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Attachment Styles and Orthorexic Eating Behaviors among Fitness Club Members

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Abstract

Objective. This study explored the influence of attachment styles onorthorexic eating behaviors (OEBs) in fitness club members.

Method. In a cross-sectional design, a purposive sample of 46 men and 60 women (N = 106) that were members of fitness club were selected and were asked o complete Attachment Style Questionnaire (Van-Oudenhoven & Hofstra, 2008) and Eating Habit Questionnaire (Gleaves et al., 2013) to assess study variables.

Results. Pearson product moment correlation showed that fearful, preoccupied and dismissing attachment styles ware positively associated with orthorexiceating behaviors. Hierarchical regression analyses revealed that fearful and dismissing attachment styles and duration of exercise positively predicted OEBsin fitness club members, however greater level of education reduced OEBs.

Conclusion & Implications. The study can be used to guide health organizations that take on members to help them control their weight issues should make them aware of possible obsession health predispositions that could work against the health of their members.

Keywords: fitness club members, attachment styles, orthorexic eating behaviors, OEBs

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Introduction

Appropriate eating behaviors and physical activity are important for a healthy lifestyle and psychological wellbeing (Blair et al., 2012; Mutrie, 2001). However, healthy eating can be problematic when it turns into an obsession or a persistent preoccupation. Orthorexic eating behavior (OEB) is characterized as, "pathological obsession or preoccupation with healthy eating" (Bratman& Knight, 2000; Cartwright, 2004; Koven&Abry, 2015). Individuals with orthorexic eating behaviors (OEBs) obsessively focus on healthful food choices, like organic foods with high nutritional value and their cooking and preparation. Bratman (2017) divides such obsession into two phases, choosing to eat healthy, and thenintensifyhealthy food choices into an obsession which ultimately leads to pathology. There are no empirically tested diagnostic criteria for orthorexic eating behaviors, but different studies have tried to calculate the prevalence rates of OEBs in a range of the cross-cultural sample. According to Almeida et al. (2018), OEBs were more prevalent among individuals who exercise more than 3 times a week, with prevalence rates (51.8%) in their overall sample. The OEBs estimated by Segura-Garcia et al. (2012) in athletes and fitness club members, ranged from 28 (women) to 30 (men) percent, while the prevalence was higher (43.4%) in a sample of yoga practitioners(Valera et al., 2014). According to McComb and Mills (2019), obsessive-compulsive traits, a drive for thinness, a history of another psychological disorder, poor body image, and being a vegetarian are considered as the risk factors for ON.

Previous studies have reported attachment styles as an important risk factor in eating disturbances. Disruptive early experiences or attachments as well as negative attachment experiences were associated with eating disturbances (Lehoux & Howe, 2007; Treasure & Schmidt, 2013).Individuals suffering from eating-related disorders reported that their early attachments were less responsive and more rejecting (Chassler, 1997). Similarly, the relationship with current attachment figures was also marked by fears of rejection, uncertainty, frustration, jealousy discomfort with closeness, and overall low satisfaction (Evans et al., 2005).Attachment theory (Bowlby, 1973) explains the development and maintenance of close relationships. During periods of emotional distress, warmth and support shown by a significant caregiver form the basis of these attachment styles. Individuals that receive warmth and support develop secure attachment styles, are open to others and explore their surroundings and relationships, for example they tend to be (a) open, collaborative, committed, and proactive in their relationships (b) trust their abilities, and most importantly, (c) can integrate their relationships (Dozier, 1990).That is why secure attachment style negatively correlate with disordered eating (Elgin & Pritchard, 2008). Insecure attachment styles are generally divided into three, where preoccupied attachment style makes people excessively expressive in their emotions, need attention, and are highly dependent on their relationships (Gillath et al., 2016). Individuals with a fearful attachment style seek approval from others, are fearful of intimacy, and seek relationships as painful (Favez &Tissol, 2019). Fearful attachment style is positively related to ON (Barnes & Caltabiano, 2017). A dismissing attachment style has a sense of worthiness but a negative view of other people, rigidity/inflexibility and difficulties in seeking help (Dozier, 1990; Rennie et al., 2004). This style is positively associated with eating disturbances (Elgin & Pritchard, 2008). The cognitive-interpersonal maintenance model of eating (Treasure & Schmidt, 2013) can be used to theorize attachment styles and eating behaviors. It proposed that socio-emotional, cognitive and interpersonal factors are important in developing eating disturbances. This model proposed that insecure attachments are one of the most important predisposing and maintain factors of eating disturbances. And since excessive exercise is associated with ON symptoms (Almeida et al., 2018; Rudolph, 2017) therefore, fitness club members were selected in the present study.

Hypothesis 1.the present study hypothesized that insecure attachment styles are likely to positively predict OEBs as opposed to secure attachment styles.

Methodology

Sample

A purposive sample of 46 men and 60 women (N = 106) that were members of fitness club were used in this study. A total number of four fitness clubs were selected from Lahore, Pakistan. Both men and women aged 19-30 (M=22.91, SD= 1.98) years were included. Individuals who exercised for at least 2 hours a week were members of the club for the last 6 months were included in the study. Individuals that followed a diet plan or were diagnosed with any eating disorders were excluded. In the present study, participants exercised an average of 5.96days (SD=1.21) per week with an

average of 15.13 hours (*SD*=4.67) weekly. Also, the participants exercised for an average of 2.54 hours (*SD* =.59) per day. The average BMI of the participants was 22.65 (*SD*=4.70) with average height of 65.94 cm (*SD* = 4.71) and weight of 63.83 kg (*SD* = 13.96). The average education of the participants was 15.87 years (*SD*=1.44). A total number of 152 participants were approached initially 46 were excluded because they did not respond to the questionnaires (see below) or did not meet exercise criteria. Details of demographic characteristics of the sample are given in Table 1.

Table 1

Demographic Characteristics of the Study Sample

Variable	*N*	*%*
Gender		
Men	46	43.40
Women	60	56.60
Birth Order		
First Born	30	28.30
Middle Born	46	43.40
Last Born	28	26.40
Only Child	2	1.90
Occupation		
Non-working	76	71.70
Working	30	28.30
Marital Status		
Single	95	89.60
Married	11	10.30
Use of Supplements		
Protein bars/ shakes	36	34.00
Vitamin supplements	32	30.20
None	38	35.80
Reason of Exercise		
Weight Loss	45	42.50
Weight Gain	11	10.40
Maintaining Health	40	37.70
Stress	3	2.80
Physical Health	2	1.90
Sports	5	4.70
Type of Exercise		
Aerobics	32	30.20
Cardio	34	32.10
Yoga	21	19.80
Walking/ Running/ Jogging	19	17.90

Assessment Measures

Attachment Style Questionnaire (ASQ). Van-Oudenhoven and Hofstra (2008) developed this scale consists of 24 items that is designed to explore the attachment styles of an individual. It consists of four subscales, Secure Attachment Style (SAS, 7 items), Preoccupied Attachment Style (PAS, 7 items), Fearful Attachment Style (FAS, 5 items), and Dismissing Attachment Style (DAS, 5 items). Examples of the scale items include; "*I feel at ease in an emotional relationship"* (SAS); *"I would like to be open to others but I feel I can't trust other people"* (FAS)*;* and "*I often wonder whether people like me"* (PAS); *and "I prefer that others are independent of me and I am independent of others"* (DAS), etc. Each item is rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly

agree). Internal consistency of the subscale ranged from (Cronbach alphas =.62 to .80).

Eating Habit Questionnaire (EHQ). Gleaves et al. (2013) developed a self-report measure that consists of 21 items and measures orthorexic tendencies. It measures knowledge of healthy eating, problems associated with healthy eating, and feelings towards healthily eating. It includes three subscales, including knowledge (K; 9 items), problems with healthy eating (P; 20 items), and positive feelings about to healthy eating (F; 6 items). Examples of items of subscales are "I follow a diet with many rules (P)", ''I feel in control when I eat healthily (F), and "My eating habits are superior to others (K).'' Items are rated on 4-pointLikert scale ranging from 1 "false, not at all" to 4 ''very true.'' The total composite score ranges from 21 to 84and the higher score on the scale indicates more obsessive eating behaviors. This scale has been recommended by multiple research studies for the measurement of OEBs (Gleaves et al., 2018).

Demographic Information Sheet. The demographic information sheet contains the information regarding the gender, age, education, weight, height, marital status, personal income, type of exercise, reason for exercise of participants. Moreover, information regarding the psychological and physical illness was also asked.

Procedure& Ethical Considerations. The present study was firstly approved by Departmental Doctoral Program Committee (DDPC) of the university. Permissions to use the assessment measures ASQ and EHQ were taken from the original authors of the questionnaires. Furthermore, questionnaires were shared with the heads and participants of fitness club members through online Google forms. Each participant was given an information sheet having detailed information regarding the research project and was asked to provide their consent before completing the scales. Participants were assured that all the information will be kept confidential and will only be used for educational and research purpose.

Data Analyses

Data analysis was done with the help of the Statistical Package for Social Sciences (SPSS version-22.0.0). Reliability analysis was done to measure the reliability of measuring instruments and their subscales.

Results

Table 2

Psychometric Properties of the Scales

Measure	*M*	*SD*	Range	*a*
Attachment Styles				
SAS	23.20	4.45	2.8-3.9	.64
FAS	17.20	3.60	3.1-3.6	.60
DAS	18.70	3.31	3.2-4.4	.64
PAS	3.13	.77	2.5-3.4	.78
EHQ	55.00	12.20	2.1-3.2	.90

Note. SAS = Secure Attachment Style, FAS = Fearful Attachment Style, DAS= Dismissing Attachment Style, PAS = Preoccupied Attachment Style, EHQ = Eating Habit Questionnaire

The results of Pearson product moment correlation showed that age was associated negatively and significantly (r = -.30, p< .01) with PAS, but not other attachment styles or OEBs. Similarly, education showed a negative and a significant (r = .21, p< .05) relationship with OEBs, indicating that higher level of education was related to a low obsession with healthy eating, however, education was not positively or negatively associated with attachment styles. Duration of exercise associated positively with FAS (r = .20, p< .05), PAS (r = .23, p< .05), DAS (r = .20, p< .05), signifying that longer duration of exercise is associated with fearful, preoccupied, and dismissing attachment styles. Duration of exercise was also associated significantly (r = .20, p< .05) and positively associated with EHQ indicating longer duration of exercise was associated with greater obsession with eating healthy. As expected, SAS was significantly negatively (r = -.27, p< .01) associated with FAS, and FAS was positively associated with PAS (r = .35, p< .001), DAS (r = .33, p< .001). In other words, secure attachment style was negatively associated with fearful attachment

style; and fearful attachment style was positively associated with preoccupied and dismissing attachment styles. Fearful attachment style was positively and significantly (r = .37, p< .001) associated with EHQ, and so were PAS (r = .20, p< .05) and DAS (r = .36, p< .001) associated with EHQ, suggesting participants having insecure attachment styles engaged more with OEBs (Table 3).

Table 3

Variance in OEBs Explained by Age, Education, and Duration of Exercise

Variables	age	Edu	Exe	SAS	FAS	PAS	DAS	EAT
Age	-							
Edu	.18	-						
Exe	-.01	.06	-					
SAS	.03	.19	-.01	-				
FAS	-.18	.02	.20*	-.27**	-			
PAS	-.30**	-.07	.23*	-.12	.35***	-		
DAS	-.12	-.11	.20*	-.01	.33***	.09	-	
EAT	-.12	-.21*	.20*	-.05	.37***	.20*	.36***	-

Note. Edu = Education, Exe = Duration of Exercise in a week, SAS = Secure Attachment Style, FAS = Fearful Attachment Style, DAS = Dismissing Attachment Style, PAS = Preoccupied Attachment Style, EHQ = Eating Habit Questionnaire

*p< .05, **p< .01, ***p< .001

Hierarchical regression analysis showed that 10 percent of variance in OEBs was explained by age, education and duration of exercise, F (3, 102) = 3.60, p < .05. Education negatively (B = -1.72, p< .05), and duration of exercise positively (B = .56, p< .05) predicted OEBs in fitness club members. In Model 2 attachment styles were added. This model explained 16% variance in OEBs, F (7, 98) = 4.69, p<.001 and indicated that fearful (B = 5.31, p< .01) and dismissing (B = 4.21, p< .05) attachment styles positively predicted OEBsin fitness club members.

Table 4

Hierarchical Regression Analysis showing Predictors of OEBs

		95% CI for *B*					
Variable	*B*	*LL*	*UL*	*SE B*	*B*	R^2	ΔR^2
Step 1						.10	.10*
Constant	86.60	52.44	120.76	17.22			
Age	-.56	-1.72	.61	.59	-.09		
Edu	-1.72*	-3.32	-.11	.81	-.20*		
Exe	.56*	.07	1.05	.25	.21*		
Step 2						.25	.16***
Constant	35.63	-6.01	77.28	20.99			
Age	.01	-1.11	1.16	.58	.00		
Edu	-1.72*	-3.27	-.18	.78	-.20		
Exe	.26	-.22	.74	.24	.10		
SAS	1.67	-2.39	5.72	2.04	.08		
FAS	5.31**	1.52	9.10	1.91	.29**		
PAS	.80	-2.29	3.88	1.56	.05		
DAS	.4.21*	.44	7.97	1.90	.21*		

Note. Edu = Education, Exe = Duration of Exercise, SAS = Secure Attachment Style, FAS = Fearful Attachment Style, DAS = Dismissing Attachment Style, PAS = Preoccupied Attachment Style, EHQ = Eating Habit Questionnaire

*p< .05, **p< .01, ***p< .001

Discussion

The present study explored the attachment styles as predictors of OEBs in fitness club members and found insecure attachment styles did indeed lead to OEBs. These results are supported by previous studies that showed insecure attachment styles as significantly related to eating disturbances (Elgin & Pritchard, 2008; Mikulincer& Shaver, 2016). Fearful, dismissing, and preoccupied attachment styles were positively related to the OEBs, showing that individuals with these attachment styles were at high risk of developing orthorexia symptoms. Similarly, Barnes and Caltabiano (2017) reported that dismissing and fearful attachment styles were positively related to

ON in fitness club members. It has been reported that fearful attachment is defined by negative views about self and others while dismissing attachment style is defined by a negative view of others and this negative view could be related to the presence of eating disturbances such as ON (Elgin & Pritchard, 2008). Furthermore, individuals with preoccupied attachment styles strive to seek acceptance from others and excessively express their emotions. Previous studies also point out patterns of disordered eating behaviors is perceived as expressions of the unregulated cognitions and behaviors that are characteristic of the preoccupied attachment style (Ringer & Crittenden, 2007). Hochdorf et al. (2005) similarly reported, individuals with eating disturbances are more likely to be avoidant and anxious in their attachment styles. Our hypotheses about attachment (fearful and dismissing) styles predicted OEBs and were aligned with previous studies (Barnes & Caltabiano, 2017; Elgin & Pritchard, 2008). Other studies (Hayatbini& Oberle, 2018) have reported that OEBsare associated with inflexible thoughts and behaviors.

In demographics, level of education and duration of exercise showed significant associations with orthorexic eating behaviors. Level of education was negatively related to orthorexic eating behaviors, indicating the higher education is related to low levels of orthorexic eating behaviors in fitness club members. Duration of exercise in the members of the fitness center also predicted OEBs, the longer they exercised the greater were their OEBs. These results are supported by previous studies as Almeida et al. (2018)reported that people who exercised more than 3 times a week (or were addicted to exercise, Rudolph, 2017) had OEBs.

Implications, Limitations, and Future Research

The present study provides some preliminary data on a set of Pakistani adults from a fitness center who were engaged in maintaining their physique (shed and maintain weight) and regulate their eating behaviors. In the present study, exercise, education or their attachment styles accounted for developing OEBs. This information should be disseminated to people who manage gyms, fitness centers and health studios, because those who manage these centers can guide their members about potential health risks that can emerge asorthorexic eating behaviors. They can create such awareness by arranging different workshops and seminars related to orthorexia symptoms in members and community in general. This study was limited to a small sample of fitness club members which clearly needs replication with more people from different walks of life who exercise (including professional athletes) and those that do not. Furthermore, studies should look at many nuisances of exercise addiction (not simply hourly duration of exercise per week, as done in this study). Finally, in-depth qualitative studies should be carried out to explore emotional, cognitive, social, and interpersonal aspects related to OEBs and ON.

Conclusion

It is concluded that attachment style can be an important factor that can predispose people to aberrant eating behaviors and initiate orthorexic eating behaviors, make them choosy about what they eat. If they guard their body weight and shape, choosing special foods may become an all-time obsession verging on the threshold of behavioral disorder. Such OEBs can exacerbate if people with insecure attachment styles exercise. Exercise and being less educated can increase obsessions about eating and the possibility of ON.

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