, 20 items for tapping N and 18 items are for measuring the tendency to tell a lie (L). So far as the reliability and validity of this Hindi PEN inventory are concerned it can be said that the inventory is highly reliable and valid. The test-retest reliability coefficients have been found as 0.630, 0.888, 0.687 and 0.337 for P, E, N and L scales respectively. To fulfil the purpose of the study scores of psychoticism dimensions were taken into consideration.

Procedure

1000 Indian female intercollegiate athletes were randomly selected from different sports such as gymnastics, judo, basketball, badminton, volleyball, hockey, softball and handball respectively. They were subjected to psychological instruments selected for this study. The responses were evaluated and tabulated. A 3x3 factorial design was set up. In this factorial design, using Q_1 and Q_3 as the criterion, psychoticism varied to three levels (High, Low and Moderate) and socioeconomic status also varied to three levels i.e. high, low and average SES. Subjects whose psychoticism scores fall above Q_3 were grouped in as having high psychoticism; subjects whose psychoticism scores fall below Q_1 were grouped in as having a low level of psychoticism and subjects whose scores fall between Q_1 and Q_3 were treated as having a moderate level of psychoticism. The subject's socio-economic status was decided through norms given in the manual. The scores on eating disorders of these identified subjects were tabulated for each group.

RESULTS :

Table 1 Effect of Psychoticism (A) x Socio Economic Status (B) on Disordered Eating in Female Athletes (N=1000)

		Socio Economic Status (B)			Marginal Mean
		High (b_1)	Low (b_2)	Average (b_3)	
Psychoticism (A)	High (a_1)	N=154 M=8.57 S.D.=4.70	N=116 M=8.06 S.D.=5.12	N=124 M=7.45 S.D.=4.15	8.03
	Low (a_2)	N=114 M=6.54 S.D.=3.28	N=159 M=5.06 S.D.=2.64	N=96 M=6.46 S.D.=4.10	6.02
	Moderate (a_3)	N=74 M=8.13 S.D.=4.80	N=69 M=6.75 S.D.=4.49	N=94 M=6.53 S.D.=3.31	7.14
Marginal Mean		7.75	6.62	6.82	

Table 1(a)ANOVA Summary

A	746.147	Source of Variation	SS	df	MS	F
	2	373.074	22.34**			
B	225.333		2	112.666	6.74**	
AB	149.379		4	37.345	2.23 (NS)	
Within treatment (Error)			16547.363	991	16.698	

** Significant at .01 level; NS Not Significant

A perusal of table 1 and 1(a) gives the following inferences :

The F of 22.34, an indicator of the main effect of psychoticism on symptoms of eating disorders in Indian female intercollegiate athletes is statistically significant at .01 level. Hence symptoms of eating disorders in Indian female intercollegiate athletes with high (Mean =8.03), Moderate (M=7.14) and Low psychotic (M=6.02) did vary with high psychotic female athletes showing significantly more magnitude of symptoms of eating disorder as compared to moderate and low psychotic intercollegiate female athletes.

- The F of 6.74, an indicator of the main effect of socioeconomic status on symptoms of eating disorders in female intercollegiate athletes is statistically significant at .01 level. Hence symptoms of eating disorders in Indian female intercollegiate athletes from high SES (Mean =7.75), Average SES (M=6.82) and Low SES (M=6.62) did vary with female athletes from high SES showing significantly more magnitude of symptoms of eating disorder as compared to female athletes from average and low SES background. It thereby reveals that eating disorder in Indian female athletes from different socio-economic status differs significantly from each other.

The F of 2.23, an indicator of psychoticism and socio-economic status (AxB) interaction on eating disorders in Indian female athletes were not found to be statistically significant.

DISCUSSION:

It has been scientifically documented that perfectionism is strongly associated with the psychoticism dimension of Eysenck's personality theory. Athletes high in psychoticism are determined to excel in sports by executing skills perfectly. They want to win at all costs because they are non-conformists and have an abundance of altruism. All these traits are also seen in a person suffering from forms of eating disorder such as anorexia and bulimia (Braun et al., 1994), hence the result of the present study is not surprising.

A significant and positive relationship was observed between socioeconomic status and eating disorders in a study conducted by Hae-Jung Lee et al. (2013). They found that socioeconomic status and eating disorders are associated with each other. Hence results of the present study are consistent with the previous findings that SES and symptoms of disordered eating in female athletes are linked with each other.

The two-factor interaction effect of psychoticism and socioeconomic status on symptoms of eating disorders in female Indian athletes was not supported statistically thereby elaborating the power of two independent variables.

CONCLUSION:

Based on the results following conclusions are drawn:

1. Psychoticism affect symptoms of eating disorder in Indian female athletes.
2. Socio-economic status affects symptoms of eating disorder in Indian female athletes.
3. Interaction of psychoticism and socioeconomic status has no predictive value for symptoms of eating disorders in Indian female athletes.

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