EATING ATTITUDES AND BELIEFS IN FOOD MYTHS AMONG ADOLESCENTS

BY

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NATIONAL INSTITUTE OF PSYCHOLOGY

Centre of Excellence

Quaid-i-Azam University

Islamabad- Pakistan

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Centre of Excellence

Quaid-i-Azam University, Islamabad

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DOCTRATE OF PHILOSOPHY

IN

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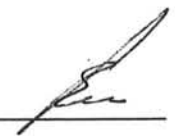Signature: _____

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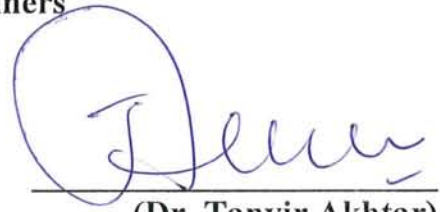
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Dedicated to all those teachers and students who are standing against vicious approach of ignorant terrorists and even paying homage by giving their lives for education in Pakistan

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ABSTRACT

This research was designed to explore the eating attitudes and beliefs in food myths among adolescents. It also investigated the mediation of body image on the path of Body Mass Index (BMI) and eating attitudes. The research has been completed in five studies. Study I was qualitative in nature and based on understanding of the phenomenon of eating attitudes in Pakistani context. For this purpose data was collected in eight focus groups from a sample (N = 69) of adolescents (33 boys and 36 girls). Content analysis was applied to find out the categories and subcategories of eating attitude in the data. Overall, six categories were clustered in three components i.e., affective (food relation with body), behavioral (food preferences, overeating, and eating patterns), and cognitive (over concern about weight and appearance and food myths belief).

Study II dealt with the development of Eating Attitude Scale (EAS) and Food Myth Scale (FMS). A sample of 540 adolescents including boys (n = 267) and girls (n = 273) was taken from colleges/ universities of Rawalpindi/Islamabad with age range from 16-22 years (M = 18.25; SD = 2.01). Exploratory Factor Analysis (EFA) grouped 33 items in three factors i.e., food relation with body, overeating, and irregular eating routines for EAS while FMS was a unifactor scale of 18 items. Psychometric properties of scales were further established. Study III was aimed at translation and validation of Multidimensional Body Self-Relations Questionnaire-Appearance Scale (MBSRQ-AS; Cash, 2000) and it is accomplished in two phases. Phase I addressed the translation and language validation of scale by using forward-back translation. Phase II aimed to establish the factorial structure of MBSRQ-AS Urdu version. Data from sample of 350 college students including boys (n = 135) and

girls (n = 215) was taken into consideration. EFA revealed 27 items in four factors i.e., body area satisfaction, appearance orientation, appearance evaluation, and overweight pre-occupation. Reliabilities of scales were found satisfactory. Study IV addressed the validation of EAS and FMS. A sample of 500 adolescents (227 boys and 273 girls) was involved in this study and is accomplished in four steps. First step addressed the construct validation through confirmatory factor analysis (CFA) for EAS, FMS, and MBSRQ-AS Urdu version. Step II addressed the convergent validity with Disordered Eating Behavior Scale (DEBS; Muazzam & Khalid, 2011). In step III discriminant validity was established with the help of MBSRQ-AS Urdu version and Extraversion subscale of NEO-FFI (Chishti & Kamal, 2009).

Study V aimed to determine the psychosocial correlates for eating attitudes and testing hypotheses. Sample of 1250 adolescents including boys (n = 609) and girls (n = 641) with the age range from 16-22 years (M = 18.25; SD = 2.01). Results confirmed the negative relationship with eating attitudes and body image dissatisfaction. Moreover, moderation of gender and food myths on the relationship between body image and eating attitudes was tested. It was found that body area satisfaction and overweight pre-occupation mediate the path between BMI and eating attitudes. Furthermore, moderating role of gender was also explored in the mediating effect of body area satisfaction and overweight pre-occupation and this model was found significant for Pakistani adolescents. Girls with high BMI scores experience more fat anxiety and show less body area satisfaction as compared to boys in turn control their eating in a way to develop the unhealthy or negative eating attitudes. In the end, findings were discussed in Pakistani cultural context and its implication in Pakistani society.

INTRODUCTION

INTRODUCTION

Eating is significant in one's life and a remarkable determinant of health and it is necessary to study this behavior with reference to its different dimensions (i.e., physiological, psychological, and social). Most studies (Huang, Dai, Li, & Ma, 2015; Niu, Li, Huang, & Favonoid, 2015; Sangeetha & Pushpa, 2012; Turconi, 2011) in eating as well as nutrition have dedicated to physiological aspects, but if detached from their appropriate social environment is believed to produce constrained information; consequently, a cultural, psychological/ mental, and social approach is fundamental. One plausibility in this perspective is to study eating viewpoints other than the eating utilization, even in quantitative reviews. It is along these lines trusted that. It is thus believed that individual build upon an association with food and the term "eating attitude" seems to better describe it. It is believed that food choices are culturally influenced, so, the present study is an endeavor to comprehend eating attitudes indigenously.

Pakistan is the sixth most populous nation of the world with an aggregate populace of 184.35 millions in 2012-13.1 (Sherin, 2013). Add up to populace of Pakistan is around 172 million (Population Census Organization, Pakistan, 2010). 43.40 % are offspring of age gathering between 11-14 years, 65 % of Pakistani families contain at least one young people. 23 % have children not as much as age of 10 years will's identity the up and coming era of young people (Abideen, Latif, Khan, & Farooq, 2011). Adolescents, because of their relative youth, absence of basic

leadership control, and inadequate self-improvement, are ineffectively arranged to deal with the physical/mental wellbeing.

Programs/ Projects and approaches need to shield young people from the biases they confront that undermine their wellbeing, security, and secure advancement. Arrangements and methodologies ought to be especially expected to address the issues of youths without disturbing their advancement into grown-ups. With numerous other health challenges adolescents confronts the trouble in acquisition of normal body image that is associated with their daily energy intake. Body image is considered as one's attitudinal manners toward the physical self (Cash & Pruzinsky, 2002). As states of mind, these attitudes incorporate evaluative, intellectual, and behavioral segments. What's more, the physical self encompasses one's physical appearance as well as the body's skill or "wellness" and its organic uprightness or "wellbeing/illness". The media has been a standout champion amongst the most effective sources passing on the "thin is lovely" message. Early immaturity has been recognized as a powerless time for young ladies to create disarranged eating or dietary issues as a result of the standardizing challenges related with that time of advancement (e.g., physical changes related with pubescence, expanded longing for companion acknowledgment, onset of dating) (Attie & Brooks-Gunn; Levine & Smolak; Levine, Smolak, Moodey, Shuman, & Hessen; Smolak, Le vine, & Striegel-Moore as cited in McVey, Pepler, Davis, Flett, & Abdolell, 2002).

Specifically, teenagers who disguise the media messages about slenderness have a tendency to have more prominent body disappointment and are more inclined to create obsessive eating states of mind (Keery, Shroff, Thompson, Wertheim, & Smolak, 2004; Muris, Meesters, van de Blom, & Mayer, 2005). As the literature

suggest young girls will probably be influenced from family, cultural, and societal pressure and are negatively judged, their life lacks contentment, and probable chance that they might become better if they look leaner. To look like models/actresses, the young ladies are prone to develop eating related problems (Abideen et al., 2011). Present research is an attempt to contemplate in indigenous situation of Pakistan, how one develops the attitudes toward eating and what are individual and environmental factors contributing in establishing the eating attitudes. Increasing incidence of eating disorders in Pakistan is important reason to study the youths eating attitudes and habits that may contribute into pathology.

Eating Attitudes

Eating attitudes are explained as "beliefs, thoughts, feelings, behavior, and relationship with food" (Alvarenga, Scagliusi, & Philippi, 2010). These attitudes can influence people's food choices and health status. Eating is imperative in life and a noteworthy determinant of physical and as well as psychological health and it is hence essential to study this wonder from its alternate points of view. Most studies in eating and nourishment have concentrated on physiological viewpoints, however in the event that separated from their appropriate social environment is accepted to create just constrained learning; hence, a social, mental and social methodology is vital (Germov & Williams as cited in Alvarenga et al., 2012).

Satter (2007) explained nutritious sufficiency is bolstered by variety. Variety is upheld by fulfilling essential requirements for well known and favored sustenance and food, chosen primarily for their nutrition value, including those that are picked principally for their nourishing quality. Tolerating, depending on, and reacting

absolutely to internal drives as for food choice and regulation permits inherently remunerating nourishing practices and backings uplifting mentality about eating. Among those naturally compensating practices is dealing with the nourishment connection to give consistent and dependable access to abundant and stylishly remunerating sustenance nourishment that is preferred by individual. It is imperative to comprehend eating disposition to appropriately evaluate food choices; its perception could likewise help to plan nutritional interventions (Alvarenga et al., 2012). Other than that, it is expressed that eating attitudes could have an effect on wellbeing in general (Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999; Rozin, Fischler, Shields, & Masson, 2006) and in this way assessing eating attitudes could help individuals get to be healthier (Aikman, Crites, & Fabrigan, 2006).

Eating attitude alludes to have positive or negative feelings toward eating. Positive eating attitudes leads to healthy eating behavior, while negative eating attitudes cause disordered eating behavior (Garner, Olmsted, Bohr, & Garfinkel, 1982). Disordered eating is described as troublesome eating patterns, more continuous or less serious than diagnosed dietary issues (Hampl, Heaton, & Taylor, 2003; Kalodner & Scarano, 1992; Muazzam & Khalid, 2008). The distinction between disordered eating and supplementary disturbance of ordinary eating is the perseverance and the control behind the eating behavior.

Atypical eating is found much more basic and far reaching than real eating disorders (Grotta et al., 2001; Mond, Hay, Rodgers, Owen, & Beumont, 2004; Jafarey & Korejo, 1995; Muazzam, 2009). Among the overall public a little number of individuals are considered to have full blown eating disorders as compared to disordered eating behavior (as cited in Muazzam & Khalid, 2008). The term

disordered eating speaks to an expansive continuum of unhealthy eating practices, running from confined calorie intake to clinical dietary issues as characterized by DSM-IV-TR criteria (Langdon & Petracca, 2004). Unlike clinically diagnosed eating disorders, disordered eating is not so much joined by enthusiastic considerations about nourishment, eating, and appearance (Anshel, 2005). Dietary problems are most common among female teenagers (Hudson, Hiripi, Pope, & Kessler, 2007) and they can show at any age and without respect to sex, weight, financial status, or ethnicity (Blumenshine, Egerter, Barclay, Cubbin, & Braveman, 2010). Anorexia nervosa and bulimia nervosa speak to just the compelling signs of abnormal eating attitudes (Michou & Costarelli, 2011).

Milder variables identified with confused eating state of mind, for example, fanatical pondering nourishment and abstaining from food, self-perception disappointment, overweight distraction, and apprehension of largeness are likewise of fundamental significance in light of the fact that their vicinity is emphatically connected with an expanded danger of creating clinical dietary problems (Currie & Crosland, 2009; Goldschmidt, Aspen, Sinton, Tanofsky-Kraff, & Wilfley, 2008; Michou & Costarelli, 2011; Hodgson & Stapleton, 2014). Downs, DiNallo, Savage, and Davison (2007) reported 1–4% of young people have confused eating practices, almost 27% of young girls of 12–18 years reported antagonistic eating state of mind. Individuals associate with food in term of eating attitude (Aikman & Crites, 2007; Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999). Alvarenga et al. (2012b) characterized as convictions, contemplations, sentiments, conduct and their association with nourishment. Eating attitudes impact individuals' decisions regarding food and wellbeing. Numerous studies utilize the term eating to portray

considerations, emotions, and beliefs (Lamote, Hermans, Baeyens, & Eelen, 2004; Roininen et al., 2001; Rozin et al., 1999; Sun, 2008; Verhulst, Hermans, Baeyens, Spruyt, & Eelen, 2006). Along these lines, Alvarenga et al. (2012a) disclosed that as compare to eating attitude, term eating behavior does not encompass the correct idea of one association with nourishment on the grounds that it does exclude the beliefs, thoughts, and feelings toward food.

Earn, Olmsted, Bohr, and Garfinkle (as cited in Nordin-Bates, Walker, & Redding, 2011) built up the Eating Attitude Scale (EAT-26) in 1982 is a scale to assess attitudes and behaviors related to dietary problems i.e., anorexia nervosa and bulimia nervosa. Contrasting eating states of mind among various conditions could give contribution to concentrate the relationship amongst mentalities and the pervasiveness of heftiness, dietary issues among others (Alveranga et al., 2012b). ED symptoms are commonly evaluated by means of validated self-administrated questionnaires; some of these instruments are the Eating Disorder Inventory, the Eating Attitude Test (EAT) and the Bulimic Inventory Test (BITE) (Garner, Olmested, & Polivy, 1983; Garner, Olmested, Bohr, & Garfinkel, 1982; Henderson & Freeman, 1987). The EAT is probably the widely use instrument to evaluate ED behavior with versions in different languages and used in west and east countries (Mintz & O'Halloran, 2000). However, besides its name, the EAT evaluate mainly eating restraint and is useful to identify ED symptoms and diet behavior (Alveranga et al., 2012b) not how the normal people reflect their attitudes toward eating behavior. Satter (2007) clarified eating demeanor as a positive enthusiasm for nourishment and eating, responsive attunement to internal and external sustenance encounters, loose self-trust about overseeing nourishment and eating, and amicability among

nourishment wants, nourishment decisions, and really eaten food. Individual attitudes about eating can extend from amazingly positive to a great degree negative contingent upon early educational experience, and also current tactile responsiveness, financial conditions, and how much people can accomplish their eating and weight objectives, eating can be permeated with solace and reward at one outrageous, clash and tension on the other, and lack of bias or even lack of engagement some place in the middle. Scaglioni, Salvioni, and Galimberti (2008) highlighted the way that parent's encouraging practices are connected with youngsters' eating attitudes, including particular eating styles, nourishment determination and inclination, and the regulation of energy intake.

Food preferences are as much a sign of our way of life as they are about us. In the book, "Expending Culture," anthropologist MacClancy (1992) talks about the "authentic and social explanations" behind our immense contrasts in eating attitudes. For instance, while pork and meat are promptly devoured in western culture, pork is viewed as unfit for utilization by those honing strict Islam and Judaism. Hindus see cows as consecrated creatures. English and Scandinavian nations generally hate garlic, an essential cooking part in Southern European food. Shoppers from western culture detest the eating of bugs, while they are seen decidedly in other worldwide zones. Arabic North Africans will chomp on locus dumplings, water creepy crawlies are devoured in Laos, and moth caterpillars are eaten in South Africa. A wide range of offal mixes are customarily devoured by a few societies, while considered as nauseating by others. Understanding of nourishment inclinations is an intricate attempt. It requires a comprehension of elements affecting observation, and psychological and behavioral procedures (Weinstein, 1993).

Food choices are culturally determined but few studies considered the differences in attitudes among different regions (Roininen et al., 2001; Rozin et al., 1999). Conclusively, it can be seen attitude does not mean contented with food related behaviors, but have feelings of trust, acceptance and enjoyment with food. Eating alleviates the agony of hunger and gives gustatory delight, it is characteristically effectively fulfilling. For a few, their erotic reward and even energetic reaction is a wellspring of joy and festivity, for others, it is a wellspring of disgrace and tension (Satter, 2007). So the positive attitude leads to healthy eating behavior while negative eating attitude will ultimately establish the pathological eating behavior in the form of disordered eating behavior.

Disordered Eating

Disordered eating means unusual and troubled eating habits. Disordered eating refers to troublesome eating behaviors that are less frequent or less severe than diagnosed eating disorders (Polivy & Herman, 2002). Disordered eating is more common and prevalent than actual eating disorders (Muazzam & Khalid, 2008). Disordered eating examples are characterized into three symptomatic classes, Anorexia Nervosa, Bulimia Nervosa and afterward atypical dietary issues (World Health Organization, 1992). In spite of the fact that there are vital contrasts between every analysis, the vast majority with cluttered eating designs have comparative states of mind, conduct and sentiments, particularly the dread of putting on weight. Thus, patients are regularly alluded to as having an Eating Disorder. Youth dietary problems are not recognized from grown-up definitions inside demonstrative manuals. Lask and

Bryant-Waugh (2000) have given valuable working definitions to kids with confused eating. Albeit negative eating dispositions may not generally show as cluttered eating practices, they are seemingly critical mental hazard variables deserving of consideration among youth. However, the direction of causality between weight status and negative eating demeanors is unclear (Tang et al., 2010).

There is some proof to bolster the relationship between negative eating states of mind and melancholy and body disappointment among youth (Bearman, Presnell, Martinez, & Stice, 2006). In any case, research concentrate on behavioral impacts of Physical Activity (PA) on eating mentalities is ambiguous. That is, expanded PA has been connected with both sound and unfortunate eating states of mind and practices amid puberty. Additionally, the connections between eating dispositions and melancholy, body fulfillment, and PA have been examined fundamentally in young ladies. Therefore, inquire about all things considered inspecting these psycho behavioral determinants of eating states of mind is justified to educate the avoidance of eating pathology among immature young men and young ladies (Downs et al., 2007).

Disordered eating was initially described as dietary chaos during or after the recovery from anorexia nervosa (Palmer, 1979). Before long, the term was utilized all the more freely to portray young ladies, who consume less calories eventually and lose more than 3 kg in weight; may encounter scenes of voraciously consuming food and picking conduct; wish to be more slender regardless of their present body weight and mishandle purgatives or diuretics keeping in mind the end goal to accomplish an elegantly thin figure (Abraham, Mira, Beumont, Sowerbutts, & Llewellyn, 1983), emotional eating or purging (Kagan & Squires, 1984). Yet, there is no clear definition

of phenomenon, it is generally used to describe in International Classification of Disease-10 (ICD-10) and Diagnostic and Statistical Manual of Mental Disorders (DSM-V; APA, 2013) classifications as broader eating related issues. As compared to eating disorders, milder forms of eating related problems are regularly not sufficiently commendable for restorative consideration, in spite of the fact that they are moderately normal among youths and youthful grown-ups in the all inclusive community, milder forms of disordered eating are often not worthy enough for medical attention, although they are relatively common among adolescents and young adults in the general population. There is dire need in research to focus on such milder form of eating related problems that may result into serious eating related pathologies. Present research is focusing on to understand the eating attitudes as it will help to understand dietary practices of population in general and will improve the nutritional knowledge to promote healthy beliefs about eating.

Disordered Eating vs. Eating Disorder

Disordered eating is also considered an attempt lose weight or achieve a lean appearance (Gatenby, 1997). Normal population does not experience full blown eating disorder as compared to disordered eating behaviors (Muazzam & Khalid, 2008). Disordered eating depicts unpredictable examples of eating practices, for example, self-starvation, gorging, cleansing and practicing fanatically. Despite the fact that there might be a few likenesses between these practices and the clinically characterized dietary issues (anorexia and bulimia), they are not analyzed all things considered, and are rather thought to be atypical, or sub clinical. This does not mean, in any case, that confused eating is less genuine or warrants less consideration than

anorexia or bulimia since it doesn't exactly fit a particular determination. For instance, somebody may pig out and cleanse routinely, yet not as regularly as is required for an analysis of bulimia nervosa. On the other hand they may confine their calorie admission to just a couple of hundred every day, except their weight has not yet dropped enough for a determination of anorexia nervosa (Theander, 2004).

Disordered eating is found more prevalent among college-aged women (`Hasse-Biber, 1989). Further, scenario has become worsen with the social acceptance of the enduring starver and even that is considered "normal" eating behavior. That is the reason incorporated a particular segment on mediations for "typical" eaters (Kalodner & Scarano, 1992), it appears as if "ordinary" eating with its accentuation on weight control, may really be very unusual. The first description of anorexia nervosa (as cited in Helfgott, 2013) was not called by this name, has been credited to Simone Porta (1496–1554) who depicted a ten-year-old young lady who had quit eating inside and out (as referred to in Dally & Gomez, 1979; Helfgott,2013).

Eating and sustaining issue are portrayed by diligent unsettling influence of eating or eating related conduct that outcome in the adjusted utilization or retention of sustenance and that is altogether disables physical wellbeing or psychosocial working (APA, 2013). Diagnostic Statistical Manual (DSM-V) explained three types i.e., Anorexia Nervosa, Bulimia Nervosa, and Binge-Eating disorders. Other than these three eating disorders include pica (eating of nonnutritive or nonfood substance), rumination (repetitive regurgitation of food), avoidant/restrictive food intake disorder (lack of interest in eating and food apparently). Each of these disorders has detailed diagnostic standards as per the APA criteria (APA, 2013).

Anorexia Nervosa (AN).   Anorexia Nervosa (A), bulimia nervosa (BN) and related dietary problems are psychiatric disorders that pass on huge hazard for restorative issues, especially among youth (Bravender, 2010). The person with Anorexia Nervosa deliberately gets in shape to a point no less than 15% beneath that normal for their age, sexual orientation, and stature. Encounters changes in hormone levels which, in females result in amenorrhoea (if the weight reduction happens before adolescence starts, sexual improvement will be deferred and development may stop). Feels headed to get in shape since they encounter themselves as fat, notwithstanding when at a subnormal weight is seriously apprehensive of getting to be distinctly fat and distracted with stresses over their body size and shape coordinates every one of their endeavors towards controlling their weight by limiting their sustenance consumption, however may likewise voraciously consume food, self-instigate retching, abuse intestinal medicines or diuretics (cleansing practices), practice exorbitantly or abuse craving suppressants (le Grange, Gorin, Dymek, & Stone, 2002). The individual with .Anorexia nervosa is assessed to be the third most normal perpetual therapeutic ailment in young ladies' ages 15 to 19 years (Lucas, Beard, O' Fallin, & Kurland, 1991). The The syndrome of anorexia nervosa, initially recognized in Europe amid the seventeenth century and there has been a gradual increase in its incidence in non-western world as well (Crisp, Palmer, & Kalucy; Hall; Halmi, Goldberg, & Eckhert; Russel as cited in Imran & Ashraf, 2008).

Anorexia nervosa commonly starts in immaturity yet frequently continues into adulthood. Patients with anorexia nervosa get more fit by limiting their sustenance consumption and exorbitantly working out, and a subgroup additionally instigates heaving after suppers and misuse purgatives, diuretics, or eating routine pills,

influence is confined, and patients exhibit negligible limit with regards to knowledge, frequently auxiliary to starvation-actuated distraction with nourishment, weight, and shape (Yager & Powers, 2007). DSM-V distinguishes between two subtypes of anorexia nervosa—limiting and pigging out/cleansing—in light of the nearness or nonattendance of bulimic side effects. Moreover, they may grow more extreme medicinal intricacies as fling/cleanse practices exacerbate their low weight (APA, 2013).

Bulimia Nervosa (BN). le Grange, Gorin, Dymek, and Stone (2002) explained the individual with BN encounters visit scenes of pigging out, amid which they expend a lot of nourishment inside a brief timeframe feels overpowered by the inclination to fling and can just quit eating once it turns out to be excessively awkward, making it impossible to eat any more, feels regretful, on edge and discouraged, in light of the fact that they have been not able control their craving and they fear weight pick up and tries to recover control by disposing of the calories devoured (the most widely recognized technique utilized is spewing, however they may abuse purgatives, diuretics or hunger suppressants, quick or too much work out). It is ordinarily inside a typical weight territory, yet may be corpulent.

As to identity, patients might be obsessional, interpersonally uncertain, fussbudget, bigoted of adverse effect, unbendingly controlling of driving forces, uncertain of their character, focused, and encountering an expanded feeling of moral duty and blame (Strober 2004; Westen & Harnden-Fischer, 2001). Eating issue like bulimia nervosa typically diagnosed in late adolescence (as cited in Yager & Powers, 2007) or initial adulthood in people who are of ordinary weight or slight overweight,

and may have its onset taking after a time of dieting. DSM-V distinguishes between bulimia nervosa-purging and non-purging, kind of compensatory practices utilized.

The larger part of patients with bulimia, show the cleansing sort behaviors (i.e., compensatory practices, including retching and utilization of diuretics or purgatives). While people with bulimia frequently utilize more than one sort of compensatory conduct, 80%–90% participate in self-incited vomiting (APA, 2013). Individuals with bulimia nervosa are distracted with eating, weight, and shape and have a tendency to have stamped body disappointment and low state of mind dissatisfaction and low mood (Theander, 2004). A subset of patients with bulimia nervosa can be portrayed as multi-indiscreet or as displaying dysregulation over numerous spaces, including eating, influence, interpersonal working, and sexuality (Herzog et al., 2000).

Binge-eating disorders. Binge eating is characterized by utilization of a too much substantial measure of sustenance matched with the subjective experience of lost control over eating (American Psychiatric Association, 2012). Related components of gorging incorporate the setting in which eating happens (e.g., in private), emotional states that take after bothered eating (e.g., disgrace and coerce), and the physiological condition of the individual (e.g., feeling awkwardly full after the scene). The appraisal of these practices and encounters in kids requires age-particular techniques. Such procedures incorporate the utilization of solid cases and formatively delicate representations (e.g., lost control is like 'a ball moving down a slope') (Bravender et al., 2010; Tanofsky-Kraff et al., 2004). At the point when such techniques are utilized, a subgroup of kids underwrites indication profiles reliable with grown-up meanings of voraciously consuming food. In any case, an extra gathering underwrites the subjective experience of loss of control without going with

over the top nourishment intake (Bravender et al., 2010). The predominance of voraciously consuming food issue when all is said in done populace is around 1-3%. In patients with corpulence, and in patients looking for help for weight reduction, a considerably higher commonness has been accounted for (at least 25%) (Pull, 2004). After comprehensive review of literature it can said clearly that these three terminologies i.e., eating attitudes, disordered eating, and eating disorders are related but different. It can be seen unhealthy eating attitudes lead to disordered eating behavior in which individual exhibit atypical or sub-threshold of disordered eating criteria. For instance, people who may fling, however not cleanse; the individuals who cleanse, but rather don't fling; and incessant weight watchers. Sub-edge alludes to people who meet the majority of the criteria, yet not to adequate seriousness (Fairburn & Garner, 1986). Presence of this atypical nature of eating related pathology ultimately developed into full bloom picture of eating disorder.

Conclusively it can be said that multiple factors are playing role in establishment of eating attitude primarily which ended up in eating disorder. Stereotypes are considered to be one important factor that contributes in the establishment of one's attitude toward food is stereotypical beliefs. In the last few decades several studies (as cited in Kimura, Wada, Oka, & Ibaraki, 2011) have disclosed the presence of numerous food and eating related stereotypes. Like any other country, people from Pakistan hold strong beliefs about food e.g., they try not to eat pork or pork items. They lean toward halal meat where creatures are butchered by their religious strategies. Most will acknowledge a veggie lover supper to play safe. *Chapatti*, which is made out of wheat, is the staple nourishment and rice is normal. These staples are eaten with exceptionally spiced meat, fish and vegetable dishes.

Servings of mixed greens are eaten with a dinner as a side dish. People from Pakistan may not eat with knife and fork. Most asian populations eat with fingers and spoons. Along with these eating related facts people in Pakistan are still influenced by unfounded nutritional beliefs and practices regardless of the growing amount of scientific knowledge on nutrition and health. Nutritional misconceptions are common in Pakistan that people restrict their choices among food based on their hot and cold effects. On the basis of these above stated arguments that concept of myths regarding food is not well studied with reference to its role in the establishment of eating attitudes.

Food Myths

Myths are stories about awesome creatures, by and large masterminded in a reasonable system (Simpson & Roud, 2000). Myths in light of misperceptions, misrepresentations a generally conventional story of clearly authentic occasions that serves to unfurl some portion of the world perspective of a people or clarify a practice, conviction, or characteristic phenomenon (Harper, 2010).Culture is an arrangement of educated traditions, convictions, values, methods for correspondence, activities, and establishments shared by a racial, ethnic, religious, or social gathering that shape their way of living. Culture is learned aspect of life (Bronner, 2010).Food convictions comprise of information, religious traditions, and assessments. Convictions are authorized by family, media, companions, and noteworthy others. Likewise with different parts of culture, these are on the move among youths and require assessment (Bronner, 2010). Lucas and Claxton (2010) highlighted typical importance of nourishment some of the time has little to do with the sustenance itself yet the social practices, as in the utilization of rice to shower recently marries in

specific societies like India is implied the thriving accompanies lady, and comparably eating socially has less to do with nourishment than with correspondence and connections. Due to cultural similarities, same practices can be seen here in Pakistan, as it is very common that a chicken or goat is slaughtered when bride is welcomed at new home. It is believed that evil forces will not influence the newlywed couple as well as to ensure the prosperity and welfare of all family members.

As indicated by Eastern conventions the legendary strengths of yin and yang are lively qualities that shape everything in the universe, including our wellbeing. In this manner yin qualities incorporate coolness, and haziness, with respect to the yang characteristics of warmth, dryness, and light. Winter is yin, while summer is yang, and night is yin while day is yang. Yin foods have a tendency to cool and additionally dampening for the body. Yang food has a tendency to warm and drying (Prout, 2007). Food traditions are characterized as built up regular social practices that direct nourishment utilization propensities or traditions (i.e., among various cultures, religion assume vital part to refine behaviors a regard for the food, Muslims eat just with the correct hand, uniquely dishes of rice which are typically eaten with hands and cleaning the plate totally so as not to squander the nourishment. Individuals in Pakistan being Muslims follow such rituals like eating with right hand, drinking water in sitting position, people prefer to sit on ground for eating food in rural areas, and women are preferred to serve food separately in social gatherings. Some other prevalent practices that effect food intake are those related to hot and cold effects of food as this effect is considered Yin/Yang as hot versus cold (Bronner, 2010).

Food has its importance in religion, and religion explained dietary taboos as well. Adolescence is a period when culture is being set up through adjustment to

conditions in the earth. Along these lines, exact appraisal of social variables is basic to the conveyance of suitable nourishment directing during this period (Olstad & McCargar, 2009). Most human advancements have been based on the development of one staple nourishment trim, which is constantly invested with religious criticalness, the beginning of which is generally covered in myth. In many societies likewise, individuals regularly don't feel fulfilled if their central dinner does not include a result of the customary staple nourishment. In this manner, the eating regimen of seventy five percent of the total populace is still in view of one primary starch sustenance. The continuous vanishing of conventional eating and customary cooking, subsequently of expanding internationalization of certain institutionalized Western nourishments is erosive of the way of life of non-Western social orders and additionally the social personality of the general population concerned (Lucas & Claxton, 2010). In Pakistan wheat bread known as *chapatti* or *roti* is considered traditional staple food. The size of *chapatti* varies in different sub-cultures in Pakistan. The Afghan *roti* in Khyber Pakhtunkhaw is at least three times larger than one in Punjab. So, eating one *roti* can not be comparable criterion to fulfill the nutritional requirements among people in these provinces.

Stangor (2009) discussed self-reporting as major approach to measure stereotypes, including thought listings, trait check-offs, probability, and of course, Likert scales. These measures are reliable and generally predictive of discrimination, but there is need to be careful in interpretation of these measures as variations in subjective perceptions of scale meanings and of the implied reference groups may distort group judgments (Biernat & Dovidio, 2003; Biernat & Fuegen, 2001; Biernat & Vescio, 2002; Collins, Crandall, & Biernat, 2006).

Kimura, Wada, Oka, and Ibaraki (2011) provided a brief overview of empirical research on food-related beliefs and stereotypes. Firstly, they illustrated that Consumer food choice and assessment are affected by different cliché convictions about eating. For instance, individuals have a tendency to view of subjective convictions (e.g., high-fat/low-fat, nearby/transported in, marked/unbranded) and those convictions additionally impact a shopper's nourishment determinations and nourishment item assessments (for example, a belief that indigenous food products are costly than imports may prevent consumers from buying local products).

Secondly, they reviewed consumption stereotypes, based on what and how much people eat. Specifically, we focus on gender-based consumption stereotypes, in which femininity and masculinity characteristics are primarily related with precise patterns of consumption. Moreover they discussed the nature of gender-based consumption stereotypes among the younger population in relation to social appeal and/or pressure. Young women often experience social pressure based on gender-based consumption stereotypes and form psychological barriers against consuming masculine foods and drinks. There is fear that these stereotypical attitudes among females result in several pathological eating behaviors.

Inam, Siddique, Qureshi, Punjani, and Omair (2003) explained hypothesis of hot and cold impacts of food has won in our way of life since time immemorial. It is a framework parallel to current biomedical sciences. As a rule, it has been seen in our general public that the hypothesis of hot and chilly is had confidence in and rehearsed by all areas of society. It is not an idea exclusively found in the less instructed class, nor does it just have a place with the lay people. From qualified specialists, homeopaths, *hakims*, to the general masses, all have some confidence and faith in the

hot and chilly impacts of food. This hypothesis is pervasive in all parts of the world, independent of religion and political philosophy. It has profound roots in the Indian, Malay, Korean, Sinhalese, and Mexican societies and is found in changing degrees in the Latin American, North American, European, and African nations also.

Food myths reflect the cognitive belief about food and its affectivity which contribute in establishing the attitudes toward food and eating overall. Beliefs on food myths contribute in the maladaptive form of eating attitudes which in turn contribute in eating related pathologies especially the eating disorders. Following, the prevalence of eating disorders is documented in all over the world and especially in Asian countries.

Prevalence of Eating Disorders

Predominance of eating disorders in the United States, upwards of 10 million females and 1 million guys are battling an existence and demise fight with a dietary problem, for example, anorexia or bulimia. Roughly 25 million more are battling with pigging out turmoil (Crowther, Wolf, & Sherwood, 1992; Fairburn, Hay, & Welch, 1993; Gordon, 1990; Hoek, 1995; Shisslak et al., 1995). Due to the mystery and disgrace related with dietary issues, many cases are likely not detailed. Also, numerous people battle with body disappointment and sub-clinical disarranged eating states of mind and practices. For instance, it has been demonstrated that 80% of American ladies are disappointed with their appearance (Smolak, 1996). For females between fifteen to twenty-four years of age who experience the ill effects of anorexia nervosa, the death rate related with the sickness is twelve circumstances higher than the passing rate of all different reasons for death (Sullivan, 1995). Anorexia nervosa

has the most noteworthy untimely casualty rate of any dysfunctional behavior (Sullivan, 1995). Dietary problems in America and other Western societies gained attention. Occurrence of eating related problems among women in Asian societies includes differences in eating behaviors and views on body image in comparison to Western societies (Sloan, 2009). Johnson (as cited in sloan, 2009) cites studies from Taiwan, Japan (Nakamura et al., 1999), Hong Kong (Wong & Huang, 1999), and Iran (Abdollahi & Mann, 2001) which demonstrated high rates of slimming down and dietary issues specifically relative to the changing part of ladies in those social orders almost two decades prior

Rayar and Daveis (1996) conducted number of overviews and case reports managing dietary issues among Asian young ladies, the greater part of which were directed in territories of the UK. Makes a few correlations between scatters among white and non-white young ladies and, especially for the situation reports, considers components which may impact the young ladies' dispositions towards eating recommends that dietary issues among Asian females might be a rising issue.

McGivering (2003) reported cases of anorexia nervosa in India, as disease that can cause sufferers to starve themselves to death. It has been found that there is distress in eating habit and body size among Indian young girls. A typical case in India (as cited in McGivering, 2003) can be seen as a 17-year-old girl of around five feet six inches (1.68m) weighing just 10lbs (30kg) who is convinced she is overweight. Cross-social examinations of dietary problem cases that have been recognized have yielded some imperative discoveries. In Hong Kong and India, one of the essential attributes of anorexia nervosa is inadequate. In these nations, anorexia is not joined by a "dread of heftiness" or a craving to be thin; rather, anorexic people

in these nations have been accounted for to be roused by the yearning to quick for religious purposes or by unpredictable healthful thoughts (Castillo as cited in Miller & Pumariega, 2008). Appearance of the side effects of dietary problems may shift from culture to culture so the indicative criteria in light of western standards may not generally be fitting to analyze people in different societies. For instance cutting the food into little pieces can be a risky conduct in western culture however not in Asian culture in light of the fact that the nourishment by and large utilized as a part of Asian societies like Chapatti (a sort of bread) and rice cannot be cut into pieces with the assistance of knife and fork as people in the west do. In Pakistan common symptoms of anorexia nervosa have been recognized by gastroenterologists with the grumblings of sickness, blazing, heartburn, and sharpness. Some different cases have been distinguished by dental practitioners shockingly for loss of dental lacquer or calcium insufficiency in teeth because of binging and purging (Muazzam & Khalid, 2008).

As per one estimation prevalence of anorexia nervosa range from 0.002 to 0.9% in Asia and 0.46 to 3.2% population is experiencing bulimia nervosa (Lee, 1993). It was noticed that anorexia nervosa is just found in clinical populace of Malaysia yet the number has remained nearly the same for more than one and half decade (Buhrich, 1981). Lee (1991) has detailed low rate of anorexia nervosa in Hong Kong. As per a doctor's facility based overview in Japan, the female clinical populace is 1.5 circumstances more inclined to build up a dietary problem than the (Kuboki, Nomura, Ide, Suematsu, & Araki, 1996). The prevalence of anorexia nervosa in Irani school girls is about 0.9% and is highest among the Asian communities (Nobakht & Dezhkam, 2000). Other than Asia, there are a few reports of bulimia in Islamic locale. Cluttered eating is 1.2% among the school young ladies in Cairo and utilizing a

similar sort of overview it was found that 3.2% of the Iranian schoolgirls experience the ill effects of bulimia nervosa, which is again the most elevated rate among Asian countries (Nasser as cited in Muazzam & Khalid, 2008). In Pakistan, there are research evidences for bulimia nervosa as compared to anorexia (Choudry & Mumford, 1992). Another survey by suhail and Nisa (2000) found atypical eating disorder among adolescent population. Among South Asian or Islamic nations (Pakistan, Oman, and Turkey), 39.5% of female nursing school students had irregular eating states of mind in Pakistan, which was the most noteworthy rate among non-Western nations. Oman announced that 10.9% of male subjects had irritated eating demeanors (Makino, Tsuboi, & Dennerstein, 2004).

On the basis of above stated statistics, there is dire need to have appropriate measures to assess or measure the eating attitudes effectively. For the measurement of construct, literature provided the evidences of number of instruments used in previous researches over a number of years. Further details of these scales have been discussed in the next section.

Measurement of Eating Attitudes and Food Myths

A study of research writing demonstrates a disturbing ascent in dietary issues in South Asian and Islamic nations (Abdollahi & Mann, 2001; Chen & Jackson, 2008; Garrusi & Baneshi, 2012; Jackson & Chen, 2007; Muazzam & Khalid, 2008). One important view (Imran & Ashraf, 2008) is we might expect to find an increasing incidence of eating disorders with widespread adoption of western styles, habits, and attitudes. Health professionals working in Pakistan need to be aware of existence of attitudes toward eating that is directly contributing in eating disorders among young

people. The focus on eating attitudes is important as there are many individuals who present with the disordered eating behaviors, cognitions and beliefs without meeting the full criteria of DSM-V associated with eating disorders (i.e., anorexia nervosa and bulimia nervosa) (APA, 2013). Cultural beliefs and practices are very important in determining one's healthy attitude toward eating. Yang, Kim, and Yoon (2010) characterized western culture very dynamic but with the rapid industrialization, increasing urbanization, and marked economic expansion in Asian countries has prompted to different sociocultural changes, incorporating westernization in dietary propensities, changes in the ideas of excellence, promotion of slimming down and weight control measure, and changes in the perspective of stoutness, particularly more youthful individuals. These progressions bolster the likelihood of an expanding predominance of dietary problems in these provinces. One can anticipate not just that exasperates not only that disturbed eating attitudes and behaviors in children of Asian countries will have some similarities, such as prevalence and psychiatric symptoms, to those in Western studies, but also that they will relate particularly to sociocultural differences in an Asian cultural context (Yang et al., 2010).

Myths and misconceptions about food are widely prevalent in Pakistan. Inam et al. (2003) stated that constantly patients ask the going to doctor with respect to *perhaiz* (abstinence) or specific nourishment limitations amid scene of sickness. Incidentally, sustenance is excluded in the undergrad medicinal educational programs of Pakistan aside from in a couple of restorative colleges. Hence, a lot of dietary counsel given by doctors depends all alone recognitions instead of on any logical proof, this further strengthens social convictions relating to *perhaiz* (abstinence) and belief on food myths. This cultural uniqueness of phenomenon provides a rationale

for the development of food myth scale. In our country, we only found few anecdotal reports of eating disorders with reference to clinical picture of problems but there is no indigenous instrument available to measure attitudes of normal adolescents toward eating especially in Pakistani cultural context.

After the comprehensive study of research articles following scales have been identified developed on eating attitude over the time. On the basis of these scales, different dimensions of eating attitudes were identified that helps the researchers to construct items. Eating Attitude Test (EAT-40) was developed by Garner and Garfinkel (1979) in Canada. Test was revised by Garner, Olmsted, Bohr, and Garfinkel (1982). It was rating scale used to evaluate the broad range of target behaviors and attitudes found in anorexia nervosa patients in Canada. It comprised three subscales i.e., dieting (13 items), bulimia and food pre-occupation (6 items), and oral control (7 items). EAT has been considered the first measure to quantify the construct under study and it has been used in large number of western and eastern researches despite of the fact there are cultural variations in eating related behavior across the world. EAT evaluate mainly the eating restraint and is used for diagnostic purposes regarding abnormal worries and concerns about weight (Alvarenga et al., 2010; Mintz & O'Halloran, 2000; Minhas & Haris, 1999).

Eating Disorder Inventory (EDI) was developed by Garner, Olmsted, and Polivy (1983) and revised by Garner (1991) as EDI-2 as a standardized self-report measure of psychological traits that were clinically relevant to eating disorder population. Garner (2004) developed EDI-3 with norms for adolescent population. EDI-3 comprised eating disorder risk scales (i.e., driver for thinness, bulimia scale, body dissatisfaction scale and psychological scales include low self-esteem, personal

alienation, interpersonal security, interpersonal alienation, and etc). This scale has been devised for clinical population with the broad spectrum of diagnosis. Again the idea of normal eating has not been addressed.

The Disordered Eating Attitude Scale (DEAS) was developed by Alvarenga et al. (2010) based on the eating disposition build as convictions, contemplations, emotions, practices and association with food in in Brazil. An exploratory component investigation was led and it was found that DEAS incorporates five subscales i.e., relationship with sustenance to assess states of mind identified with the ways people manage nourishment as far as sustenance control, sustenance refusal, blame, outrage, longing, and shame. Second was the concern6about eating and body weight pickup to assess worries about calories, consumption control, over the top musings about sustenance, and weight pick up. Third subscale was prohibitive and compensatory hones assess limitation of sustenance and calories, and states of mind meaning to remunerate huge or uncontrolled nourishment admission. Fourth subscale was sentiments toward eating assess emotions concerning joy and sustenance recollections and how ordinary one feels to eat, and fifth subscale was tending to the6idea of typical eating to assess unbending nourishment ideas and convictions. The higher the score in the scale, the more terrible the attitude; hence, more useless (e.g. individuals with higher score at subscale four have less constructive sentiments about eating and don't consider the demonstration of eating as ordinary as individuals that scored less) Overall, DEAS focus on distorted eating attitudes could be useful to identify people with a bad relationship with food. However the use of DEAS as a possible tool that also indicates risk behavior for eating disorders. This instrument also highlighted variable picture of eating attitudes across Latin America.

The Mizes Anorectic Cognitions Questionnaire-Revised (MAC-R; Mizes et al., 2000) is a self-report questionnaire comprised 24 items developed in USA. It was designed to assess the distorted cognitions related to eating disorders. For example fear of weight gain, importance of being thin. This instrument has been devised to assess only pathological thoughts and cognitions related to eating behavior.

Muazzam and Khalid (2011) developed disordered eating behavior scale in Pakistan and it is the first attempt to see the construct of eating behavior indigenously. The items on disordered eating behavior scale assess construct with the help of four subscales named social pressure (6 items), eating choices and habits (5 items), eating withdrawal (8 items), and overeating (7 items). Higher the score mean more disordered eating behavior in an individual. This instrument as name indicated addresses the disordered eating behavior so how an individual related with food and how does one perceived the normal eating and its related concerns has not been addressed.

After the review of these above stated instruments, it can be seen there is dearth of knowledge with respect to indigenous reality regarding the concept of eating within mind developmental concerns of youth toward eating attitudes. Moreover, how do the myths about food play an important role in the establishment of eating attitudes is not addressed before in any psychological research. The present research is an important step to understand the construct of eating attitude with cultural variability and communication variation across adolescents about eating.

Theoretical Perspective of Eating Attitudes

Theories in psychology addressed the eating attitudes differently. It is important to consider the multiple points of views to best understand the indigenous realities of construct. Following are the different theoretical perspective on eating disorders.

Psychodynamic view. It emphasized the internal conflicts, motives and unconscious forces within the individual leading to eating disorder (Costin, 2014). Eating disorder symptoms are seen as expressions of a struggling inner self that uses the disordered eating and weight control behaviors as a way of communicating or expressing underlying issues. The symptoms are viewed as useful for the patient, and attempts to directly try to take them away are avoided. In a strict psychodynamic approach, the premise is that, when the underlying issues are able to be expressed, worked through, and resolved, the disordered eating behaviors will no longer be necessary (Costin, 2013). One view recommends that anorexia mirrors an oblivious longing by a young lady to stay pre-pubescent. Overdependence on guardians may bring about the pre-adult dreading sexual development and autonomy. Then again, Bruch (as refered to in Costin, 2013)68regarded anorectics as being in a battle for control and their own particular personality - the quest for slenderness was viewed as a basic piece of such a struggleand68two principle attributes of guardians that made the advancement of anorexia more probable in their youngsters, firstly, an over-worry with nourishment; besides, family connections that did not help the kid in building up a feeling of identity.

Cognitive view. The cognitive way to deal with unusual conduct depends on contorted thinking and perception. Vitouesk and Orimoto (1993) found that anorexics reliably have a bended self-perception and trust that they should constantly shed

pounds so as to be in control of their bodies. Run of the mill considerations included: 'I should lose more weight I am not yet thin.' Similarly, Garner, Olmsted, Bohr, and Garfinkel (1982) found that anorexics overestimate their weight and body size. Polivy and Herman (2002) identified hairsplitting and negative mental self view as the most serious hazard calculates building up a dietary problem. It seems likely that a combination of these two factors, distorted self-image and desire to be perfect are the risk factors for eating related pathology (Halmi et al., 2000; Hudson, Hiripi, Pope, & Kessler, 2007). It is well recognized that people with anorexia nervosa tend to have a somewhat conscientious and perfectionist personality and these characteristics are not universal to all people with anorexia nervosa, they do appear to apply to the majority (Bryant-Waugh & Lask, 2004).

The sociocultural perspective. It is well recognized that the majority of eating problems, and particularly anorexia and bulimia nervosa, occur in societies where food is relatively plentiful. In those countries where food is scarce, eating disorders are extremely rare. Stice (1994) proposed the sociocultural model of dietary issues which inspected consciousness of social beliefs and disguise of these qualities. The sociocultural display determines instruments through which sociocultural weight prompts to eating pathology. The model expects to clarify the advancement of dietary issues among young ladies and places that introduction to the thin perfect, disguise of the perfect and encountering a nonconformist between one's own particular body and the perfect, prompts to body dissatisfaction (Fingeret & Gleaves; Thompson et al.; Thompson & Stice as cited in Shephard, 2012). However, it is interesting to note that when people migrate from less industrialized countries to more prosperous societies, develop eating disorders. These all facts points toward the contribution of socio-

cultural factors in the advancement of dietary issues. To be sure, it appears that living in a generally prosperous society is an essential precondition. In social orders where nourishment is rare there is an inclination to esteem heftiness as an indication of flourishing. Conversely, where food is ample, being overweight is respected all the more contrarily, saw by numerous as unattractive (Bryant-Waugh & Lask, 2004).

The continuum model of eating disorder. There is impressive level headed discussion about how to arrange people who give eating cluttered conduct. The best known arrangement of grouping for dietary issues in the emotional wellness field is the Diagnostic and Statistical Manual of Mental Disorders (APA, 2013), which has exceedingly particular criteria for dietary issue analytic classes. An option conceptualization to prudent analytic classes is a continuum model, which ranges from the nonappearance of eating confused conduct to extreme eating cluttered conduct (Mintz & Betzas as cited in Muazzam & Khalid, 2008; Stice, Killen, Hayward, & Taylor, 1998). Eating cluttered practices, for example, slimming down, confining admission of sustenance, and cleansing that don't meet the limit for a DSM-V (APA, 2013) analysis are likewise evaluated to decide arrangement on the continuum. Through different reviews and hypothetical points of view, many creators have coordinated the two conceptualizations of dietary issues (Gleaves, Lowe, Green, Cororve, & Williams, 2000; Lowe et al., 1996; Mintz, O'Halloran, Mulholland, & Schneider, 1997; Shisslak, Crago, & Estes, 1995; Stice et al., 1998; Tylka & Subich, 1999). While trying to integrate the ebb and flow demonstrative grouping framework (DSM-V; APA, 2013) and the dietary issues continuum inquire about, Mintz et al. (1997) provides specialists with an apparatus to group ladies along a continuum into three requested classifications of eating unsettling influences, all in light of DSM-IV

criteria: eating disarranged, symptomatic, and asymptomatic. The symptomatic classification includes persons who don't meet full DSM-IV demonstrative criteria for the eating scattered gathering yet at the same time show some eating confused practices (Lisa, Lightsey, & Richard as cited in Ingo & Pratarelli, 2009). Asymptomatic gathering incorporates people who display no indications of eating unsettling influences. Mintz et al's. (1997) continuum gives the structure to the ebb and flow research.

Garner's multifactor model of eating disorder. The understanding of variables that add to the etiology and upkeep of dietary problems has progressed considerably in the previous two decades. Most models accept that dietary issues are multi decided and heterogeneous in nature, getting from the interaction of three wide classes of inclining or hazard variables i.e., Individual, familial, and sociocultural (Garner, 1993; Garner & Garfinkel, 1980).

Garner (2004) explained eating disorders as multi-determined by predisposing (individual, familial, and socio-cultural), precipitating (include relevant stressors), and perpetuating (dieting to increase self-control and self-worth) that ultimately leads to starvation. However, cumulative evidence has begun to specify in more prominent detail the separate parts of social, individual (i.e., formative, mental, hereditary), and familial hazard figures that add to the outflow of dietary issues (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Stice, 2002). According to Garner (2004) perpetuating elements are the mental, enthusiastic, and physical impacts of starvation. Many hazard variables don't fit onto a straightforward worldview as an inclining, accelerating, or propagating component and the exact instrument of activity for some known dangers stays tricky. The time of powerlessness for certain hazard variables is

settled due to their inclination (e.g., sexual orientation, birth entanglements), though others may apply their impact at multiple disorder (e.g., family abstaining from food, hereditary obligation for hairsplitting) (Ellis, 2004).

Above stated theoretical explanations point out different individual (cognitions and beliefs) and social factors contribute in the development of eating pathology. To understand the salient causal factors there is need to look into literature to find out different psychosocial correlates of eating attitudes to gain better understanding about determination of eating attitudes in Pakistan.

Psychosocial Correlates of Eating Attitudes

There is rapid change in psychosocial realities of different cultures all over the world. This cultural change is bringing the observable variations in the lives of people throughout the world because of sociocultural influences. These sociocultural influences are considered important as effecting individual in a multiple way including their inclination toward food and body. So, body image is considered important contributor in developing eating attitudes. Body disappointment may come about when people encounter weight from intense social operators (i.e., associates, family, and the media) to cling to socially endorsed appearance goals (i.e., thin perfect for ladies and strong perfect for men). These weights are proposed to prompt to body disappointment through two mediational forms i.e., disguise of appearance goals and appearance-based social examinations. Body disappointment then works as a hazard calculate for consequent eating pathology (Schaefer & Thompson, 2014). Other than body image, extraversion personality (MacLaren & Best, 2009), body mass index

(Minhas et al., 2010) are found in the literature as a strong psychological factor contributing in eating attitudes.

Body Image

The field of body image has experienced tremendous growth in the last 50 years, with a particular explosion of interest in the last two decades (Pruzinsky & Cash, 2002; Thompson, 2004). Body dissatisfaction is defined as a subjective evaluation and the affective component of the multi-dimensional construction of body image (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). Body dissatisfaction is currently a major health concern and is becoming the norm for children and adolescents (Cash, 2002). Moreover, these attitudes may be assessed relative to overall appearance or with regard to specific physical characteristics, such as body weight or shape. Despite the fact that body image experiences vary temporally and in situational contexts, most researchers focus on body image as a cross situational and stable trait (Cash et al., 2002; Tiggemann & Lynch, 2001).

Body image is explained well by considering the different factors i.e., cultural values and social standard expectations perceived by individual, cognitive structures that consist of personality attributes provides the frame work to understand the physical attractiveness based on cultural information passed on from generation to generation (Jackson, 2002). According to Bernstein (2000), people commonly judge each other based on socially defined ideal body weight, size, and shape. Body perfection code is closely related to the regulation of the body in society (Hong, 2014). Moreover, the development of a body self can be conceptualized as occurring in a series of three stages: the early psychic experience of the body; the early

awareness of a body image that integrates inner and outer experience and forms body surface boundaries and internal state definition; and the integration of the body self as a container of the psychological self, which forms a cohesive sense of identity and continuity (Krueger, 2002).

Pruzinsky and Cash (2002) highlighted the fact that body image scholars, past and present, increasingly agree that body image is a multidimensional phenomenon. Cash (2000) has tried to explain body image as one's attitudinal dispositions toward the physical self and following five components i.e., appearance evaluation, appearance orientation, body area satisfaction, overweight pre-occupation and self-classified weight are considered.

Appearance evaluation refers to feelings of physical attractiveness or unattractiveness, satisfaction or dissatisfaction with one's looks. Appearance orientation refers to extent of investment in one's appearance. High scorers place more importance on how they look, pay attention to their appearance, and engage in extensive grooming behaviors. Body areas satisfaction is similar to the appearance evaluation it refers to satisfaction with discrete aspects of one's appearance. Overweight preoccupation refers to a construct reflecting fat anxiety, weight vigilance, dieting, and eating restraint. Self- classified weight includes the perception of individuals as overweight or underweight.

Cash, Morrow, Hrabosky, and Perry (2004) explained two core facets of body-image attitudes include evaluation (e.g., body satisfaction) and investment (e.g., the psychological importance one places on one's appearance). Thompson (2004) explained in terms of treatment, it is important to understand if any, aspect of body image is responsive to interventions because some components may not change (e.g.,

body image investment or schematicity), whereas, other components (weight-specific dissatisfaction) may improve. In terms of theory, explanatory models often hypothesize directional or reciprocal relations among specific dimensions of body image, such as concern with appearance, level of schematicity, and negative emotions (Cash, 2002b; Williamson, Stewart, White, & York-Crowe, 2002).

Over the past decade, several authors have described a cognitive information-processing model for body image in relation to eating disorders. In this model, body image (as it is usually assessed) is one type of cognitive bias that stems from a self-schema that includes memory stores related to body size/shape and eating that are easily activated and readily accessible for retrieval from memory. This self-schema is presumed to draw the person's attention to body and food-related stimuli and to bias interpretations of self-relevant events in favor of fatness interpretations. This model postulates that disturbed body images are one type of cognitive bias that is most similar to selective interpretational biases: Individuals come to a conclusion based upon the "evidence," but the conclusion is one that is not shared by most people (Williamson, Stewart, White, & Crowe, 2002).

According to Stice, Marti, and Durant (2011) dual-pathway show, body disappointment comes about because of expanded weight to be thin from family, peers, and the media, and from the disguise of the thin perfect. These elements add to body disappointment on the grounds that the messages empowering slimness from family, peers, and the media increment one's disappointment with one's body and in light of the fact that most ladies can not accomplish thin magnificence perfect embraced by ladies in Western culture. Body disappointment then prompts to bulimic pathology through one of two pathways. In the first place, as a result of body

disappointment, an individual starts to count calories since she holds the conviction that eating less carbs is a compelling approach to get more fit. Furthermore, eating less carbs may lead specifically to voraciously consuming food either due to the sentiments of caloric hardship related with serious limitation in the measure of nourishment devoured or on the grounds that the infringement of strict dietary rules may bring about disinhibited eating.

Information-processing theories of body image hypothesize that people who are obsessed with body size/shape are most likely to misinterpret body-related information in regard to self. Body image assessment typically involves "projecting" one's visual self-image upon an ambiguous representation of that image, such as a small silhouette or a measure of width that reflects the size of a body area (e.g., thigh or abdomen). Research shows that women with eating disorders and/or high levels of preoccupation with body size have a cognitive bias for body-related interpretations of ambiguous stimuli (Williamson et al., 2002).

To understand the individual's disposition to perceive his body may increase the vulnerability to eating disorder but one's personality traits especially, extraversion are considered as protecting factor against eating related pathologies (MacLaren & Best, 2009) and have better body image. Present study is planned to address the general population with reference to healthy eating attitudes so extraversion trait of personality is found more relevant to include in present study as it will help to establish the evidence of validity of eating attitude scale.

Extraversion

One obvious way to learn about an individual's standing on a personality trait is simply to enquire directly about that trait. For constructs, such as Extraversion, that are widely understood, it is more straightforward simply to ask a person how extraverted he is than to ask him whether he enjoys the company of others, attends parties frequently, is talkative, outgoing, gregarious, and enthusiastic (Gosling, Rentfrow, & Swann, 2003). Relationships between specific personality factors and symptoms of an eating disorder are made complex by the fact that specific eating disorders may differ in their etiology and symptoms.

Eating disorders have been examined at the level of the five personality domains (MacLaren & Best, 2009). Neuroticism is most consistently associated with eating disorder diagnosis (Diaz-Marza, Carrasco, & Saiz, 2000; Ghaderi & Scott, 2000) and is correlated with eating disorder symptoms in non-clinical samples (Miller, Schmidt, Vaillancourt, McDougall & Laliberte, 2006; Wade, Martin, Tiggeman, Abraham, & Treloar, 2000) as present research is addressing the eating attitudes not pathology so neuroticism has not been studied. Some studies focus, the combination of high neuroticism and low extraversion has been reported to be a risk factor for eating disorders (Miller et al., 2006). Ghaderi and Scott (2000) found that low conscientiousness, low agreeableness, and high openness to be predictive of the development of an eating disorder.

The Symptomatic group also scored lower on the extraversion facets of assertiveness and positive emotions (MacLaren & Best, 2009). Extroverts tend to enjoy human interactions and to be enthusiastic, talkative, assertive, and gregarious. They take pleasure in activities that involve large social gatherings, such as parties,

community activities, public demonstrations, and business or political groups. Politics, teaching, sales, managing and brokering are fields that favor extroversion. An extroverted person is likely to enjoy time spent with people and find less reward in time spent alone. They tend to be energized when around other people, and they are more prone to boredom when they are by themselves (Vijayraghavan Vaidya, Humphreys, Beglinger, & Paradiso, 2008).

Extraversion personality may found to be different among Americans, Europeans, and Asians due to different cultural values (Oyserman, Coon, & Kemmelmeier, 2002; Song & Kwon, 2012). Mooradian and Swan (2006) found that extraversion scores differed nationally and that Chinese and Japanese individuals scored lower in extraversion than American individuals. These cultural differences in levels of extraversion reflect larger cultural values regarding individualism and collectivism. Asian cultures tend to emphasize collectivism, whereas individualism is highly regarded in America (Safdar et al., 2009). In Western cultures, children are taught to attend to the self, to appreciate one's difference from others, and to understand the importance of asserting the self (Yamaoka, 2014). Similarly, personality traits are different across gender as men show more extraverts personality traits as compared to women (Goodwin & Gotlib , 2004; Lynn & Martin, 2010)

Along with personality traits, which are individual variable, social factors are found equally responsible for the development of healthy/unhealthy eating attitudes. Individual's weight status in the form of body mass index (BMI) is another important contributing factor determining the eating attitudes. As per the previous discussion, literature suggests that body image is embedded strongly in the idea of weight in the form of BMI groups (underweight, normal, overweight, and obese). To understand the

nutritional status in the form of body mass index is planned to include in present research to see its role and predictive power in development of eating attitudes.

Body Mass Index (BMI)

Body mass index (BMI = kg/m^2) is an indicator of nutritional status (Khan & Kraemer, 2009).

$$BMI = \frac{weight\ (kg)}{height\ x\ height\ (meters)}$$

The extreme classes of BMI, viz. underweight, obese, and obese, compared to the everyday BMI, are related to a diffusion of detrimental health effects. Specifically, being obese or overweight is related to excessive mortality, disability, and a bad high-quality of lifestyles (as cited in Khan & Kraemer, 2009). Evidence (as noted in Khan & Kraemer, 2009) indicates that conditions being underweight or overweight can exist in close proximity, consisting of within the equal community and identical household. Such conditions will be connected to distinctive environmental, behavioral and man or woman hazard factors. A growing trend of overweightness and weight problems in aggregate with a high prevalence of low weightness is discovered to be common in many growing countries, consisting of Pakistan. Globally, about 1.6 billion adults are obese, of which as a minimum four hundred million adults are overweight. Persisted financial development, fast urbanization specifically in developing nations, globalization of food manufacturing and changes in dietary patterns are some of the important causal factors.

Levine and Smolak (2002) revealed that, for young women, satisfaction with body parts and ordinary appearance declines considerably over from12–15 years,

before leveling off or maybe growing slightly in middle and later formative years. This growth in dissatisfaction seems to be less pronounced and less linked to increasing body mass for African American girls, whereas the increase persists for white girls and is accompanied by an increasing drive for thinness (even after BMI is statistically controlled). The very limited data available for boys suggest either no correlation of body satisfaction with age or a slight dip in early adolescence, followed by a modest increase over middle and late adolescence.

Being underweight is typically the result of deficit strength intake, while being overweight is related to extra strength intake. These two situations are associated with wonderful sorts of public health problems. As an instance, overweightness is critical chance aspect for diabetes mellitus, cancer, stroke, breathing problems, excessive cholesterol, high blood pressure, allergies, and arthritis, whereas being underweight is related to preterm beginning and low delivery weight, malnourished children, and poor psychological health, which include high mortality. Comparatively, beneath weightness is a specific concern for growing nations, as it is the first and fourth leading cause of demise and disability inside the excessive-mortality and coffee mortality growing nations, respectively (Khan & Kraemer, 2009).

The National Health Survey of Pakistan (1990-94) (as cited in Minhas et al., 2010) utilized the WHO criteria for characterizing weight problems in Pakistan; obese in grown-united stateswas characterized as BMI > 25 and weight problems turned into characterized as a BMI >30. Even this is most acknowledged globally, the WHO nearby office for the Western Pacific and the global weight problems assignment pressure suggest deliver down reduce-off focuses for Asians; this depends on research showing accelerated chance of co-morbidities at lower BMI in Asians, who have a

bent to collect stomach fats at lower BMIs. As per the Asian standards, overweight is characterized as a BMI > 23 and weight problems as a BMI > 25. In perspective of this, it is currently positive that the utilization of decrease reduce-off focuses within the countrywide fitness Survey of Pakistan could have renamed a greater noteworthy extent of the Pakistani populace as overweight.

Minhas et al. (2010) reported over 28.4% of the urban populace and 23.3% of the rustic populace in the locale of Rawalpindi was marked as being overweight while 17.4% and 7.9% in the country and urban zones individually, were observed to be hefty. In this way, an aggregate of 45.8% inside the city and 31.2% in the provincial degrees had been over the standard frame weight. With the Asian standards, figures have been drastically higher: 62.6% city and forty eight. 6% rustic populations have been named as being obese. Comparable sources like wise gave information approximately obesity as per the standards: 134.2% guys and 60% ladies residing within the town regions and 35.7% guys and fifty five. 5% girls residing within the geographical region areas are suggested obesity. This is a grave fashion seeing that vital obesity is a extra essential hazard issue for coronary heart disorder than overall frame adiposity, and is extra closely associated with cardiovascular ailment risk elements studied than basic adiposity as measured via BMI in studies on the Pakistani population. Underweight is classified as having a BMI <18.5. Among the adolescent population of Pakistan, underweight is more frequent than obesity, whereas the opposite is true for adults. The data regarding the BMI status of adolescent population of Pakistan is scanty, a study with small sample size has reported the frequency of overweight at 12.6% and there is a need to determine the BMI of this group of population with a large number subjects for accuracy (Minhas et al., 2010).

Demographic/ Sociocultural Factors and Eating Attitudes

Other than above stated psychosocial factors, age (Whitebourne & Skultety, 2002); gender (Friend, Bauer, Madden, & Neumark-Sztainer, 2012); physical activity/weight status (Downs, DiNallo, Savage, & Davison, 2007); and family system (Cao, Mail, Li, Jenny, & Li, 2013) are considered as important demographic factors influencing the eating attitudes. Interlink of these demographics with the above stated psychological factors are planned to study in the present research and details are explained as follows:

Age

Eating related problems are not specified with age as people can develop the issues at any time in their life time but adolescents are found to be more vulnerable to develop eating disorders, as average age of anorexia nervosa is 15 years of age but bulimia nervosa usually develop first time in late teens and early adulthood (Morris, 2012). Increasing awareness about body and figure at the puberty is the major reason to develop restrained attitude toward eating. Similarly, typical weight young people would score higher on body fulfillment and physical action and lower on contrary eating mentalities than overweight teenagers and larger amounts of physical movement anticipated lower antagonistic eating state of mind scores subsequent to controlling for the commitments of body satisfaction (Downs et al., 2007). Adolescent eating is conceptualized as a function of individual and environmental influences. Story, Neumark-Sztainer, and French (2002) explained four levels of influences i.e., individual or intrapersonal (psychosocial, biological), social environmental or interpersonal (e.g., family and peer), physical environmental or community settings

(e.g., schools, fast food outlets), and macro system or societal (e.g., mass media, marketing and advertising, social and cultural norms). The search for identity, the struggle for independence and acceptance, and concern about appearance, tend to have a great impact on lifestyle, eating patterns, and food intake among adolescents (Spear, 2002). The meal pattern of adolescents becomes more disorganized, and they tend to miss their meals at home as they get older, often skipping breakfast.

Early adolescence is an important period for the development of body image, especially for girls (Jones, Vigfusdottir, & Lee, 2004). For girls and boys a number of normative developmental challenges influence, and are influenced by, body image, including pubertal development, emerging sexuality, incipient identity formation, gender role intensification, and exploring realistic possibilities for success in various realms (Whitbourne & Skultety, 2002). In general, this transition is more stressful for girls than boys because girls confront more of these demands (e.g., pubertal weight gains, dating, the move to middle school) simultaneously or in rapid sequence. Additionally, girls as a group experience more limited options for success in careers and in sports, more threatening sexual harassment and abuse, and other reminders of lower status.

These kinds of experiences boom lack of confidence, restriction confidence, and boom a female's tendency to define herself in terms of the social and economic cost of her frame. Girls' improvement thru the ranges of puberty in early childhood is related to extended frame mass, a greater poor body image, and better ranges of power for thinness and dieting. Pubertal timing, however, does not consistently correlate with body dissatisfaction, nor has it been shown to consistently predict negative body image in middle or late adolescence (Whitbourne & Skultety, 2002). With respect to

the impact of synchronous stressors, girls who begin middle school, begin puberty early, and begin dating during the same year report more body dissatisfaction at the time. Furthermore, this disadvantage increases over the middle school period (ages 11–14 years). A significant minority of girls enters the pubertal transition with weight and shape concerns, an investment in thinness as an important part of beauty and health, and a history of experimenting with dieting. Developmental psychologists have shown that the pubertal transition accentuates previously existing vulnerabilities and problems.

Research shows that there are clear gender differentials in access to health care. Upon entering puberty, adolescent girls face more difficulty in accessing health care than adolescent boys (Jacobson, Richardson, Parry-Langdon, & Donovan, 2001). Limitations on female mobility particularly affected younger women under age of 25 years studied in rural Punjab, even if they were married (Sathar & Casterline, 1998). Unmarried girls in that province faced the most restrictions on their overall mobility, including access to health services, due to social norms enforcing segregation between the sexes as a means of preserving a girl's chastity, or honor. (Ali & Rizvi, 2010).

Anemia is the most prevalent micronutrient problem in Pakistan (Baig-Ansari et al., 2008). It is most prevalent among the age group 5-14 and decreases until ages 25-44, after which levels rise again (Ali, 2000). The problem of under nutrition has not improved in recent decades; most affected are infants and young children, along with pregnant/lactating mothers (Akhtar et al., 2013). Direct negative communications and teasing from mothers to daughters and maternal encouragement to diet or restrict eating have been shown to be associated with increased weight and body shape concerns among adolescents (Baker et al., 2000; Gross & Nelson, 2000; Levine,

Smolak, Moodey, Shuman, & Hessen, 1994; Phares, Steinberg, & Thompson, 2004). Several studies which compared the relative strength of maternal modeling and direct feedback and encouragement from mothers for daughters' weight loss, the direct feedback variable was more powerful than the mothers' own eating attitudes and behaviors (e.g., Baker et al., 2000; Benedikt, Wertheim, & Love,1998; McKinley, 1999; Smolak et al., 1999).

Gender

Women are more likely than men to describe themselves as fat, to weigh themselves often, and to diet frequently. They are also generally more dissatisfied with their physical appearance than are men (Cooper & Fairburn, 1983; Furnham & Calnan, 1998). The most marked difference in body-image perceptions between the sexes is dissatisfaction with weight and, to a lesser extent, with shape, particularly the hips (Berscheid, Walster, & Bohrnstedt, 1973). Furnham, Badmin, and Sneade (2002), and Tiggemann and McGill (2004) have proven that many men are disenchanted with their weight and shape, even though particularly much less so than ladies; but some researchers have indicated that men are as upset as girls with their frame shape and weight (Drewnowski & Yee, 1987; Fallon & Rozin, 1985; Silberstein, Striegel- Moore, Timko, & Rodin, 1988). As we expected, the women scored higher than the lads on a degree assessing behaviors and attitudes associated with disordered ingesting. However, readers must take into account that our individuals got here from the socioeconomic middle magnificence, which means that that our effects won't generalize to running-elegance adolescents. moreover, the women, extra than the lads, pronounced that they exercised for weight control, mood,

fitness, and tone reasons, and for the ladies these reasons for workout were quite correlated with rankings from the eat. In line with Silberstein et al. (1988), the pervasive prevalence of dieting and weight issues amongst girls can be considered normative discontent. Pubertal development in women is followed by means of a mean weight gain of 50 pounds (22.67 kg) (Levine & Smolak, 2002). This consists of 20–30 pounds of fat, a whole lot of it deposited in the hips, thighs, buttocks, and waist. This normal organic system moves most girls away from the dominant white ideal body shape. In contrast, as boys mature physically, their bodies have a greater chance of developing toward the broad shouldered, tall, and muscular ideal. More research is needed on body image as a function of actual and perceived pubertal development, gender, and ethnicity. Interestingly, Siegel and colleagues (as cited in Whitbourne & Skultety, 2002) have found that white girls who perceived themselves as early developers felt less positive about their bodies, whereas there was no relationship between white boys' perceived timing and their body image. On the other hand, black girls and black boys who perceived themselves as late developers had a more negative body image.

Francis and Birch (2005) suggested in their path model that mothers' own weight and eating concerns affect their attempts to influence their daughters' weight and eating. There was no support for a modeling effect (no significant relationship between mothers and daughters across the whole sample) but mothers with personal eating and weight concerns were more likely to give negative feedback to their daughters. Adolescent girls are regularly exposed to messages from the media about the desirability of being thin. At the same time, nearly one third of adolescent girls are overweight or obese. Disparities between cultural ideals of thinness and the current

weight of many young people may contribute to high rates of dieting and body dissatisfaction among adolescent girls (Friend et al., 2012). There are striking gender differences in body image, for example, adolescent girls have a more differentiated body image. They think about and evaluate their bodies in terms of more parts, and they have stronger negative feelings about more individual parts (e.g., hips, face). Feingold and Mazzella (1998) conducted a meta-analysis of gender differences in self-rated physical attractiveness and in global satisfaction with body or appearance. From the 1970s into the mid-1990s there was a significant increase in the tendency of females (relative to males) to have lower ratings, more variable ratings, and an especially poor body image. These disparities were greater in adolescents than in adults, even though adolescent females were rated by observers as being more objectively attractive than adolescent males (Whitbourne, & Skultety, 2002).

Sondhaus, Kurtz, and Strube (2001) cross-sectionally compared the body-image attitudes of college men and women assessed at the same institution in 1966 and 1996. These researchers found that women reported significantly more body satisfaction in 1966 than in 1996, yet there were no differences in men's body-image attitudes between the two points in time. In addition, women were found to be more satisfied with their bodies than men in 1966, and the opposite was observed in 1996. The latter difference has been reported as college women report significantly more negative body-image evaluations, greater psychological investments in their appearance, and more frequent body-image dysphoria than do their male peers (Cash et al., 2004).

The National Nutrition Survey of Pakistan found that anemia affected over 35 percent of adolescent married women (ages 15-19), and the problem increased with

age and anemia is also a common problem among boys (Agha, Sadaruddin, Khan, & Ghafoor,1992). As adolescents' grow older there are visible changes in their weight status. Other than gender and age, weight status is very important in predicting the eating attitudes.

Weight Status/ Physical Activity

It is very much confirm that psycho behavioral indicators of eating mentalities are affected by weight status (Ventura & Birch, 2008), to such an extent that overweight young men and young ladies will probably report body disappointment and depressive manifestations than their ordinary weight counterparts (Downs et al., 2007).Lower body fulfillment and lower levels of physical action conduct are emphatically connected with negative eating attitudes (Neumark-Sztainer et al., 2006). Boys showed more body satisfaction and high on physical activity and lower on negative eating attitudes than girls (Downs et al., 2007). Similarly, ordinary weight youths would score higher on body fulfillment and physical action and lower on negative eating dispositions than overweight young people and more elevated amounts of physical action anticipated lower pessimistic eating state of mind scores in the wake of controlling for the commitments of body satisfaction (Tabak, 2008). Self-weighing may be a useful tool for weight management if it motivates girls to engage in healthy behaviors like increasing physical activity and eating fewer high-fat foods. However, increased attention to weight could make girls feel badly about themselves or lead to greater use of unhealthy weight control behaviors such as using diet pills and skipping meals (Friend et al., 2012).

According to Rodin et al. (as cited in Furnham et al., 2002) exercising may be part of the complex of attitudes and behaviors that make up normative discontent, although it could be argued that some of these reasons for exercise (e.g., weight control, mood regulation) are strongly advocated by the medical profession. There is little doubt that Western societies encourage and reward the pursuit of the perfect body because it is an ideal that symbolizes the attainment of numerous personal virtues and achievements. Unfortunately, the body image standards to which women currently aspire are far beyond what can be achieved with healthy or sensible levels of dieting or exercise (Brownell, 1991).

Many post pubertal females are dissatisfied with their body shape and weight, despite being of "normal" weight or even underweight. The beliefs that weight and shape are important and that one is overweight have a strong connection to body dissatisfaction, dieting, and low self-esteem in adolescent girls, regardless of the degree of their actual overweight. For both boys and girls, and across Asian American, Hispanic, black, and white adolescent groups, there is a small but meaningful inverse correlation between an index of body mass and body image. In girls, BMIs prospectively correlated with body dissatisfaction and being teased about one's weight (Whitbourne, & Skultety, 2002).

In adolescent girls, dissatisfaction with weight, shape, and individual body parts is a moderately strong correlate and predictor of the perceived need to be thinner and the actions of dieting and purging. This finding is true for a variety of ethnic groups. In contrast, even among overweight male adolescents who know they are overweight, a surprisingly small percentage is significantly motivated to lose weight. In combination with other variables (e.g., fear of fat, a commitment to dieting, negative

relationship with parents), negative body image in girls is a prospective predictor of subclinical but chronic eating problems across adolescence and into young adulthood. Negative body image, fueled by teasing and adolescent self-consciousness, also motivates some girls and boys to avoid physical activity and to fast, binge-eat, or eat too often. In developed cultures negative body image is an essential link between eating disorders and the growing problems of adolescent and adult obesity (Whitbourne, & Skultety, 2002).

Socio-Economic Status (SES)

Information on eating disorders in developing and ethnically diverse countries, such as South Africa is useful to detect those socio-cultural factors that may influence their development. In South Africa, a host of different cultures reside side by side, including a subsection of 'true' Westernized culture. In view of massive socio-economic changes currently taking place in the country, and increased social integration following the abolishment of previous apartheid legislation, young South Africans may rapidly become exposed to different belief systems and thereby alter their value systems regarding acceptable body size.

Rogers, Resnick, Mitchell, and Blum (1997) found significant positive relationship between SES and some of the unhealthy dieting behaviors, there was no relationship between self-report of clinically significant eating-disordered behaviors (e.g., vomiting twice a week or more) and SES. Moreover, study suggests that while there may be a significant relationship between SES and dieting or other behaviors associated with eating disorders. SES may be associated with differences in dieting or eating behaviors; however, among those young women who meet psychiatric criteria

for an eating disorder, SES does not appear to be a significant factor. The prevalence of disordered eating behavior was found to be highest in the highest SES group, followed by the lowest SES group. It was found boys in the high or highest SES groups were at higher risk for disordered eating behavior than were those in the middle SES group (Lee et al., 2013)

O'Dea and Caputi (2001) examined the effect of socioeconomic status (SES), age, weight and gender on the body image and weight control practices of children and adolescents, and to investigate whether health education about weight issues should target low socioeconomic groups. The study participants were a randomly selected group of school children aged 6-19 years from 12 schools in New South Wales. SES, age, gender, body weight, body image, skipping breakfast, physical self-esteem, attempts to lose or gain weight, and dietary and weight control advice received from others were examined. Low SES children were more likely to be overweight, to skip breakfast, to perceive themselves as 'too thin', to be trying to gain weight and less likely to receive dietary or weight control advice. Physical self-esteem was lowest among overweight girls of middle/upper SES and greatest among boys of low SES, despite the latter being more likely to be overweight. Being overweight does not appear to adversely affect the physical self-esteem of children of low SES, particularly boys.

Felden (2011) determined the influence of the socioeconomic context upon body image perceptions and satisfaction/dissatisfaction with the body is a relevant subject in understanding adolescent's health. This study identified that relationships between body image and socioeconomic levels are complex and the results of published studies are not conclusive. The main findings are: North-American lower class youths

present greater chances for obesity, but this is not true in Brazil; girls and boys have different behaviors concerning body image perceptions, despite ethnicity or socioeconomic status; Caucasian girls show more dissatisfaction with their body images and greater search for diets than African American girls, who seem to suffer less influence of the current beauty patterns; youth of lower socioeconomic status presents a tendency to desire larger bodies.

Family Dynamics

We are all hereditarily and socially influenced by our families. Families fill in as the lattice of our personality. It is through communications inside the family that we build up a feeling of our identity and how we fit in (Hammitt, Backlund, & Bixler, 2006). Parents serve as role models, providing examples for attitudes, coping skills, and eating habits, as well as setting standards for perfection, ambition, and acceptance (Davidoff & Hall, 2013). Many researchers claim that family dynamics are at the root of eating disorders such as anorexia nervosa. The role of dysfunctional family interactions in the pathogenesis of anorexia nervosa has been given a prominent place in the research field. Evidence for a specific family constellation in this disorder, however, has been conflicting. While the majority of studies argue for a specific family interaction style, further studies must be conducted to identify distinguishing characteristics of anorexic subtypes and to determine whether these characteristics are of a causal or consequential nature (Agras et al., 2004; Pike & Rodin, 1991).

A number of family factors have been hypothesized to influence maladaptive developmental pathways leading to poor body image and eating pathologies. Family dynamics, and in particular qualities in the mother–daughter relationship, have been

frequently identified as playing a crucial role in the development of eating problems (e.g., Bruch, 1973). The empirical research examining such family/relationship issues is not as extensive as one might expect, but there is a growing body of research that focuses on one potential pathway of family influence — parental modeling — particularly maternal modeling. The primary focus of this research has been on the role that a mother's attitudes and behaviors about eating and her own body may play in her daughter's attitudes and behaviors. This modeling effect may be supplemented by the mother's attitudes about her daughter's appearance and eating behaviors, and in some cases, direct attempts to influence the daughter's attitudes and behaviors.

Family focused treatments for anorexia nervosa have been developed based on accounts in family therapy literature of the "typical" anorexic or "psychosomatic" family (Morgan, 2008). Anorexic families may appear to have a perfect or ideal environment on the surface, but upon close observation little expression of affection or warmth is seen. Members of these families seldom take specific stands on issues, and conflict is avoided at all costs. Underlying dissatisfaction and tension is often present within the parental dyad. It has been suggested that parents of anorexic offspring put high expectations on their children to over-compensate for the lack of love in their own marriage (Gray, 2014). The anorexic is then capable of using the illness to unite his/her parents.

Psychosomatic model explain three necessary conditions for the development and maintenance of psychosomatic problems in children. These essential pathogenic factors include family disorganization, an involvement of the child in parental conflict, and a physiological vulnerability of the child. The typical family organization would be characterized by four interaction patterns i.e., enmeshment,

rigidity, overprotectiveness, and lack of conflict resolution (Lindemann, 2012). Confirm for the psychosomatic family display in anorexia nervosa has been clashing. To test for the nearness of a particular family star grouping, Minuchin(as referred to in (Blinder, Chaitin & Goldstein, 1988) directed a study including forty-five psychosomatic families, eleven of which were "anorexic families." The anorexic families demonstrated the most unpredictable eating designs when contrasted with the useless family differentiate bunches.

Kramer (1988) studied the family systems characteristics of anorexic restrictors, anorexic-bulimics, and normal-weight bulimics and compared them to a normal-weight control group and found that all the eating disorder groups were more similar than different on family systems characteristics. Eating disorder groups also showed more dysfunctional family patterns. Anorexic-bulimics perceived more mother overprotection, father overprotection, less flexibility, and less mother-child conflict resolution. Anorexic restrictors perceived less parent administration and more prominent triangulation moves (each parent attempting to persuade their youngster to be in coalition against the other parent). In general, the discoveries by Kramer were predictable with Minuchin's (1985) psychosomatic worldview. His discoveries additionally extended the family frameworks model to incorporate anorexic subtypes (Blinder et al., 1988; Sonne et al., 1981).

Eating-disorder families seem to have more aggravated collaborations than ordinary families, most analysts would concur that it is wrong to over make speculations regarding anorexics and their families. Additionally concentrate must be directed to clear up whether a trademark example of connection exists, regardless of whether the example is a fundamental precondition of the pathogenesis of the

confusion or happens as a result of the sickness, and whether the broken collaborations draw out anorexic practices (Weiss, Katzman, & Wolchik, 1985). Notwithstanding clashing proof, the significance of fathoming the relationship between the dietary problem and family connection ought not be neglected. Regardless of whether a specific star grouping of family attributes is particular to the state of anorexia nervosa, a comprehension of the kid's impression of her folks' relationship, and in addition her place in it, gives understanding into two vital parts of this issue. its propensity to show up in youthfulness and its prominently more noteworthy frequency in young ladies than in young men (Gordon, Beresin, & Herzog, 1989). To clarify these discoveries does not require that one view the family as the source or root of the issue. Despite how the disease emerged, the manifestations of the dietary issue get to be entwined with family connections, bringing about the whole family to experience enduring and trouble (Weme & Yalom, 1996).

After having a detailed view on different psychosocial factors it is important to see if there any model exist addressing the path of development of eating related behaviors. To understand the developmental path to eating disorders role of body image have been widely studied as it has been addressed in introduction previously. To see this model with better understanding, following details have been discussed.

Body Image, Eating Attitudes, and Body Mass Index

The developmental path leading to eating disorders among adolescent girls often proceeds from increasing body size, to increasing body dissatisfaction, to increasing risk for eating disorders (Lynch, Heil, Wagner, & Havens, 2008; Thompson, Coovert, Richards, Johnson, & Cattarin, 1995). Over the previous decade

different hypotheses have recommended how psychological and ecological factors may collaborate to build the hazard for creating dietary problems. A considerable lot of these hypotheses, communicated as causal models (Huon, Mingyi, Oliver, & Xiao, 2002; Neumark-Sztainer, Wall, Perry, & Story, 2003), give information showing noteworthy positive relationship between Body Mass Index (BMI), Body Dissatisfaction (BD), and at least one dietary problem chance practices (e.g., eating less carbs, gorging, cleansing, or unreasonable practicing to control weight).

In support of the body mass list and body dissatisfaction affiliation, late planned reviews have demonstrated that increments in BMI over periods up to a year, fundamentally anticipate body disappointment increments over that same period (Field et al., 2001; Presnell, Bearman, & Stice, 2004; Stice & Whitenton, 2002). In a year-long investigation of young people, for example, Field et al. (2001) found in longitudinal review that BMI predicted weight worries with time. In different reviews, including no less than one imminent review (Stice et al., 2002), BD has been appeared to be decidedly connected with ED hazard (e.g., Croll, Neumark-Sztainer, Story, & Ireland, 2002; Shaw, Ramirez, Trost, Randall, & Stice, 2004), in spite of the fact that Stice (2002) has called attention to that impact sizes for body disappointment and hazard relationship in a large number of these reviews are very little. Yates, Edman, and Aruguete (2004) found that while the BMI-BD affiliation was basic to White, Black, Japanese, Filipino, Chinese, Hawaiian, and multiethnic gatherings, the quality of the relationship fluctuated significantly. For instance among females, Filipinas were the most disappointed with their bodies, in spite of having among the least BMIs (Lynch et al., 2008). Similarly, some studies (Davison et al., 2014; Sondhaus et al., 2001) have clearly suggested gender plays very important role in prediction of body

dissatisfaction and in turn the eating related pathologies. Girls are found to more prone to develop the body image related issues more as compared to boys (Aruguete et al., 2006; Hudson, Hiripi, Pope, & Kessler, 2007; Kirsch, 2014; Jones, 2001;) and literature also suggest that risk for eating disorder is also very high among girls as compared to boys (Ain, 2015; Caradas, Lambert, & Charton, 2001; Edman & Yates, 2004).

Conclusively, it can be said that researches in the fields of body image and eating related pathologies are increasing in numbers and are trying to establish the better models to explain this construct. After having a detailed view on different psychosocial factors addressed in literature, it is important to study the interaction of body image, gender, BMI, and weight status in the form of moderation and mediation effect on eating attitudes which has not been studied before. Before planning the next study it is important to identify what have been explored in Pakistani researches to determine the gaps in knowledge to explain the construct under study.

Researches on Eating Disorders in Pakistan

During the most recent decade some mindfulness and information about dietary issue has developed extensively yet the idea of ordinary eating is still disregarded and uncertain in Pakistan. A preparatory review demonstrated that the vast majority of the cases have been distinguished through gastroenterologists with the objections of sickness, blazing, heartburn and causticity and so on, in Pakistan (Muazzam & Khalid, 2008). Some different cases have been distinguished by dental specialists shockingly for loss of dental lacquer or calcium insufficiency in teeth because of pig out then vomit conduct. Knowing when confused eating, eating has turned into a

dietary problem, is hard to decide. The quantity of people having scattered eating is higher than out and out dietary problem which is seldom announced in healing facility setting. The most shocking finding is the high commonness of dietary problem i.e., 39.5% of female nursing undergrads in their first year of study in Pakistan, which is most astounding between the South Asian and Islamic nations, for example, Oman or Turkey (Babar et al., 2002).

Prevalence of eating disorder in school girls in Lahore, Pakistan was explored in survey (Choudry & Mumford; Mumford, Whitehouse, & Choudry as cited in Muazzam & Khalid, 2008) and it was seen 10.3 % of girls were diagnosed as on risk to develop the eating attitudes. Kaiser, Syed, and Qazi (2007) showed the association of anorexia nervosa with depression which explained the possibility of anorexia nervosa as a depression spectrum disorder. These findings are consistent with the fact that prevalence of eating disorder in Pakistan is related with depression and body shape (Suhail & Nisa, 2002). This review additionally uncovered that 59% of the ordinary weight and 21% of the underweight ladies thought of them as overweight, 17% scored underneath the limit of analysis of eating disorder. These comes about demonstrated an expanded predominance of dietary problem in Pakistan. Another research conducted by Suhail (2000) studied body shape and eating attitudes among postgraduate females and found the positive relationship between these two variables. Minhas and Haris (1999) conducted an exploratory study on Pakistani girls students regarding their eating behaviors and concluded EAT is useful for diagnostic purposes in Pakistan.

Safdar (2006) centered the issue of either slimness or heftiness in Pakistani society and discovered slenderness as a lady internal clash and accentuated the part of

nutritionist and dietitians to give data about a sound eating regimen and propose particular feast arranges according to require. Rehman et al. (2003) led look into on corpulence among teenagers in Pakistan. The outcomes demonstrated that 17% of O level or review tenth understudies were underweight, 65% were ordinary weight and 18% were overweight so they underline the part of physical movement for large individuals and raised the awareness about weight status of Pakistani young people (as cited in Muazzam & Khalid, 2008). Ansari and Sadiq (2006) discovered body image is positively related with self-esteem and negatively related with depression among married females. Similarly, Riaz and Iqbal (2008) found a positive relation between disturbed body image and disordered eating among adults, and negative relationship with self-esteem. Another research by Muneer (2006) investigated the link between intimacy with opposite gender and positive body image in adults. Moreover results show male respondents have more positive body image and attitude toward self than female respondents.

Rose (2014) found positive correlation between perfectionism and disordered eating behavior. Girls show more disordered eating behaviors as compared to boys. Similarly, Nigar (2014) studied the relationship between body dissatisfaction, perfectionism and media exposure among adolescents. The results showed appearance evaluation and body area satisfaction is negatively related with perfectionism while appearance orientation and overweight pre-occupation has positive relationship with perfectionism among adolescents. Moreover, moderation analysis reveals that media exposure significantly moderate the relationship between body satisfaction and perfectionism. Appearance orientation, overweight preoccupation, self-classified weight and perfectionism were found to be higher in girls as compared to boys.

Hassan, Riaz, Zubair, and Tariq (2012) studied the body image and generalized contentment among university students, results showed appearance evaluation, body areas satisfaction, and appearance orientation were found positively related with the generalized contentment while over-weight preoccupation is negatively related with generalized contentment. Boys were found more satisfied with their body area and appearance as compared to girls. Zaman (2014) studied body dissatisfaction and disordered eating behavior among lactating mothers in Pakistan and found lactation does not lead to any eating related pathology among women in Pakistan. Ain (2015) found that young adults with traditional gender roles reported high disordered eating behavior. Tariq and Tazvin (2015) developed the Body Dissatisfaction Scale and found different factor structure for girls and boys in Pakistan.

Literature indicated a number of researches in Pakistan have been conducted on eating disorders and disordered eating with reference to its relationship with different constructs like self-esteem, perfectionism, depression, anxiety, media exposure, and even on body dissatisfaction. There is dire need to explore the indigenous meanings and explanations of eating attitudes which have not been attempted before. Similarly, cognitive information processing theory of body image explain the role of body image in eating attitude but theory has not been addressed with ample evidences. To study the body image there is no single indigenous instrument as per our knowledge so the present research would contribute to study these construct in Pakistani context. Another interest of researcher is the food myths belief which has not been addressed in the literature. So, along with this present research is aimed to fill the gap of interaction of gender, BMI, body image and other psychosocial variables like extraversion personality traits, and weight status to test the model of predictability.

Mediation of body image on the relationship between BMI and eating attitudes as addressed in model proposed by Lynch et al. (2008) has not been studied before in Pakistan.
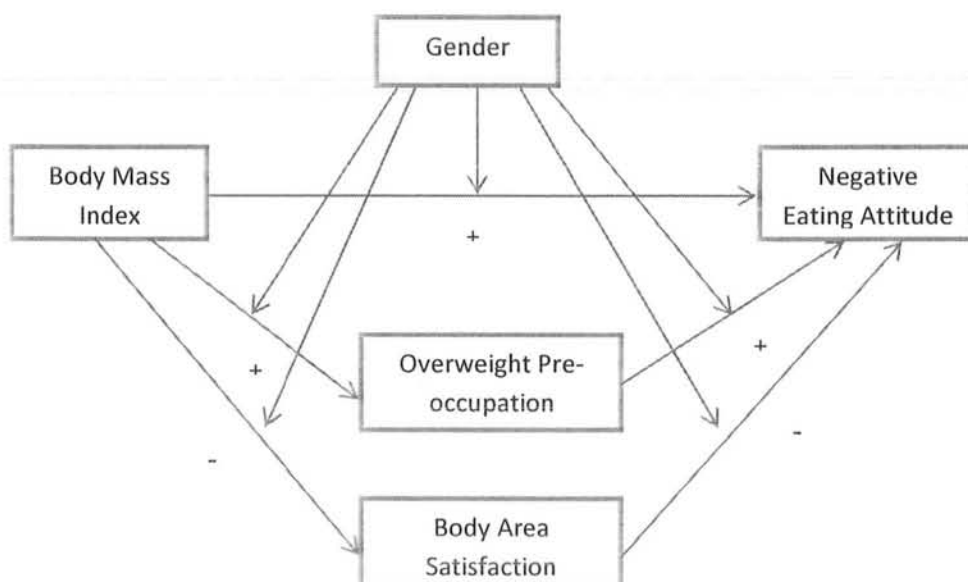
Figure I. Conceptual Model of the Study.

Figure 1 represents the proposed model of the present study. Mediational model proposed by Lunch et al., (2008) has been modified by the moderation of gender on parallel mediation of overweight preoccupation and body area satisfaction.

Rationale of Present Study

The research literature (Babar et al, 2002; Garrusi & Baneshi, 2012; Muazzam & Khalid, 2008; Nobakht & Dezhkam, 2000; Rehman et al., 2003; Rose, 2014; Safdar, 2006: Sherin, 2013; Talwar, 2011) from last decade shows an shocking rise in eating related disorders in South Asian and Islamic countries. One important view (as cited in Imran & Ashraf, 2008) is we may hope to locate an expanding frequency of dietary

issues with broad reception of western styles, propensities, and states of mind. Wellbeing experts working in Pakistan should know about presence of attitudes toward eating that is specifically contributing in dietary problems like anorexia nervosa in young people and of the possibility of an increasing incidence, for delay in diagnosis is far too common, with the danger of subsequent poor prognosis. Maximum researches conducted in Pakistan to assess eating behavior have used Eating Attitude Test-26 (Garner et al., 1982) and except the reliability no psychometrics have been worked out for indigenous scenario. Muazzam (2009) translated it into Urdu and used for validation of indigenously developed disordered eating behavior scale. Minhas and Haris (1999) found the EAT best for diagnostic purposes.

Evaluating risk behavior population, it´s is important to understand the presence and level of ED symptoms; but it will be also interesting to understand their feelings, beliefs and thoughts about eating, and also their relationship with food. This knowledge could help to elucidate predispose factors and to plan prevention interventions (Alveranga et al., 2012). Self-report measures are more helpful and common to show a more representative picture of eating disorders (Garner & Garfinkel, 1979; Garner et al., 1982; Mizes et al., 2000; Muazzam & Khalid, 2011; Talwar, 2011). Similar attempt has been done by Muazzam and Khalid (2011) and they developed an instrument of disordered eating behavior scale to explain the behaviors of individuals toward eating and forget the fact that our attitude toward any phenomenon is important to establish that behavior. According to our knowledge, there is no single instrument in Pakistan to explain food myths and eating attitude. Keeping in mind all above stated issues regarding eating attitude, this study was

intended to develop the instruments i.e., Eating Attitude Scale and Food Myths scale for the measurement of underlying constructs in the adolescents. These scales were developed specifically for this study, as there is no indigenous scale which could be used to assess the eating attitudes and beliefs on myths related to food in Pakistani adolescents. There is dire need to find out the indigenous meaning of eating so qualitative exploration of eating attitude will help to develop and validate the indigenous scale to assess eating attitude and it would be first time in Pakistan that any psychological research would attempt to tap beliefs on food myths and their role in establishment of eating attitude among adolescents.

This is an established fact about body image as a strong contributor in eating related issues (Cash et al., 2002; Cash et al., 2004; Hong, 2014; Schaefer & Thompson, 2014). To assess body image in Pakistan there is no promising indigenous scale available in Pakistan. Multidimensional Body-Self Relation Questionnaire-Appearance Scale (Cash, 2002) is a worldwide used measure to study body image. Keeping in mind the applicability and benefits of translated measures present research will address the translation and construct validation of MBSRQ-AS for Pakistani population. Strong psychometric evidences always establish the worth of instruments used to study the constructs, so the instruments validations are considered an important step before hypotheses testing (Yates et al., 2004). The present research is planned to address the validations of indigenously developed instruments with the help of construct and concurrent (including convergent and discriminant) validity. This will encourage the future researchers to use the measures with full confidence with reference to its Pakistani cultural applicability.

Now adays poor eating habits and nutritional behavior have become a major public health concern especially among adolescents (Mahmood, 2014; Weisfeld, 1999). Lack of time, stress, and peer pressure are considerable factors affecting their eating habits. Adolescent time is crucial for the development of personality as personality starts to develop at this time so unhealthy eating habits picked up at this age would continue and may persist in older adults' life and may be difficult to change later on (Ganasegeran, Al-Dubai, Qureshi, Al-abed, & Aljunid, 2012). So, it is important to study the attitude toward eating in adolescent age and to identify the risk factors and correlates in the establishment of this attitude.

As children turn into adolescents, their concern with social standing increases (Weisfeld, 1999) and will continue to do so into adulthood. In our country, we only found few anecdotal reports of anorexia nervosa from some psychiatrists and psychologists, and published case report of anorexia nervosa from Pakistan (Imran & Ashraf, 2008) and it is opposite for adults as obesity is reported in adults that only ensure the presence of this problem in our culture but did not address the causal relationship among Pakistani youth, so the present research would contribute to improve our understanding to the eating and the different causal factors among adolescents. The major motivation behind this study was to analyze the aggregate impacts of self-perception of body, and BMI for deciding the eating demeanors of young men and young ladies, and to look at the directing impacts of sex and weight status. All in all the review discoveries delineate that, among young ladies, weight status moderated the prescient contribution of body satisfaction on eating attitudes consequently. It is expected that it would be a useful contribution in the field of gender psychology with reference to women's health in Pakistani culture. Literature

suggested body dissatisfaction plays a mediating role between BMI and risk for eating disorders (Lynch et al., 2008). Present study is also aimed to test this mediational model with added moderating role of gender. Given the fairly constrained and to some degree equivocal writing concerning the part of body disappointment among Asian population, the current review tried the speculation that body disappointment is a critical middle person of the relationship amongst BMI and negative eating attitude with moderating role of gender among adolescents.

The basic inspiration of this exploratory research is to establish the mediated moderation model contributing in the development of eating attitude among Pakistani youth. Moreover, this study can be used by social scientists to create awareness among society and clinical/health psychologists and nutritionist to make more effective preventive programs and treatment plans to overcome the psychological health issues of adolescents in Pakistan.

RESEARCH DESIGN

Present research is exploratory in nature and based on cross sectional research design. Following variables were analyzed (1) Eating Attitudes, (2) Food Myths, (3) Body Image, i.e., appearance evaluation, appearance orientation, over-weight preoccupation, and body area satisfaction. (4) Body Mass Index. The present research was completed in following five studies by following triangulation research approach:

Study I: Understanding of Eating Attitude Phenomenon in Pakistani Context

Literature review show cultural influences play a vital role in determining attitudes toward eating and food so it was decided to explore this construct here in Pakistan. Study I was conducted with the objective to explore and understand the eating attitude qualitatively. It was done with the help of qualitative interviews with nutritionists and gynecologist and focus group discussions with adolescents (including both girls and boys). The content analysis technique was used to analyze the data and it helped to short list the final categories emerged to explain phenomenon under study indigenously in Pakistani context.

Study II: Development of Eating Attitude Scale and Food Myths Scale

After indigenous understanding of phenomenon the Study II was planned with aimed to develop indigenous measures i.e. Eating Attitude Scale (EAS) and Food Myth Scale (FMS). This study was completed in four phases. In the first phase items pool was generated based on the qualitative findings of Study I, in the second phase items were evaluated by experts for content validity, in third phase empirical

evaluation was done through exploratory factor analysis, and in the fourth phase reliability of measures i.e., Eating Attitude Scale and Food Myth Scale were developed.

Study III: Translation and Validation of Multidimensional Body-Self Relations Questionnaire-Appearance Scale

Study III of the present research was dealt with translation and validation of Multidimensional Body-Self Relations Questionnaire- Appearance Scale (MBSRQ-AS; Cash, 2000). This scale is widely used for assessment of body image across the world overall and in Pakistan as well. This is the reason present research used this scale to assess body image among adolescents but poor psychometric evidences in existing literature and English language of the scale limit its applicability on varied sample in Pakistan. Most of the studies have been conducted on bilingual urban sample. Translation of the scale will help to enhance its utility on varied population and validation will help to verify the construct with reference to its cultural specific orientation with better psychometrics of scale. This study mainly comprised two phases. In phase one translation and cross language validation was done in four steps i.e., forward translation, translation were evaluated by the experts in step two. In the third step back translations were finalized after the after getting it reviewed by author of the questionnaire Cash through email. In the final fourth step cross language validation was done. In phase two psychometric properties of translated version was developed with the help of exploratory factor analysis and reliability analyses. This study provided us with the translated version with the sound psychometric properties.

Study IV: Validations of Eating Attitude Scale, Food Myth Scale, and Multidimensional Body Self-Relation Questionnaire-Appearance Scale Urdu Version

Study-IV of present research incorporated the validations of scales. The study was completed in following four steps. In the first step factorial validity of scales were established with the help of confirmatory factor analyses for Eating Attitude Scale, Food Myth Scale, and Multidimensional Body Self-Relation Questionnaire-Appearance Scale Urdu version. In step II convergent validity of indigenously developed Eating Attitude Scale and Food Myth Scale with the help of Disordered Eating Behavior Scale (DEBS; Muazzam & Khalid, 2011) and Body Mass Index (BMI). In step III discriminant validity of indigenous Eating Attitude Scale was done with following instruments i.e., MBSRQ – AS Urdu version as it was originally developed by Cash (2000) and translated in Study II of the present research and Extraversion subscale of NEO-FFI (Chisti & Kamal, 2009). In step IV contrasted group validity was obtained by dividing the sample of adolescents into four groups that is obese, overweight, underweight, and normal group on the basis of their Body Mass Index Score. The obese/ overweight and underweight individuals will have more Disordered Eating Attitude and score higher on Food Myth Scale. This study yielded important information about the validation of the scales.

Study V: Psychosocial Correlates of Eating Attitudes and Food Myths

This study was aimed at determining the relationship between eating attitudes, food myths, body image, extraversion, body mass index, and demographic variables included gender, age, weight status, family system, exercise, residence (hostel/home), and number of meals per day among adolescents. This study was intended to testing

the proposed hypotheses, moderation, and mediation models. Moreover, the moderated mediation model was established for Pakistani population. The data leaned through the psychometrically sound instruments were subjected to statistical analyses in order to test the proposed objectives of the study. The findings has been discussed in relation to pertinent literature and implication for enhancing adolescents knowledge toward eating behavior and related factors and limitations of the present study was discussed with suggestions and recommendations for future researchers.

STUDY I: UNDERSTANDING OF EATING ATTITUDE PHENOMENON IN PAKISTANI CONTEXT

This chapter summarizes the qualitative study to explore the phenomenon of eating attitude in Pakistani context. Due to its potential to advance understanding of social and behavioral aspects of food and eating, qualitative research continues to gain importance in the fields of food, nutrition, and health. Understanding audiences' perspectives and experiences related to healthy eating is important if nutrition and health educators wish to gain people's attention and assist them in meaningful ways. Researchers (Hercberg et al., 2010; Lake, 2012; World Health Organization, 2003) acknowledge that compared to experts, the public may view food, nutrition, and health very differently. Previous reviews (e.g., Freedman, Liese, Hatala, Lomax, & Blake, 2011; Neff, Palmer, McKenzie, & Lawrence, 2009; Rose, Bodor, Hutchinson, & Swalm, 2010; Sobal & Bisgoni, 2009) have described the general roles of qualitative research in nutrition and health promotion. The main objective of this phase of research was to collect and analyze the qualitative data to understand the construct of eating attitude in Pakistani culture and to assess its different dimensions among adolescents.

To explore the phenomenon of eating attitude, three indepth interviews with experts (nutritionists and gynecologist) and eight focus group discussions with adolescents were conducted. Along with nutritionist, gynecologists in Pakistan are considered to be the specialists about weight and nutrition related concerns among

general population. Eating disorders are more prevalent among girls (Rehman et al., 2003) it can result into hormonal problems (Lobstein, Baur, & Uauy, 2004). Adolescent girls who are experiencing issues with reference to their dietary habits and the subsequent hormonal problems often contact gynecologists. Due to this reason gynecologist was also interviewed to get a detailed account of eating attitudes and other health related facts among Pakistani adolescents.

Focus groups are an essential tool that can be used to provide important insights, and that allow the facilitator to probe a group's thinking on matters both scripted and that arise spontaneously through conversation (Holsman, 2002). In the present study focus group discussions were arranged with students from different colleges and universities of Rawalpindi and Islamabad. Each focus group comprised 6 to 10 participants. For facilitation in focus groups two moderators (a girl and a boy with master's in psychology) were trained to work alongside the researcher. In each focus group, the researcher welcomed the participants and thanked them for their participation. It was explained to the participants that they were chosen due to their knowledge and information regarding the topic. Participants were asked permission to record the session. They were assured that the recording will be used only for the purpose of research. The ensuing group discussion was built around certain questions already set in focus group guide by the researcher.

During the focus group session care was taken to ensure that every member took part in the discussion. So that, with the diversity of perceptions everyone got the proper opportunity to share his/her opinions regarding the concerned topic. The focus group sessions lasted for around forty five minutes to one hour. At the end of each

focus group, participants were thanked for their quality time. Recordings of focus group discussion were used to prepare the detailed notes. The researcher then analyzed the notes taken, for recurring themes and any new viable themes with potential for further exploration. The process also proved valuable in locating important points or quotes of the recording. It was carefully seen that written report followed the questions contained in the discussion guide.

Sample

To get the complete knowledge about the eating attitude phenomenon, information was sought from nutritionists and adolescents separately. The more details of sample are presented as follows:

1. To get a preliminary understanding of the phenomenon with respect to the experts' point of view qualitative interviews were conducted with nutrionists and gynecologist. The purpose was to have a professional point of view on eating attitudes among adolescents with reference to their concerns about eating, nutritional awareness, and health hazards. Two nutritionists and one gynecologist was contacted for the detailed interviews. One of the nutritionists was a Ph. D in nutrition and head of nutrition and dietetics department, consultant nutritionist and weight loss specialist from *Shifa* International hospital, Islamabad with 15 years of experience while the other was Ph.D in nutrition and clinical nutritionist at NESCOM Hospital Islamabad with 5 years of experience, and one is consultant Gynecologist from Maryam Memorial Hospital, Rawalpindi with 25 years of experience in the field. They were all contacted individually at their work places.

2. Adolescents' opinions and experiences were sought through focus group discussion. Overall 8 focus groups discussions were conducted (i.e., three focus group discussions with girls, three focus group discussions with boys, and two focus group discussions with the combine groups of boys and girls). Previous literature suggests that eating related behaviors are different among girls and boys so the researcher decided to conduct discussions with both sexes separately. To gain indepth information of eating attitudes with respect to margin of impression in the presence of opposite sexes two discussions were also held with combined group (i.e. boys and girls). The participants were (boys and girls) Intermediate/ Graduation level students including 69 boys and girls overall in all focus group discussions. The average number of participants in each focus group discussion was 8 including boys and girls. Their age range was from 17- 22 years with the mean age of 18.75 years. The details are presented in Table I.

Table 1

Description of Focus Group Participants

#	Venue	Gender	Total	Ages		Moderator
				M	S.D	
1	Viqar-un-Nisa Government College Rawalpindi	Girls	8	18.92	2.10	Girl
2	Government College for Women Peshawar Road Rawalpindi	Girls	8	18.52	2.01	Girl
3	Government College for Women Satellite Town, Rawalpindi	Girls	8	18.85	2.31	Girl
4	Islamabad College for Boys	Boys	8	18.21	2.14	Boy

Continued...

#	Venue	Gender	Total	Ages		Moderator
				M	SD	
5	Gordon College Rawalpindi	Boys	8	19.42	2.53	Boy
6	Quaid-i-Azam University, Islamabad	Boys	8	20.65	3.01	Boy
7	National University of Science and Technologies	Girls ($n = 7$) boys ($n = 3$)	10	18.21	2.02	Girl
8	Quaid-i-Azam University, Islamabad	Girls ($n = 5$) boys ($n = 6$)	11	19.21	2.83	Girl
	Total		69	18.75	2.42	--

Table 1 represents the description of age and gender of focus groups participants. All the focus groups were conducted with the help of moderators. It can be seen that most of the adolescent girls ($n = 36$) and boys ($n = 33$) included in the focus group discussions were of 18 and 19 years old. This age group is considered very crucial regarding the development of attitudes in general (Gentry & Campbell, 2002). So it was decided to select this age group to study the factors contributing in the development of eating attitudes. All the participants included in focus group discussions were from five colleges and two universities of Rawalpindi and Islamabad, Pakistan.

Focus Group Guide

The focus group guide was prepared after extensive study of previous literature. Important themes and points were isolated and specific questions were developed in a manner to ensure maximum responses. Turner (2010) suggests using simple and clearly stated questions with special caution to wording that might influence answers, e.g., evocative, judgmental wording. These points were kept in

mind when finalizing the questions. There were specific set of questions in the guide so that a really detailed idea about the area of interest could be obtained. Participants in each focus group shared some common characteristics, such as age, sex, educational background, religion, or something directly related to the topic being studied. The questions in the focus group guide were arranged in a manner so that each sub-topic of interest was covered satisfactorily. The sequence of questions was arranged from general to specific. The topic guide was modified after every focus group (see Appendix-A).

Procedure

At first indepth interviews with experts were conducted. After getting consent, they were assured of confidentiality and informed that the data provided by them would be used for research purposes only. At the start of each interview rapport building was done by researcher, so that interviewees felt relaxed and trusted the researcher to share their knowledge and experiences.

In the next step focus groups were conducted with adolescents in colleges and universities. The permission was sought from the administration of institutions. After having their consent for participation, students were included in the focus group. They were given oral instructions about area under investigation. Each session took an average of 90 minutes time. The discussion was recorded and at the end participants were thanked for their cooperation and participation. During the focus group discussions participants were encouraged to share their maximum experiences and

observations. All the discussions were recorded with the permission of participants and used to transcribe the verbatim.

Results

Qualitative interviews and focus group discussions were analyzed with the help of content analysis. It helps to assign a unit of text to more than one category simultaneously (Hsieh & Shannon, 2005; Tesch, 1990) and categories in the coding scheme are defined in a way that they are internally as homogeneous as possible and externally as heterogeneous as possible (Lincoln & Guba, 1985). Keeping in mind the Affective Behavior Cognitive (ABC; McLeod, 2005) paradigm of attitude development, data was analyzed. Researcher carefully transcribed data, line by line, and divided the data into meaningful analytical units (i.e., segmenting the data). For this purpose on each question of the focus group guide the maximum coding categories were generated. The recordings of focus group sessions were carefully listened to again and again by researcher to organize the responses of participants into meaningful coding categories and merge the similar categories to reduce into meaningful units. Moreover, any new concept from each focus group was taken to generate more coding categories.

The following categories have already been identified in previous literature i.e., eating habits, food preferences, peer pressure, overweight, food is pleasure, abnormal eating pattern, over eating, body perception/ dissatisfaction, efforts to look thin/ drive for thinness, efforts to look attractive, and media influence. Some new categories were identified in the current indigenous data i.e., food as reward/

punishment, malnourishment, food is pride, myths about eating, food is a source of differential treatment, nutritional awareness, health and food, food choices, food is pleasure, food is a source of differential treatment across gender, usual meals in a day, myths about food, collective meals/ over eating, and benefits of collective meals, scarcity of food and disordered eating pattern, diseases women are prone to develop because of obesity.

Evaluation of categories. Categories that emerged in data were evaluated in two steps.

1. **Expert review:**

   a. Review of coding categories: Coding categories were reviewed by five experts, whose qualification included scale development and qualitative research experience, at the Ph.D level. They were requested to review the coding and the alignment of data in each category.

   b. Review of food myths: The data on food myths were re-evaluated with the help of three nutritionists, three Herbalists, and two Homeopathic doctors. Myths refer to a widely held false belief or idea. Beliefs about food and eating that according to the experts could not be considered truth as per medical science were categorized as food myths.

2. **Verification of coding categories:** In the second step, coding categories were verified with the help of committee approach. The committee comprised of seven FGDs participants. Each participant was given the coding category draft a day before the committee approach session and was requested to review the

draft and come with appropriate suggestions in the session. Some overlapping in the coding categories was identified in the subsequent discussion. Some of the data was coded into different categories after the establishment of consensus about more appropriate coding and placement among committee members. The whole analysis is clustered under the data driven categories as written in Table 2:

Table 2

Categories and Sub-categories of Eating Attitudes

#	Major categories	Sub-categories
1	Relationship with Food	Food as source of celebrations
		Food as reward/ punishment
		Food as pride
		Food as source of differential treatment and negativity toward eating
2	Food Preferences	Food choices
		Eating habits
3	Overeating	Peer/social pressure
		Collective meals
		Capitalistic mentality
4	Eating Patterns	Usual meals in a day
		Scarcity of food and disordered eating patterns
5	Over Concern about Weight and Appearance	Efforts to look thin/drive for thinness
		Efforts to look attractive
		Body dissatisfaction
		Malnourishment
6	Food Myths	Myth vs reality
		Hot and cold effect of food
		Food cause illness

This data driven approach helped to cluster the data into main categories and sub categories. The data has been presented in Table 1 organized in main categories and subcategories along ABC components of attitude development (Hogg & Vaughen, 2005; McLeod, 2009). As the purpose of the current study was to better understand eating attitudes; the data was then classified according to the three basic components of attitudes, i.e., affective, behavioral, and cognitive as presented in Figure 2.
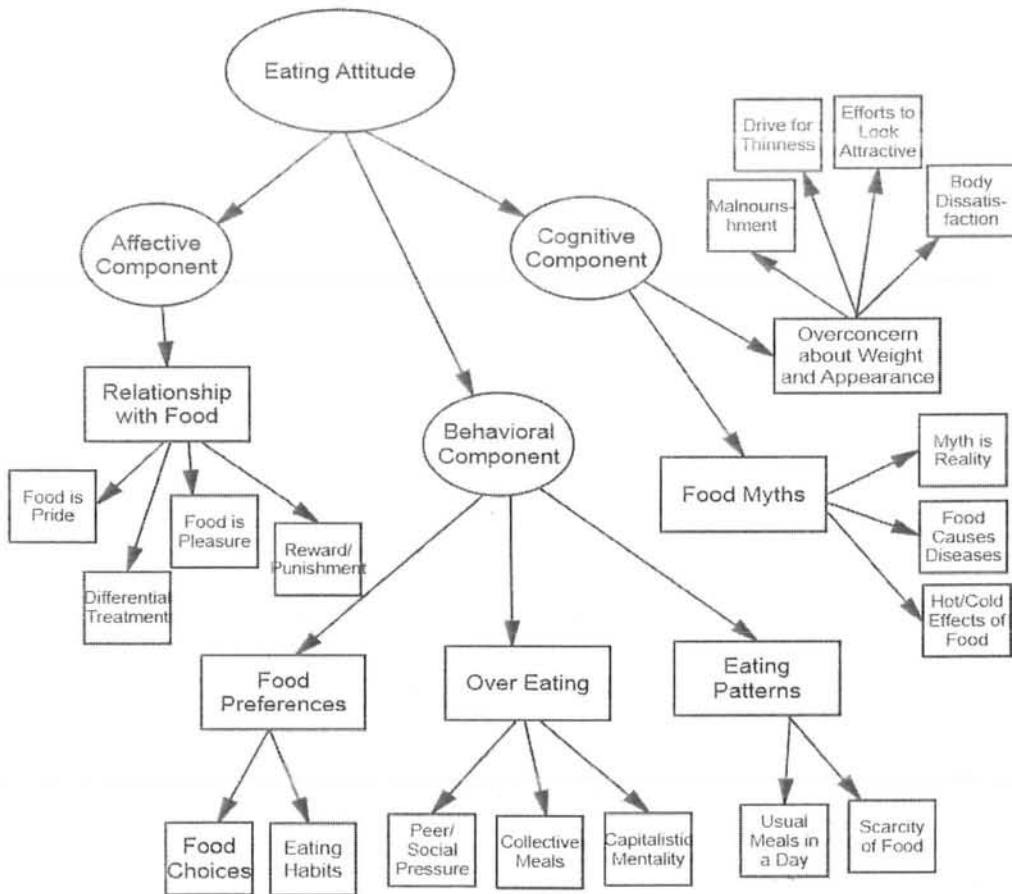
Figure 2. Categories and Subcategories associated with Eating Attitudes.

Figure 2 represents three broader components of eating attitudes i.e., affective (relationship with food), behavioral (food preferences, overeating, and eating patterns), and cognitive (Over concern about weight and physical appearance and food myth) encapsulate the data as follows:

Affective components of eating attitudes. Affective components of attitude reflect one's feelings and emotions. Categories under this component for eating addressed how one feels about and relates him/herself with eating.

Relationship with food. This category emerged in the responses of a majority of the participants of both genders. They related their emotions with eating and feel happy by eating with friends and enjoy parties. Girls highlighted this point that eating effects their mood and whenever they have low mood (sad) there is always tendency of overeating.

Food is pleasure. This subcategory emerged in response of focus group participants who participated in groups from NUST and Quaid-i-Azam University. All of the participants agreed that food is pleasurable and is a major source to celebrate happiness. Most participants reported that they feel happy while eating with family and friends. They love to go out on picnics and celebrate with food like BBQ parties. For most of them food is a source of pleasure and is a way to celebrate pleasure and happiness. Eating outside or hoteling is very common nowadays so food has gained its importance and food is there for festivity. In other words psychologically they gain relief and satisfaction to eat meal with the friends and

family for fun and celebration. Similarly, food has its importance in our culture during the rituals of mourning. Food is served to people on funerals, at third day (*sooyam*), and after forty days of burial (*chehlum*) at the time of praying sermons called for the deceased. The serving of food at these times is considered an essential part of the complete ritual. Food is considered to be the integral part of happiness and sorrows. Most of the girls reported that mood shifts affect their eating patterns/ behaviors and when they feel depressed and low mood they may avoid eating or in some cases there is tendency of overeating. Girls reported that they usually experience bad mood for no obvious reasons three to four times in a month. Disturbed mood is an important contributing factor in disturbed eating pattern. Disordered eating behavior is a common experience of people who are depressed and vice versa. Experts also say that people who have abnormal concerns regarding their appearance and feel depressed usually have abnormal eating attitudes.

Food as reward/ punishment. Experts highlighted this point that in our society it is very common practice among parents and teachers that whenever a child achieves something good and performs better the food like chocolate or candy is offered as a reward. Similarly, if a child is not behaving appropriately he/she will be deprived of his/her favorite food as punishment. In this way good food is associated with sense of achievement and accomplishment.

Food as pride. Importance of food in our society can't be denied as it is taken as a source of pride. As it was reported by the participants, in every social gathering or social event, food quality is one of the prime features. Food symbolizes the social

status and superiority of the hosts, the more lavish food one serves the more it symbolizes being part of the elite class and it is always appreciated by guests.

Food as source of differential treatment and negativity toward eating. Food acts as one of the source of differential treatment across gender in our society and it plays a vital role in establishing the positive and negative feelings toward eating. Male children are the special focus with reference to food. Most of the time, in our society, male members are served food first despite of who might be more hungry. Similarly, in some families it is more common to treat male child with more special care as compared to girls because they have to earn for family so they preferably nourished well. Some of the girls reported that they intentionally refused to eat to get attention and show their anger to family members. All the experts agreed with the fact that food in Pakistani society served as a source of differential treatment which in turn serves to establish negativity in women for eating. The father, brother, and son are always served better food, choice or preferred portions and as a priority as compared to women.

Behavioral components of eating attitudes. Behavior is an active component of attitude and refers to the actions one performs when exposed to the attitude object. Behavioral components of eating attitudes reflected by one's choices and preferences for food and schedules one follows to eat and tendency towards under/over eating.

Food preferences. This main category was highlighted by the majority of the participants. Daily preferences for food of participants include both the specific type of food, and its compositions.

Food choices. All of the experts highlighted this subcategory: preferences of food are reflected by choosing out of available options in food items. Participants pointed out youngsters usually prefer fast food. Experts reported that adolescents mostly choose food with low nutritional value. Majority believed that more spicy food is considered to be more preferable. Adolescents' choose balanced food with reference to oil and spices in their meal but mostly ignored the balanced diet. Participants reported that they preferred the presentation of food and taste more as compared to its nutritional quality. According to participants preferences can be classified mainly into the following categories i.e., presentation of food as reported one reported "you first eat with your eyes" and "food presentation play a huge role in how we experience food." The second most important preference reported by the majority was the criterion of food taste. Very few highlighted the fact that hygiene is considered to be important with selection of food to eat. No one talked about the nutritious value of food as in making their food choice. Majority of the girls highlighted that mood is considered to be an important factor for their preference of food as they are not always ready to take anything available to eat rather they preferred food as per their choice all the time.

Eating habits. Another prominent sub-theme emerged from the focus group participants was their eating habits in preference of food. Most of the participants

discussed and agreed that they do not eat everything and whatever is available but select few things in their meal and they are very choosey. They discussed that most of them do not prefer to eat vegetables but instead prefer meat and particularly white meat. Similarly, irregular schedule of eating, selection of fried food, mostly more caloric and less hygienic is preferred. Most agreed that eating habits develop within families. Families have strong influence in determine their preferences for food and developing health/disordered eating patterns.

Overeating. Another important category that emerged from focus group discussion and interviews with experts regarding adolescents' eating attitudes was overeating. Majority of the participants shared their opinion that overeating is common among people from different economic classes. As one of the participants said people from the affluent class have trends of over eating in a way "eating at HARDIES and PIZZA HUTT is not considered as full meal and people would like to eat bread or *chappati* as proper lunch or dinner". Similar trends are present in lower class as one of the experts highlighted the fact that balancing of food and nutrition deficiency is a major issue. She referred to a case of carbohydrate deficiency "client is recommended to have boiled potatoes; the mother reported that after eating potatoes the child would ask for *chapatti* in meal". Participants reported that in general people from all the classes have a tendency to overeat in parties and social gatherings like marriage ceremonies.

Peer/ social pressure to eat. A prominent subcategory identified within the overeating theme is social pressure to eat. Most of the participants discussed and agreed on this point that if they are in a real good mood and with friends and family they feel compelled to eat more food, eat whatever others are eating and feel social pressure to eat to show compliance with the group norms. Conclusively, tendency of overeating is much higher in the company of friends and family. People eat more and with less care with friends and in social gatherings. Participants highlighted the fact that young groups like to eat in company of friends carelessly and tend to minimize the importance of healthy eating and the necessity to eat at that time.

Collective meals. Another important sub-category identified collective meals. Participants reported that there is no concept of collective meals in family as everyone remained busy in school, colleges, university, and jobs. Possible collective meals are at the weekends with family. According to participants it's good to have collective meal and reported that it is a blessing to dine together (*Aik dastarkhawaan mein barkat hoti hai)* while, others highlighted the fact that collective meal is not good option as with friends and family one eats a lot more as compared to normal routine. One of the participants, an eighteen year old boy emphasized that eating together with family and friends effects one's health positively (*Aik saath khana acha hota hai kyun k us se khanay ka sehat per acha asar hota hai).* As per some participants and all experts in collectivistic culture like here in Pakistan it is common to eat collectively and there is also common trends of parties and gatherings that are a possible source of overeating. Few of the participants highlighted this fact as per the

Islamic teaching we should eat collectively no matter whether it leads to overeating or not.

Capitalistic mentality. This subcategory of overeating was identified from the interviews with experts. As all the experts focused on the point that people have the general trend of capitalistic mentality: because they have paid money for food in restaurant so they have to or try to finish the whole food serving despite the fact that the amount is much more in quantity as compared to their body's requirement. This is another important indicator of overeating among people in general.

Eating patterns. This subcategory mainly emerged from the focus groups conducted with girls. Eating patterns include the number of meals with efforts to balance nutrition. Mostly girls follow irregular schedule of eating as one of the participant reported "she skipped meal at proper time because of her busy work and study schedule then inclined toward overeating". Most of the boys agreed on this idea that large quantity of food may cause obesity while some other highlighted that not doing proper exercise and dieting cause serious eating problems. According to participants, irregular eating pattern includes both overeating and under eating. All of the adolescents from all eight focus groups emphasized this fact that they do not follow routines in their meal from breakfast to dinner. Weight increase among adolescents is related with their irregular schedule of eating and not chewing properly. Another trend that seems to exist among adolescents is that if any one perceives him/herself as being over-weight they stop eating meals at once and this may cause eating problems. Participants highlighted the fact that there is evidence that some

obese girls who claim in front of others that they did not eat anything in fact usually eat excessively when alone or behind closed doors.

Usual meals in a day. Participants reported that usually there is practice of three proper meals at their home but due to their busy schedule of college/university it is difficult for adolescents' to follow the regular schedule for meals. Participants reported that they do not take breakfast and never prefer to take breakfast. Some of them reported only one meal in a day.

Scarcity of food and disordered eating pattern. As per nutritionists, people from affluent class, looks for ways to have more fun with food. On the other hand people who lack food tend to eat at once whatever is available and whenever it is available. According to experts lack of food and resources are not the cause of disturbed eating but the sensible utility of money on healthy food is important. Unfortunately people are not aware about healthy food and instead they spend whatever they have on whatever they can eat i.e., especially meat products and dishes. The heredity factor is considered to be important as a cause of obesity. In lower socio economic status, women are found equally overweight but malnourished.

Cognitive components of eating attitudes. The third and final component of an attitude is the cognitive component, and it refers to the thoughts and beliefs one has about an attitude object. Cognitive component of eating attitudes is reflected by one's thoughts associated with the idea of choice of food controlled by one's belief in

cultural food myths and his/her thoughtful concern associated with weight and appearance.

Over Concern about weight and appearance. A very important theme highlighted from all the eight focus groups participants was that eating is associated with concern over weight and physical appearance among adolescents.

Efforts to look thin/ drive for thinness. Participants especially girls emphasized that they control their diet to lose weight to look beautiful as one reported "dominating thought in my life is to look as much thin as possible". Some of the participants highlighted that if they over eat in parties and with friends then they prefer strict dieting in next few days to control their weight and to shape their body. Mostly girls highlighted the fact that they eat food less in quantity so that not to gain more weight.

Efforts to look attractive. Majority of the boys who participated in focus groups reported that they do not make any particular effort to look good and attractive and are happy to see themselves whatever they are but they preferred not to take oily food high in fats, and most of them reported controlling their diets. Most girls emphasized that their maximum efforts to look lean include eating less quantity of food but to look attractive also include the use of plenty of juices that make their skin to glow and fresh. Participants emphasized that beauty standards are more than to look thin as it is based on how do you carry yourself overall, dressed up properly, and

to follow the fashion trends. Participants reported restricted eating helps them to control their weight and to shape their body which is the important component to look attractive. Participants from focus groups stated that the efforts for looking attractive also include special grooming efforts like hair growth or long hair, jogging and tracking, and proper bath to maintain hygiene. So, to look attractive does not confine only to body weight as it also include the other grooming efforts to carry an attractive persona overall.

Body dissatisfaction. Another very important subcategory identified by the majority of the participants was body dissatisfaction. All the female participants shared that they are dissatisfied with their body shape and want to improve themselves in one way or another; because they became conscious while looking in the mirror. They have the tendency to evaluate themselves by looking at different body parts like waist, buttock, and thighs most of the time. Most participants perceive themselves as overweight. Most of the young girls complained that they are not satisfied with their figures. They are conscious about their appearance and have serious bodily concerns. Most girls reported that other people set ideal standards for them and as one of the participants in focus group said "usually girls look at themselves through others' eyes so if friends and family members perceive them overweight they consider themselves overweight". For some participants socio-economic class attributes a lot into idea of beauty standards. People from the upper class are more concerned with whether they look attractive to others or not. While some other participants were of the opinion that it is not at all related with the social

class and it is important for everyone to look smart and attractive despite of class affiliation. Dissatisfaction with their body directly interferes in their approach toward food and restricts their eating (dieting).

Malnourishment. Obsession to look lean leads to the tendency to avoid eating among adolescents, which leads to malnourishment which in turn may contribute in deterioration of physical health. As per experts most of the clients who visit the nutrionists are obese women with deficiencies of vitamin A, iodine, and iron. Most of the young women are prone to develop the PCOS (Poly Cystic Ovarian Syndrome) and digestional diabetes because of obesity and being overweight. These issues of PCOS and digestional diabetes cause issues such as pre-mature birth and still birth, in young pregnant women. All three experts highlighted the fact that these health issues develop because of disordered eating patterns and most women are malnourished. Most girls perceive themselves as overweight but experts point out that most young girls perceive them overweight are in fact malnourished and underweight.

Myths about food. Another important dimension that was found with reference to eating attitudes in data was the belief in food myths. This category is unique to indigenous data with its relevance to establishing eating attitudes. Nutritionists talked much about how food myths and its contribution in our food choices on daily basis. The eating patterns are regulated by the common myths about food in our society.

Myth vs. reality. Participants discussed that myths are based on experiences of elders with food and are facts and they follow all those myths in selection of food. As per the participants these myths are sometime really beneficial for health and overall may not be consider wrong. The subsequent discussion generate disagreements among the participants whether statement are true or not as one of the most discussed myth under discussion was not take milk after eating fish as it cause serious skin disease. Participants strongly believe that it is correct and they never eat any milk based product with fish. Many of the participants think that these myths are the reflection of low literacy in overall society. Experts highlighted the fact that people have poor nutrition knowledge about food and this lack of information about food demands awareness campaign in society to improve people's food choices.

Hot and cold effect of food. Food is thought to have hot (*garam*) and cold (*thanda*) effects (*taseer*) on human body. One should avoid extra hot and cold food. The most prevalent myths with respect to hot effect (*garam taseer*) of food reported by participants are: Do not take boiled egg in summer because it's hot in its effect. Do not eat dry fruit in summer as they are hot in its effect. Male child is given more food to eat as compared to female child in many homes as there is common myth that girls will attain puberty quickly with food of hot effect. Eating more mangoes in summer cause heat rash is considered correct, so participants believe that one should not eat too much mangoes. To reduce its hot effect, mangoes should be dipped in water for few hours before use. Fish should not be eaten in summer due to its hot effect.

Similarly, some other highlighted this fact that male child should be given more food as his energy requirements are high as compared to girls. Some of the participants who discussed this myth believed that it is a clear cut reflection of discriminant attitude toward women to deprive them from their optimum nutritional needs. Interestingly, in Pakistani society early puberty in young girls are associated with the foods which are hot in their effectiveness.

Food causes disease/illness. Association of disease with food also appears to be common in Pakistan. Most of the focus group participants believed this idea and reported their daily life examples to avoid certain food to stay healthy. For example, do not take milk after eating fish as it leads to white patches on skin called Leucoderma *(phulbehri)*. Do not drink water after eating watermelon and cucumber as it cause cholera. Potato, cauliflower, rice, and white lentil are considered aeolian foods leading gastric issues. Milk intake after eating banana causes sputum (*Raisha*) and mangoes cause prickly heat/ heat rash.

There were some interesting misconceptions about weight revealed in data like eating potatoes and rice increase in weight. Drinking water with empty stomach reduces weight. Participants were giving their own examples as they reduced the weight by avoiding meat, potatoes, and rice. It is easier to reduce weight by dieting or dropping meal. Obesity has genetic basis and it has nothing to do with eating more fried and rich caloric food is common belief among participants.

Frequencies of Responses by Focus Group Participants on each Sub-category

After the detailed qualitative view of data, frequencies of responses by adolescents (girls and boys) on each sub-category were calculated to highlight the important categories with reference to eating attitudse. This quantification of data were utilized to generate the items for scales in Study II. Moreover, it helped to decide to develop the food myths scale along with eating attitude scale separately. Description of responses on each category is mentioned in the Table 3.

Table 3

Frequencies of Responses by Focus Group Participants on each category of Eating Attitudes (N = 69)

Major categories	Sub-categories	Girls ($n = 36$)	Boys ($n = 33$)	Total ($N= 69$)
Food Preferences	Food choices	20	9	29
	Eating habits	25	31	56
Overeating	Peer/social pressure to eat	29	11	40
	Collective meals	23	21	44
	Cataplastic mentality	9	15	24
Relationship with food	Food is pleasure	19	11	30
	Food is reward/ punishment	15	10	25
	Food is pride	10	19	29
	Differential treatment and negativity toward eating	25	15	40
Over concern about weight and appearance	Efforts to look thin/drive for thinness	32	25	57
	Efforts to look attractive	36	19	55
	Body Dissatisfaction	34	21	55
	Malnourishment	23	15	38
Eating Patterns	Usual meals in a day	19	22	41

Continued...

Major categories	Sub-categories	Girls $(n = 36)$	Boys $(n = 33)$	Total $(N = 69)$
	Scarcity of food and disordered eating patterns	9	20	29
Food Myths	Myth is reality	22	34	56
	Hot and Cold effects of food	20	32	52
	Food causes disease	20	35	55

Table 3 indicated the frequencies on each response categories by the focus group participants. Higher frequencies can be seen on the categories of eating with concerns over weight and physical appearance, over eating, and food myths. Results reflected clear differences between girls and boys on each category. Girls respond higher on varied choices of food and this feel more peer/social pressure to eat. These responses were further utilized to establish the items pool for development of eating attitude scale. Results in Table 3 indicated boys respond higher on category of food myths. They are more believers that food myths are realities. Based on these categories prevalent food myths were enlisted to develop food myths scale.

Discussion

Eating is one of the basic human behaviors necessary for the continuation of life. Many studies on eating and nutrition have focused the multiple aspects including physiological and nutritional awareness. The most pertinent aspect to study this construct is social and cultural influence (Germov & Williams, 1996). To study the eating behavior psychological and social approach is necessary besides the eating consumption in quantitative studies. Socio-cultural theory of eating behaviors

emphasizes cultural appropriateness, individual, and social influences within the context of eating among adolescents. It is thus believed that people develop a relationship with food and the term "eating attitude" seems to better describe it (Aikman & Crites, 2006; Alveranga et al., 2012b) and dietary behaviors are the results of complex interplay of factors at both individual and environmental level.

Keeping in mind all above stated issues regarding eating attitudes, this study was intended to explore the construct of eating attitudes qualitatively. Analyses revealed some dimensions of eating attitudes already existing in literature i.e., eating habits (Muazzam & Khalid, 2011); body perception/ dissatisfaction and efforts to look thin/ drive for thinness (Alvarenga et al., 2010; Garner, 1991; Garner et al., 1983); efforts to look attractive (Garner, 1991); food is pleasure (Alvarenga et al., 2010); peer pressure (Muazzam & Khalid, 2011); abnormal eating pattern (Alvarenga et al., 2010), and overeating (Garner, 1991; Muazzam & Khalid, 2011).

The findings identified in indigenous data somehow new to existing literature include food choices/ preference of food, food is a source of differential treatment across gender, usual meals in a day, myths about food, and benefits of collective meals, food as reward/ punishment, malnourishment, common complains, food is pride, myths about food and eating, myth vs. reality, hot/cold effects of food, food cause illnesses, nutritional awareness, scarcity of food and disordered eating pattern.

Based on findings we summarize the phenomenon with it diverse nature in Pakistan. On the basis of analyses we summarize the phenomenon in three components of attitudes based on ABC model of attitude development (Hogg & Vaughner, 2005; McLeod, 2011). Like other behaviors eating is also influenced by personal and environmental factors simultaneously. Possible explanation of eating

attitude based on ABC model is something reflecting one's healthy and positive feelings toward eating with balanced approach toward choice of food, which is not much influenced by prevalent cultural food myths and one is not over concerned about weight and appearance while eating, and finally one may follow regular schedule of eating and do not indulge in under/eating behavior. This can be more elaborative by discussing the categories emerged in the data.

Affective Components

The category representing the affective component of eating attitudes like relationship with food explains sub-categories including food as pleasure overall, food is reward/ punishment and food is pride. As eating attitudes reflect the social and emotional functions, emotions, associations, and overtones with which eating is invested and go far beyond the mechanics of food selection (as cited in Satter, 2007) in literature so results of the present study are same as per the existing literature (Alvarenga et al., 2010). As a child develops, food plays an important role in our psychological as well as our physical development. Food may become a power tool for parent and child resulting in experiences and association which could lead to preferences. Specific foods may become associated as a reward. Foods can become associated with cognitive processes such as thoughts, images, and ideas. They may also be associated with emotional feelings.

This component was emerged in the responses of a majority of participants including both girls and boys but especially the girls highlighted this point that in sad mood they eat more and whenever they have down mood there is always tendency of overeating. Disturbed mood is an important contributing factor in disturbed eating

pattern. Depression has been found as common experience among people with disordered eating behavior (Saleem, Sattar, Zafar, & Ismail, 2014). People eat more food under the influence of strong emotions such as anger. Many people report that they eat unhealthy when they are bored, sad, anxious, and depressed. Many of these emotional states or moods are invidually and psychologically based. Some may be traced back to earlier life experiences (Dallman, 2010). For example if care giver distracted us from a hurt finger with the cookie, we may now find comfort in the state of something sweet when we are in pain. As in the present study people report that they consume unhealthy food when they are lonely and need comfort.

Food is a source to celebrate pleasure and happiness and it provide psychological relief and satisfaction to be with the friends and family for fun and celebration. Socio-cultural origin of eating strengthen the idea in Pakistan, we learn to celebrate with food on parties like birthdays, weddings, earning good report card in school, and achievements in job. Moreover, in Pakistani society we could not deny the fact that lavish food serving in parties is considered to be source of pride.

Behavioral Components

Eating is chosen and learned behavior over the life span (Cashdan, 1994). We make many choices about food consumption every day based what to eat, when to eat, how much to eat, and with whom we will eat. Behavioral component of eating attitudes includes sub-categories of food preferences, overeating, and eating patterns.

Overeating among adolescents appear as inability to learn when to eat and how much to eat to overcome our fear of overweight. Adolescents eat more than normal under the influence of social pressure from peers and family. Friends exert the

pressure to eat more to have fun with food while family emphasizes to eat more to aid the nutritional requirements of young ones. Pakistan being a collectivistic culture encourages family meals. It is appreciated to eat collectively as a religious practice as it is considered it brings blessings but it leads the tendency toward overeating among adolescents. In Pakistan, there is a trend to spend a large portion of income over food. This capitalistic approach is inculcating in children in a way to finish their plate completely to value the expenses on food (at home or restaurants). In this way adolescents inclined toward overeating.

To understand the factors underlying food preferences, one must go back to the roots for preference formation. Most food preferences are acquired through incidental learning processes (Köster, 2009). We tend to like the foods which we are familiar. Familiarity accounts for many preferences tied to culture or family. Family patterns of eating shape the eating habits of adolescents. So, obese families appreciate the eating in a way their children learn to eat more food. Present study revealed three meals in a day are usually followed in Pakistan. Adolescents in Pakistan followed to take fixed meals other than occasional eating in between time of fixed meals. Overall society is found to be appreciative toward healthy looks that encourage the youth toward eating enormous amount of food.

Eating Patterns highlight adolescents follow irregular schedule of eating. Adolescents. According to girls' participants irregular eating pattern includes both overeating and under eating. Adolescents do not follow routines in breakfast to dinner. Irregular schedule of meals are common finding among adolescents as reported by focus group participants and experts. Another very important finding is

scarcity of food that has no relevance with eating related issues as in lower socio economic status, women are found equally overweight but malnourished.

Cognitive Components

The final cognitive component of eating attitudes includes themes over concern about weight and appearance, and food myths. Over concern about weight and appearance explains thought process from selection to eating food. Results showed that mostly people follow strict dieting to control their weight and to shape their body. Girls being obsessed with the idea to look leaner eat less in quantity to control their weight. Body dissatisfaction is so common among adolescents and they linked it directly with food intake.

The experts seemed to agree that the changing economical and sociopolitical condition of the society was influencing the attitude towards eating. Media is considered to be a strong agent in creating concerns over body appearances and its direct relationship in establishment of attitude toward food and eating. Similarly, another obvious factor in eating attitudes development is sub-cultural differences within Pakistan. *Sindhi, Punjabi, Pakhtoon*, and *Baloch* differentiate with respect to their eating habits and interpretation of food and related food myths. Understanding of one's food preferences requires an understanding of cognitive and perceptual processes. As food preferences develop for an individual are influenced by cultural factors (i.e., extrinsic factors). In this way, culture drives the relationships between cognition, perception, and behavior.

Belief on food is strongly dictated by upbringing in any culture (Sabharwal, 2014). Myths are prevalent in all cultures and societies but Pakistan is a traditional

society as compared to western societies in the context of myths and beliefs. Like many other cultures, theory of hold and cold effects of food is prevailed in Pakistani culture since immemorial. It is a system parallel to biomedical science (Inam et al., 2003). It has been observed in our society that theory of hot and cold is believed in and practiced by all sectors of society. **It is not a concept prevailed in less educated class rather it is equally prevalent in upper class, from qualified doctors, homeopaths, *hakims* to general masses (Inam et al., 2003). Among all these experts, *Hakims* or herbalists are strengthening false beliefs about food among masses in Pakistan.** Over the years misconceptions have arisen about certain foods and scary diseases. It is common in our society that certain food combinations should not eat together. For example it is believed in our culture that do not drink water with cucumber as it cause cholera. It is scientifically proven fact that cholera is an infection cause severe diarrhea that can lead to dehydration. This belief in our society that after drinking water after eating cucumber is false. As a matter of fact it can be caused by eating any food or drinking water contaminated with bacterium vibrocholera (Ratini, 2013). Ironic belief is regarding the hot and cold effect (*taseer*) of food in our society. Hotness of mangoes can be reduced by dipping in water for few hours before its use but fish being water specie is considered hot for eating in summer.

From this argument, we gained idea to collect data to empirically validate the prevalent food myths among adolescents in the form of standardized scale. So among the so many other assumptions including relationship with food, food preferences, overeating, and eating patterns have been unfold in this study regarding eating attitudes, food myths belief is found very unique and important factor may not be justifiably addressed under the broad umbrella of eating attitudes. On these bases, we

decided to develop a separate quantitative measure to assess food myths beliefs as they substantially contribute in the development of eating attitudes.

Other than the central themes some important facts have been emerged in the data regarding the role of gender, weight status, and body image. Girls preferred dieting and this cause many hormonal imbalances. In our society differential treatment across gender is so obvious and food is also used as a source to reflect our gender biases. Most of the time, in our society, male members are preferred because they have to earn for family so they are preferably nourished well. These biases not being treated equally to men develop unhealthy eating related cognitions among young girls. They used to refuse to eat intentionally as attention seeking behavior.

Media portrayal of beauty is one of those factors contributing in distorted body image which in turn develop negative eating attitudes. Not only the emphasis on thinness but the presenting the quality of food and the charm associated with the ads of food is very important contributing factor in abrupt and disturbed eating attitudes. Media do not promote the idea of healthy food with reference to nutritional qualities. There is rare ratio of underweight among young girls in Pakistan. Most of the girls are overweight as per the participants of the focus groups but experts highlighted the fact that mostly young girls are malnourished and underweight and are more prone to diseases. People in all socioeconomic levels have eating disorders. The disorders have been identified across all socioeconomic groups, age groups, both sexes, and in many countries in Europe, Asia, Africa, and North and South America (National Eating Disorder Association; NEDA, 2010).

Some of the above assumptions are also supported by the previous literature. However, for next study (study II), we are interested in not only to empirically validate these findings in the form of quantitative measures but also to study those constructs that centrally surround the phenomenon of eating attitude precipitated in the findings of this study along with main categories. So, weight status in the form of body mass index, body image, and gender will be taken into special considerations in next studies of present research with reference to hypotheses testing to verify the assumptions highlighted in the present study.

Conclusion

It is believed that food choices would be culturally determined but few studies have so far assessed the difference of attitudes among countries or different regions (Vehkalahti, Stubenitsky, & Mela, 2001). There was no as such indigenous explanation of this construct available before this study. Every other measure addressed the idea of abnormal and disordered eating behavior. Present study helped alot in literature to understand the normal standards and realities determining the eating attitudes among adolescents. Altogether unique phenomenon found in the present study was the belief on food myths and its positive link in establishing negative eating attitudes. These qualitative findings can be utilized to establish the indigenous quantitative assessment tools for Pakistani population. The next study is designed to develop the standardized scales based on the categories derived from content analyses. Next chapter (study II) addressed the Development of Eating Attitude Scale and Food Myths Scale for Pakistani adolescents.

STUDY- II: DEVELOPMENT OF EATING ATTITUDE SCALE AND FOOD MYTHS SCALE

Eating attitude is considered to be important construct contributing in health of adolescents and reflects their inclination toward food. This construct has very different indigenous realities including food myths as found in Study I reported in chapter III after exploring it qualitatively; on the basis of indigenous findings it was decided to develop the scales for Pakistani adolescent population. This chapter explains the details of development of eating attitude and food myth scales. The present study was conducted to achieve the following objectives:

1. To develop the Eating Attitude Scale (EAS) for Adolescents.

2. To develop the Food Myths Scale for (FMS) for Adolescents.

3. To establish the psychometric properties of EAS and FMS.

Method

The Eating Attitude Scale and Food Myths Scale were developed in following four phases:

Phase I: Generation of item pool.

Phase II: Items evaluation by experts and establishing face validity.

Phase III: Selection of final items through factor analyses.

Phase IV: Determination of reliability of selected items of Eating Attitude

Scale and Food Myths Scale

Phase I: Generation of Item Pool

The item pool was generated through the qualitative study reported in Chapter- III, consisted of eight focus group discussions with adolescents' girls and boys and three qualitative interviews with experts included two nutritionists and one gynecologist were conducted. The items were generated based on the categories identified with the help of content analysis. The categories identified were i.e., food preferences, overeating, relationship with food, over concern about weight and appearance, eating patterns, and food myths. Only those statements were included in item pool of food myths which are considered myths as per medicine filed and medical experts were contacted to verify the myths and details are mentioned in Chapter-III.

Phase II: Items Evaluation by Experts and Establishing Face Validity

The maximum frequency of responses and inclusion of all different ideas on each category was taken as criteria for the selection of items in items pool. At the end of this process 140 items were generated by researcher covering the following categories for Eating Attitude Scale: Food preferences (18), overeating, (28), relationship with food (27), over concern about weight and appearance (42), eating patterns (25), and 45 items were included in Food Myths Scale (FMS).

After generating the items, Judges' opinion was sought regarding the appropriateness of items. For this purpose 3 researchers (Ph. D in Psychology) were contacted and were requested to review each item carefully for face validity, language appropriateness, construct relevance, overlapping, unclear or inappropriate items. On

the bases of consensus among three judges, 45 items were dropped from EAS i.e., 6 items were dropped from the category of food preferences, 11 from overeating, 8 from relationship with food, 14 from over concern about weight and appearance, 6 from eating patterns, and 5 items were dropped from FMS. These items were dropped because of following reasons i.e., all those general statements not based on specific point of view, statements reflecting the unclear ideas, and overlapping with other items. Many items were rephrased in a manner so they conveyed the clear idea with reference to one's opinion with better Urdu language expression.

Overall, 95 items were retained in EAS covering the following categories with items numbers: Food preferences (12), overeating, (17), relationship with food (19), eating with concerns over weight and physical appearance (28), and eating patterns (19) (see Appendix-C) and 40 items in FMS for empirical evaluation through factor analyses (See Appendix-D). After the judge's opinion items were arranged on five point likert type scale. The response categories of EAS were *Never* = 1 to *Always* = 5. Similarly the response categories of FMS were *Absolutely Wrong* = 1 to *Absolutely Correct* = 5. Initially no item was identified as negatively worded item and need to be reversed score.

Phase III: Selection of Final Items through Factor Analyses

Sample. A sample of 540 adolescents including boys (*n* = 267) and girls (*n* = 273) from six colleges (i.e., Viqar-un-Nisa College, Post Graduate college for women Satellite Town, F 7/2 Girls college, Gordon College for boys, Boys College H-8, and Asghar Mall college) to contact adolescents studying in F.A/F.Sc and

B.A/B.Sc and two universities (i.e., NUML university and *Barani* University) of Rawalpindi/ Islamabad to contact adolescents studying in B.S program. Universities of Islamabad generally have the representation of students from all provinces of Pakistan. The age ranges from 16 to 22 years ($M = 18.25$; $SD = 2.01$) with the education of F.A ($n = 236$) and B.A/B.sc/ B.S ($n = 304$). Convenient sampling technique was used to collect the data from sample. They were residents of hostel ($n = 72$) and home ($n = 466$); from nuclear ($n = 370$) and joint ($n = 163$) family systems.

Instruments

Item pool for Eating Attitude Scale. Item pool for eating attitude scale used in this study is a 5-point Likert type scale comprised of 95 items. They were all positively stated statements (See Appendix -C).

Item pool for Food Myths Scale. Item pool for Food myths scale used in this study is also a 5-point likert type scale comprised of 40 items. They were all positive statements (See Appendix-D).

Demographic Information Sheet. Demographic information was obtained from the participants regarding their gender, age, education, height, and weight (See Appendix - E).

Procedure

Data was collected from undergraduate university students. At first authority permission was sought from the head of institutions (see Appendix-F). The data was collected from college and university students. Participants were approached for group administration in their classrooms. After having their consent (see Appendix-G), the scales were handed over to the respondents. They were

instructed to read each statement carefully and respond honestly to all items of the scales as per their agreement and disagreement. Moreover, they were told there was no concept of right and wrong answer. In the end they were thanked for their cooperation and were assured that data will be kept confidential and will be used for research purpose only.

Results

For the scale development items total correlation and principal component factor analyses were performed. Psychometric properties through alpha reliability coefficients were computed for the scales. Moreover, t-analysis was performed to establish the construct validity through contrasted group across gender.

Table 4

Items total Correlation of Eating Attitude Scale (EAS) (N = 540)

Item No.	r	Item No.	r	Item No.	r
1	.20**	17	.50**	33	.56**
2	.17**	18	.38**	34	.19**
3	.07	19	.01	35	.22**
4	.13**	20	.06	36	.05
5	.10**	21	.19**	37	.07
6	.16**	22	.31**	38	.45**
7	.30**	23	.24**	39	.09
8	.20**	24	.21**	40	.44**
9	.11*	25	.36**	41	.52**
10	.06	26	-.03	42	.40**
11	.20**	27	.37**	43	.50**
12	.31**	28	.09	44	.54**
13	.08	29	.72**	45	.52**
14	.41**	30	.39**	46	.50**
15	.45**	31	.45**	47	.44**
16	.53**.	32	.42**	48	.56**

Continued...

Item No.	r	Item No.	r	Item No.	r
49	.41**	65	.50**	82	.32**
50	.53**	66	40**	83	.29**
51	.57**	67	.54**	84	.50**
52	.42**	68	.49**	85	.29**
53	.30**	69	.50**	86	.35**
54	.48**	70	.49**	87	.50**
55	.21	71	.55**	88	54**
56	.38**	72	.46**	89	.39**
57	.21**	73	.35**	90	.50**
58	.66**	74	.12**	91	.53**
59	.58**	75	.55**	92	.53**
60	.41**	76	.48**	93	.44**
61	.70**	78	.36**	94	.37**
62	.62**	79	.31**	95	.01
63	.55**	80	.41**		
64	.40**	81	.46**		

$*p \le .05, **p \le .01.$

Table 4 indicates the Item total correlation for 95 items of EAS. It is clear from the results that most of the items for EAS have significant positive correlation with the total score indicating a highly significant internal consistency of the scale. Few items have shown low positive correlation with total, and some items show nonsignificant negative correlation with the total score. As the majority of the items show high item total correlation, which provide the idea that may be the factors underline the EAS are correlated so the direct oblimin rotation method can be used (Lorenzo-Seva, 2000; Tabachnick & Fidell, 2001) to draw the factor structure of EAS.

Exploratory factor analyses. For testing the dimensionality and construct validity of the eating attitude scale (EAS) and food myths scale (FMS), 95 items of EAS and 40 items of FMS were factor analyzed through Principal Component Factor analysis technique. Principal Component Factor analysis is exploratory analysis is to summarize many variables into smaller number of components that is known as data reduction technique and it helps to retain maximum items based on the correlation among variables (Field, 2009). Items with factor loadings >.40 on first factors for EAS, were selected for final version of scale. Before running factor analysis some of the tests were applied for the verification of data fit for factor analysis i.e. Bartlett Test of Sphericity and similarly Kaiser-Meyer-Olkim (KMO) value was computed. Bartlett Test of Sphericity was found to be significant 7327.878 ($p < .000$) for EAS. KMO value ranges from 0 to 1and for EAS was .88 which was sufficiently high. The value of .88 suggests that data is very good for factor analysis.

Table 5

Factor Loadings for Eating Attitude Scale (EAS) through Principal Component Analysis by using Direct Oblimin Rotation Method(N = 540)

Serial No.	Item No. in Initial Form	Item No. in Final Form	F1	F2	F3	h^2
1	93	33	**.79**	-.04	-.02	.80
2	90	30	**.76**	-.03	.06	.77
3	44	10	**.75**	.02	-.08	.78
4	45	11	**.74**	.02	.01	.85
5	92	32	**.73**	.03	.08	.72
6	38	5	**.73**	-.04	-.02	.70
7	42	8	**.71**	-.08	.05	.78

Continued...

Serial No.	Item No. in Initial Form	Item No. in Final Form	F1	F2	F3	h^2
8	40	6	**.69**	-.01	.03	.76
9	52	16	**.69**	.04	.05	.72
10	91	31	**.68**	.02	.02	.79
11	84	27	**.60**	.00	-.08	.78
12	43	9	**.60**	.04	-.03	.79
13	85	28	**.59**	.00	-.02	.78
14	71	24	**.57**	.01	-.05	.74
15	41	7	**.55**	-.02	.05	.77
16	66	23	**.55**	.04	.02	.67
17	87	29	**.53**	.02	-.10	.74
18	49	14	-.05	**.75**	.02	.81
19	63	20	.02	**.73**	.06	.75
20	50	15	-.09	**.70**	-.05	.71
21	75	25	.03	**.67**	-.02	.70
22	76	26	.00	**.64**	.03	.75
23	64	21	.05	**.61**	-.05	.69
24	46	12	.03	**.60**	.02	.78
25	47	13	.04	**.57**	.07	.76
26	7	1	.01	**.55**	-.06	.75
27	62	19	.07	**.50**	-.09	.84
28	65	22	.02	.02	**.62**	.87
29	17	4	.02	.08	**.61**	.77
30	15	2	.00	.14	**-.60**	.74
31	61	18	-.02	.07	**-.55**	.79
32	16	3	.08	.04	**.52**	.78
33	60	17	-.01	-.03	**-.48**	.75
Eigen values			7.53	4.49	2.30	
% of Variance			24.342	10.696	6.232	
Cumulative %			24.342	35.038	41.27	

Note. Factor Loadings > 0.40 have been reported in each factor.

Table 5 depicts the results of Principal Component Analysis by using Direct Oblimin Method to determine the factor structure and construct validity of Eating Attitude Scale. It is clear from the results, that most of the items fall on three factors. The two main criteria of selection of final items were factor loading of .40 and above and their loadings exclusively on first three factors respectively. Communalities represent the proportion of common variance in a variable. Variable that has no specific variance would have a communality of 1; a variable that shares none of its variance with any other variable would have the communality of 0 (Thongrattana, 2012).

Results in Table 5 show the communalities of mostly items are more than .5 which is the evidence of less specific variance among variables. Moreover, result indicated that the factor 1 has an Eigen value of 18 and explain 24.34 % of the total variance; Factor 2 has an Eigen value of 10 and explains 10.69% variance. Factor 3 has Eigen value of 6.0 and explains 6.32%, of the total variance. Table 5 shows that total variance explained by three factors is 41.27%. There is no absolute threshold for cumulative variance. Higher the cumulative variance reflect a better factor solution but in social science it can be low than 50% (William & Brown, 2010). One possible explanation for the low cumulative variance is the homogeneity of sample (Beavers et al., 2013). Factor extraction based on multiple criteria as scree plot, Eigen values greater than 1, percentage of variance with at least 5% for single factor, and cumulative variance (Field, 2009). Ultimately decision was based on comprehensibility and interpretability of factors in the context of research. Finally these 33 items were selected for the scale which was named as Eating Attitude Scale

(EAS). The items no. 2, 17, and 18 show negative factor loadings and these items were reverse scored in further analyses.

Scree Plot. A Scree Plot is a simple line segment plot that shows the fraction of total variance in the data as explained or represented by each component.
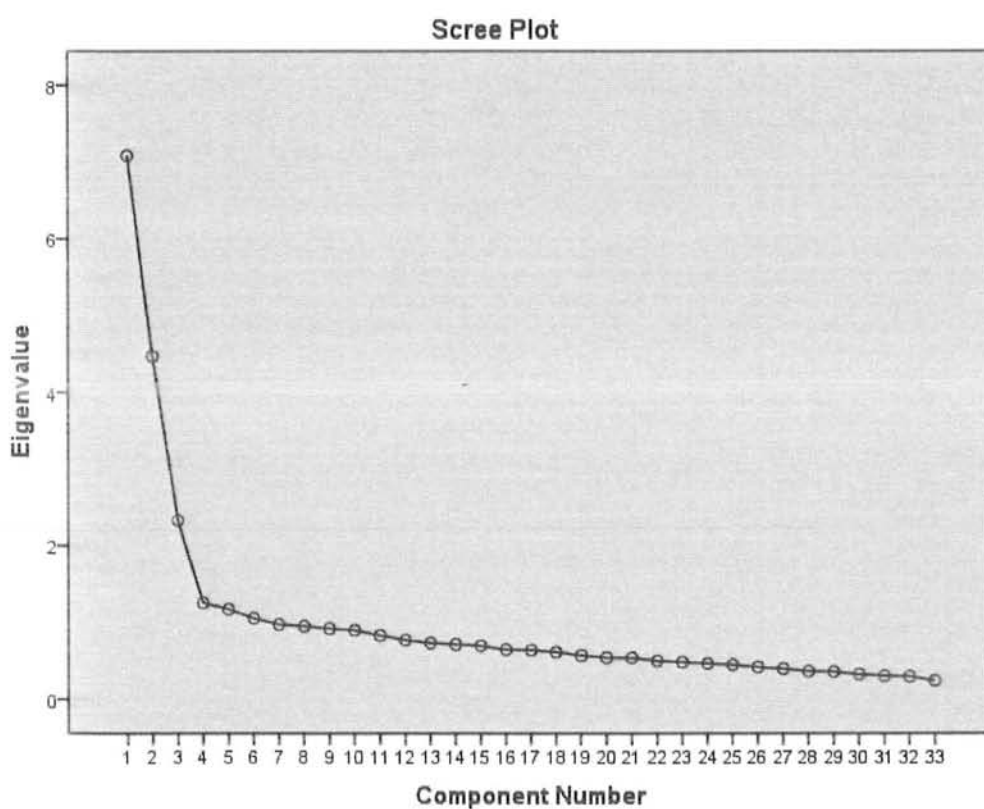
Figure 3. Scree plot Showing Extraction of Factors of Eating Attitude Scale (EAS)

Figure 3 represents the Scree Plot for Factor Matrix of 95 items of EAS through Principal Component Analysis by using Direct Oblimin Method. The X-axis contains the Principal Components sorted by decreasing fraction of total variance explained by each component. The Y-axis contains the fraction of total variance

explained. It is clear from the figure that a relatively large variance is explained by three factors. Scree plot suggested four factors solution, so the four factors solution was tried and found that fourth factor explained 3% of percentage variance. Although there is no threshold of percentage variance but factor with less than 5% variance is not considered a reliable factor (Beavers et al., 2013). Moreover, four factors solution did not convey anything meaningful so three factor solution was finalized.

Final Eating Attitude Scale

The factor analysis reveals three factors of eating attitude scale. Three subscales altogether provide better opportunity to assess the attitude toward eating among adolescents. On the basis of these results of Factor Analysis, 33 items were finally selected in eating attitude scale for judges' opinion. The response options were *Never* = 1 to *Always* = 5 with possible score range on over all Eating Attitude Scale is 33-165. This score range suggests that higher the score obtained by the subject indicate negative eating attitude (See Appendix-H). These items in three subscales were given to five research experts (Ph.D level of researchers with sufficient research experience of at least five years) in a committee approach and committee members were requested to identify the suitable labels for the each cluster of items. After incorporating their views based on the face validity of items, appropriate labels were given to each subscale. The under lying three subscales in the EAS with their items numbers are as follows:

F1: Food Relation with Body. Over all 17 items (5, 6, 7, 8, 9, 10, 11, 16, 23, 24, 27, 28, 29, 30, 31, 32, and 33) were loaded on this factor. The items include on

this factor indicate how do food relate with body and tendency of diet control, pre-occupied with thought to be thin and attractive while eating, eat less amount of food so that one will not gain weight, dissatisfaction with the body appearance overall and different parts is prime concern while eating, and prefer strict dieting after having collective meals with family and friends. The score range on this scale from 17-85. Higher the score mean negative food relation with one's body weight and shape (See Appendix-J).

F2: Overeating. Overall 10 items (1, 12, 13, 14, 15, 19, 20, 21, 25, and 26) were loaded on this factor. Items loaded on this factor include tendency to eat a lot among people especially in social gatherings and parties. Usually people eat enormous amount of food without considering their body requirement. Collective meals with family and friends are common trends and major source of overeating. The score range on this scale from 10-50. Higher the score mean one has tendency of overeating in daily routines (See Appendix-K).

F3: Irregular Eating Routines. 6 items (2, 3, 4, 17, 18, and 22) loaded on this factor include the tendency to have irregular eating routine. Irregular schedule of meal is because of busy routine in college and universities. Irregular routine of work and study effect eating schedule and it is difficult for one to follow the proper timing to eat. The score range on this scale from 6-30. Higher the score mean one has irregular schedule and routine of eating (See Appendix-L).

Exploratory factor analysis for Food Myths Scale. In order to determine the factor structure for food myths scale, items total correlation analyses was

performed for item pool. Further, psychometric properties of the scales the reliability analysis was made.

Table 6

Item total Correlation of Food Myths Scale (FMS) (N = 540)

Item No.	r	Item No.	r	Item No.	r
1	.39**	15	.54**	29	.57**
2	.42**	16	.49**	30	.65**
3	.51**	17	.49**	31	.67**
4	.52**	18	.56**	32	.73**
5	.59**	19	.50**	33	.36**
6	.56**	20	.42**	34	.45**
7	.49**	21	50**	35	-.23
8	.58**	22	.53**	36	.52**
9	.62**	23	.65**	37	.51**
10	.12**	24	.58**	38	.38**
11	.21**	25	.69**	39	.06
12	.48**	26	.52**	40	.01
13	.68**	27			
14	.58**	28			

$*p \leq .05, **p \leq .01$.

Table 6 indicates the Item total correlation for 40 items of FMS. All the items for FMS have significant positive correlation with the total score indicating a highly significant internal consistency of the scale. Only two items 39 and 40 have shown nonsignificant positive correlation with total, and one item no. 35 show nonsignificant negative correlation with the total score. As the majority of the items show high item total correlation, therefore direct oblimin rotation method is best to draw factor structure.

For testing the dimensionality and construct validity, 40 items of FMS were factor analyzed through Principal Component Factor analysis technique. Factor loadings >.35 on first factors for FMS, items were selected for final version of scale. For factor extraction factor loadings are considered prime criterion, for the large sample with proportion to number of items factor loadings can be low (William & Brown, 2010). In present research the proportion of sample with respect to each item was of almost more than ten subjects respond for each item. So, to obtain maximum myths in the FMS, it was decided to retain items with factor loadings of >.35. Preliminary analysis included, Bartlett Test of Sphericity for FMS was found significant with value of 3379.076 ($p < .000$). KMO value ranges from 0 to 1and for FAS was.85 which is sufficiently high. The value of .85 suggests that data is very good for factor analysis.

Table 7

Factor Loadings for Food Myths Scale (FMS) through Principal Component Analysis by using Direct Oblimin Rotation Method (N = 540)

Serial No.	Item No.	F1	F2	F3	h^2
1	5	.81	.01	-.13	.55
2	22	.73	-.04	-.04	.51
3	8	.71	-.15	-.13	.49
4	23	.68	.07	-.37	.47
5	30	.66	-.01	.09	.55
6	32	.65	-.21	-.04	.63
7	31	.64	-.02	.06	.55
8	26	.64	-.15	.21	.47
9	15	.63	.02	.03	.63
10	29	.61	.17	-.33	.58

Continued...

Serial No.	Item No.	F1	F2	F3	h^2
11	13	**.60**	.32	-.09	.51
12	6	**.57**	.28	-.04	.49
13	14	**.54**	.17	.10	.45
14	19	**.53**	-.04	.31	.49
15	24	**.52**	.06	.07	.65
16	18	**.50**	-.06	.24	.59
17	9	**.46**	.02	.04	.55
18	25	**.45**	.29	.07	.69
19	37	.09	**.59**	.21	.48
20	2	.11	**.55**	.14	.47
21	38	.12	**.54**	-.23	.59
22	27	.04	**.53**	-.06	.48
23	28	.13	**.50**	-.12	.53
24	34	-.16	**.49**	.17	.55
25	33	.07	**.47**	20	.52
26	20	.23	.05	**.38**	.45
27	21	.01	-.01	**.36**	.49
Eigen values		7.00	2.10	1.73	
% of Variance		30.18	6.01	3.21	
Cumulative %		30.18	36.54	39.75	

Note. Factor Loadings > 0.35 have been reported in each factor.

Table 7 depicts the results of Principal Component Analysis by using Direct Oblimin Method to determine the factor structure and construct validity of the FMS. Table 7 shows factor loading of items on 3 components. It is clear from the results, that most of the items fall on 2 factors. The main criteria of selection of final items were factor loading of .35 and above and their loadings exclusively on first two factors respectively. Table 7 shows that the factor 1 has an Eigen value of 15.96 and

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explain 30% of the total variance. Moreover, results show that total variance explained by the two factors is 36.54%. Factor extraction based on multiple criteria as scree plot, Eigen values greater than 1, percentage of variance with at least 5% for single factor, and cumulative variance (Field, 2009). On the basis of factor results items on first factor were retained as final FMS. A Scree Plot is a simple line segment plot that shows the fraction of total variance in the data as explained or represented by each component. Scree plot indicate the two factors so two factors solution was tried but it did not generate meaningful solution so based on the interpretability, unifactor solution was finalized.

Scree Plot. A Scree Plot is a simple line segment plot that shows the fraction of total variance in the data as explained or represented by each component.
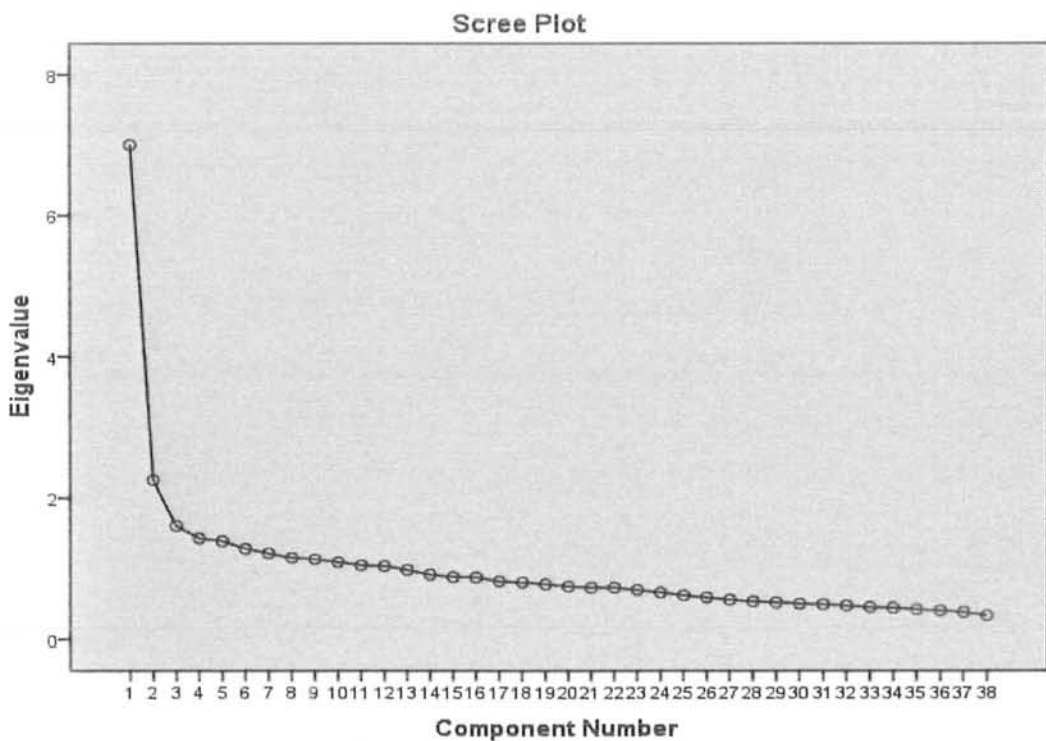
Figure 4. Scree plot Showing Extraction of Factors of Food Myths Scale (FMS)

Figure 4 represent the Scree Plot for Factor Matrix of 38 items of FMS through Principal Component Analysis using Direct Oblimin Method. The X-axis contains the Principal Components sorted by decreasing fraction of total variance explained by each component. The Y-axis contains the fraction of total variance explained. It is clear from the figure that a relatively large variance is explained by first factor only.

Final Food Myths Scale (FMS)

The factor analysis reveals unifactor structure of food myths scale. Self-report scale of food myths provide better opportunity to assess one's believe on myths in selection of food as some are believers that myths are sometime really beneficial for health and eating patterns are regulated by the common myths about food in our society. The selection of final items in scale was on the basis of factor loading on first factor equal to or greater than .35. On the basis of these results of Factor Analysis, 18 items were finally selected in scale (See Appendix-M). The response options were *Absolutely Wrong* = 1 to *Absolutely Correct* = 5 with possible score range on unifactor food myths scale is 18-90. Higher the score obtained by the subject indicate one's strong belief on myths about food.

Phase IV: Determination of reliability of measures i.e., Eating Attitude Scale and Food Myths Scale

To establish the psychometric properties of scale reliability of EAS and FMS, alpha coefficients were calculated:

Table 8

Means, Standard Deviations, Alpha Reliability, and Correlations between FMS and EAS and its subscales (N = 540)

Scales	No. of Items	M	SD	α	FRB	OE	IER	FMS	EAS
FRB	17	78.94	18.33	.82	-	.38**	.25**	.37**	.86**
		(3.80)	(.55)						
OE	10	35.34	9.26	.78		-	.27**	.04	.68**
		(3.28)	(.60)						
IER	6	14.84	4.11	.73			-	.02	.27**
		(2.90)	(.74)						
FMS	18	85.91	19.09	.90				-	.40**
		(2.75)	(.64)						
EAS	33	138.06	23.80	.88					-
		(3.52)	(.54)						

Note. FRB =Food Relation with Body; OE = Overeating; IER = Irregular Eating routine; EAS = Eating attitude scale; FMS: Food myths scale: Values in the parentheses are calculated on transformed scores. *$p < .05$. **$p < .01$.

Table 8 indicates the alpha coefficients for the 33 items of EAS and its subscales and 18 items for FMS. Cronbach's α also measures the underlying factor or construct of the scale. The alpha coefficient for EAS and FMS are .88 and .90, respectively. These high alpha coefficient values connote both the scales are internally consistent and reliable measures to assess the underlying constructs. Table 8 also indicated the relationship between eating attitude scale with its subscales and food myths scale. It is evident from the results that there is positive relationship between negative eating attitudes and more believe on food myths. The one who is believer of food myths has negative eating attitudes ($r = .40$, $p < .01$). Similarly, all the subscales of EAS show positive relationship with the total. Mean values on transformed scores reflect that adolescents scored high on food relation with body as compared to over eating and

irregular eating routines. Food relation with body and beliefs on food myths are positively related with each other. It means one's feelings about food are reflection of their relationship with one's health and appearance and this relationship is linked to one's belief about the food related consequences. The more healthy beliefs you would have the more positive food relation with body you will experience. Overeating and eating routines show nonsignificant relationship with food myths. Result can be interpreted as one who is follower of food myths may restraints him/herself from eating so do not show any significant relationship with irregular eating routines and tendency to overeat in attitude.

Construct validity through contrasted group. Contrasted group validity evidence through gender differences on eating attitudes and food myths has been well explained in literature (Chin, Leong, Liang, & Loke, 2012; Edman & Yates, 2004; Radmanović-Burgić et al., 2011). So, in the present research t-analysis was computed to establish the validity of indigenous scales for boys and girls adolescents on EAS and FMS.

Table 9

Gender Differences on Eating Attitude Scale and Food Myths Scale among Adolescents (N = 540)

| | Boys | | Girls | | | | 95% CI | | |
| | ($n = 267$) | | ($n = 273$) | | | | | | |
Scales	M	SD	M	SD	t	p	LL	UL	Cohen's d
EAS	118.46	16.28	125.97	17.33	5.08	.00	-10.42	-4.60	.56
FRB	63.26	13.86	66.71	14.09	2.36	.01	-5.31	-.48	.63
OE	32.36	8.27	35.78	9.31	4.42	.00	-4.95	-1.90	.75
IER	22.83	6.47	24.02	6.44	2.08	.00	-2.30	-.06	.58
FMS	36.85	10.10	33.58	10.22	3.52	.00	1.47	5.03	.68

Note. df = 538; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating; IER = Irregular Eating routine; FMS = Food Myths Scale.

Results in Table 9 reflected the gender differences for eating attitudes and food myths among adolescents. It is evident from the results that girls' score higher on eating attitude scale overall and subscales. Interesting results are found on food myths as boys are more food myths believers as compared to girls.

Strength of beliefs in food myths among adolescents. In order to determine the strength of each food myth, frequencies and percentages on each item were computed. This analysis helps us to know most prevalent misconceptions regarding food among adolescents. The results are presented in Table 10 with English translations of items as the original scale was in Urdu.

Table 10

Frequencies and Percentages on each Item of Food Myths Scale among Adolescents (N = 540)

#	Items	Exactly True f (%)	True to some Extent f (%)	Neutral f (%)	False to some Extent f (%)	Totally False f (%)
1	Drinking water after eating melon and water melon causes cholera.	325 (60.9)	119 (21.1)	50 (9.7)	21 (3.3)	25 (4.8)
2	Drinking water after eating cucumber causes cholera.	233 (43.1)	135 (24.2)	85 (15.7)	31 (6.0)	56 (10.8)
3	Potato, cauliflower, rice, and white lentil produce gas in stomach or fat belly.	308 (57.6)	113 (19.9)	73 (14.1)	27 (4.4)	20 (3.9)
4	Drinking water at morning with empty stomach reduces weight.	216 (39.8)	130 (23.2)	117 (21.9)	30 (5.8)	46 (8.9)
5	Drinking milk after fish causes leucoderma.	259 (48.2)	143 (25.7)	88 (16.2)	20 (3.9)	27 (5.2)
6	Food which produce heat in body (e.g., egg and dry fruits) should not be taken during initial months of pregnancy.	172 (31.3)	99 (17.2)	195 (37.5)	31 (6.0)	39 (7.5)

Continued...

#	Items	Exactly True	True to some Extent	Neutral	False to some Extent	Totally False
		f (%)	f (%)	f (%)	f (%)	f (%)
7	Drinking milk after eating banana causes phlegm/ sputum.	195 (36.0)	156 (28.2)	129 (24.2)	29 (5.6)	31 (6.0)
8	Drinking milk fairer the skin complexion.	289 (42.2)	174 (31.7)	71 (13.0)	28 (5.4)	39 (7.5)
9	Eating mangoes causes prickly heat/ heat rash.	232 (42.9)	169 (30.8)	70 (12.8)	27 (5.2)	42 (8.1)
10	Eating an apple daily prevents you from diseases.	353 (66.3)	132 (23.6)	37 (7.2)	14 (1.9)	5 (1.0)
11	Drinking water after eating fried things/foods causes sore throat.	292 (54.5)	151 (27.3)	62 (11.2)	10 (1.9)	25 (4.8)
12	Fish should not be eaten in summers as it produces hot effect in body.	274 (51.1)	127 (22.6)	80 (14.7)	32 (6.2)	28 (5.4)
13	Drinking milk immediately after eating fried things/ foods cause food poisoning.	185 (33.8)	160 (29.0)	125 (23.4)	34 (6.6)	35 (6.8)
14	Tamarind and plum drink prevents heat stroke in summers.	298 (55.7)	137 (24.6)	80 (14.7)	17 (3.3)	8 (1.5)
15	Eating potato and rice causes obesity/ weight gain.	279 (52.0)	155 (28.0)	54 (9.7)	20 (3.9)	33 (6.4)
16	Drinking tea or coffee causes sleeplessness.	296 (55.3)	151 (27.3)	55 (9.9)	19 (3.7)	20 (3.9)
17	Bitter gourd is a vegetable may produce hot effect in body.	281 (52.4)	99 (17.2)	95 (17.6)	23 (4.4)	42 (8.1)
18	Vegetables cook with meat decreases hot effect of meat in body.	192 (35.2)	189 (34.6)	110 (20.5)	26 (5.0)	23 (4.4)

Note. For original scale items see Appendix-M.

Table 10 indicated the results of belief on food myths among adolescents. It can be seen maximum percentage of responses were reported on option "Exactly True" for each item except item no. 6 on which maximum responses were received on

option of "Neutral" As the item no. 6 "Food which produce heat in body (e.g., egg and dry fruits) shouldn't be taken during initial months of pregnancy" is about the precautions in food during pregnancy may not much relevant to adolescents so they have not much knowledge. This may be the reason of highest response frequency on neutral option. Top three response percentages were found on item no. 10 "Eating an apple daily prevents you from diseases"; item no. 3 "Potato, cauliflower, rice, and white lentil produce gas in stomach or fat belly"; and item no. 14 i.e., "Tamarind and plum drink prevents heat stroke in summers" respectively that indicate that adolescents believe these are realities not myths.

Discussion

For eating attitudes, researchers (Alveranga et al., 2012; Yang et al., 2010) have evolved the idea of its relevance to indigenous culture over time and So far to our knowledge, there is no scientific research has been conducted to explore the phenomenon with reference to its dimensions here in Pakistan. Keeping in mind the indigenous findings emerged in study I, it was seen that food myths beliefs are common and important factor to determine the eating attitudes. On the basis of indigenous qualitative findings researcher decided to go for the empirical testing of common food related myths among adolescents. This study addressed the development of Eating attitude Scale and Food Myths scale for the measurement of underlying constructs among adolescents.

These scales were developed specifically for this study, as there existed no indigenous scale which could be used to assess the eating attitudes and beliefs on

myths related to food in Pakistani adolescents. Overall items pool of 95 items for eating attitude scale and 40 items for food myths were used for empirical testing. The items pool was administered on the sample of 540 adolescents studying in colleges/ universities. Furthermore for the empirical evaluation and the construct validity of scales factor analysis was applied.

For the development of scales Kim (2008) explained factor analysis as a statistical technique used for finding common factors which explain the correlation among variables. Factor analysis also shows a group of variables which are highly associated with, and thus are representing, a common factor. Through this process, the structures, dimensions, or underlying processes of the data are also identified. Factor analysis is a more ambitious approach that attempts to find underlying factors that can be used to help in interpreting the pattern of covariation shared among the variables (Field, 2009).

In the language of factor analysis, the proportion of variance of a particular item that is due to common factors (shared with other items) is called communality. Therefore, an additional task facing us when applying the Principal Component Analysis is to estimate the communalities for each variable, that is, the proportion of variance that each item has in common with other items. Although Principal Component Analysis works on the initial assumption that all the variance is common, therefore before extraction all the communalities are 1. Communalities help to assess the proportion of common variance present in a variable. Variable that has no specific variance (or random variance) would have a communality of 1and variable that shares none of its variance with any other variable would have a communality of 0 (Field,

2009). It has been observed that communalities for EAS and FMS were equal or greater than from 0.50. Such medium to high ranged communality values explain less variance among items in each scale.

The factor analysis result revealed that 33 out of 95 items were clustered into first three factors in the EAS Scale explaining 41.27% of variance (See Table 5). Similarly 19 items were clustered into first factor in the FMS Scale explaining 30.18% variance (See Table 7). The selection of items for the final scales were based on following selection criteria i.e., items having factor loading > 0.40 in case of EAS and factor loading > 0.35 in FMS constitute the meaningful factor evaluated by researcher. All the factors are not retained in any analysis, and there is debate over the criterion used to decide whether a factor is statistically important. It means only those factors above that Eigen values associated with variance indicate the substantive importance of that factor. Therefore according to Field (2005) it seems logical that only those factors should retain with large Eigen values. On the basis of these results of Factor Analysis, 33 items were finally selected in EAS loaded on first three factors and it was concluded that eating attitude is multidimensional construct. The multifactor solution is consistent with previous studies (Alvarenga et al., 2010; Garner & Garfinkel, 1979; Garner et al., 1982; Garner et al., 1983; Mizes et al., 2000; Muazzam & Khalid, 2011; Talwar, 2011). Overall, Three subscales were emerged in this multifactor solution. One of the factor was "Food relation with body" reflected affective component of eating attitudes i.e., the one's feelings toward the food associated with its body appearance. Items reflected the fact the more positive

association with food is based on its effect on body shape and appearance. Positive food relation with body reflects the healthy eating attitude.

Second factor "Over eating" reflected the behavioral components of eating attitudes. Items reflected one's tendency to indulge in overeating without considering the body requirement in actual. This factor is found to be consistent with the previous findings (Muazzam & Khalid, 2011) in literature to explain the eating attitudes. Third factor "Irregular eating routines" reflected both cognitive and behavioral components of eating attitudes as items reflected one's tendency to think over and plan the meal schedules and timings. The more disorganized timings for food reflected the negative eating attitudes. This factor is not been identified in previous literature. Scheduling of meal in a day reflects one's efforts to regulate eating behavior.

The result of factor loading on FMS showed the uni-dimension scale and scree plot confirmed this, so 18 items loaded on first factor were finally selected. Evidence on food myths scales were not found as no psychological measure is available but a construct of myth can be unifactor or multifactor as per existing literature. There is strong evidences present in the literature to indicate factor analysis as suitable technique to develop the factor structure for the construct of myth i.e., Domestic Violence Myth Acceptance Scale (Peter, 2003), Rape Myth Acceptance Scale (McMahon, 2010), Rape Myth Acceptance Scale (Briere, Malamuth, & Check, 1985), Career Myth Scale (Stead & Watson, 1993), and Rape Myth Korean Scale (Euna & Helen, 2004). There are many articles published in the field of medicine and nutrition explaining about food myths and their realities in scientific realm but there is no research in psychology has ever put these to empirical testing. Overall 18 myths have

been identified in unifactor solution for adolescents. These myths are strongly believed by the people have no scientific worth.

Mostly myths are reflecting the idea of hot and cold effect of food, misconceptions about their nutritious quality, connection with diseases and etc. Another dimension highlighted in scale was the belief that weight loss is associated with strict dieting or fasting while eliminating food mean eliminating important nutrients from diets (Alberta, 2006). Frequencies on items no. 10, 1, and 3 respectively were found highest among all (see Table 10). These myths have no reality in medical science; these misconceptions have been propagated mostly by Auyedric (herbal) and homeopathic school of thoughts. Pakistan being the traditional society is promoting these myths and they have been transferred from generation to generation.

Mostly myths in FMS reflect the belief that certain foods e.g., egg, bitter gourd, red meat, fish, and etc. produce extra heat in body which is completely false (D'Mello, 2015), Similarly to get flat belly and to reduce weight certain food items like rice, potatoes, cauliflower, and fried things and etc. must be avoided which is completely wrong (Conn, 2015). Finally the most prevalent misconception that certain food combinations like water with cucumber, milk with fish, and milk with banana lead to different ailments is completely false (Mughal, 2013; Thieme, 2014; Ratini, 2015). To see and analyze the facts with reference to each myth is reported in detail (see Appendix-O).

For both scales EAS and FMS eigen values (see Tables 5 and 7) were reported, indicated the contribution of each item to cluster in a factor. Eigen value is

large enough to represent a meaningful factor (as cited in Field, 2009) is to plot graph of each Eigen value (y-axis) against the factor with which it is associated (x-axis). This graph is known as a Scree plot. By graphing the eigenvalues, the relative importance of each factor becomes apparent. Typically there will be a few factors with quite high eigenvalues, and many factors with relatively low eigenvalues, and so this graph has a very characteristics shape. There is sharp descent in the curve followed by a tailing off (See figure II and III). Cut-off point for selecting factors should be at the point of inflexion of this curve (as cited in Field, 2009). With a sample of more than 200 participants, the scree plot provides a fairly reliable criterion for factor selection (Stevens as cited in Field, 2005).

If factor analysis is being used to validate the instrument, it is useful to check the reliability of the scale. Reliability just means that a scale should consistently reflect the construct it is measuring. In the present study, the psychometric properties of the scales were also established. For this purpose, the Cronbach's alpha reliability was computed for each scale. The result showed alpha reliability coefficients for EAS and FMS are .88 and .90 respectively (As indicated in Table 8). Cronbach's a value for the item set > .80 are usually considered very well. These high coefficients are the sign that these measures are highly reliable.

Gender differences were computed on EAS and FMS to establish the contrasted group validity. Boys were found more food myths believers as compared to girls. This finding can be justified by having information and communication channels about food. Boys in our society less interacts with cooking and food as compared to girls so their knowledge about food related realities based on stereotypes

so they are more myths believers as compared to girls. It was found in results (see Table 9) that girls show more negative eating attitudes as compared to boys. Findings are well defined as per existing literature (Chin, Leong, Liang, & Loke, 2012; Furnham, Badmin, & Sneade, 2000; Edman & Yates, 2004; Hargreaves & Tiggemann, 2004; Radmanović-Burgić et al., 2011). Girls are found to be more concerned to look thin so establish the negative food relation with body, and follow the more irregular eating routines which may inclined them toward overeating as compared to boys.

Conclusion

Findings presented in this chapter are encouraging in terms of psychometric properties of indigenously developed scales i.e., Eating Attitude Scale (EAS) and Food Myths Scale (FMS). Eating attitude is multidimensional constructs as EAS has three subscales i.e., Food relation with body, overeating, and irregular eating routines while FMS is unifactor scale are easy to administer and scoring procedure is also very simple. Furthermore, psychometric properties of scales provide the sufficient empirical evidence that the scales are reliable and indigenous scales are more powerful tool to test hypotheses and model. So, validations of scales through confirmatory factor analyses, convergent, and discriminant validity were planned further. To establish the discriminant validity Multidimensional Body Self-Relations Questionnaire-Appearance Scale was selected. Before applying scale for discriminant validity, MBSRQ-AS was translated into Urdu language as presented in chapter-V.

STUDY- III: TRANSLATION AND VALIDATION OF MULTIDIMENSIONAL BODY SELF RELATIONS QUESTIONNAIRE- APPEARANCE SCALE

The Multidimensional Body Self-Relations Questionnaire- Appearance Scale (MBSRQ-AS) provides evidence of multidimensionality of construct of body image and it is one of the validated self-report inventories for the assessment of body image. Body image is conceived as attitudinal dispositions of any individual toward the physical self and these dispositions include evaluative, cognitive, and behavioral components. Moreover, the physical self encompasses not only one's physical appearance but also the body's competence or fitness and its biological integrity or health/illness. The MBSRQ is meant for adults and adolescents (15 years or older) not for children (Cash, 2000).

The MBSRQ's subscales reflect two dispositional dimensions—evaluation and cognitive-behavioral orientation on each of the three somatic domains of "Appearance," Fitness," and "Health/Illness (Brown et al., 1990). Most body-image researchers are principally interested in the appearance related subscales of the MBSRQ and wish to administer a shorter questionnaire that excludes the fitness and health items. Accordingly, they may elect to use the 34-item MBSRQ-AS (MBSRQ-Appearance Scales) version of the instrument. The MBSRQ-AS includes the following subscales: Appearance Evaluation, Appearance Orientation, Overweight Preoccupation, Self-Classified Weight, and the Body Area Satisfaction (Cash, 2000). The MBSRQ-AS has been employed in large number of studies investigations of

body image in Pakistan (e.g., Ambreen & Hassan, 2005; Asghar, 2015; Ishfaq, 2007;Tariq & Ijaz, 2015; Nigar, 2014; Zaman, 2014; Zubair, 2008). This scale has been used in last few years in Pakistan with wide variety of adolescents and adult population having the different demographic characteristics. All the above mentioned studies included sample with certain level of education that can comprehend English language. Reliability evidences from studies in Pakistan show lower reliabilities for scales as Zaman (2014) reported reliability .34 for appearance orientation; .38 for appearance evaluation; .69 for overweight pre-occupation while Zubair (2008) reported .61 for appearance evaluation; .58 for overweight pre-occupation; .62 for self-classified weight, and .68 for body area satisfaction. Nigar (2014) reported lower reliability for appearance evaluation (.68) and appearance orientation (.65). The reported psychometrics of scale in above mentioned studies are also indicating poor reliabilities especially for appearance evaluation, appearance orientation, and self-classified weight raising question on its factor structure for credible use in Pakistani culture. Well keeping in mind its utility and poor psychometric characteristics, there is dire need to translate and have Urdu version of MBSRQ-AS for Pakistani population, so it can be applied on diverse group of population to better understand English language written items and to validate existing factor structure indigenously.

First of all the copyright/ permission to use and translate the scale was obtained from the author Dr. Thomas Cash in March, 2013. The email of permission to use the inventory is attached in appendices (see Appendix-P). After having the inventory in Pakistan it was important to translate and adapt the inventory according to our culture so utility of the inventory will be increased. For this purpose researcher decided to conduct this study. This study was constituted on two phases. In phase I, translation, adaptation, and cross language validation was done. In phase II, the

Factorial Structure and reliability of Urdu Version of MBSRQ-AS Scale was established.

Objectives

The following objectives were formulated before conducting the study:

1. Translate the Multidimensional Body-Self Relations Questionnaire-Appearance Scale (MBSRQ-AS).

2. Establish the cross language validation and test-retest reliability of MBSRQ-AS.

3. Assess the factorial structure of Urdu Version of MBSRQ-AS.

4. Evaluate the internal consistency of Urdu Version of MBSRQ-AS in terms of their Cronbach's alpha coefficients.

Instrument

Multidimensional Body-Self Relations Questionnaire- Appearance Scale (MBSRQ-AS; Cash, 2000). Cash (2000) developed MBSRQ-AS to use with adults and adolescents (15 years or older) for the assessment of their attitude toward body image. The MBSRQ-Appearance Scales (MBSRQ-AS) is a 34-item measure that consists of 5 subscales Appearance Evaluation, Appearance Orientation, Body Area Satisfaction, Overweight Preoccupation, and Self-Classified Weight (see Appendix-Q). The scoring options from items no. 1 to 22 are 1 (*definitely disagree*), 2 (*mostly disagree*), 3 (*neither agree nor disagree*), 4 (*mostly agree*), 5 (*definitely agree*). Item no. 23 is scored as 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), 5 (*very often*). Item no. 24 and 25 are scored as 1 (*very underweight*), 2 (*somewhat underweight*), 3 (*normal weight*), 4 (*somewhat overweight*), 5 (*very overweight*). 5 point rating options

for items no. 26-34 are classified as 1 (*dissatisfied*) to 5 (*satisfied*). The 7 items in Appearance Evaluation are 3, 5, 9, 12, 15, 18, and 19 with score range 7-35. The 12 items in Appearance Orientation are 1, 2, 6, 7, 10, 11, 13, 14, 16, 17, 20, and 21 with score range 12-60. The 9 items in Body Area Satisfaction are 26, 27, 28, 29, 30, 31, 32, 33, and 34 with score range 9-45. The 4 items in Overweight Preoccupation 4, 8, 22, and 23 with score range 4-20 and 2 items in Self-Classified Weight are 24 and 25 with score range 2-10. Following items are reversed score items i.e., 18, 19, 11, 14, 16, and 20 (Cash, 2000).

Operational Definitions

Cash (2000) defined body image as one's attitudinal dispositions toward the physical self. As attitudes, these dispositions include evaluative, cognitive, and behavioral components. Moreover, the physical self encompasses not only one's physical appearance but also the body's competence or "fitness" and its biological integrity or "health/illness. In the present research body image is assessed with the help of Multidimensional Body Self Relation Questionnaire-Appearance Scale (Cash, 2000) and it explain the body image with the help of following subscales.

Appearance evaluation. It refers to feelings of physical attractiveness or unattractiveness, satisfaction or dissatisfaction with one's looks (Cash, 2000). In the present research appearance evaluation is measured with the help of Appearance evaluation subscale of MBSRQ-AS. High scorers feel mostly positive and satisfied with their appearance; low scorers have a general unhappiness with their physical appearance (Cash, 2000).

Appearance orientation. It refers to extent of investment in one's appearance. High scorers place more importance on how they look, pay attention to their appearance, and engage in extensive grooming behaviors (Cash, 2000). In the present research appearance orientation is measured with the help of Appearance Orientation subscale of MBSRQ-AS. Low scorers are apathetic about their appearance; their looks are not especially important and they do not expend much effort to "look good" (Cash, 2000).

Body areas satisfaction. Similar to the appearance evaluation it refers to satisfaction with discrete aspects of one's appearance (Cash, 2000). In the present research body area satisfaction is measured with the help of Body Area Satisfaction subscale of MBSRQ-AS. High composite scorers are generally content with most areas of their body. Low scorers are unhappy with the size or appearance of several areas (Cash, 2000).

Overweight preoccupation. It refers to a construct reflecting fat anxiety, weight vigilance, dieting, and eating restraint (Cash, 2000). In the present research overweight preoccupation is measured with the help of overweight preoccupation subscale of MBSRQ-AS. High score on this sub scale means the individual has more over weight preoccupation.

Phase I: Translation of Multidimensional Body-Self Relations Questionnaire (MBSRQ-AS)

The aim of this study is to obtain Urdu version of the English instrument that is conceptually equivalent in the targeted language /culture. The major intention of this process is to enable the instrument equally natural and acceptable and should practically perform equally in both languages source language (English) and target language (Urdu). The focus is on cross-cultural and conceptual equivalence rather than on linguistic/literal equivalence. A well-established method to achieve this goal is to use forward-translations and back-translations (Brislin, 1976; Van de Vijver & Hambleton, 1996). So the translation and cross language validation of MBSRQ-AS has been accomplished in following steps:

Step I: Forward translation of MBSRQ-AS into Urdu.

Step II: Committee approach with subject matter experts to select the appropriate translations.

Step III: Back-translation of MBSRQ-AS Urdu version into English.

Step IV: Committee Approach with subject matter experts to select to select best back translation.

Step V: Author' review on back translation.

Step VI: Cross language validation of MBSRQ-AS Urdu version.

Step I: Forward translation of MBSRQ-AS into Urdu. The quality of a test translation and adaptation depends on the quality of the translators. The criteria for selecting translators included proficiency in both languages, familiarity with cultures,

proficiency in the subject matter tested, and item writing expertise (Sousa & Rojjanasrirat, 2011). In the selection of translators for the present study it was assured that they should be knowledgeable of the English-speaking culture but their mother tongue should be the primary language of the target culture i.e. Urdu. For the translation and adaptation of MBSRQ-Appearance Scales (MBSRQ-AS) the original inventory was given to six bilinguals (See Appendix-R). These bilinguals were selected by considering the above stated criteria. More over the details about the qualification of experts are as follows. One Assistant Professor of English with the qualification of M.A English teaching at Post Graduate Level. Two researchers enrolled in M. Phil program of Psychology at Quaid-i-Azam University. Two Lecturers/ researchers enrolled in Ph. D program of Psychology at Quaid-i-Azam University and one bilingual expert has done his master in Urdu and Diploma in English language.

Experts were given instructions to translate within mind the conceptual equivalence of original items, they were requested to use natural and acceptable language for the broadest audience. The general guidelines followed by Groves and Engel (2007) are considered as translators are instructed to keep in mind the conceptual equivalent of a word or phrase, not a word-for-word translation, i.e. not a literal translation. They should consider the definition of the original term and attempt to translate it in the most relevant way. Translators must strive to be simple, clear and concise in formulating a question. Fewer words are better. Long sentences with many clauses should be avoided. The target language should aim for the most common audience. Translators are advised to avoid addressing professional audiences such as

those in medicine or any other professional group. They must consider the typical respondent for the instrument being translated and what the respondent will understand when s/he hears the question. Translators are instructed to avoid the use of any jargon. For example, they should not use technical terms those are not understood clearly; and colloquialism, idioms or vernacular terms found difficult to be understood by common people in everyday life. Translators are asked to consider the issues of gender and age applicability and avoid any terms that might be considered offensive to the target population.

The experts are instructed to translate and adapt each item according to the Pakistani culture, without eliminating the items. They were also requested to identify those items which they think are not relevant to Pakistani culture and to suggest best alternatives for such items.

Step II: Committee approach with subject matter experts to select the appropriate translations. After the completion of first step the best five translations were selected by researcher and written together for each item of inventory. A committee approach was set. A bilingual (in English and the target language for translation i.e. Urdu) expert panel was convened by the researcher. It was comprised, two lecturer of psychology (Ph. D Scholars with at least 6 years of research experience) and the researcher herself. The goal in this step was to identify and resolve the inadequate expressions/concepts of the translation, as well as any discrepancies between the forward translation and the existing or comparable previous versions of the questions if any. Each translated item was analyzed and best translated item was selected by the mutual consensus of committee members (See Appendix-S).

When it is difficult to translate a particular item meaningfully into the target language, a literal translation with explanation in parentheses is preferable. Despite the increase in length and complexity, this can enhance the linguistic equivalence between the original item and the translated one (Cheung & Cheung, 2003). When an item has nonequivalent in the target culture, for example, an idiom that has nonequivalent in the target language, then it is acceptable to replace the item with another one that is culturally appropriate (Damnet, 2008). However, field tests (discussed below) need to be conducted specifically for this kind of item to establish the equivalence in psychological meaning. During the process of evaluation of translation, it was identified by committee that there was no single item that needed to be adapted as per the cultural diversity requirement. At the end of this process the translated version of MBSRQ-AS was ready for back translation.

Step III: Back-translation of MBSRQ-AS Urdu Version into English. Back Translation is the process of translating a document that has already been translated into a foreign language back to the original language - preferably by the help of independent translators. Back translation helps to improve the reliability and validity of research in different languages by requiring that the quality of a translation is verified by an independent translator translating back into the original language. Original and back translated documents can then be compared. Due to its high cost, back translation is not overly common, but in very high risk - high return situations is well worth the investment (Brislin, 1976). Using the same approach as that outlined in the first step, the instrument was translated back to English by the independent bilingual experts. Like the initial translation, emphasis in the back-translation was on conceptual and cultural equivalence and not linguistic equivalence. Similarly after the

back translation, discrepancies were discussed again in the same committee approach and items were iterated as many times as needed until a satisfactory version is reached.

In step two the Urdu translated version of MBSRQ-Appearance Scales (MBSRQ-AS) was given to five independent bilingual translators. The qualification details of each expert are as follows, one associate professors of Urdu with the qualification of M.A teaching at Government College for Women, Rawalpindi, two researchers enrolled in M. Phil program of Psychology at Quaid-i-Azam University, two Lecturers/ researchers enrolled in Ph. D program of Psychology at Quaid-i-Azam University. The bilinguals selected for back translation were not exposed to the original English items MBSRQ-AS. The translators involved in back translation were supposed to translate the items into English provided with the same instructions that were given to those involved in Urdu translation.

Step IV: Committee approach with subject matter experts to select best back translation. The back translations of the Urdu version and original MBSRQ-AS were scrutinized by the same subject matter experts of phase-II. The most closely related items were selected as the final of back translation. Finally, the Urdu translated items were arranged in the same order given in the original inventory (see Appendix-T).

Step V: Author' review on back translation. After finalizing the back translation with the help of subject matter experts, back translation was sent to author Thomas F. Cash (see Appendix-U) for his feedback. The feedback received from the author showed his concerns over grammar and meaning of content of two items in back translated version of MBSRQ-AS i.e., item no.1 and item no. 23 with reference

to its original meaning in back translation and suggested to re-examined and reconciled after some expert opinion. Original item no. 1 was "Before going out in public, I always notice how I look" after its back translation it was stated like "I always notice myself before going outside how do I appear to others". Similarly the item no. 23 in original was "I have tried to lose weight by fasting or going on crash diets" while after its back translation it was "I have tried to lose my weight by fasting or by using weight reduced diet". Author suggested instead of using weight reduced diet it should be like…"am on a weight lose diet or diet to lose weight". After receiving his feedback, some expert opinions were sought by researchers and with the help of committee members, two items were undergone translation and back translation and necessary changes were made in the above mentioned items. The translated version was again sent to author for review. He approved and agreed with the back translation (see Appendix-U).

Step VI: Cross language validation of MBSRQ-AS Urdu Version. Not all languages have received equal investment in linguistic resources and tool development. In order to increase the utility of inventories in Pakistan, the recent trends among researchers (Chisti & Kamal, 2009; Loona & Kamal, 2013; Naqvi & Kamal, 2010; Naz & Gul, 2015; Riaz, Khalily, & Kalsoom, 2013) is the application of cross language validation to measure the effectiveness of any inventory in the targeted language. The cross language validity of the instrument is established on population of young adults. Ultimate purpose to select this sample was to check the cross language reliability of instrument.

Sample. For the cross language validation the sample of 200 university students age ranged from 18 - 21 years (M = 19.55; SD = 1.41) including boys (n =

100) and girls (n =100). Sample was selected from two universities of Islamabad. Quaid-i-Azam University, Islamabad (n=120) and National University of Science and Technology (n= 80). These university students have the proper comprehension of both languages i.e., Urdu and English.
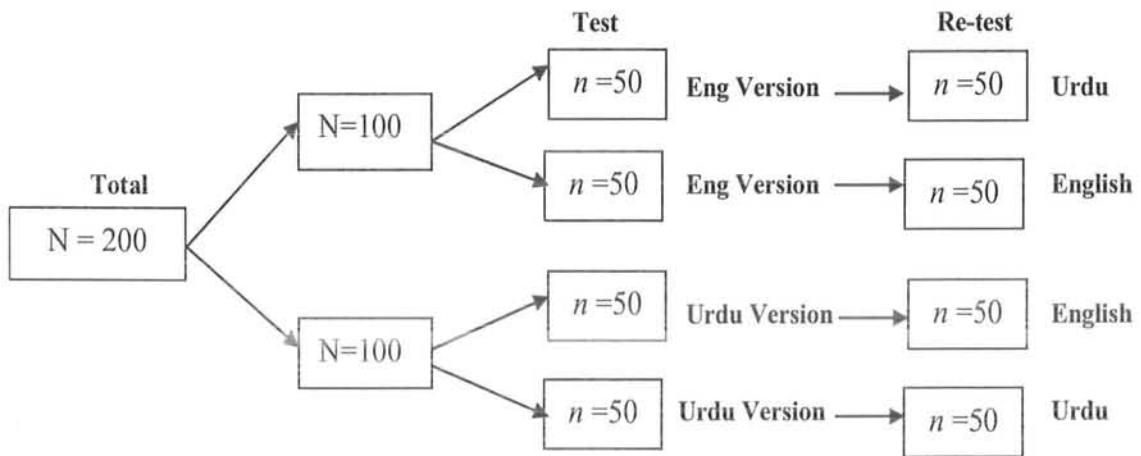
Figure 5. Diagrammatic representation of the distribution of total sample into four groups for test-retest.

Figure 5 represent the distribution of sample into four groups. Participants were randomly assigned to the four groups: Urdu-Urdu retest, Urdu-English retest, English-Urdu retest and English-English retest. They were all requested to given their responses with the same instructions. These groups were made to control the experiences of learning effect that may took place due to administration of Urdu and English tests on two weeks apart retesting.

Procedure. The sample was divided into four groups. In the first trial two groups comprising of 100 university students 50 in each group were given the original

inventory of MBSRQ-AS and their responses were taken. Similarly the other two groups of 100 students were given the translated version of MBSRQ-AS and their responses were taken. In the second trial after the fifteen days the same hundred students were contacted to made their responses again, but in the second trial the first group of 50 students were given Urdu version of MBSRQ-AS with the same instructions but the second group of fifty students were given again the original MBSRQ-AS. Regarding the last two groups, they were given original inventory of MBSRQ-AS and second group was given translated version of MBSRQ-AS. This exercise was geared to identify the point of equivalence or discrepancy between Urdu and English version of the scale.

Results. In order to determine cross-language validity and test-retest reliability of the inventory, correlation coefficients of four groups between the scores of two administrations has been carried out. Moreover, the following results also represent the comparisons of retest reliability with original MBSRQ-AS test-retest scores with one month interval.

Table 11

Test-retest reliabilities of Urdu and English versions of MBSRQ-AS (N= 200)

MBSRQ-AS	n	r
MBSRQ-AS (Urdu-Urdu)	50	.89**
MBSRQ-AS (Urdu-English)	50	.85**
MBSRQ-AS (English-Urdu)	50	.82**
MBSRQ-AS (English-English)	50	.80**

$*p \leq .05, **p \leq .01$

Table 11 shows test retest of the four groups (Urdu-Urdu, Urdu-English, English-Urdu, and English-English) correlations of MBSRQ-AS are positive and significant. The correlation coefficients for four groups ranged from .80 to .89 which indicates high stability of all subscales over time, as well as cross language validity of the Urdu and English versions. Among the all four groups' correlation value of Urdu-Urdu retest group is higher as compared to other three groups. The reason for this higher correlation value may because of the practice effect in the twice administration of same language inventory. Over all these results indicate the strong evidence of cross language validity or empirical equivalence of the original and translated versions of MBSRQ-AS. Moreover the results also provide the evidence that both tests are hypothetically similar.

Comparison of original English and Urdu versions of MBSRQ-AS. In order to determine the correlation between the Urdu and English versions across groups mean and standard deviation comparisons were made. Moreover, the test-retest reliability and the cross language validity of the five Sub-scales have also been determined by calculating correlations between two administrations. The results are presented in Table 12. Test-retest reliability, which measures stability over time, is administering the same test to the same subjects at two points in time. Estimation based on the correlation between two (or more) administrations of the same item, scale, or instrument for different times, locations, or populations, when the two administrations do not differ on other relevant variables (typically, the Spearman Brown coefficient) (Field, 2005).

Table 12

Test-retest reliabilities of Urdu and English version of five subscales of MBSRQ-AS (N= 200)

MBSRQ-AS	GP.I (UU)	GP.II (UE)	GP.III (EU)	GP.IV (EE)
	(*n*=50)	(*n*=50)	(*n*=50)	(*n*=50)
Appearance Evaluation	.89**	.87**	.86**	.84**
Appearance Orientation	.88**	.85**	.83**	.81**
Body Area Satisfaction	.90**	.86**	.85**	.82**
Overweight- Preoccupation	.92**	.90**	.90**	.89**
Self-Classified Weight	.89**	.87**	.86**	.83**

Note. GP = Group; UU = Urdu-Urdu; UE = Urdu-English; EU = English-Urdu; EE = English-English. *$p \leq .05$, **$p \leq .01$

Table 12 shows that four groups (Urdu-Urdu retest, Urdu-English retest, English-Urdu retest and English-English retest) correlations for the four subscales of MBSRQ-AS are positive and significant. The correlation coefficient of appearance evaluation for four groups ranged from .84 to .89 ($p<.01$), for appearance orientation correlation coefficient for four groups ranged from .81 to .88 ($p<.01$), for body area satisfaction correlation coefficient ranged from .82 to .90 ($p<.01$), for overweight preoccupation correlation coefficients ranged from .89 to .92 ($p<.01$) and for self-classified weight correlation coefficient ranged from .83 to .89 which indicates high stability of responses over the time, as well as cross language validity of the Urdu and English versions. Among the all the four groups' correlation value of each sub scale and total of Urdu-Urdu retest is higher as compared to other three groups. The reason for the higher correlation value may be the practice effect of the same language inventory administration.

Test-retest reliabilities of the subscales of MBSRQ-AS Urdu version. To check the test-retest reliability of the responses of the five sub-scales of Urdu version of MBSRQ-AS the correlation coefficient was determined on 50 participants who were administered MBSRQ-AS Urdu version were re-administered after 15 days of time gap. Table 13 presented the correlation values on four subscales of MBSRQ-AS Urdu Version with comparison of re-test reliabilities of Cash (2000) study for males and females based on sample of college students and study has not reported the re-test reliability for total sample but in present study the re-test reliabilities for total sample were also computed as reported in Table 15. .

Table 13

Test-retest reliabilities of the subscales of MBSRQ-AS Urdu version (N=50)

Scales	Retest reliability of present study			Retest reliability of study on sample of college students Cash (2000)	
	Total ($n = 50$)	Boys ($n = 22$)	Girls ($n = 28$)	Boys ($n = 996$)	Girls ($n = 1070$)
AE	.89**	.84**	.87**	.81	.91
AO	.88**	.82**	.88**	.89	.90
BAS	.90**	.91**	.90**	.86	.74
OP	.92**	.89**	.93**	.79	.89
SCW	.89**	.89**	.82**	.86	.74

Note. AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; SCW = Self-Classified Weight.

$*p < .05.$ $**p < .01.$

Table 13 shows that test re-test reliability of four subscales of MBSRQ-AS which are positive and significant. The correlation coefficients of all five subscales ranged from .89 (appearance evaluation) to .88 (appearance orientation) and .90 for body area satisfaction, .92 (overweight preoccupation), and .89(self-classified weight). This high correlation is the evidence of consistency of responses in the same

language. Furthermore Table 18 represents the retest reliability scores of Cash et al. (1985, 1986) survey to develop norms in U.S on 996 males and 1070 females with 18 years of age or older with one month of interval. Relatively high values of correlation in the present study may be because of practice effect of sample as the scale was administered after the interval of 15 days.

Phase II: Factorial Structure and Reliability of Urdu Version of MBSRQ-AS Scale

Sample. In order to determine the further psychometric properties of the scale, MBSRQ-AS Urdu version was administered on the same sample of 350 college students including boys ($n = 135$) and girls boys ($n = 215$). All the students were of age range 17 to 21 ($M = 19.12$; $SD = 1.86$).

Procedure. The scale was administered individually. The participants were approached at their academic institutions. Authority permission was sought from the head of the institutions and students were approached in their class rooms, they were instructed to read each statement carefully and respond honestly. In case of any difficulty they were assisted by the researcher to answer on scale. Few subjects have problems in understanding of statements so they were explained by the researcher till a real answer was obtained.

Exploratory factor analysis for Urdu version of MBSRQ-AS. The factorial structure of MBSRQ-AS was examined with the help of exploratory factor analysis (EFA) technique. This scale is translated for the very first time in Urdu language.

EFA was applied to investigate its factorial structure to verify the existence of construct is same for Pakistani population as it exist for western society. Bartlett's test of sphericity was significant (χ^2 (561) = 2384.744, p = .000) indicating sample from population has equal variance and items has enough common variance suitable for factor analysis. Kaiser-Meyer-Olkin Measure (KMO) of sampling adequacy was .80 which is sufficiently high as value ranges from 0 to 1. The value of .80 suggests that data is good for factor analysis. The communalities for all 34 items were found to be above .3 supported this idea that each item shares some common variance with each other. Communalities represent the proportion of common variance in a variable. Variable that has no specific variance would have a communality of 1; a variable that shares none of its variance with any other variable would have the communality of 0 (Thongrattana, 2012). These all findings justified the decision of factor analyses for MBSRQ-AS.

On the bases of all above considerate facts the factor analysis was applied on all 34 items of MBSRQ-AS for factor analysis. Principal axis factoring was used as extraction method as it helps to identify the factorial structure by using maximum likelihood method.

Table 14

Factor Loadings of Multidimensional Body Self -Relation Questionnaire (MBSRQ-AS) through Principal Axis Factoring by using Maximum Likelihood Method (N = 350)

Serial No.	Item No. in Initial Form	Item No. in Final Form	BAS	AO	AE	OP	h^2
1	29	22	**.87**	.02	.03	-.08	.86
2	28	21	**.85**	.06	-.06	-.07	.74
3	31	24	**.81**	-.04	.02	.09	.71
4	30	23	**.81**	.00	.01	-.02	.71
5	34	27	**.71**	.23	.03	-.02	.70
6	32	25	**.67**	-.16	.08	-.07	.67
7	33	26	**.60**	-.01	.05	.02	.54
8	26	19	**.53**	.04	.09	.11	.70
9	27	20	**.53**	-.10	.08	-.05	.60
10	1	1	-.09	**.73**	.20	.32	.60
11	2	2	.00	**.72**	.19	-.06	.66
12	10	9	-.11	**.70**	.08	.12	.68
13	7	7	.05	**.64**	-.08	.03	.40
14	6	6	-.02	**.60**	.16	.02	.55
15	17	14	.04	**.52**	.30	.09	.59
16	11	10	-.05	**.42**	.27	.13	.48
17	14	12	-.09	**.42**	-.12	-.16	.55
18	16	13	-.16	**.41**	.08	.03	.56
19	13	11	.02	**.40**	.09	.14	.58
20	3	3	.08	-.00	**.70**	-.14	.71
21	18	15	.03	-.21	**.65**	-.53	.56
22	19	16	.17	-.04	**.60**	.04	.52
23	9	8	-.05	.17	**.54**	.15	.62
24	5	5	-.02	.29	**.42**	.12	.54
25	4	4	-.09	.28	-.15	**.57**	.52
26	22	17	-.01	.26	.27	**.51**	.70
27	23	18	-.04	.05	.14	**.43**	.74
Eigen values			7.26	4.37	2.38	1.86	
% of Variance			19.929	11.992	10.317	5.475	
Cumulative %			19.929	31.921	42.237	47.712	

Note: Factor Loadings > 0.40 have been reported in each factor.

Table 14 depicts the results of Principal Axis Factoring by using maximum likelihood Method to determine the factor structure and construct validity of MBSRQ-AS. It is clear from the results, that most of the items fall on four factors by using varimax rotation method. The main criterion of selection of final items was factor loading of .40 and above as followed by Brown, Cash, and Mikula (1990) in the development of BSRQ scale. Multiple factor solution was explored within mind the .40 and above factor loading. 3, 4, 5, and 7 factor solutions were applied to find the best solution. Four factor solutions was considered best as this solution was found closer to factor solution of original one.

Results in Table 14 show the communalities of mostly items are more than .5 except items no. 13 and 16 which is the evidence of less specific variance among variables. Moreover, result indicated that the factor 1 has an Eigen value of 6 and explain 19.92 % of the total variance; Factor 2 has an Eigen value of 4.07 and explains 11.99% variance. While factor 3 has Eigen values of 3.50, and explain 10.31%, of the total variance and actor 4 has Eigen values of 2.86, and explain 5.47%, of the total variance.

Table 14 show that total variance explained by four factors is 47.71. Finally 27 items were retained in four factors. First factor was Body Area Satisfaction included 9 items i.e., 26, 27, 28, 29, 30, 31, 32, 33, and 34. Factor 2 Appearance orientation comprising 10 items i.e., 1, 2, 6, 7, 10, 11, 13, 14, 16, and 17. Factor 3 is appearance evaluation comprising 5 items i.e., 3, 5, 9, 18, 19, and factor 4 was the overweight preoccupation consists of three items i.e., 4, 23, and 24. Items no. 12 and 15 had not been loaded on appearance evaluation subscale and not loaded any of

desired four factors. Similarly items no. 20 and 21 for appearance orientation and item no. 8 for overweight preoccupation have not been loaded on these four factors. Moreover, subscale of self-classified scale comprising two items 24 and 25 have not been retained in any of above stated factor solution. So, EFA results show the four factors present indigenously for the construct of body self-relation questionnaire and Vossbeck-Elsebusch et al. (2014) also confirm this four factors of MBSRQ-AS (see Appendix-V). Here, we can see the issue of poor reliabilities of existing studies in Pakistan might be the result of its poor indigenous relevance with respect to factor structure which has been dealt well in the present research.

Scree Plot. A Scree Plot is a simple line segment plot that shows the fraction of total variance in the data as explained or represented by each component.
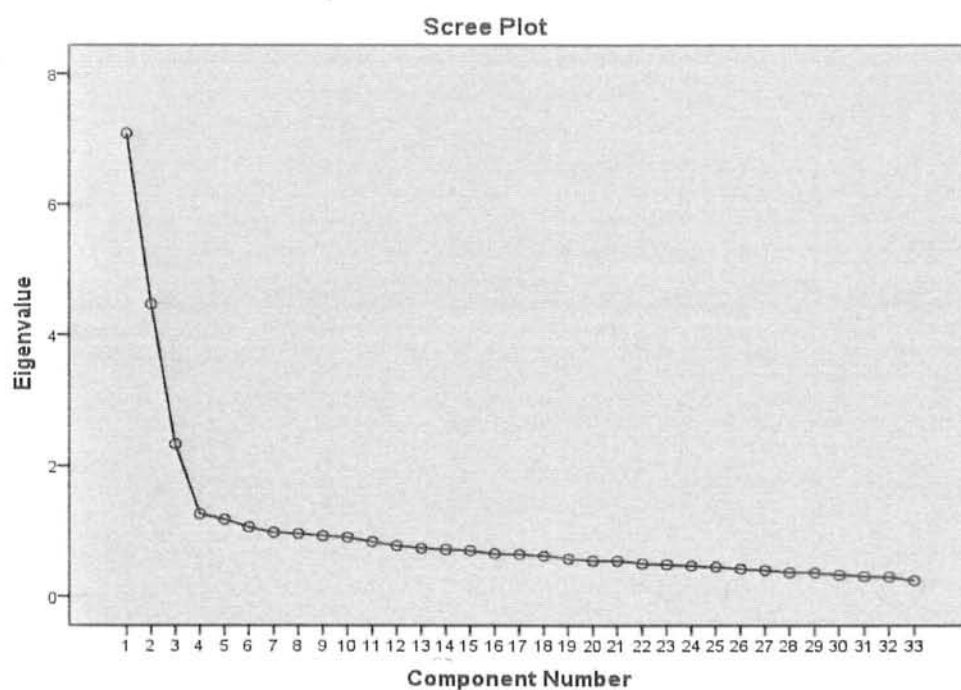
Figure 6. Scree plot Showing Extraction of Factors of MBSRQ-AS Urdu version

Figure 6 represent the Scree Plot for Factor Matrix of 34 items of MBSRQ-AS through Principal Axis Factoring by using Maximum Likelihood Method. The x-axis contains the Principal Components sorted by decreasing fraction of total variance explained by each component. The y-axis contains the fraction of total variance explained. It is clear from the figure that a relatively large variance is explained by four factors.

Psychometric properties of MBSRQ-AS Urdu Version.   In order to establish the psychometric properties of MBSRQ-AS Urdu version alpha reliability coefficients were calculated for each subscale.

Table 15

Means, Standard Deviations, Alpha Reliability Coefficients, and Correlation between subscales of MBSRQ-AS Urdu Version (N = 350)

Variables	No. of Items	M	SD	α	AE	AO	BAS	OP
AE	5	21.03	4.28	.75		$.58^{**}$	$.26^{**}$	$-.25^{**}$
AO	10	39.94	8.01	.80			$.25^{**}$	$.27^{**}$
BAS	9	32.55	8.27	.80				$-.27^{**}$
OP	3	10.46	3.78	.76				

Note. AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation.

$*p < .05.$ $**p < .01.$

Table 15 indicates the alpha coefficient for the 26 items of MBSRQ-AS subscales. Alpha reliability coefficients also measure the underlying factor or construct of the scale. The alpha coefficient ranged from .75 (appearance evaluation), .80 (appearance orientation), .80 (body area satisfaction), and .76 (overweight preoccupation). These high alpha coefficient values connote both the scales are

internally consistent and reliable measures to assess the underlying constructs. Results in Table 26 show the Interscale correlation of MBSRQ-AS. As results, indicated that appearance evaluation is positively related with appearance orientation, body area satisfaction, and negatively related with overweight pre-occupation. Similarly, appearance orientation show positive relation with body area satisfaction and overweight preoccupation. Body area satisfaction is negatively related with overweight pre-occupation.

Gender differences on MBSRQ-AS Urdu Version. Negative body image is constantly reported among girls in literature (Delinsky, 2011; Down et al., 2007). Gender is considered one of the prime reasons among adolescents to develop the dissatisfaction regarding their body. To see the gender differences *t*-analysis was computed and results are presented as follows.

Table 16

Gender Differences on MBSRQ-AS Urdu Version among Adolescents (N =350)

	Boys (n = 135)		Girls (n = 215)				95% CI		
Scales	M	SD	M	SD	t	p	LL	UL	Cohen's d
AE	18	4.0	19	4.2	4.29	.01	-1.33	-1.10	.50
AO	35	7.4	38	8.2	1.23	.02	-1.01	-.30	.52
OP	29	7.6	30	8.9	6.42	.00	1.21	1.44	.52
BAS	10	3.0	8.0	3.8	2.02	.66	-1.30	.35	.33

Note. *df* = 348; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation.

Results in Table 16 indicated the significant mean differences on appearance evaluation, appearance orientation, and overweight pre-occupation across gender. Girls score higher as compared to boys. Moreover, nonsignificant result was found on

body area satisfaction. It can be seen in the results that boys score higher as compared to girls. All the variables show *t*-values differences with moderate to high cohen's *d* values. In general, ≤ 0.20 is a small effect size, 0.50 is a moderate effect size and ≥ 0.80 is a large effect size (Cohen, 1992).

Discussion

Recent trends in body image assessment work is the development of a variety of measures designed to index constructs that are closely related to body image and/or that might be considered risk factors for the development of body image disturbance. For instance, the Body Image Coping Strategies Inventory (Cash & Grasso, 2005) looks at how individuals cope with situations that threaten their body image. The Body Image Quality of Life Inventory (Cash & Fleming, 2002) asks respondents about the effect of their body image on a variety of life domains (home, work, etc.). The Self-Image Questionnaire for Young Adults (Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984), Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987), and Body Uneasiness Test (Cuzzolaro, Vetrone, Marano, & Garfinkel, 2006)

One widely used measure of this aspect of body image is the Multidimensional Body Self-Relations Questionnaire–Appearance Evaluation subscale (MBSRQ-AE; Brown et al., 1990). Another measure that might be included is a measure that assesses a variety of different sites, such as the MBSRQ–Body Areas Satisfaction Scale. The Appearance Evaluation subscale of the Multidimensional Body Self-Relations Questionnaire (Cash, 2000) is a measure that has been used in numerous studies, with adult men and women of different ethnicities. The above measures

generally index the affective and subjective nature of body image; therefore, it may also be useful to add a measure or two that involves cognitive disturbances. These types of measures are very helpful for providing evidence of disturbed thinking patterns that might be addressed in a clinical intervention for body image or related disturbances (e.g., eating disorders). MBSRQ-AS has been the choice of body image researchers since last many years because of the consistency in its psychometric properties. There are number of studies (e.g., Argyrides & Kkeli, 2013; Barahmand & Shahbazi, 2015; Untas et al., 2009) emphasize that MBSRQ-AS is equally effective to study the body image cross culturally but keeping in mind the necessary modifications as per the cultural sensitivity. It was the reason we selected this scale to study the construct of body image with necessary modifications.

Translating and adapting western measures is a common practice in psychological assessment in Asian countries. Despite the emphasis on the scientific standards of psychological assessment, there has been relatively little guidance on the ethical standards of test use and test adaptation for international psychologists. The cross-cultural studies have shown cultural similarities and differences in the manifestation and interpreting cultural differences in measures, researcher should consider not only the experiences of people in different cultures, but also the measures adopted and the cultural orientations of him/herself. So the translation and adaptation of an instrument from one culture to another is a sensitive issue (Cheung & Cheung, 2003). The increase in diverse populations worldwide and the need for cross-cultural and multinational research indicate a great need for clinicians and researchers to have access to reliable and valid instruments or measures cross-validated among diverse

cultural segments of the population and/or in other languages (Sousa & Rojjanasrirat, 2011).

Keeping in mind the benefits of translated measures in the present study, cultural equivalence of MBSRQ-AS was established with the help of independent back translation and committee approach after taking the permission to use this inventory from author. In phase I, translation and cross language validation was also established. To see the empirical equivalence of the both versions of the instrument, they were administered to different groups of subjects of bilinguals and monolinguals. The retest reliability is one of the most important features of an objective personality inventory. The administration of inventory on bilinguals was with different sequence. However, it was found that the correlation of Urdu-Urdu retest is higher as compared to Urdu-English retest, English-Urdu retest and English-English retest. There can be many reasons for this result but the important one is language barrier.

Before applying the translated instrument, we need to conduct local research on the translated instrument. Translated instrument is like a newly developed instrument. We need to establish its reliability in the local culture, including its internal consistency, test-retest reliability, and factor structure. Problems in internal consistency may reflect inadequacies in translation, genuine cross-cultural differences in the manifestation of a characteristic, or the lack of cultural relevance of the imported construct. Other psychometric properties of the translated measure also should be compared to those of the original measure, such as item difficulty and endorsement rate. Likewise, the validity of the translated instrument has to be established through a program of local research. As mentioned earlier MBSRQ-AS has been translated in many different languages, for example Untas et al. (2009)

translated and validated in French language and Vossbeck-Elsebusch (2014) validated in Greek language and increased its utility in these cultures.

Cross language validation was done with sample of university students who were bilinguals. Results of cross language validation (see Table 13) confirm the assumption that Urdu translated version has more consistent results as compared to English version. Stability of reliabilities on all subscales of MBSRQ-AS Urdu version is the sign of better language comprehension among Pakistani population. In the next step construct validation of Urdu version was done through exploratory factor analysis. A sample of 350 adolescents was collected on Urdu translated version and Exploratory factor analysis with the help of Principal Axis Factoring by using maximum likelihood Method was applied to determine the factor structure and construct validity of MBSRQ-AS.

Items were retained based on factor loading of .40 and above as followed by Brown et al. (1990) in the development of BSRQ scale. Finally 27 items were retained in four factors explaining 47.71 of total variance (see Table 14). First factor was Body Area Satisfaction included 9 items, factor 2 was Appearance orientation comprising 10 and two items 20 and 21were not loaded on this factor or any other factor so ultimately they were dropped, factor 3 was appearance evaluation comprising 5 items. Initially it was seven items scale but two items 12 and 15 were dropped, and factor 4 was the overweight preoccupation comprising 3 items and one item no. 8 were not loaded on the same factor.

Overall 5 items were dropped from the original scale due to poor cultural relevance i.e., item no. 8 "I am very conscious of even small changes in my weight" reflect the idea that adolescents in our culture may not be very sensitive to small increase in weight as compared to the more increase in weight, as they can relate them

to be fat only with more increase in weight, so little increase may not causing them to worried about weight. Item no. 12 " I like the way I look like without my clothes on" and 15 "I like the way my clothes fit me" from the subscale of appearance evaluation dropped in factor analysis. One possible explanation may be the Pakistani culture being traditional; we did not appreciate body and appearance without clothes. In our culture the concept of beauty is based with colorful clothing among adolescents. As in our culture we did not appreciate the short clothes and body exposure as norms, so the adolescents did not relate themselves with the idea of body evaluation without clothes or body fit clothes.

Items no. 20 "I never think about my appearance" and 21 "I am always trying to improve my physical appearance" dropped from the subscale of appearance orientation. One possible explanation may be that beauty of face is so important in our culture that undermines the importance of overall body. In South Asian culture, the idea of beauty is obsessed with the white skin color. In Pakistan, we have different skin tones and the stitching Pakistani dresses give us the chance to cover the body parts maximally so we did not much bother about the overall appearance of body as compared to face and hands being revealing body parts most of the time. Moreover, the appearance in Pakistan includes the general impression of body, face, and grooming. We may accept these ideas independently and altogether they seem confusing to evaluate appearance. The subscale of self-classified weight comprising 2 items has not been retained in the factor solution of present study and these 2 items have not been loaded in any other factor in EFA. It is more prevalent in our culture to evaluate ourselves on extremes of weight like I am overweight or not, so it may be difficult for adolescents to classify their weight on varying degrees.

Four factors solutions was unique to existing literature as two factor solution i.e., appearance evaluation and appearance orientation are consistent with the findings of Brown et al. (1990) and Untas et al. (2009). Cash (2000) emphasized body area satisfaction and overweight pre-occupation are related to body image and this four factor solution was later confirmed by Vossbeck-Elsebusch et al. (2014). Results of present study show the same four factors present indigenously for the construct of body self-relation questionnaire.

In the present study psychometric properties of MBSRQ-AS were established by computing alpha reliabilities. Reliability coefficients for subscales are .75 for appearance evaluation, .80 for appearance orientation, .80 for body area satisfaction, and .76 for overweight pre-occupation (see Table 15). The reliabilities are good and confirm the idea that MBSRQ-AS Urdu Version is a reliable measure and results are found consistent with existing literature (Cash, 2000; Cash & Pruzinsky, 2002; Nigar, 2014; Tariq & Ijaz, 2015).

The inter scale correlation was determined to check the relationship between different subscales of MBSRQ-AS Urdu version. The inter scale correlation between appearance evaluation and appearance orientation and body area satisfaction is positive and negatively related with overweight pre-occupation. Negative relationship is indicating these two constructs are at opposite continuum. Similarly, there is positive relationship between appearance orientation and body area satisfaction. Body area satisfaction is negatively related with overweight pre-occupation. Results are found same as in existing literature (Cash & Deagle, 1997; Smith & Rieger, 2006; Vossbeck-Elsebusch et al., 2014).

Gender differences were determined on MBSRQ-AS Urdu version and it provide the evidence of contrasted group validity. Results (see Table 16) show overall

significant gender differences. Girls reported high on appearance evaluation and appearance orientation, and overweight pre-occupation as compared to boys. Boys reported high on body area satisfaction as compared to girls. These are results are much in line of existing literature (Mousa, Mashal, Al-Domi, & Jibril, 2010; Spurgas, 2005)

Conclusion

On the basis of overall results, MBSRQ-AS has been translated and the cross language validity of the inventory has been established which is satisfactory. Moreover, the factor structure was explored with the help of EFA, four factors were retained in EFA for indigenous population. Overall, psychometric properties for revised Urdu version were found satisfactory. Now the MBSRQ-AS Urdu version scale can be used to assess the discriminant validity of EAS and FMS. Furthermore, scale will be utilized to study the construct of body images based hypotheses and to confirm the mediational model proposed to measure in conceptual frame work of study and rationale. MBSRQ-AS Urdu version will be utilized in above mentioned objectives after the construct validity through confirmatory factor analyses planned in study-IV reported in chapter-VI.

STUDY IV: VALIDATION OF EATING ATTITUDE SCALE AND FOOD MYTHS SCALE

After the development of indigenous eating attitude scale and food Myths scale, the present study was conducted to confirm construct validity of scale. Moreover, this study was intended to confirm the factorial structure of MBSRQ-AS Urdu Version. This chapter addressed study-IV of present research, completed in four steps to achieve the following objectives:

1. To establish the construct validity of Eating Attitude Scale, Food Myths Scale, and Multidimensional Body Self -Relation Questionnaire-AS Urdu version among adolescents through confirmatory factor analyses.

2. To establish to convergent validity of Eating Attitude and Food Myths Scale among adolescents with Disordered Eating Behavior Scale.

3. To determine the discriminant validity of Eating Attitude and Food Myths Scale among adolescents with Multidimensional Body Self-Relation Questionnaire - AS Urdu Version and Extraversion subscale of NEO-FFI.

4. To establish the Contrasted group validity of Eating Attitude and Food Myths Scale among adolescents with Body Mass Index based groups (i.e., underweight, normal weight, overweight, and obese).

Method

To achieve the above mentioned objectives, present study was completed in the following four steps:

Step I: Factorial validity of scales through confirmatory factor analyses. In this step already developed scales i.e., EAS and FMS in Study-II and MBSRQ-AS Urdu version in Study-III were analyzed for confirmatory factor analysis to establish the factorial validity of scales.

Step II: Convergent validity of Eating Attitude Scale and Food Myths Scale. Convergent validity refers to how the scale score converge with other related instruments. To establish the convergent validity of indigenous Eating Attitude Scale and Food Myths Scale, Disordered Eating behavior Scale (DEBS; Muazzam & Khalid, 2011) was used. DEBS measures the pathological eating behavior with the help of four subscales i.e., social pressure, eating choices and habits, eating withdrawal, and overeating. Numerous researchers have proposed disordered eating behavior as a continuum with unrestrained eating on one end and clinically diagnosed eating disorders on other (Gleaves, Brown, & Warren, 2004; Krahn, Kurth, Gomberg, & Drewnowski, 2005; Mazzeo & Espelage, 2002). Several studies strongly suggest the continuum of eating disorder as a valid phenomenon (Alvarenga et al., 2010; Levine & Smolak, 2002; Bravender et al., 2010) so this scale has been established within mind socio-cultural and continuum model of eating disorders (Garner & Garfinkle, 1980) that disordered eating behavior is one step before the eating disorder

(Muazzam & Khalid, 2011), so researcher decided to use this instrument in the present study for convergent validity of EAS and FMS.

Step III: Discriminant validity of Eating Attitude Scale and Food Myths Scale. To establish discriminant validity, one need to show that measures that should not be related or show weak correlations in terms of magnitudes of correlation values (Napper et al., 2009) or in reality relates oppositely (Trochim, 2006). MBSRQ-AS Urdu version assess body image in Pakistani context. Scale determined the underline construct with the help of how much one is satisfied with body parts, concerned about his/her appearance, how much one is pre-occupied with idea of overweight, and how much one put efforts to attain perfect body image. Body image is considered one of those constructs who is oppositely related with healthy eating attitudes (Downs et al., 2007; Furnham et al., 2002). So, MBSRQ-AS Urdu version was considered the most relevant instrument to establish the discriminant validity of EAS and FMS.

Extraversion traits of personality reflect one's tendency to be friendly, to see other people fearlessly, and extraverts are not found to be over conscious about their self, and people with extraversion personality traits enjoy parties and do not show any pathological eating behavior (Claes, Vandereycken, Vandeputte & Braet, 2013; Miller et al., 2006). Extraversion subscale of NEO-FFI (Chisti & Kamal, 2009) was used in present research to assess the discriminant validity of EAS and FMS.

Step 1V: Contrasted group validity of Eating Attitude Scale and Food Myths Scale. Contrasted group validity is measured by taking into account different

sample groups differentiating on any single construct reality. Adolescents vary with reference to their height and weight. It was decided to consider their BMI on the basis of their weight and height. Contrasted Group validity in the present research was obtained by dividing the sample of adolescents into four groups that is obese, overweight, underweight, and normal group on the basis of their Body Mass Index Score. The obese/ overweight and underweight individuals will have more negative eating attitudes and score higher on food Myths (Burger & Doiny, 2002; McCabe & Ricciardelli, 2003; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; O'Dea, & Wilson, 2006; Yates et al., 2004).

Operational Definitions

In this study, following variables were studied i.e. Eating Attitudes, Food Myths, Body Image, Body Mass Index, and Extraversion. To have the complete understanding of these constructs, they have also defined conceptually with operational definition. The operational definitions of these variables are as follows:

Eating attitudes.   As per the findings in study-III (see page no. 112) eating attitudes can be defined as one's tendency not to overeat, follow the regular eating routines and positive food relation with body weight and shape. Higher the score on Eating Attitude Scale mean one's negative eating attitudes while lower the score mean positive eating attitudes among adolescents.

Food Myths.   As per the findings in study-III (see page no. 118) food Myths assess one's believe on Myths in selection of food as some are believers that Myths are really beneficial for health and eating patterns are regulated by the common Myths

about food in one's life. Higher the score obtained by the subject on Food Myths Scale indicate one's strong belief on Myths about food.

Body image. The operational definitions are written in chapter-V (see page no. 131).

Body Mass Index.   Body mass index (BMI=kg/m^2) is an indicator of nutritional status (Khan & Kraemer, 2009).   The extreme categories of BMI, viz. underweight, overweight and obese, as compared to the normal BMI, are associated with a variety of adverse health outcomes. In particular, being overweight or obese is associated with high mortality, disability, and a poor quality of life (as cited in Khan & Kraemer, 2009).

The National Health Survey of Pakistan (1990-94) (as cited in Minhas et al., 2010) used the WHO criteria for defining Obesity in Pakistan; overweight in adults was defined as BMI > 25and Obesity was defined as a BMI >30. While this is generally accepted internationally, the WHO Regional Office for the Western Pacific and the International Obesity Task Force Recommend lower cut-off points for Asians; this is based on studies demonstrating increased risk of co-morbidities at lower BMI s in Asians, who tend to accumulate abdominal fat at lower BMIs. According to the Asian criteria, overweight is defined as a BMI > 23 and Obesity as a BMI > 25. In view of this, it is now clear that the use of lower cut-off points in the National Health Survey of Pakistan would have reclassified a greater proportion of the Pakistani population as overweight.

In the present research it will be calculated with the help of following formula:

$$BMI = \frac{weight\ (kg)}{height\ x\ height\ (meters)}$$

Extraversion. Extraversion refers to quantity and intensity of energy directed outwards into the social world including warmth i.e., interest in and friendliness towards others. Gregariousness i.e., preference for the company of others, assertiveness i.e., social ascendancy and forcefulness of expression, Activity i.e., pace of living, Excitement Seeking i.e., need for environmental stimulation, positive emotions i.e., tendency to experience positive emotions (Costa & McCrea, 1992). In the present research the individual will be assessed on Extraversion traits with the help of Extraversion sub scale of NEO-FFI. Higher the score on scale mean that individual is more extraverts (Chisti & Kamal, 2009).

Instruments

Demographic Information Sheet. Demographic information was obtained from the participants regarding their gender, age, education, height, and weight (See Appendix -E).

Eating Attitude Scale (EAS). Eating attitude scale used in this study is a 5-point Likert type scale comprised of 33 items in three subscales. The items no. 2, 17, and 18 show negative factor loadings and these items were reverse scored in further analyses (See Appendix-H). Score ranges on total scale from33-165. Higher the score mean negative eating attitudes adolescents' have toward eating. First subscale, Food Relation with Body include over all 17 items (5, 6, 7, 8, 9, 10, 11, 16, 23, 24, 27, 28,

29, 30, 31, 32, and 33). The score range on this scale from 17-85. Higher the score mean eating is associated with one's abnormal concerns about weight and physical appearance. Overeating comprised 10 items (1, 12, 13, 14, 15, 19, 20, 21, 25, and 26). The score range on this scale from 10-50. Higher the score mean one has tendency of overeating in daily routines. Third subscale Irregular Eating Routines consist of 6 items (2, 3, 4, 17, 18, and 22). The score range on this scale from 6-30. Higher the score mean one has irregular schedule and routine of eating (See Appendix-H)

Food Myths Scale (FMS).   Food Myths scale used in this study is also a 5-point likert type scale comprised of 18 items. They were all positive statements (See Appendix-M). The response options were *Absolutely Wrong* = 1 to *Absolutely Correct* = 5 with possible score range on food Myths scale is 19-95. This score range suggest that higher the score obtained by the adolescents' means, more food Myths believers and considered them true not Myths.

Multidimensional Body-Self Relations Questionnaire (MBSRQ-AS) Urdu Version.   The MBSRQ-Appearance Scale (MBSRQ-AS) Urdu Version is a 27-item measure that consists of 4 subscales Appearance Evaluation, Appearance Orientation, Body Area Satisfaction, and Overweight Preoccupation (see Appendix-V). The scoring options from items no. 1 to 18 are 1 (*definitely disagree*), 2 (*mostly disagree*), 3 (*neither agree nor disagree*), 4 (*mostly agree*), 5 (*definitely agree*). Five points rating options for items no. 19-27 are classified as 1 (*dissatisfied*) to 5 (*satisfied*). First factor was Body Area Satisfaction included 9 items i.e., 19, 20, 21, 22, 23, 24, 25, 26, and 27 with score range 9-45. Factor 2 Appearance orientation comprising 10 items i.e., 1, 2, 6, 7, 9, 10, 11, 12, 13, and 14 with score range 10-50. Factor 3 is appearance

evaluation comprising 5 items i.e., 3, 5, 8, 15, 16 with score range 5-25 and factor 4 was the overweight preoccupation consists of three items i.e., 4, 17, and 24 with score range 3-15. Following items are reversed score items i.e., 10, 12, 13, 15, and 16 (Cash, 2000).

Disordered Eating Behavior Scale (DEBS; Muazzam & Khalid, 2011). Disordered Eating Behavior Scale (DEBS) is 26-item self-report measure of disordered eating patterns and behaviors. The scale measures individual differences in disordered eating behaviors. Respondents use a 5-point scale, on which 0 represents *never* and 4 represents *always* to indicate the extent to which each item described them. The DEBS is intended for use with adolescents and general adult male and female population. The higher the score, the more an individual is prone towards disordered eating behaviors. There are four subscales of DEBS i.e. (a) Social Pressure consist of 6 items i.e., 1, 2, 3, 4, 5, and 6, (b) Eating Choices & Habits consist of 5 items i.e., 7, 8, 9, 10, and 11 (c) Eating Withdrawal consist of 8 items i.e., 12, 13, 14, 15, 16, 17, 18, and 19, and (d) Overeating consist of 7 items i.e., 20, 21, 22, 23, 24, 25, and 26. The alpha coefficient of .86 was obtained for the DEBS. The alphas for subscales are .94, .95, .84, and .83 for Social Pressure for Eating, Eating Choices and Habits, Eating Withdrawal, and Overeating; respectively (Muazzam & Khalid, 2011) (see Appendix-W).

Body Mass Index (BMI). Body mass index (BMI, $kg/m2$) is an indicator of nutritional status. In the present research it will be calculated with the help of following formula:

$$BMI = \frac{weight\ (kg)}{height\ x\ height\ (meters)}$$

Extraversion (NEO-FFI; Costa & McCrae, 1992). The personality trait of extraversion was assessed using the 12-item Extraversion subscale of the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992). In the present research Urdu translated version of NEO-FFI was used (Chisti & Kamal, 2009). Adolescents rated their agreement to each of the 12 items i.e., 2, 7, 12, 17, 22, 27, 32, 37, 42, 47, 52, and 57. Adolescents rated their agreement to each of the 12 items on a five point likert type scale ranging from (1) *strongly disagrees,* (2) *disagree,* (3) *neither disagrees nor agrees,* (4) *agree and* (5) *strongly agree.* There were no "right" or "wrong" answers, so selected the number that most closely reflects on each statement. The alpha reliability coefficients for extraversion are reported .75 and it is considered (Chisti & Kamal, 2009).The score range from 12 to 60. Higher the score means the individual possessed the extraversion trait more (See Appendix-X).

Sample

A sample of 500 adolescents including boys ($n = 227$) and girls ($n = 273$). The data was collected from Islamabad model college for boys G-10/4, Islamabad, Islamabad model college for boys F-8/4, Islamabad model college for girls f-7/2, *Millat* college for girls, Rawalpindi, *Fauji* Foundation college for girls, Rawalpindi. The age ranges from 16 to 22 years ($M = 17.19$; $SD = 3.45$) with the education of F.A ($n = 236$) and B.A/B.sc/ B.S ($n = 264$). A purposive sampling technique was used to collect the data from sample. They were residents of hostel ($n = 72$) and home ($n =$

428) from nuclear ($n = 330$) and joint ($n = 170$) family systems. Same sample inclusion criteria of study-II (see page no. 104) were followed hence, similarities of data characteristics are obvious here.

Procedure

Data was collected from undergraduate college/ university students. Procedure used in this part of research was almost the replication of the procedure used in study II (see page no. 105), with all necessary ethical considerations for sample. All the instruments including demographic sheet, EAS, FMS, DEBS, Urdu version of MBSRQ-AS, and Extraversion were administered in the booklet form. If there would be any possibility of sequence of scales, then it would have the same influence for each participant. To counterbalance the order effect sequence of instruments presentation was kept similar for each subject. In case of any ambiguity and confusion, researcher helped the participants to explain the statements for clarity. At the end participants were thanked for their cooperation.

Step I: Factorial validity of scales. For establishing factorial validity of Eating Attitude Scale, Food Myths Scale, and Multidimensional Body Self-Relation Questionnaire confirmatory factor analysis technique was applied. Confirmatory factor analysis (CFA) is statistical technique used for multiple purposes including the development of new measures, evaluation of psychometric properties of existing and new measures, and for construct validation i.e., whether a measure is invariant across groups, population or time (Harrington, 2009). Confirmatory factor analysis is an index of the extent to which the researcher has accurately predicted the pattern of findings in the convergent-discriminant validity array (DiStefano et al., 2009). CFA is

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theory driven therefore, the planning of the analysis is driven by the theoretical relationships among the observed and unobserved variables.

When a CFA is conducted, the researcher uses a hypothesized model to estimate a population covariance matrix that is compared with the observed covariance matrix. Technically, the researcher wants to minimize the difference between the estimated and observed matrices (Schreiber et al., 2006). Such a metric should also provide a test of the statistical significance of the match between observed and expected correlations, and provide confidence intervals for that match, taking into account the likelihood that some of the validating variables may not be independent of one another (Westen & Rosenthal, 2003). A statement about the validity of an instrument is a statement about the extent to which its observed associations with measures of other variables match theoretical predictions about how it should be associated with those variables. Westen and Rosenthal (2003) argues the point if theory is wrong, the pattern of correlations will appear to invalidate the measure.

Results

Descriptives analyses. Data was analyzed through descriptive analyses for its suitability for inferential statistics. Means, standard deviations, alpha coefficients, skeweness, and kurtosis were computed to check the data spread and normality.

Results in the Table 17, show the computed means, standard deviations, skweness, and kurtosis for the scales and subscales. It is observed that skeweness range from -1 to +1 for all the variables of study indicating data is normally distributed and parametric tests can be applied (Field, 2009).

Table 17

Descriptives and Alpha Coefficients for all study variables (N = 500)

#	Scales	No. of Items	M	SD	α	Range Potential	Range Actual	Skew	Kurtosis
1	EAS	33	135.78 (3.48)	21.86 (.55)	.87	34-155	48 – 145	-.17	.28
2	FRB	17	65.23 (3.86)	17.39 (.86)	.85	17-85	17 – 85	-.35	.21
3	OE-EAS	10	30.68 (3.82)	9.65 (.72)	.79	10-50	11 - 46	-.07	.01
4	IER	6	13.56 (2.42)	3.21 (.74)	.73	6-30	6 – 30	.10	.12
5	FMS	18	37.47 (2.08)	11.73 (.65)	.81	18-90	18 – 69	.91	1.84
6	AO	10	34.79 (3.99)	7.64 (.81)	.82	10-50	12 – 42	-.23	.49
7	AE	5	14.55 (4.21)	3.32 (.85)	.80	5-25	7 – 22	-.27	.41
8	BAS	9	30.35 (3.01)	7.39 (.92)	.82	9-45	9 – 45	-.25	-.26
9	OP	3	7.78 (3.48)	3.07 (1.26)	.78	3-15	4 – 19	.05	-.37

Note. FRB = Food Relation with Body; OE-EAS = Overeating- Eating attitude scale; IER = Irregular Eating routine; EAS = Eating attitude scale; FMS = Food Myths Scale; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; Values in the parentheses are calculated on transformed scores.

Table 17 reflect positive values of kurtosis which means distribution curve is heavy tailed and pointed for those variables, whereas, negative values indicate flat and light tailed distribution of variables. Moreover, all the variables showed satisfactory level of internal consistency as all the alpha coefficients were above the .70 so the scales are considered reliable for further use. Mean values on transformed scores reflect that adolescents scored high on food relation with body as compared to over eating and irregular eating routines.

Confirmatory factor analyses of Eating Attitude Scale. For the CFA of the measures of the study, the Analysis of Moment Structure (AMOS 18) statistical package was used. Furthermore, constraints were anticipated for the CFA model based on maximum likelihood method called path analysis linking the fitting the variances and covariances between predefined factor model to observable set of data or observed scores. In confirmatory factor analysis observed variables are also termed measured, indicator, and manifest, and researchers traditionally use a square or rectangle to designate them graphically (see in Figure 7 mention page no. 175).

The response to a Likert-scaled item, ranging from 5 (*strongly agree*) to 1(*strongly disagree*) is an example of an observed variable. Unobserved variables are termed latent factors, factors, or constructs and are depicted graphically with circles or ovals (Figure 7). Common factor is another term used because the effects of unobserved variables are shared in common with one or more observed variables. Measurement errors in the variables are the unique factors differ from the latent factors because their effect is associated with only one observed variable (Schreiber, Stage, King, Nora, & Barlow, 2006). Similarly, straight line pointing from a latent variable to the observed variables indicates the causal effect of the latent variable on the observed variables. The curved arrow between latent variables indicates that they are correlated. If the curve were changed to a straight one-headed arrow, a hypothesized direct relationship between the two latent variables would be indicated.

All the model path diagrams were established using AMOS graphics and analyses were computed to estimate the chi-square value and fit indices. Standardized regression weights were identified considering the same as were the criteria for EFA for the all measures i.e., .40 for EAS (see Study-II) mention in chapter 4. Missing data was properly amputed by nearby items' mean values before the analyses as missing

data can result in reduce power and nonsignificant findings. Descriptive analysis were conducted to check the second assumptions of normality, all the variables were normally distributed. As seen in Table 18.

Table 18

Factor Loadings (standardized regression weights) for Three factors of EAS (N = 500)

Serial No.	Items No.	Factor Loadings	Serial No.	Items No.	Factor Loadings
Food Relation with Body			Overeating		
1	5	.67	18	1	.57
2	6	.67	19	12	.57
3	7	.45	20	13	.58
4	8	.60	21	14	.71
5	9	.58	22	15	.62
6	10	.69	23	19	.41
7	11	.66	24	20	.72
8	16	.54	25	21	.60
9	23	.44	26	25	.65
10	24	.57	27	26	.64
11	27	.56	Irregular Eating routine		
12	28	.51	28	2	.68
13	29	.43	29	3	.49
14	30	.71	30	4	.67
15	31	.58	31	17	.62
16	32	.63	32	18	.66
17	33	.76	33	22	.71

Second Order CFA	Factor Loadings
1. Food Relation with Body	.49
2. Overeating	.52
3. Irregular Eating Routine	.89

Table 18 showed the standardized regression weights or factor loadings for 33 items of EAS. As the result indicated all the items showed factor loading is equal or > .40 in each factor which was the selection criteria of items in development of scales. Moreover, results confirmed the factor structure of EAS developed in study-II

(Chapter 4). Table 18 showed the factor loadings for all three subscales of EAS. First factor food relation with body of 17 items (.45), overeating (.52), and irregular eating routines (.89).

Table 19

Confirmatory Factor Analysis of Eating Attitude Scale (Indices of Model Fit) (N = 500)

Model	χ^2	df	p	CMIN/df	CFI	NFI	TLI	RMSEA	St. RMR	$\Delta\chi^2$	Δdf
Model -1 Second Order CFA (33 items)											
	1448.7	492	.00	1.45	.91	.92	.90	.02	.01		
Model-2 First Order CFA (33 items)											
	1448.7	492	.00	2.94	.89	.92	.90	.03	.01	-	-

Note. CFI = Comparative Fit Index, NFI = Non-Normed Fit Index, TLI = Tucker Lewis Index, RMSEA = Root Mean Square Error of Approximation, SRMR = Standardized Root Mean Square Residual

Table 19 showed the results of confirmatory analysis model fit indices for EAS. Model-2 indicated the first order CFA for 33 items yield significant χ2 (*df* = 492) = 1448.7 at p< .001 which represents the possible explanation of rejection of null hypothesis but with large sample size this value is mostly significant so to assess the model fit approximation fit indices should be observed closely. Fit indices i.e., CFI = .89, NFI = .92, TLI = .90, RMSEA = .03, and SRMR = .01 indicated this model fits the data well. Model-1 represents second order CFA while adding further three paths to the latent variable of EAS to confirm the factorial validity. As results indicated there was no difference observed in the χ2 (*df* = 492) = 1448.7 at p< .001, with zero change in chi-square is a sign there is no difference in models 1 and 2 except the

minor changes in few fit indices i.e., value of CFI = .91 was improved in second model. Similarly, the values of SRMR = .02 was decreased to represent better fit model but overall there was nonsignificant change in model 1 to 2 ($\Delta\chi^2 = 0$).
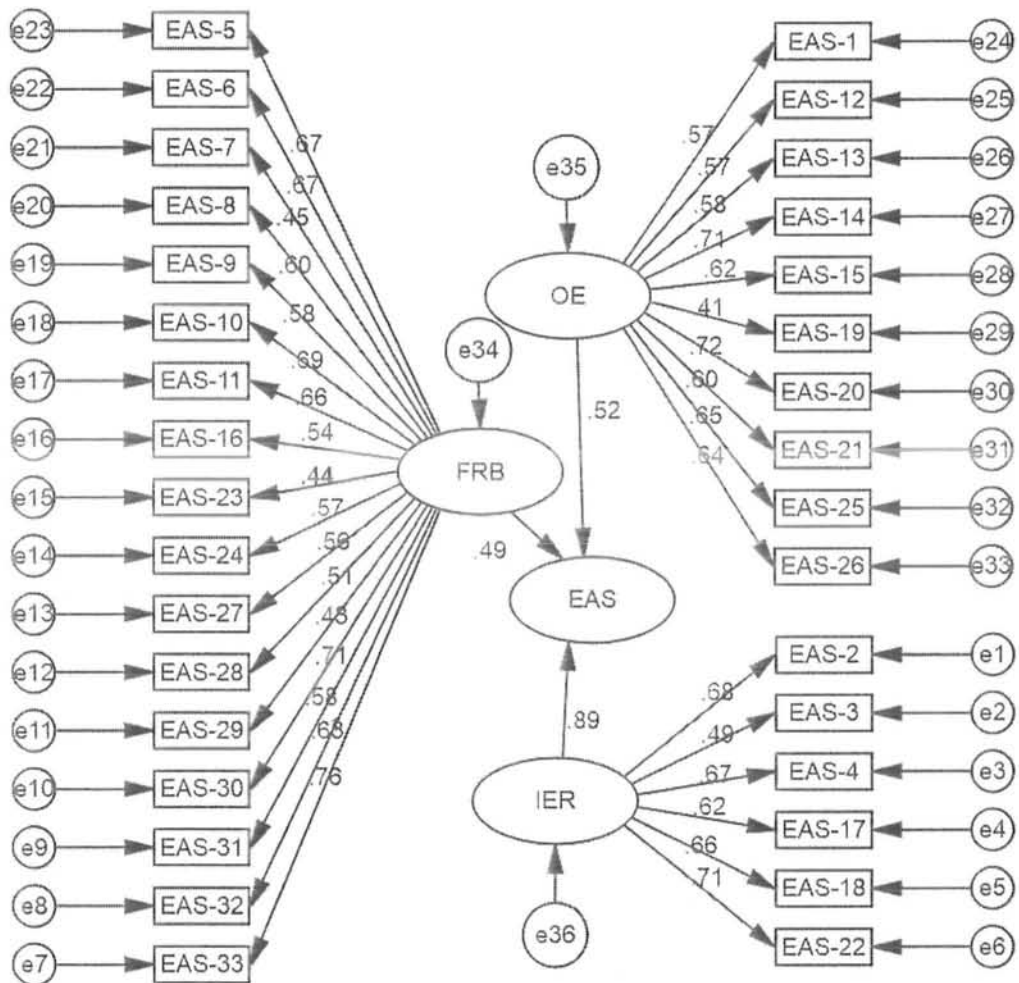
Figure 7. Measurement Model of Eating Attitude Scale (33 items)

Figure 7 represents the graphical picture of good fit model. It can be seen that all the items show factor loading > .40. Overall factor loadings range from .49 to .76.

Moreover, all three factors showed the factor loadings > .40 providing evidence of a good fit measurement model.

Confirmatory factor analysis of Food Myths Scale. The factorial structure of Food Myths Scale was assessed with the help of factor analysis through AMOS-20. Table 26 depicted the standardized factor loadings of items above than .35. and table 31 indicated the various competing factor model for the FMS. Standardized regression weights were identified considering the same as were the criteria for EFA i.e., .35 for FMS (see Study-II) reported in chapter 4.

Table 20

Factor Loadings (standardized regression weights) for FMS (N = 500)

Items No.	Factor Loadings	Items No.	Factor Loadings
1	.46	10	.38
2	.40	11	.54
3	.51	12	.48
4	.40	13	.57
5	.47	14	.51
6	.35	15	.45
7	.43	16	.49
8	.39	17	.40
9	.42	18	.49

Table 20 showed the standardized regression weights or factor loadings for 18 items of FMS. As the result indicated all the items showed factor loading > .35 in each factor which was the selection criteria of items in development of scales.

Moreover, results confirmed the factor structure of FMS developed in study-II (Chapter 4).

Table 21

Confirmatory Factor Analysis of Food Myths Scale (Indices of Model Fit) (N = 500)

Model	χ^2	df	p	CMIN/df	CFI	NFI	TLI	RMSEA	St. RMR	$\Delta\chi^2$	Δdf
Model -1 (18 items with error covariance)											
	567.50	171	.00	1.75	.92	.92	.91	.03	.02	2773.23*	38
Model-2 (18 items without error covariance)											
	28297.8	209	.00	3.89	.87	.90	.89	.06	.04	-	-

Note. Comparative Fit Index, NFI = Non-Normed Fit Index, TLI = Tucker Lewis Index, RMSEA = Root Mean Square Error of Approximation, SRMR = Standardized Root Mean Square Residual.
* $p < .05$. ** $p < .01$.

Table 21 showed the results of confirmatory analysis model fit indices for FMS. Model-I indicated default model for 18 items yield significant χ^2 ($df = 209$) = 28297.8 at p< .001 which represents the possible explanation of rejection of null hypothesis but with large sample size this value is mostly significant so to assess the model fit approximation fit indices should be observed closely. Fit indices i.e., CFI = .87, NFI = .90, TLI = .89, $RMSEA$ = .06, and $SRMR$ = .04 indicated poor model fits. Model-2 represents modified CFA model while adding error covariance between 17 and 18 items to confirm the factorial validity of latent variable of FMS. As results indicated there was significant difference observed in the χ^2 (df =171) = 567.50 at p< .001. Significant change in chi-square with decreased degree of freedom is a sign model 2 is better than model 1 with improvement in fit indices i.e., value of CFI = .92, NFI = .92, TLI = .91 were improved in second model. Similarly, the values of

$RMSEA$ = .03 and $SRMR$ = .02 was decreased to represent better fit model with overall significant change in model 1 to 2 ($\Delta\chi^2$ = 2773.23, p < .05).
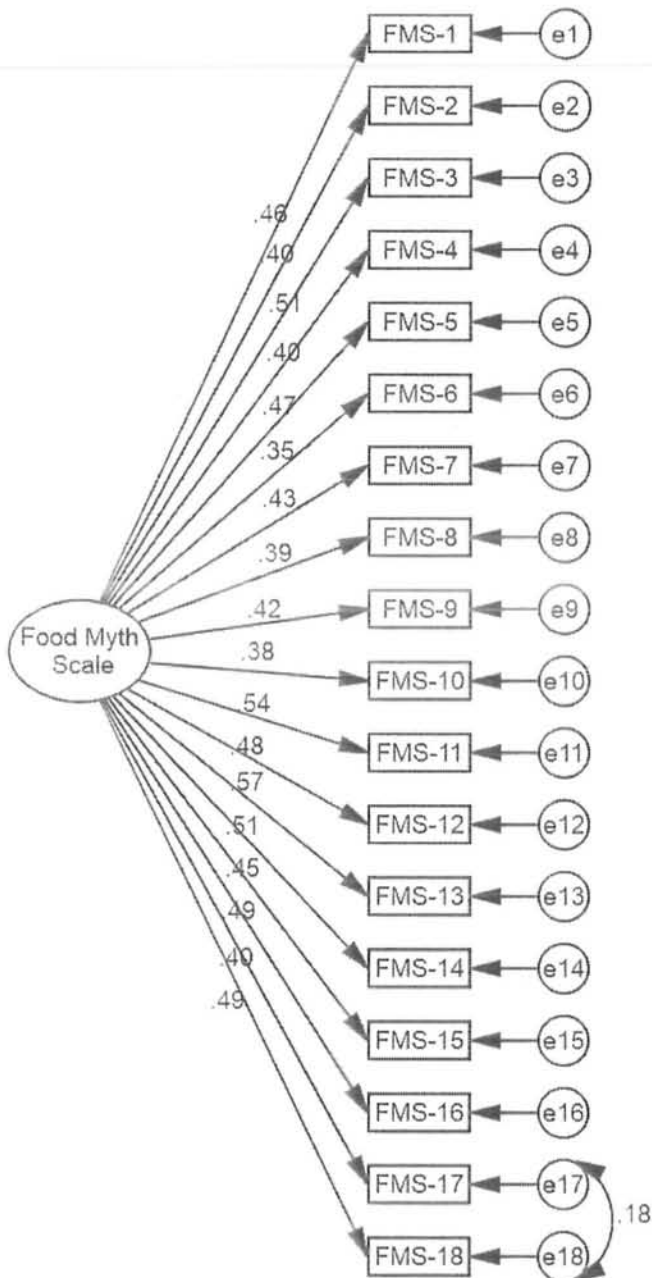
Figure 8. Measurement Model of Food Myths Scale (18 items)

Figure 8 represents the graphical picture of good fit model. It can be seen that all the items show factor loading > .35. Overall factor loadings range from .35 to .57. The error covariance between tem no. 17 and 18 is .18. Moreover, all items showed the factor loadings > .35 providing evidence of a good fit measurement model.

Factorial validity of MBSRQ-AS Urdu Version. The factorial structure of MBSRQ-AS Urdu version was assessed with the help of factor analysis through AMOS-20. Table 33 depicted the standardized factor loadings of items equal and above than .40 as it was the criteria for EFA for MBSRQ-AS (see Study-III, chapter-5) suggested by Cash (2000). The results of confirmatory analysis model fit indices for MBSRQ-AS for 27 items yielded significant $\chi 2$ $(df = 318) = 837.21$ at $p < .001$ which represents the possible explanation of rejection of null hypothesis but with large sample size this value is mostly significant so to assess the model fit approximation fit indices should be observed closely. Furthermore, model yielded acceptable fit indices i.e., value of Comparative Fit Index =.90, Non-Normed Fit Index =.90, Tucker Lewis Index =.89, Root Mean Square Error of Approximation = .04, Standardized Root Mean Square Residual = .05 with nonsignificant p value. Results are consistent with findings present in the literature (Brown et al., 1990; Vossbeck-Elsebusch et al., 2014).

Table 22

Factor Loadings (standardized regression weights) for four factors of MBSRQ-AS Urdu Version (N = 500)

Item No.	Factor Loadings	Item No.	Factor Loadings	Item No.	Factor Loadings
Appearance Evaluation		11	.49	32	.53
3	.68	13	.48	33	.63
5	.58	14	.46	34	.71
9	.66	16	.50	Overweight Preoccupation	
18	.49	17	.52	4	.60
19	.45	Body Area Satisfaction		22	.78
Appearance Orientation		26	.61	23	.86
1	.72	27	.55		
2	.78	28	.83		
6	.64	29	.83		
7	.54	30	.76		
10	.71	31	.63		

Table 22 showed the standardized regression weights or factor loadings for all 27 items of MBSRQ-AS Urdu version. As the result indicated most of the items showed factor loading > .40 in each factor which was the selection criteria of items in development of scales (see Brown et al., 1990).
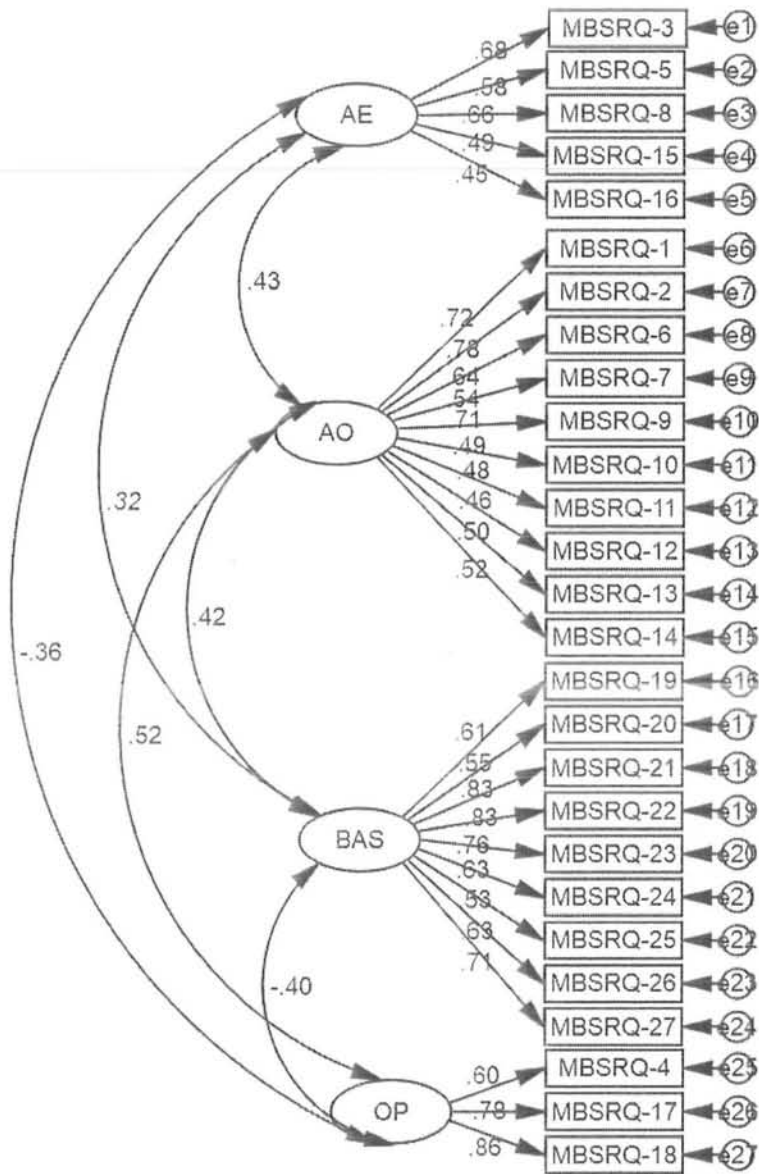
Figure 9. Measurement Model of MBSRQ-AS Urdu Version (27 items)

Figure 9 represents the graphical picture of good fit model. It can be seen that all the items show factor loading > .40. Overall factor loadings range from .40 to .76.

Moreover, all four factor factors showed the factor loadings > .40 providing evidence of a good fit measurement model.

Convergent and discriminant validity of EAS and FMS. Convergent validity provides estimate the degree to which any two measures are related to each other we typically use the correlation coefficient. That is, we look at the patterns of inter-correlations among our measures. Correlations between theoretically similar measures should be "positive" while correlations between theoretically different measures should be "negative" (Trochim, 2006). To establish the convergent validity of EAS and FMS, The Disordered Eating Behavior Scale (Muazzam & Khalid, 2011) was used. There are four subscales of DEBS i.e., Social Pressure, Eating Choices and Habits, Eating Withdrawal, Overeating. The correlation values can be seen in Table 23 to confirm convergent validity of scales. Discriminant validity means measures should not correlate positively rather gives negative correlations in terms of low magnitude (Collins et al., 2005; Napper et al., 2009; Trochim, 2006). To establish the discriminant validity correlation coefficients were computed for EAS and FMS with MBSRQ-AS Urdu version and Extraversion. The results are reported in Table 23.

Table 23

Correlations between EAS, FMS, DEBS, MBSRQ-AS Urdu Version, and Extraversion (N = 500)

Scales	No. of Items	EAS	FRB	OE-EAS	IER	FMS	DEBS	SPE	ECH	EW	OE-D	AE	AO	OP	BAS	Ext
EAS	33	-	.89**	.54**	.25*	.24**	.46**	.21*	.40**	.22**	.35**	-.29**	-.21**	.45**	-.20**	.27**
FRB	17		-	.27**	.21**	.26**	.40**	.32**	.37**	.22**	.45**	-.17**	-.14*	.40**	-.21**	.26**
OE-EAS	10			-	.16*	-.27**	.34**	.25*	.24**	.42**	.29**	-.20**	.29*	-.19**	-.19**	.20**
IER	6				-	.23**	.12**	.20**	-.07	-.18**	.14*	.13*	-.21*	-.14*	-.16*	-.19**
FMS	18					-	.20*	.31**	-.21**	.10*	-.13*	-.11**	-.20**	.33**	-.25**	-.17*
DEBS	26						-	.78**	.77**	.69**	.72**	-.05	.12	.30*	.32**	.20*
SPE	6							-	.49**	.52**	.40**	.14	.15*	-.22**	.07	.31**
ECH	5								-	.51**	.39**	.18*	.09	-.25**	.20*	.20*
EW	8									-	.49**	.02	.17**	-.15**	.07	.12*
OE-DEBS	7										-	.06	.15**	-.27**	.27**	.18*
AE	5											-	.32**	-.41**	.36**	.07
AO	10												-	.41**	.30**	.10
OP	3													-	-.40**	-.21**
BAS	9														-	.22**
Ext	12															-
α	-	.87	.85	.79	.73	.85	.80	.79	.70	.79	.72	.80	.82	.78	.82	.69
M	-	135.62	65.23	30.68	13.56	35.56	83.45	22.31	15.64	25.78	24.87	14.55	34.79	7.78	30.35	32.43
SD	-	21.68	17.39	9.65	3.21	10.35	12.34	5.46	2.89	5.62	4.06	3.32	7.64	3.07	7.39	6.23

Note. FRB = Food Relation with Body; OE-EAS = Overeating- Eating attitude scale; ER = Eating routine; EAS = Eating attitude scale; FMS = Food Myth Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating- Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; Eating Withdrawal; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation.

* $p < .05$, ** $p < .0.01$, *** $p < .001$.

Table 23 indicated the relationship between EAS, FMS, DEBS, MBSRQ-AS Urdu version, and Extraversion. It is evident from the results all the subscales of EAS show positive relationship with the total EAS. Results in Table 23 also show the Interscale correlation of MBSRQ-AS. As results, indicated that appearance evaluation is positively related with appearance orientation and body area satisfaction and negatively related with overweight pre-occupation Similarly, appearance orientation show positive relation with body area satisfaction and overweight preoccupation. Body area satisfaction is negatively related with overweight pre-occupation

Results in Table 23 further indicate significant positive correlation between eating attitude scale and disordered eating behavior scale and its subscales. Overeating subscale of eating attitude is positively related with overeating subscale of disordered eating behavior scale ($p < .01$). The magnitude of correlation (.29) is not very high providing the evidence of convergent validity at the same time it indicates the two scales are different. Similarly, the food Myths scale is significantly positively correlated with eating attitude scale and disordered eating behavior scale confirming the convergent validity for both scales with each other. Food Myths scale shows significant negative correlation with overeating subscales of eating attitude ($p < .01$) and disordered eating behavior ($p < .01$). The results can be interpreted as who are more believer of food Myths restrained their eating and do not show tendency of overeating.

Results in Table 23 also indicate significant negative correlation between eating attitude scale and appearance evaluation, appearance orientation, and body area satisfaction. Negative correlations in terms of relatively small magnitudes are the evidence of discriminant validity (Napper et al., 2009). Those who show high score on eating attitude score low on appearance evaluation and show general unhappiness with their physical appearance, low score on appearance orientation mean one does not spend time and money to look good, and similarly low score body area satisfaction mean one is not satisfied with his/her areas of body. Similarly, significant negative correlations were found between food Myths scale and appearance evaluation, appearance orientation, and body area satisfaction as evidence of discriminant validity. Interestingly, the overweight preoccupation is positively related with eating attitude scale and results can be interpreted as those who score high on overweight preoccupation show more concern overweight and fat anxiety. Higher score on food Myths scale and overweight preoccupation can be interpreted as those who are more believers of food Myths reflect weight vigilance, restrained eating and fat anxiety.

The correlation between extraversion and eating attitude scale was found to be .27 ($p < .01$) with subscales i.e., Food relation with body .26 ($p < .05$), Overeating .20 ($p < .01$), with irregular eating routines -.19 ($p < .05$). Individual while individual with more extravert tendencies will follow more regular eating routines. Extraversion is negatively related with food Myths scale i.e., - .27 ($p < .05$). The results can be interpreted as individual with higher extraversion tendencies will not believe on food Myths.

Contrasted group validity. In order to study the body mass index related differences on eating attitudes and food Myths, the whole sample was divided into four categories i.e., Those with the underweight (BMI = <18.5; n = 166), normal weight (BMI = >18.5 to 23; n = 226), overweight (BMI = > 23; n = 64), and obese (BMI = > 25; n = 44). To see the differences analysis of variance with post hoc analysis was computed for eating attitude and food Myths scale.

Table 24

Comparison along BMI Groups on EAS and its Subscales and FMS (N = 500)

Scales	Under Weight (n = 166) M (SD)	Normal Weight (n = 226) M (SD)	Over Weight (n = 64) M (SD,	Obese (n = 44) M (SD,	F	i-j	Mean D (i-j)	95% CI LL	UL
EAS	117.0 (16.23)	109.25 (13.89)	102.89 (13.89)	115.05 (16.57)	28.91**	1>2	5.68*	3.06	7.48
						1>3	11. 45*	5.61	16.88
						1>4	16. 53*	12.78	21.93
						2>3	5. 77*	.20	11.75
						2>4	11. 85*	6.53	16.64
						3>4	5. 08	-1.39	12.61
FRB	63.21 (12.09)	60.89 (11.26)	53.21 (10.19)	50.42 (14.27)	34.21**	1>2	4. 28*	2.40	6.66
						1>3	9. 23*	5.18	14.47
						1>4	14. 03*	11.13	18.68
						2>3	5. 96*	.05	9.54
						2>4	10.75*	7.10	13.65
						3>4	5.80	-.53	10.69
OE	32.89 (7.12)	30.25 (7.14)	31.41 (6.27)	33.88 (6.91)	1.23	n.s	.30	-.46	1.12
IER	17.12 (4.14)	16.34 (4.47)	16.29 (4.29)	17.35 (4.16)	1.84	n.s	.41	-.40	.28
FMS	40.88 (11.64)	36.97 (1.88)	38.90 (8.94)	39.48 (11.75)	.90	n.s	-.19	-2.07	.23

Note. FRB = Food Relation with Body; OE = Overeating- Eating attitude scale; IER = Irregular Eating routine; EAS = Eating attitude scale; FMS = Food Myths Scale; 1 = Underweight; 2 = Normal Weight; 3 = Over Weight; 4 = Obese; between group df = 3; within group df = 546; group total df = 549.
*$p \leq 0.05$, **$p \leq .01$

Table 24 indicated underweight and obese show more negative eating attitude as compared to normal and overweight adolescents. Over all the highest scores obtained by the group of underweight adolescents and underweight adolescents with higher score on eating with concerns over weight and physical appearance as compared to rest of three groups. Overweight adolescent score higher on overeating and follow irregular eating routines but these differences are nonsignificant. Similarly underweight and obese adolescents are more food Myths believers as compared to normal adolescents and it provides the sufficient evidence of Contrasted group validity as obese and underweight are substantially different with reference to their scores on EAS and FMS.

Discussion

The present study was undertaken with the objective of validation of indigenously developed scales in study II (EAS and FMS) and study III (MBSRQ-AS Urdu Version). In order to confirm the structural dimensions of scales, confirmatory factor analysis was applied on a sample of 500 adolescents including both boys and girls. Descriptive analysis revealed the normal distribution of data with satisfactory reliabilities. Present study was completed in four steps. In the first step confirmatory factor analyses were performed. Step two addressed convergent validity, in step three discriminant validity was established, and similarly in step four Contrasted group validity was established. The results are discussed with reference to their findings as follows:

Confirmatory factor analyses of scales. Construct validity is based on the logical relationships among variables. According to Walden (2012), construct validity refers to whether the operational definition of a variable actually reflects the theoretical meanings of a concept. In other words, construct validity shows the degree to which inferences are legitimately made from the operationalization in one's study to the theoretical construct on which that operationalization is based. Results of CFA for EAS revealed standardized regression weights for all 33 items are greater than .40 which was the criteria to retain items in development of scale. Moreover, two measurement models were developed to confirm the factorial structure. Model 2 (see Table 19) represent first order CFA for 33 items which does not consider the paths between subscales and overall construct.

Model 1 represent the second order CFA for the EAS subscales, in which three paths were added between the subscales and EAS overall. While comparing both models, Model 1 representing the second order CFA was found better model with reference to fit indices. To establish the factor structure of FMS two measurement models were developed. First model reported as Model 2 (see Table 21) with poor fit indices so the model modification indices were considered and Model 1 showed a covariance path between 17 and 18 items with better fit indices and overall change in chi-square is significant.

Factorial structure of MBSRQ-AS Urdu version was confirmed with the help of factor loadings equal to and greater than .40 for all 27 items. First order factor analysis for 4 subscales of MBSRQ-AS Urdu version represent appropriate model fit indices. Results are found to be consistent with existing literature (Vossbeck-Elsebusch et al., 2014). For all scales standardized regression weights were reported. Unstandardized parameter estimates retain scaling information of variables and can

only be interpreted with reference to the scales of the variables. Standardized parameter estimates are transformations of unstandardized estimates that remove scaling and can be used for informal comparisons of parameters throughout the model. Standardized estimates correspond to effect-size estimates and provided more valuable information for the scales of present study.

In measurement models of all three scales, chi-square was found significant which is against the assumption of CFA but Meade (2008) discussed the excessive sensitivity of the chi-square statistic with large samples that has been known for some time, which rapidly gave rise to the development of several approximate fit indices (AFIs) in order to better index the extent to which models "approximately" fit the data (Steiger, 2007). Many of these AFIs are derived from the same fit function used to calculate the chi-square statistic (e.g., CFI, IFI, NFI, RNI, TLI), while others index average discrepancy between reproduced and observed correlations (e.g., RMSR). Excellent overviews of the AFIs are available in the existent literature (e.g., Barrett, 2007; Hu & Bentler, 1999; Meade, 2008).

The popularity of fit-index research can be seen by the number of indexes that exist and consumers peruse research studies for an understanding of which indexes appear to work well with different samples sizes, types of data, and ranges of acceptable scores to decide whether a good fit exists (Hu & Bentler, 1999; Yu, 2002). In reference to model fit, researchers (DiStefano et al., 2009; Hu & Bentler, 1999; Westen & Rosenthal, 2003) use numerous goodness-of-fit indicators to assess a model. Some common fit indexes considered in the present research were the Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA).

The popularity of fit-index research can be seen by the number of indexes that exist. In general, the authors prefer the TLI, CFI, and RMSEA for one-time analyses (Harrington, 2009). Root mean square error of approximation (RMSEA) tests the extent to which the model fits reasonably well in the population. It is sensitive to model complexity, but unlike the model chi-square, it is relatively insensitive to sample size, Close fit indicates the probability that RMSEA is less than or equal to 0.05 (Harrington, 2009). The Comparative Fit Index (CFI) is equal to the discrepancy function adjusted for sample size. CFI ranges from 0 to 1 with a larger value indicating better model fit. Acceptable model fit is indicated by a CFI value of 0.90 or greater (Hu & Bentler, 1999). Root Mean Square Error of Approximation (RMSEA) is related to residual in the model. RMSEA values range from 0 to 1 with a smaller RMSEA value indicating better model fit. Acceptable model fit is indicated by an RMSEA value of 0.06 or less (Hu & Bentler, 1999). If model fit is acceptable, the parameter estimates are examined. The ratio of each parameter estimate to its standard error (SRMR) is distributed as a z statistic and is significant at the 0.05 level if its value exceeds 1.96 and at the 0.01 level it its value exceeds 2.56 (Hoyle, 1995). The results in the present research are well supported by the above mentioned facts about fit indexes so the measurement models provide the accuracy of confirmatory factor analyses for all three measures i.e., EAS, FMS, and MBSRQ-AS Urdu version.

Convergent validity of scales. Results showed positive correlation between eating attitude scale and disordered eating behavior scale and its subscales. Overeating subscale of eating attitude is positively related with overeating subscale of disordered eating behavior scale. The magnitude of correlation is not very high providing the evidence of convergent validity at the same time it indicates the two

scales are different. Similarly, the food Myths scale is positively correlated with eating attitude scale and disordered eating behavior scale confirming the convergent validity for both scales with each other. The results can be interpreted as who are more believer of food Myths restrained their eating and do not show tendency of overeating.

Campbell and Fiske (1959) explained that the convergent validity coefficients are the correlations between measures of the same trait that are obtained with different measurement methods. For this reason, those correlations are at times referred to as monotrait-heteromethod (MTHM) coefficients. Since they reflect the (linear) relationships between indicators of the same trait, a finding of them being consistently high lends support for construct validity with regard to that trait (Muazzam & Khalid, 2011). Ayodele (2012) explained construct validity comprises two elements namely, convergent validity and discriminant validity. The convergent validity requires that the scores derived from the measuring instrument correlate with the scores derived from similar variables (Cooper & Schindler, 2001).

In order to establish construct validity, the researcher needs to be sure that his or her construction of a particular issue agrees with other constructions of the same underlying issue such as creativity, anxiety, motivation and so on. A high correlation coefficient implies construct validity of the new instrument or research. In another dimension, convergent validity can be achieved by correlating scores obtained between the scale and sub-scales together. The inter-correlations from the multitrait-multi method matrix are used to support convergence validity (Ayodele, 2012). The principle behind this technique of validation is that different methods of measuring the same construct should yield similar results.

Discriminant validity of scales. Results in Table 23 indicate significant negative correlations between eating attitude scale and appearance evaluation, appearance orientation, and body area satisfaction. Negative correlations with small magnitudes are the evidence of discriminant validity. As discriminant validity is reflected by the low magnitude of correlations for the measures of unrelated constructs or negative correlations for the related but opposite constructs (Napper et al., 2009). Those who show high score on disordered eating attitude score low on appearance evaluation and show general unhappiness with their physical appearance, low score on appearance orientation mean one does not spend time and money to look good, and similarly low score body area satisfaction mean one is not satisfied with his/her areas of body. Significant negative correlations were found between food Myths scale and appearance evaluation, appearance orientation, and body area satisfaction as evidence of discriminant validity. Overweight preoccupation is positively related with eating attitude scale and results can be interpreted as those who score high on overweight preoccupation show more concern overweight and fat anxiety.

Higher score on food Myths scale and overweight preoccupation can be interpreted as those who are more believers of food Myths reflect weight vigilance, restrained eating and fat anxiety. The results are found to be consistent with existing literature (Forbes et al., 2012; Stice et al., 2002; Vossbeck-Elsebusch et al., 2014: Untas et al., 2009). The discriminant validity suggests that using similar methods for researching different constructs should yield relatively low inter-correlations. That is, the construct in question is different from other potentially similar constructs (Cohen et al., 2008).

The correlation between extraversion and eating attitude scale was found to be positive with total scale, food relation with body, and overeating while negative relationship was found with irregular eating routines. The results showed that individual with more extraversion personality will have more disordered eating attitude and the same trends can be seen with subscales as sign of convergent validity while individual with more extravert tendencies will follow more regular eating routines. Extraversion is negatively related with food Myths scale as sign of discriminatory validity. The results can be interpreted as individual with higher extraversion tendencies will not believe on food Myths. People with negative eating attitude show low score on extraversion (Claes et al., 2013). Obese people are described as high on negative affect, with poor social contacts and less cognitive control. These findings confirm the results of Rydén et al. (2003) who reported that severely obese patients seeking treatment were characterized by more anxiety, impulsivity and irritability than a non-obese reference group and Kalarchian et al. (2007), findings also replicate Elfhag and Morey (2008) who were the first to identify in obese people two subtypes with one scoring high on negative affect and low on extraversion.

Contrasted group validity of scales. Underweight and obese show more negative eating attitude as compared to normal and overweight adolescents. Over all the highest scores obtained by the group of underweight adolescents and similarly the underweight adolescents with higher score on eating with concerns over weight and physical appearance as compared to rest of three groups. Overweight adolescent score higher on overeating and follow irregular eating routines but these differences are nonsignificant. Similarly underweight and obese adolescents are more food Myths

believers as compared to normal adolescents. The results are found be consistent with already existing literature (Burger & Doiny, 2002; McCabe & Ricciardelli, 2003; Neumark-Sztainer et al., 2006; O'Dea & Wilson., 2006; Yates et al. 2004). The disparity between 'desired' body shape and 'actual' body shape may be more responsible for the increased prevalence in disturbed eating attitudes and behaviors than is actual BMI in Asian countries like Korea (Yang et al., 2010).

Conclusion

All the results presented in this chapter help to draw the affirm conclusion regarding confirmatory, convergent, discriminant, and contrasted group validation of EAS and FMS. As the results indicated the scales are providing sufficient evidence of validities and reliabilities, so it can be concluded that scales have been assessed with respect to their psychometrics properly and now they are ready to study the hypotheses in the next study (Study-V) to determine the psychosocial correlates of eating attitude and food Myths.

STUDY V: PSYCHOSOCIAL CORRELATES OF EATING ATTITUDES AND FOOD MYTHS AMONG ADOLESCENTS

The Study V of the present research aimed at finding the relationship between eating attitudes and different correlated variables (i.e., disordered eating behavior, body image dissatisfaction, extraversion personality, and body mass index) including demographic variables (i.e., gender, age, educational discipline, family system, weight status of participants, and number of meals per day). In order to see how these variables contribute in determining eating attitudes and belief on food myths among adolescents, analyses were conducted at four levels. At first psychometric properties evidences were collected for the all the scales used in the study through alpha reliability coefficients.

The correlation between variables of study were computed through bivariate correlation analysis and predictability through multiple linear regression analysis (Evans, Tovée, Boothroyd, & Drewett, 2013; Raes et al., 2002; Stice et al., 2002; Untas et al., 2009). Moderation of gender on the relationship between body image and eating attitudes and BMI and eating attitudes (Delinsky, 2011), moderation of food myths on relationship between BMI and eating attitudes were computed. Similarly, mediation of body image on the relationship between BMI and eating attitudes (Lynch et al., 2008) was analyzed and then moderated mediation model was tested.

Finally, to see the role of demographics related differences as gender (Linville, Stice, Gau, & O'Neil, 2011; Rosenberger & Dorflinger, 2013); BMI based groups (Furnham et al., 2002; Kang & Choue, 2010); age (Cash et al., 2004; Down et

al., 2007; Cash & Pruzinsky, 2002); exercise (Berg, Frazier, & Sherr, 2009; Gilbert & Meyer, 2005); and family system (Nigar, 2014; Rose, 2014) *t*-analyses, and univariate analyses (ANOVA and factorial ANOVA) were computed.

Objectives

To see the role of above stated variables' contribution in eating attitudes among adolescents following objectives were formulated:

1. To see the relationship of body mass index, body image, extraversion with food myths and eating attitudes among adolescents.

2. To find out the demographics (i.e., gender, age, exercise habit, family systems, and study disciplines) related differences on body mass index, body image, food myths, and eating attitudes among adolescents.

3. To find out the mediating role of body image on relationship between BMI and eating attitudes.

4. To explore the moderating role of gender on relationship between body image and eating attitudes.

Hypotheses

To convene the objectives of the present research the following hypotheses are formulated:

1. Food myths belief is positively related with negative eating attitudes among adolescents.

2. Adolescents with negative eating attitudes score low on appearance evaluation and body area satisfaction among adolescents.

3. Adolescents with negative eating attitude score high on appearance orientation and overweight pre-occupation among adolescents.

4. Elevated body mass index is negatively related with appearance evaluation and body area satisfaction among adolescents.

5. Elevated body mass index is positively related with appearance orientation and overweight preoccupation among adolescents.

6. Body area satisfaction mediates the relationship between body mass index and eating attitudes.

7. Overweight preoccupation mediate the relationship between body mass index and eating attitudes.

8. Girls have more negative eating attitudes as compared to boys.

9. Boys score higher on appearance evaluation and body area satisfaction as compared to girls.

10. Girls score higher on appearance orientation and overweight preoccupation as compared to boys.

11. Obese/ Underweight will show negative eating attitudes as compared to normal weight adolescents.

Instruments

To test the above stated hypotheses following instruments were used. Details about these instruments are already presented in previous chapters.

1. Demographic information was obtained from the participants regarding their gender, age, education, height, weight, ideal weight, family system, residence, exercise per day, meals per day, food choices, and family income (See Appendix-E).

2. Eating Attitude Scale (EAS) (See Appendix-H, instrument description is available at page no.112).

3. Food Myths Scale (FMS) (See Appendix-M, instrument description is available at page no.118).

4.   Multidimensional Body-Self Relations Questionnaire-Appearance Scale (MBSRQ-AS) Urdu Version (Appendix-V, instrument description is available at page no.166).

5.   Disordered Eating behavior Scale (DEBS; Muazzam & Khalid, 2011) (See Appendix-W, instrument description is available at page no. 167).

6.   Extraversion Subscale of NEO-FFI (Chisti & Kamal, 2009) (See Appendix-X, instrument description is available at page no.168).

7.   Body Mass Index (BMI)

Sample

A sample of 1250 adolescents including boys (n = 609) and girls (n = 641) from eight colleges i.e., Islamabad Commerce College for Women (n = 40); Women Institute of Science and Humanities (n = 100); Post Graduate college for women satellite town (n = 55); F 7/2 Girls college (n = 61); Gordon College for boy (n = 90); Boys College H-8 (n = 75); Islamabad Model College for Boys (n = 50); and Asghar Mall college (n = 30) and 5 universities including *Bahria* University Islamabad (n = 138); NUML university (n = 120); and *Barani* University, Rawalpindi (n = 180); NUST Islamabad (n = 110), and Quaid-i-Azam University, Islamabad (n = 201). The age ranges from 16 to 22 years (M = 18.25; SD = 2.01) with the education of F.A (n = 570) and B.A/B.sc/ B.S (n = 680). A purposive sampling technique was used to collect the data from sample. The more demographic details have been presented in Table 25.

Table 25

Frequencies and Percentages of Demographic Variables (N = 1250)

Variables	f(%)	Variables	f (%)
Gender		**Education**	
Boys	609 (48.72)	1st Year (F.A/F.Sc)	290 (23.2)
Girls	641 (51.28)	2nd Year (F.A/F.Sc)	335 (26.8)
Study Disciplines		3rd Year (B.A/B.Sc/BS)	356 (28.48)
Arts	606 (48.48)	4th Year (B.A/B.Sc/BS)	269 (21.52)
Science	644 (51.52)	**Ideal Weight (in Kg)**	
Family Income (in Pak Rupees)		35-50	643 (51.44)
Low (upto 20000)	333 (26.64)	51-65	471 (37.68)
Middle (21000-50000)	673 (53.84)	66-85	156 (12.48)
High (51,000 and above)	244 (19.52)	**Weight of Participants (in Kg)**	
Age Groups (in Years)		30-50	660(52.8)
16-18	607(48.56)	51-70	522(41.76)
19-22	643(51.44)	71-90	68(5.44)
Residence of Participants		**BMI Groups (Kg/m^2)**	
hostel	116(9.28)	Under weight	561(44.88)
home	1134(90.72)	Normal weight	556(44.48)
Family System		Over weight	49(3.92)
Nuclear	830(66.40)	Obese	84(6.72)
Joint	420(33.60)		

Table 25 represents the frequencies and percentages wise distribution of all demographic variables of the study. Out of 1250 adolescents, there were 609 boys and 641 girls from age groups 16-18 years ($n = 607$) and 19-22 years ($n = 643$). They were residents of hostel ($n = 116$) and home ($n = 1134$) from nuclear ($n = 830$) and joint ($n = 420$) family systems. All of the participants were students studying intermediate (1st Year F.A/F.Sc; $n = 290$ and 2nd Year F.A/F.Sc; $n = 335$) and bachelors' grades (3rd Year (B.A/B.Sc/BS); $n = 356$ and 4th Year (B.A/B.Sc/BS); $n = 269$) from the two major study disciplines i.e., Arts ($n = 606$) and science

($n = 644$). Maximum participants ($n = 673$) were from the middle economic class with monthly family income range from 21000-50000 Pak Rupees.

Procedure

Procedure used in this part of research was almost the replication of the procedure used in study II (see page no. 105) with all necessary ethical considerations for sample. All the instruments including demographic sheet, EAS, FMS, DEBS, Urdu version of MBSRQ-AS, and Extraversion were administered in the booklet form. This booklet sequence was kept same to encounter the order effect as followed in study IV (see page no. 169), Participants were helped by the researcher in case of any ambiguity for clarity of responses.

Results

Results of this study included the descriptive analyses such as reliabilities and Cronbach alpha coefficients for each scale and subscales. Inferential analyses included Pearson product moment correlation to see the relationship between study variables. Similarly, t-analysis was carried out to see gender, family systems, educational disciplines, and age related differences on study variables. One way ANOVA was applied to see multiple comparisons of BMI groups, number of meals per day, actual and ideal weight related differences on study variables. Multiple regression analysis was applied to see the predictability of eating attitude and for moderation of gender and food myths. Mediation of body image on relationship

between BMI and eating attitude and moderated mediation of gender through AMOS were conducted. The results are reported as follows:

Descriptive analysis of measures. At first data was checked for missing values. Missing values were found on food myth scale and disordered eating behavior scale but these were not more than 3 so the missing values were replaced by "mean of nearby points" and then tests of normality were applied to see the normal spread of data. Descriptive statistics on eating attitudes, food myths, disordered eating behavior, multidimensional body self-relation questionnaire along with their dimensions were calculated by computing mean, standard deviations, Cronbach alpha coefficients, skewness, and kurtosis for the sample of adolescents.

Results in the Table 26 (see page no.202), show the computed means, standard deviations, skweness, and kurtosis for the scales and subscales. It is observed that skweness range from -1 to +1 for all the variables of study except BMI indicating data is normally distributed and parametric tests can be applied (Field, 2009). Positive values of kurtosis are a sign distribution curve is heavy tailed and pointed for those variables, whereas, negative values indicate flat and light tailed distribution of variables. The larger values of Skweness and kurtosis for BMI indicate the presence of extreme values in data which for sure help the researcher to see the differential group validity in inferential statistics in results presented later in this chapter. Moreover, It is believed that normal distribution can be assumed for extreme values if data exceeds more than 1000 cases.

Table 26

Alpha Coefficients and Descriptives for all study variables (N = 1250)

#	Scales	No. of Items	M	SD	α	Range Potential	Range Actual	Skweness	Kurtosis
1	EAS	33	114.88	18.13	.83	33-165	48 – 165	-.19	.46
2	FBR	17	64.05	14.67	.80	17-85	19 – 85	-.49	.22
3	OE-EAS	10	32.86	7.25	.74	10-50	11 - 46	-.07	.01
4	IER	6	16.97	4.45	.87	6-30	6 – 30	.31	.12
5	FMS	18	37.47	11.73	.81	18-90	18 – 79	1.10	2.57
6	Ext	12	37.43	5.90	.74	12-60	12 – 59	.35	.08
7	DEBS	24	96.60	15.07	.82	24-120	26 – 120	-.84	1.20
8	OE-DEBS	6	25.17	4.90	.72	6-30	7 – 30	-.64	.70
9	ECH	6	18.94	3.75	.77	6-30	6 – 30	-.68	.53
10	SPE	6	22.85	5.18	.83	6-30	6 – 30	-.75	.11
11	EW	6	25.73	5.47	.80	6-30	7 – 30	-.52	-.00
12	AO	10	39.94	8.01	.89	10-50	10 – 50	-.12	.28
13	AE	5	14.33	4.28	.68	5-25	5 – 25	-.35	.39
14	BAS	9	32.54	8.27	.86	9-45	9 – 45	-.33	-.36
15	OP	3	10.46	3.78	.80	3-15	3 – 15	.09	-.74
16	BMI	-	19.95	10.76	-	-	8 – 53.5	4.27	18.23
17	Age	-	18.89	2.794	-	16-22	16 – 22	.170	.24
18	BMI Groups	-	1.74	.836	-	1-4	1 - 4	1.24	1.26

Note. FBR = Food Relation with Body; OE-EAS = Overeating- Eating attitude scale; IER = Irregular Eating routine; EAS = Eating attitude scale; FMS = Food Myth Scale; Ext = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating- Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; Eating Withdrawal; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; BMI = Body Mass Index.

Relationship between eating attitudes, food myths, body image dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. Pearson product moment correlation was computed to evaluate the relationship between eating attitudes, food myths, body image dissatisfaction, extraversion, disordered eating behavior, and body mass index.

Table 27

Correlation between variables of study (N = 1250)

Scales	No. of Items	EAS	FRB	OE-EAS	IER	FMS	Ext	DEBS	SPE	ECH	EW	OE-D	AE	AO	OP	BAS	BMI
EAS	33	-															
FRB	17	.89*	-														
OE-EAS	10	.54**	.22**	-													
ER	6	.25**	.16*	-.37	-												
FMS	18	**.24***	.27**	-.17**	.04	-											
Ext	12	.28**	-.24**	.18**	-.22*	-.22**	-										
DEBS	26	**.66****	.66**	.44**	.12**	.31*	.23**	-									
SPE	6	.62**	.76**	.10	.16	.01	.28**	.70**	-								
ECH	5	.41**	.49**	.34**	-.06*	-.03	.24**	.74**	.53**	-							
EW	8	.33**	.22**	.57**	-.16**	.15*	.10**	.75**	.23**	.49**	-						
OE-DEBS	7	.48**	.50**	.39**	.04	-.15*	.27**	.74**	.56**	.44**	.49**	-					
AE	5	**-.48****	-.28**	-.30*	.18*	-.32**	.12**	-.03	-.06	.19**	.02	-.16*	-				
AO	10	-.45**	-.47**	.09	-.27*	-.35**	.18**	.12**	.17**	.13**	.19**	.15*	.55**	-			
OP	3	**.49****	.44**	-.33**	-.21*	.30*	-.24**	-.31**	-.28**	-.21**	-.18**	-.28**	-.39**	.37**	-	-	
BAS	9	**-.25****	-.31**	-.25**	-.24*	-.35*	-.29**	.27**	.25**	.17**	.16**	.18**	.26**	.25**	-.27**	-	
BMI	-	**.28****	.22**	.29*	.08	.08	.10*	.17	.04	.02	.02	.12*	**-.21***	**.20***	**.23****	-.31*	-
Alpha	-	.83	.89	.80	.77	.85	.73	.85	.83	.77	.80	.72	.68	.89	.80	.90	-
M	-	114.88	64.05	32.86	16.97	37.47	37.43	96.50	22.85	18.94	25.73	25.17	14.55	34.79	7.78	32.55	19.95
SD	-	18.14	14.67	7.25	4.45	11.79	5.96	15.71	5.83	3.77	5.47	4.90	3.32	7.61	3.07	8.27	10.76

Note. FRB = Food Relation with Body; OE-EAS = Overeating- Eating attitude scale; IER = Irregular Eating routine; EAS = Eating attitude scale; FMS = Food Myth Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating- Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; Eating Withdrawal; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; BMI = Body Mass Index.

$*p < .05, **p < .0.01, ***p < .001.$

Results in Table 27 indicated significant positive correlation exists between food myths belief and negative eating attitudes among adolescents confirm the hypothesis no. 1 as stated "food myths belief is positively related with negative eating attitudes among adolescents". Results revealed negative correlation between eating attitudes and appearance evaluation and body areas satisfaction confirm the hypothesis no. 2 "adolescents with negative eating attitude score low on appearance evaluation and body area satisfaction among adolescents". Correlation between eating attitude and appearance orientation found to be negative partially rejected the hypothesis no. 3 "adolescents with negative eating attitude score high on appearance orientation and overweight pre-occupation among adolescents" rather direction of relationship is seen opposite but significant positive correlation between eating attitude and overweight preoccupation is in accordance with already existing facts.

Elevated body mass index is negative related with appearance evaluation, and body area satisfaction conform the hypotheses no. 4 "elevated body mass index is negatively related with appearance evaluation and body area satisfaction among adolescents". Positive correlation between elevated body mass index with appearance orientation and over-weight pre-occupation confirms the hypotheses no. 5 "Elevated body mass index is positively related with appearance orientation and overweight preoccupation among adolescents".

As per the findings it can be seen all the results except the positive relationship between eating attitude and appearance evaluation are according to the existing literature and present study replicating the same results for adolescents' population.

Predictors of eating attitude. Multiple linear regression analysis by using enter method was used to identify the potential predictors for eating attitude. Model of predictability was established on the basis of existing literature (Down et al., 2007; Evens et al., 2013; Rosenberger & Dorflinger, 2013). The hierarchy of variables to enter in the model based on the strength of predictability of body dissatisfaction as reported in above stated studies. For the verification of the model, heteroscedasticity of sample the Durbin Watson test was applied which revealed the F value 1.78 significant at $p \leq .05$. The value closer to 2 is the evidence that no auto correlation exists among predictors and is good for regression model (Durbin & Watson as cited in Field, 2009). For the identification of Multicollinearity, White heteroscedasticity Test was applied which provide F value of 2.52, significant at $p \leq 0.05$ provides evidence that predictor variables have no perfect linear relationship and do not correlate highly.

Table 28 (see page 206) represented the result of hierarchical regression analysis to check the predictability of eating attitude by controlling the effect of demographic variables included gender, age, exercise, and family system. Over all data generated two models. Model I represents the R^2 value of .228 mean 22.8% variance for prediction of eating attitude is explained by these demographics. Model 2 represents the R^2 value of .548 mean 54.8% variance for prediction of eating attitude is explained extraversion, appearance evaluation, appearance orientation, body area satisfaction, overweight pre-occupation, and food myths. The change in R^2 is 31% by adding the above stated variables in step II. The percentage of variability accounted for went up from 22.8% to 54.8% which is optimum increase in overall model.

Table 28

Multiple Linear Regression Analysis for the effect of Extraversion, Appearance Evaluation, Appearance Orientation, Body Area Satisfaction, Overweight Preoccupation, Body Mass Index, and Food Myths on Eating Attitude (N=1250)

Variables	Model 1 β	Eating Attitude Model 2 β	95% CI LL	95% CI UL
Constant	107.32	118.71	109.20	128.22
Gender	.01**	.04*	1.58	5.11
Age	.03	.02	-1.00	.68
Exercise	.62*	.70**	-.58	1.44
Family system	1.00	.004	-1.85	1.60
Extraversion		.04*	-.018	.268
Food Myths		.08**	-.18	-.03
Body Mass Index		.06*	.02	.39
Appearance Evaluation		-.09*	-.61	-.13
Appearance Orientation		.11**	.12	.37
Body Area Satisfaction		-.14***	.17	.36
Overweight Pre-occupation		.45***	-2.22	-1.748
R^2	.23	.54		
ΔR^2		.31		
F	16.77***	52.32***		
ΔF		76.62***		

* $p < .05$, **$p < .0.01$, ***$p < .001$.

It is observed from the results in Table 28 that all these variables included in the regression model have beta values with relatively less difference. Beta values indicate the direction of regression, positive beta coefficients mean these variables are

positively related with negative eating attitude and beta values with negative sign mean these variables predict the negative eating attitude oppositely. It is seen that all the predictors are significantly contributing in the model but extraversion, food myths and appearance evaluations are found to be weak predictors and overweight pre-occupation is found to be strong predictor as compared to others.

Moderation of Gender between Body Image and Eating Attitudes and Food Myths

To determine the moderating role of gender on relationship between appearance evaluation, body area satisfaction, over weight pre-occupation, and appearance orientation and attitude toward eating and food myths. Interaction term of gender, appearance evaluation, body area satisfaction, over weight pre-occupation, and appearance orientation were generated separately. After developing the interaction terms, variables were entered in multiple regression analyses through enter block method to check for significance of interaction among variables to affect eating attitude and food myths. Gender was categorical variable so it was dummy coded while rest of the variables were continuous so centering through mean was done to control error variance (Baron & Kenny, 1986). Interaction terms between gender and each subscale of MBSRQ-AS Urdu version centered through mean was developed. In hierarchical regression analysis each subscale of MBSRQ-AS, gender, and interaction between two were entered using enter block method as independent variables and EAS, and FMS as dependent variables. Tables 29 to 32 show results for each subscale of MBSRQ-AS Urdu Version.

Table 29

Moderating role of Gender for Appearance Evaluation in predicting the Eating Attitude (N = 1250)

Variables	Eating Attitude Scale		
	B	$S.E$	β
AE	-.642	.130	-.150***
Gender	9.295	1.107	.256***
AE*Gender	.651	.261	.075*
Constant	.114	.55	-
R^2	.079		
Adjusted R^2	.077		
F	29.513***		
Slope *(t-* value)	-0.64 (6.47***)		

Note. AE = Appearance Evaluation

* $p < .05$, ** $p < .0.01$, *** $p < .001$.
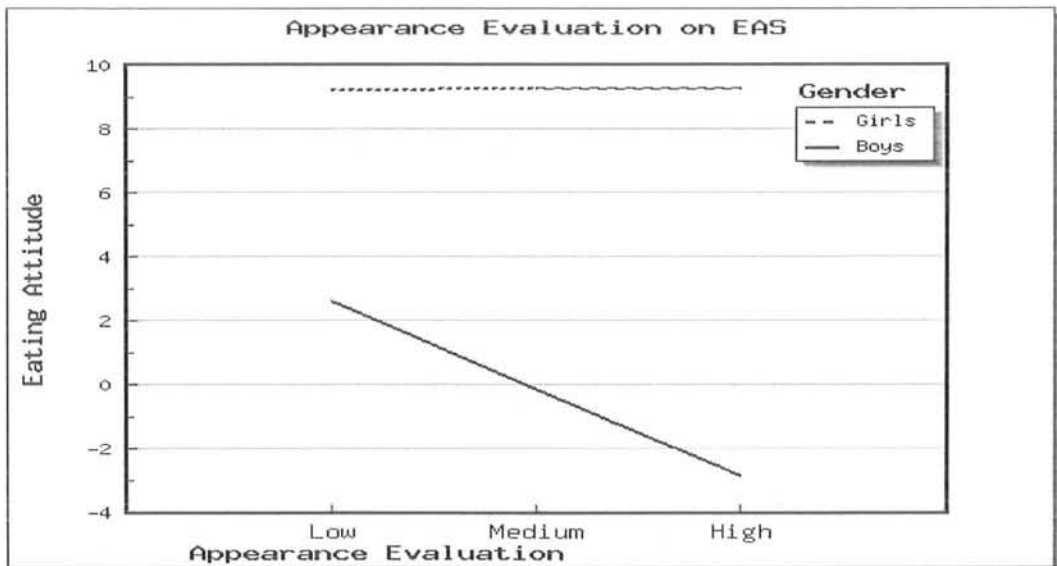
Figure 10. Role of Gender for Appearance Evaluation in predicting the Eating Attitude.

Table 29 showed significant interaction effect for appearance evaluation and gender on eating attitude scale. Later slope computation through Modgraph is done to determine significance of gender in moderating role of appearance evaluation. Furthermore, Modgraph was established and slope was computed. Figure 10 showed Modgraphs for moderation of gender for eating attitude. Modgraph shows significant moderating role of gender for eating attitude. As it can be seen the relationship between appearance evaluation and eating attitude is negative and gender is well moderating this relationship and girls with high on appearance evaluation show negative eating attitude as compared to boys.

Table 30

Moderating role of Gender for Appearance Orientation in predicting the Eating Attitude (N = 1250)

Variables	Eating Attitude B	S.E	β
AO	-.099	.071	-.043
Gender	8.365	1.105	.231***
AO*Gender	.018	.142	.004*
Constant	.142	.553	
R^2	.053		
Adjusted R^2	.052		
F	19.348***		
Slope *(t- value)*	0.097 (2.245**)		

Note. AO = Appearance Orientation.

* $p < .05$, ** $p < .0.01$, *** $p < .001$.

Table 30 showed significant interaction effect for appearance orientation and gender on eating attitude scale. Modgraph is computed to see the direction of relationship with reference to gender between appearance orientation and EAS.
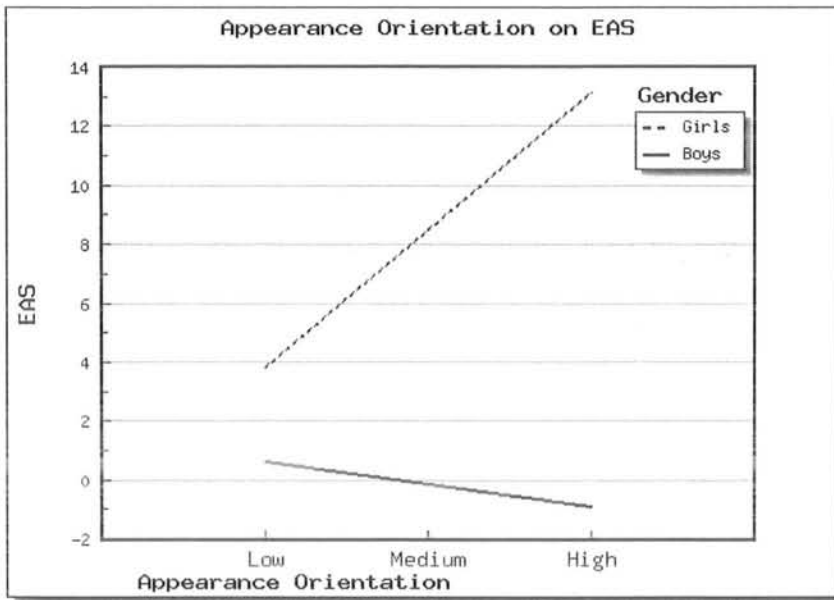
Figure 11. Role of Gender for Appearance Orientation in predicting the Eating Attitude.

Figure 11 showed Modgraphs for significant moderation of gender for appearance orientation and eating attitude. Modgraph show the direction of relationship with gender on eating attitude and girls high on appearance orientation showing more negative eating attitude.

Table 31

Moderating role of Gender for Overweight Pre-occupation in predicting the Eating Attitude (N = 1250)

Variables	Eating Attitude B	S.E	β
OP	1.904	.141	.401***
Gender	4.156	1.039	.115***
OP*Gender	.855	.284	.86***
Constant	-.434	.520	-
R^2	.219		
Adjusted R^2	.218		
F	100.056***		
Slope *(t-* value)	2.023 (14.304***)		

Note. OP = Overweight Preoccupation.

* $p < .05$, ** $p < .0.01$, *** $p < .001$.
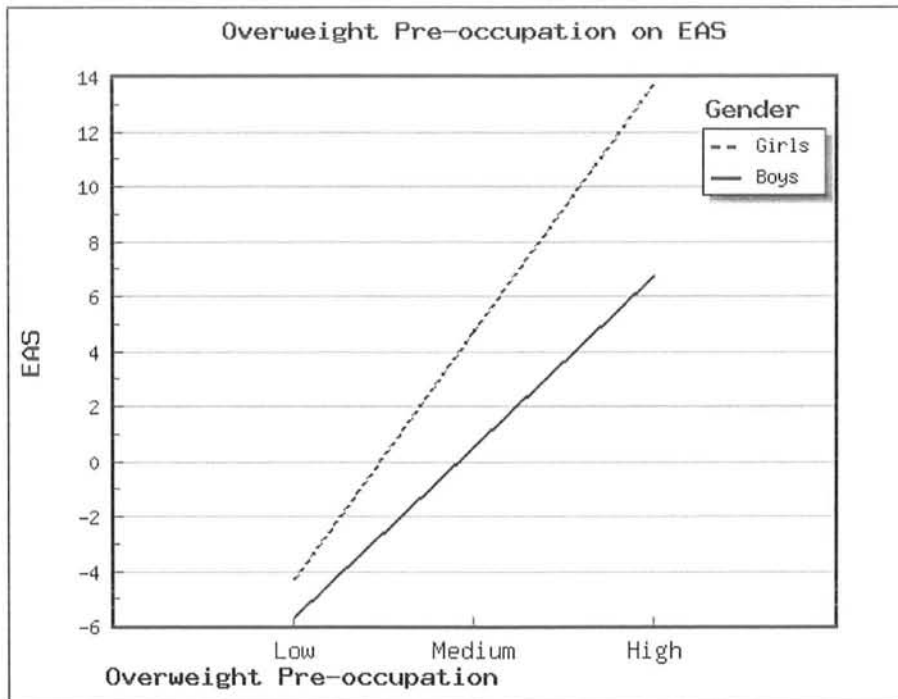
Figure 12. Role of Gender for Overweight Pre-occupation in predicting the Eating. Attitude

Table 31 showed significant interaction effect for over-weight preoccupation and gender on eating attitude scale. Later slope computation through Modgraph is done to determine significance of gender in moderating role between over-weight preoccupation and EAS. Figure 12 showed Modgraphs for moderation of gender for eating attitude. Modgraph shows significant moderating role of gender for eating attitude scale. As it can be seen the relationship between overweight pre-occupation and eating attitude is positive and gender is well moderating this relationship and girls score higher as compared to girls.

Table 32

Moderating role of Gender for Body Area Satisfaction in predicting the Eating Attitude (N = 1250)

	Eating Attitude		
	B	$S.E$	β
BAS	-.355	.067	-.162***
Gender	8.197	1.084	.226***
BAS*Gender	.157	.134	.036
Constant	.058	.542	
R^2	.080		
Adjusted R^2	.078		
F	30.301***		
Slope *(t-* value)	0.369 (5.834***)		

Note. BAS = Body Area Satisfaction.

* $p < .05$, **$p < .0.01$, ***$p < .001$.

Table 32 showed significant interaction effect for body area satisfaction and gender on eating attitude scale. Later slope computation through Modgraph is done to determine significance of gender in moderating role of body area satisfaction.
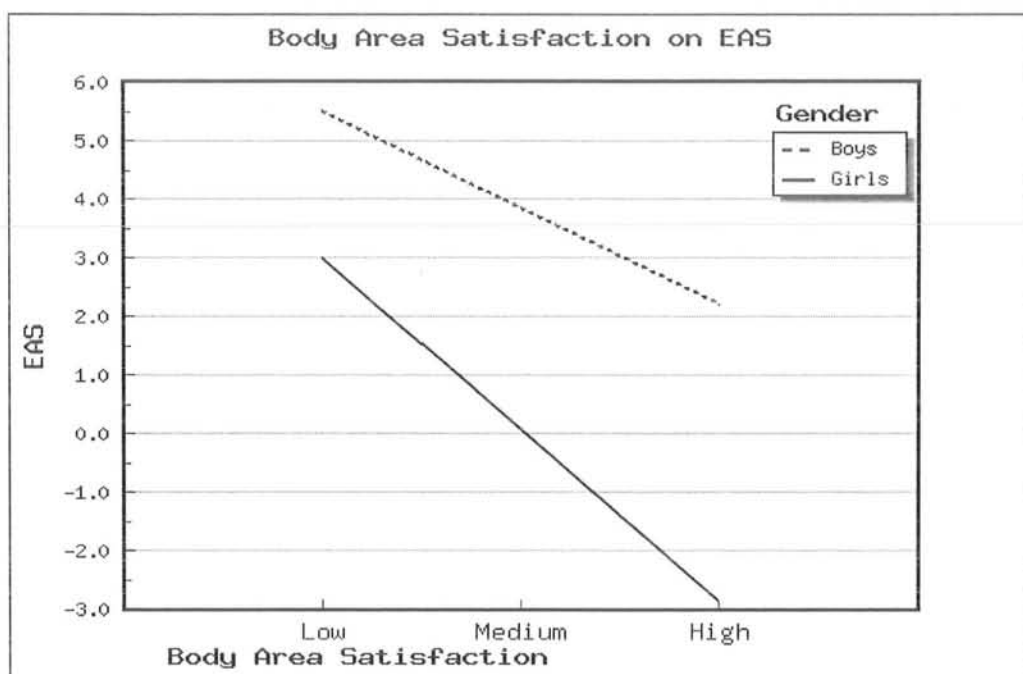
Figure 13. Role of Gender for Body Area Satisfaction in predicting the Eating Attitude

Figure 13 showed Modgraphs for moderation of gender for eating attitude. Modgraph shows significant moderating role of gender for eating attitude scale. As it can be seen the relationship between body area satisfaction and eating attitude is negative and gender is well moderating this relationship and boys score higher as compared to girls.

Moderation of gender on relationship between body mass index and eating attitude. In order to determine the moderating role of gender on the relationship between body mass index and eating attitude, interaction term of gender and BMI was generated and enter into the regression analyses. The results were found nonsignificant for food myths but moderating role of gender is seen obvious in case of eating attitude.

Table 33

Moderating role of Gender on relationship between Body Mass Index and Eating Attitude (N = 1250)

Variables	Eating Attitude		
	B	$S.E$	β
Body Mass Index	-.182	.558	-.116***
Gender	8.214	1.103	.226***
Gender*BMI	.216	.101	.069**
Constant	.152	.187	
R^2	.067		
Adjusted R^2	.063		
F	23.73**		
Slope *(t-* value)	2.01 (12.49**)		

Note. BMI = Body Mass Index

* $p < .05$, **$p < .0.01$, ***$p < .001$.
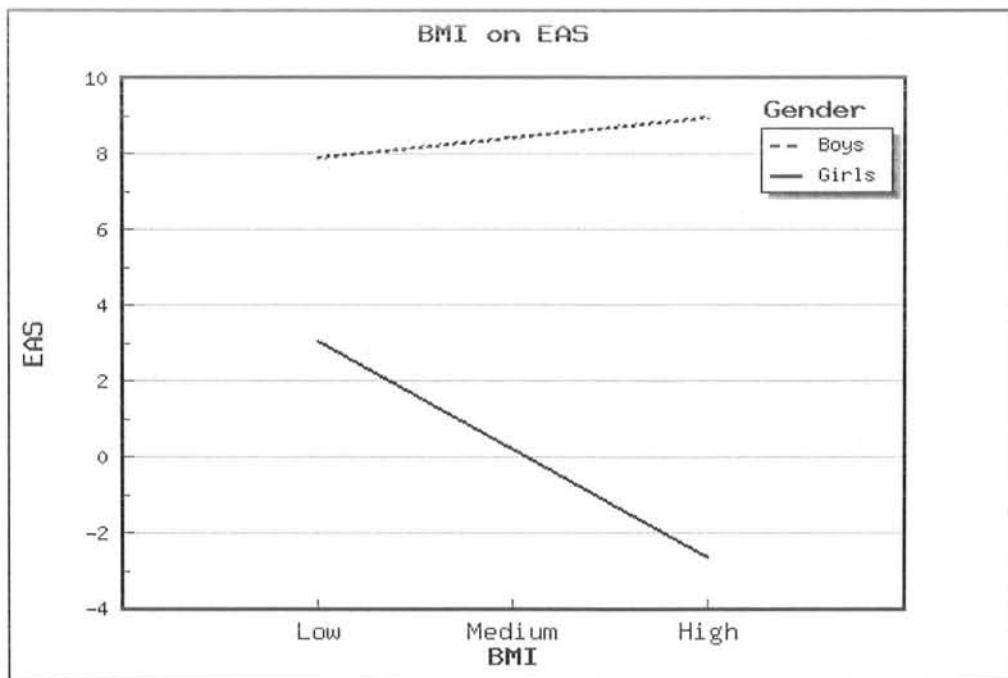
Figure 14. Role of Gender for Body Mass Index in Predicting Eating Attitude

Figure 14 showed Modgraphs for moderation of gender for BMI and eating attitude. Modgraph shows significant moderating role of gender and boys with high BMI show more negative eating attitude as compared to girls while in case of girls with low BMI show more negative eating attitude. Table 33 showed significant interaction effect for gender and BMI on eating attitude scale. Later slope computation through Modgraph is done to determine significance of food myths in moderating role of appearance orientation. Further Modgraph was established and slope was computed.

Moderation of Food Myths on relationship between Body Image and Eating Attitude

In order to determine the moderating role of food myths on the relationship between body image and food myths, interaction terms of food myths and appearance orientation, appearance evaluation, overweight pre-occupation and body area satisfaction were generated and enter into the regression analyses. Results are presented in the Table 34.

Table 34 (see page no.216) showed significant interaction effect for food myths and appearance orientation on eating attitude scale. Later slope computation through Modgraph is done to determine significance of food myths in moderating role of appearance orientation. Further Modgraph was established and slope was computed.

Table 34

Moderating role of Food Myths on relationship between Appearance Orientation and Eating Attitude (N = 1250)

Variables	Eating Attitude		
	B	*S.E*	*β*
Appearance Orientation	-.070	.08	-.03***
Food Myths	.11	.05	.06***
AO*FMS	.01	.01	.02**
Constant	.236	.617	
R^2	.007		
Adjusted R^2	.004		
F	12.51**		
Slope *(t-* value)	1.17 (10.29**)		

Note. AO = Appearance Orientation; FMS = Food Myth Scale

* $p < .05$, **$p < .0.01$, ***$p < .001$.

Moderation of FMS on Relationship between AO and EAS
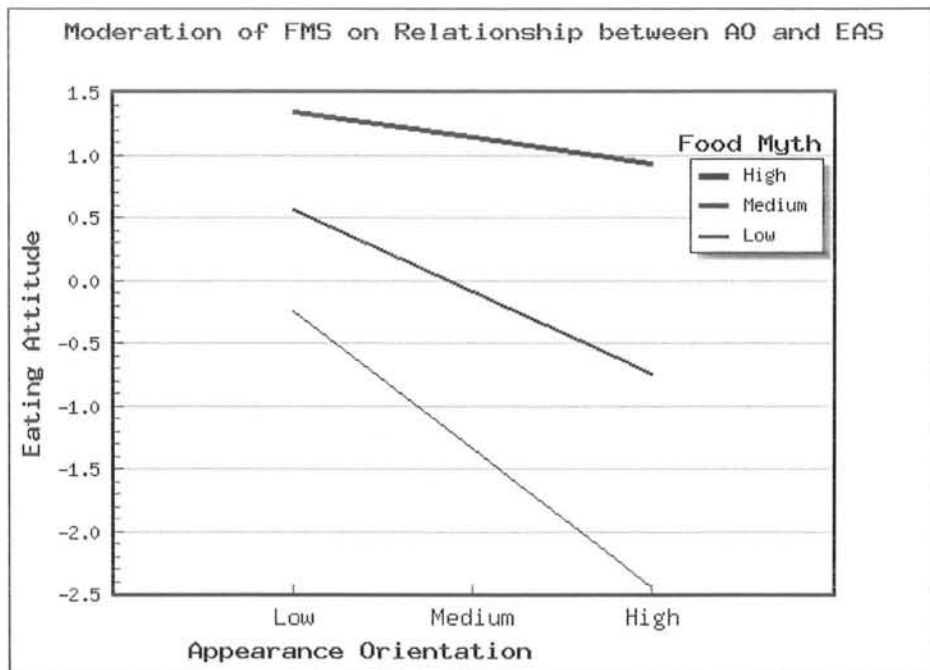
Figure 15. Role of Food Myths for Appearance Orientation in Predicting the Eating
Attitude.

Figure 15 showed Modgraphs for moderation of food myths for appearance
orientation and eating attitude. Modgraph shows significant moderating role of food
myths for eating attitude. As it can be seen the relationship between appearance
orientation and eating attitudes is negative and food myth is well moderating this
relationship and adolescents with high on food myths belief score higher on eating
attitude and stands low on appearance orientation as compared adolescents of medium
and low group of food myths believers.

Table 35

*Moderating role of Food Myths on relationship between Body Mass Index and Eating
Attitude (N = 1250)*

Variables	Eating Attitude		
	B	*S.E*	*β*
Body Mass Index	-.1444	.049	-.097***
Food Myths	.142	.054	.089***
BMI*FMS	.009	.011	.029**
Constant	.140	.606	
R^2	.017		
Adjusted R^2	.014		
F	5.154***		
Slope *(t-* value)	3.025(6.253***)		

Note. BMI = Body Mass Index; FMS = Food Myth Scale
* $p < .05$, ** $p < .0.01$, *** $p < .001$.

Table 35 showed significant interaction effect for food myths and body mass
index on eating attitude scale. Later slope computation through Modgraph is done to

determine significance of food myths in moderating role of body mass index. Further

Modgraph was established and slope was computed.
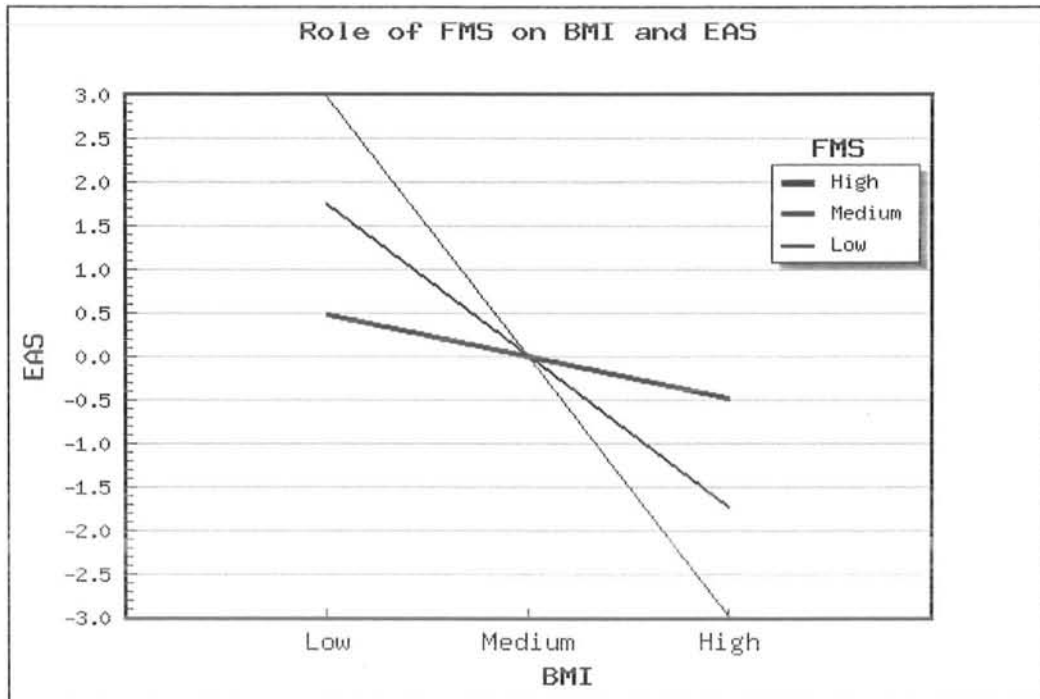
Figure 16. Role of Food Myths on BMI Predicting the Eating Attitude

Figure 16 showed Modgraphs for moderation of food myths for body mass index and eating attitude. Modgraph shows significant moderating role of food myths for eating attitude. As it can be seen the relationship between body mass index and eating attitude is negative and food myth is well moderating this relationship and adolescents with low on food myths belief score higher on eating attitude and body mass index as compared adolescents of high and medium group of food myths believers.

Table 36

Moderating role of Food Myths on relationship between Body Area Satisfaction and Eating Attitude (N = 1250)

Variables	Eating Attitude		
	B	$S.E$	β
Body Area Satisfaction	-.394	.074	-.180**
Food Myths	-.102	.053	-.064***
BAS*FMS	.016	.006	.084***
Constant	.037	.59	
R^2	.04		
Adjusted R^2	.03		
F	13.53		
Slope *(t-* value)	2.218**		

Note. BAS = Body Area Satisfaction; FMS = Food Myth Scale

* $p < .05$, ** $p < .0.01$, *** $p < .001$.
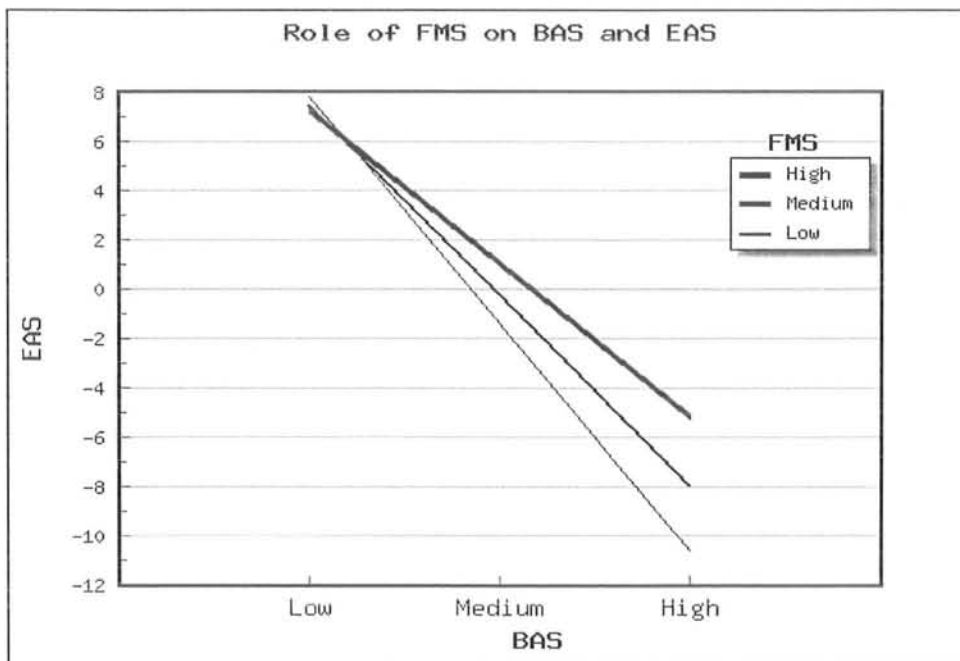
Figure 17. Role of Food Myths on Body Area Satisfaction in Predicting the Eating Attitude

Table 36 showed significant interaction effect for food myths and body area satisfaction on eating attitude scale. Later slope computation through Modgraph is done to determine significance of food myths in moderating role of body area satisfaction Further Modgraph was established and slope was computed. Figure 17 showed Modgraphs for moderation of food myths for body area satisfaction and eating attitude. Modgraph shows significant moderating role of food myths for eating attitude. As it can be seen the relationship between body area satisfaction and eating attitudes is negative and food myth is well moderating this relationship and adolescents with high on food myths belief score higher on eating attitude and stands low on body area satisfaction as compared adolescents of medium and low group of food myth believers.

Table 37

Moderating role of Food Myths on relationship between Appearance Evaluation and Eating Attitude (N = 1250)

Variables	Eating Attitude		
	B	S.E	β
Appearance Evaluation	-.518	.143	-.121***
Food Myths	.081	.054	.051***
AE*FMS	.020	.021	.058***
Constant	.314	.602	
R^2	.022		
Adjusted R^2	.019		
F	6.887***		
Slope *(t- value)*	2.3095		
	(10.021***)		

Note. AE = Appearance Evaluation; FMS = Food Myth Scale

* $p < .05$, ** $p < .0.01$, *** $p < .001$.

Table 37 showed significant interaction effect for food myth and appearance evaluation on eating attitude scale. Later slope computation through Modgraph is done to determine significance of food myth in moderating role of appearance evaluation. Further Modgraph was established and slope was computed.
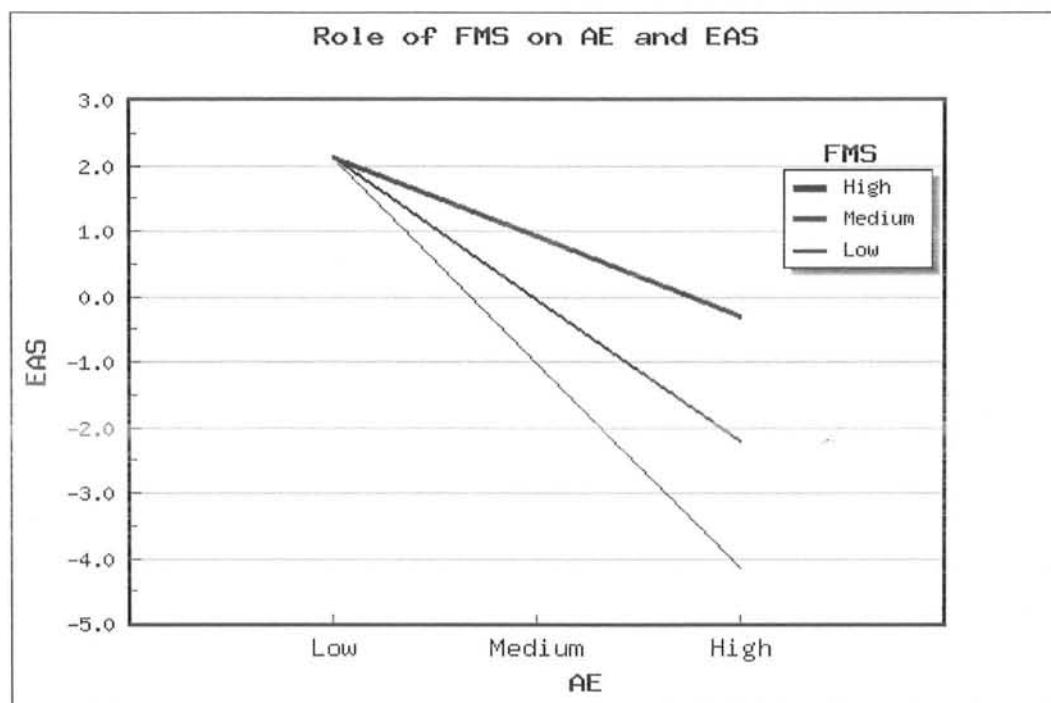
Figure 18. Role of Food Myths on Appearance Orientation in Predicting the Eating Attitude

Figure 18 showed Modgraphs for moderation of food myths for appearance evaluation and eating attitude. Modgraph shows significant moderating relationship between appearance evaluation and eating attitude is negative and food myth is well moderating this relationship and adolescents with high on food myths belief score higher on eating attitude and stands low on appearance evaluation as compared adolescents of medium and low group of food myth believers.

Table 38

Moderating role of Food Myths on relationship between Overweight Pre-occupation and Eating Attitude (N = 1250)

Variables	Eating Attitude		
	B	S.E	β
Overweight Preoccupation	2.275	.136	.488***
Food Myths	.145	.046	.090***
OP*FMS	.015	.012	.038
Constant	.073	.524	
R^2	.250		
Adjusted R^2	.247		
F	99.790***		
Slope *(t-* value)	14.461		
	(10.235***)		

Note. OP = Overweight Pre-occupation; FMS = Food Myth Scale

* $p < .05$, **$p < .0.01$, ***$p < .001$.
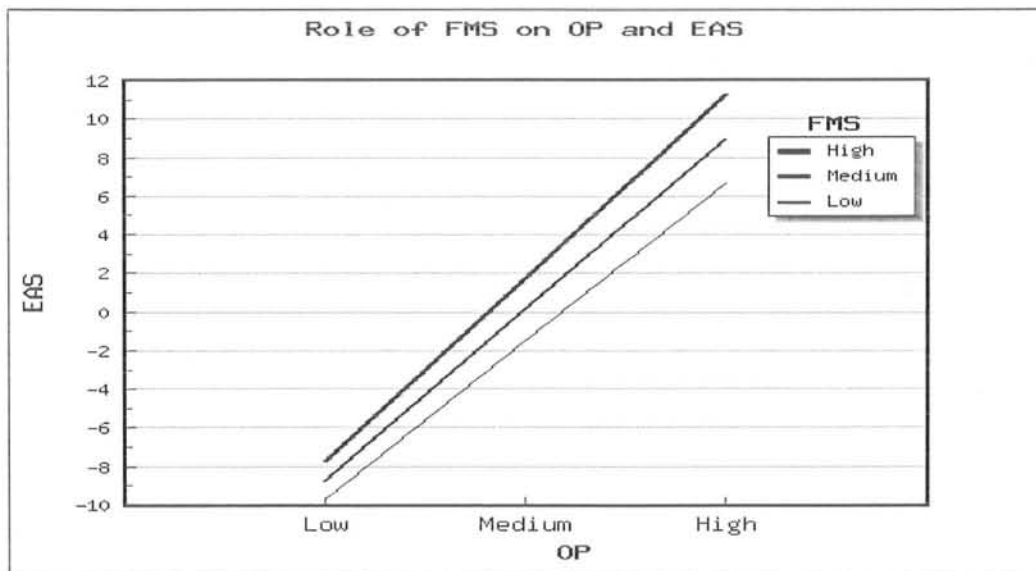
Figure 19. Role of Food Myths for Overweight Pre-occupation in Predicting the Eating Attitude

Table 38 showed significant interaction effect for food myth and overweight pre-occupation on eating attitude scale. Later slope computation through Modgraph is done to determine significance of food myth in moderating role of overweight pre-occupation. Further Modgraph was established and slope was computed. Figure 19 showed Modgraphs for moderation of food myths for overweight pre-occupation and eating attitude. Modgraph shows significant moderating relationship between overweight pre-occupation and eating attitude is positive and food myth is well moderating this relationship and adolescents with high on food myths belief score higher on eating attitude and overweight pre-occupation as compared adolescents of medium and low group of food myth believers.

Mediated moderation of body image and gender on relationship between body mass index and eating attitude. Mediated moderation analysis aimed to distinguish between properties of mediator variables and moderator variables in such a way in which conceptual may account for differences in people's behavior (Hayes & Preacher, 2014). Present research aimed at empirical testing the mediated moderation model that BMI (predictor variable) predicted the eating attitude in the context of body dissatisfaction (mediator variable). More specifically, mediated role of body dissatisfaction (based on shape and weight concerns) (Lynch et al., 2008) was tested on relationship between BMI and behaviors presumed to increase negative eating attitude and moderating role of gender effect this mediation. The proposed model was tested into two steps. In the first step mediation of body area satisfaction and overweight preoccupation on relationship between BMI and eating attitude was

examined through direct and indirect effects. In the second step moderation of gender was examined on this mediation.

Mediation of body areas satisfaction and overweight preoccupation on BMI and Eating Attitude. In order to see the mediational effect of body area satisfaction and overweight pre-occupation (Lynch et al., 2008) on relationship between body mass index and eating attitude, structure equation modeling (SEM) was applied by using AMOS graphic software. Multiple squared correlations are depicted along the rectangles of endogenous variables (i.e., body areas satisfaction, overweight pre-occupation and eating attitude). Fit indices demonstrated the excellent fit with nonsignificant chisquare value 13.34 ($p = .38$). Other fit indices were also found above the cut off criteria (CFI = .97, GFI = .99, AGFI = .96, NFI = .97). RMSEA value of .06 and standardized RMR value of .013 were also testified to fit the proposed model.

Table 39

Standardized Path Coefficients for Direct and Indirect Effects of Body Area Satisfaction and Overweight Pre-occupation on Body Mass Index and Eating Attitudes (N = 1250)

Criterion Variable	Predictor Variable	β	CI 95%		p
			LL	*UL*	
EAS	BMI	.07	-.25	-.08	.001
BAS	BMI	-.02	.06	.11	.002
EAS	BAS	-.15	1.23	.28	.000
OP	BMI	.17	-.92	-.62	.000
EAS	OP	.47	-.48	-.23	.005
EAS	BMI through BAS	-.03	1.20	2.13	.004
EAS	BMI through OP	.05	.80	1.03	.006

Note. CI = Confidence Interval. EAS = Eating Attitude Scale. BMI = Body Mass Index. OP = Overweight Pre-occupation. BAS = Body Area Satisfaction.

Table 39 showed parallel mediation of body area satisfaction and overweight pre-occupation on relationship between body mass index and eating attitude. Standardized direct and indirect regression coefficients are presented in the Table 39. Results showed direct and indirect path with subsequent decrease in significance level from direct to indirect path which confirms mediation effect. Increase in BMI lead to negative eating attitude and body areas satisfaction significantly mediate in this relationship and weaken the direct effect of BMI on eating attitude. Similarly, Overweight pre-occupation significantly mediate between BMI and eating attitude. Results confirmed the hypotheses No. 6 and 7 that stated "Body area satisfaction mediate the relationship between BMI and eating attitude" and "Overweight preoccupation mediate the relationship between BMI and eating attitude", representing that people with high BMI level would be more pre-occupied with their weight and resultantly this makes them more inclined to develop negative eating attitude. Similarly, enhanced BMI level would lead to increased body areas dissatisfaction, which in turn cause more negative eating attitude. Figure 20 (see page no. 236) visually presents this proposed model. Standardized path coefficients are shown along the paths.
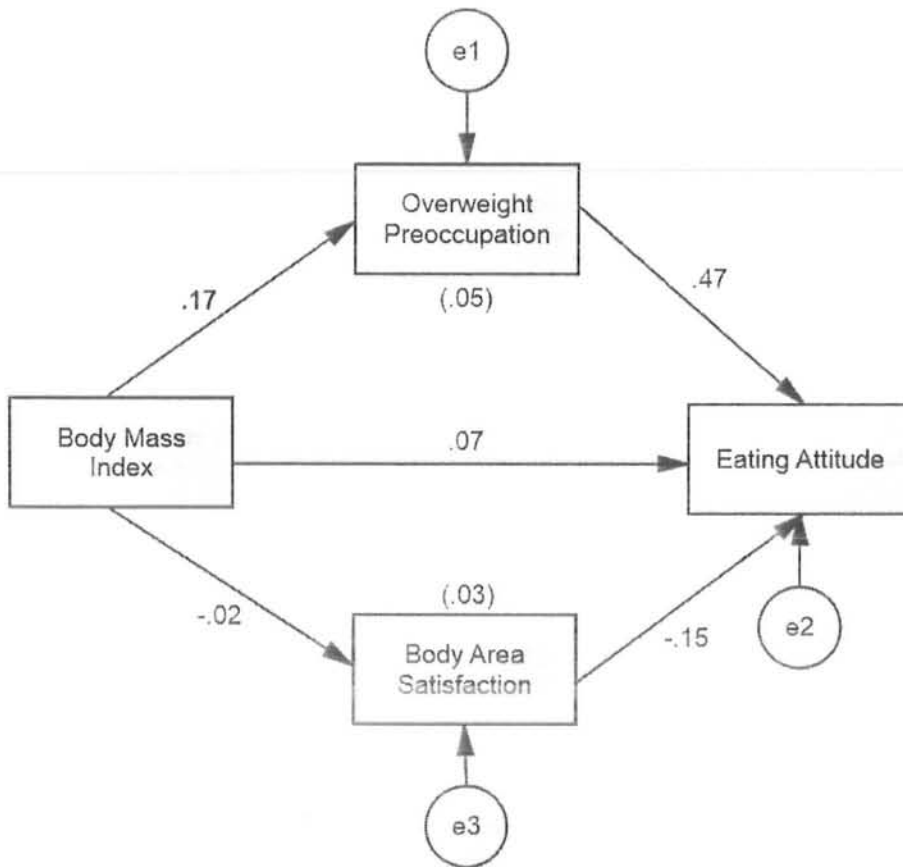
Figure 20. Direct and Indirect Effect of BMI on Eating Attitude through Body Area Satisfaction and Overweight Pre-occupation (Model 1)

Mediated moderation of body dissatisfaction and gender on Body Mass Index and Eating Attitude. In the second step multi group analysis was performed through structural model consist of mediator variables included body area satisfaction and overweight pre-occupation. The compensation of this technique gives chance to describe the effect of moderator variable i.e., gender in a structural model containing mediator variables. In other words the strength of this method is very useful and

meaningful to provide better understanding to the structural equation modeling approach with AMOS graphic. Fit indices demonstrated the excellent fit with nonsignificant chisquare value 9.20 (p = .081). Other fit indices were also found above the cut off criteria (CFI = .92, GFI = .98, AGFI = .95, NFI = .91). RMSEA value of .04 and standardized RMR value of .01 were also testified to fit the proposed model. Estimated were derived for each group of boys and girls. Standardized direct and indirect regression coefficients for boys and girls are presented in the Table 40.

Table 40

Standardized Path Coefficients for Direct and Indirect Effects of Body Area Satisfaction and Overweight Pre-occupation on Body Mass Index and Eating Attitude among adolescents' Boys and Girls (N = 1250)

Criterion Variable	Predictor Variable	Boys (n = 609)				Girls (n = 641)			
			CI95%				CI95%		
		β	LL	UL	p	β	LL	UL	p
EAS	BMI	.15	-.21	-.18	.00	.05	-.25	-.08	.00
BAS	BMI	-.01	.07	.15	.03	-.03	.02	.19	.00
EAS	BAS	.14	2.13	2.42	.00	-.02	2.23	2.28	.00
OP	BMI	.16	-1.20	-.82	.05	.15	-1.92	-1.62	.01
EAS	OP	.38	-.78	-.53	.00	.56	-.48	-.23	.00
EAS	BMI through BAS	-.028	2.20	2.96	.05	-.031	3.50	5.10	.21
EAS	BMI through OP	.023	.80	1.08	.51	.025	.70	1.03	.30

Note. CI = Confidence Interval. EAS = Eating Attitude Scale. BMI = Body Mass Index. OP = Overweight Pre-occupation. BAS = Body Area Satisfaction.
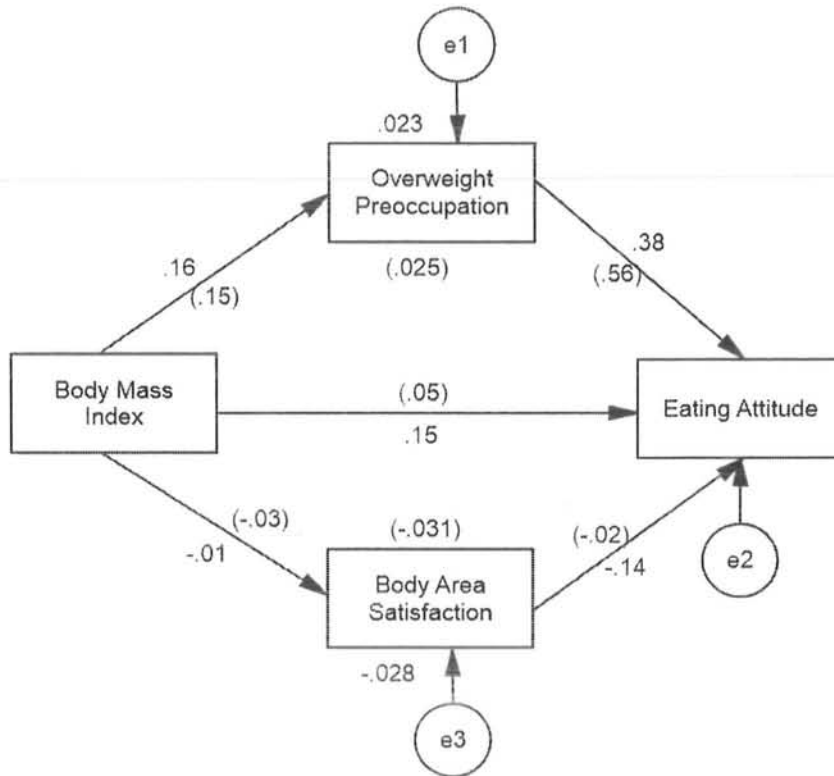
Figure 21. Role of Gender on Direct and Indirect Effect of BMI on Eating Attitude through Body Area Satisfaction and Overweight Pre-occupation (Model 2)

Table 40 represent mediated path through body area satisfaction is found significant for girls only while mediated path of overweight pre-occupation is found significant for both girls and boys. These results confirm the moderation of gender on mediating role of body area satisfaction and overweight pre-occupation in the relationship between body mass index and eating attitude. Figure 21 represents the regression values for girls (in parentheses) and boys out of parenthesis on rectangles. Results indicated girls with high BMI (obese) are more inclined to suffer with more fat anxiety or overweight pre-occupation and are found dissatisfied with their body

areas, in turn control their eating in a way to develop unhealthy or negative eating attitude as compared to boys. Direct causal path from BMI to negative eating attitude mediated by body areas satisfaction show decrement trend in values for boys but yet the values are significant but for girls this path is nonsignificant indicating the fact that body areas dissatisfaction is more important for girls to establish negative eating attitude as compared to boys in Pakistani culture.

Role of Demographic Variables in Eating Attitude and Food Myths

Demographic variables including gender, age, BMI, exercise, educational discipline, family system, weight status of participants, food items and number of meals per day were studied with the help of inferential statistics for eating attitude and belief on food myths among adolescents.

Gender differences on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. To see the gender differences t-analysis was computed for eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index.

Table 41

Means, Standard Deviations, and t values on Study Variables across Gender among Adolescents (N = 1250)

Scales	Boys (n = 609)		Girls (n = 641)				95% CI		Cohen's
	M	SD	M	SD	t	p	LL	UL	d
EAS	110.78	15.96	119.02	19.20	7.49	.00	-10.39	-6.07	.56
FRB	62.35	12.95	65.71	15.96	3.86	.00	-5.06	-1.65	.63

Continued...

| Scales | Boys (n = 609) | | Girls (n = 641) | | | | 95% CI | | Cohen's |
	M	SD	M	SD	t	p	LL	UL	d
OE-EAS	30.99	5.90	34.68	7.94	8.97	.00	-4.48	-2.87	.75
IER	16.39	3.29	17.54	5.36	4.48	.00	-1.65	-.64	.58
FMS	39.35	10.74	35.69	12.31	5.14	.00	2.26	5.06	.68
Ext	35.96	4.70	38.81	6.56	8.79	.00	-3.49	-2.22	.59
DEBS	94.92	14.63	98.22	15.32	3.88	.00	-4.96	-1.63	.63
SPE	22.53	4.84	23.17	5.46	2.18	.02	-1.21	-.06	.42
ECH	18.52	3.75	19.34	3.72	3.89	.00	-1.24	-.40	.29
EW	25.43	5.38	26.02	5.54	1.90	.05	-1.19	.18	.26
OE-DEBS	24.90	4.66	25.42	5.12	1.88	.05	-1.06	.02	.62
AE	21.23	4.15	20.80	4.28	6.56	.00	-2.03	-1.10	.56
AO	39.33	7.34	40.52	8.57	2.63	.00	-2.07	-.30	.55
OP	10.50	3.05	11.47	4.13	9.84	.00	1.62	2.44	.51
BAS	36.39	7.45	33.71	8.98	2.68	.05	-1.23	.60	.43
BMI	20.32	9.15	19.60	12.11	1.17	.04	-.48	1.92	.36

Note. df = 1248; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating-Eating Attitude Scale; IER = Irregular Eating routine; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myth Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating-Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal; BMI = Body Mass Index.

Results in Table 41 indicated the significant mean differences on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, while nonsignificant differences were found on body mass index and body area satisfaction. Girls' score higher on eating attitude confirm the hypothesis no. 8 "Girls have more negative eating attitude as compared to boys". Boys' score higher on appearance

evaluation as compared to girls partially confirm the hypothesis no. 9 i.e., "Boys score higher on appearance evaluation and body area satisfaction as compared to girls among adolescents". Girls score higher on appearance orientation and overweight pre-occupation as compared to boys confirm hypothesis no. 6 "Girls score higher on appearance orientation and overweight preoccupation as compared to boys". Other than hypotheses results indicated boys are more food myths believers as compared to girls. Girls are found to be more extraverts as compared to boys. Girls, score higher on disordered eating behavior scale or its subscales as compared to boys. There are significant differences on BMI, mean score for boys are higher as compared to girls among adolescents. All the variables show t-values differences with moderate to high cohen's d values. In general, ≤ 0.20 is a small effect size, 0.50 is a moderate effect size and ≥ 0.80 is a large effect size (Cohen, 1992).

Role of BMI on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior among adolescents. In order to study the body mass index related differences on study variables, the whole sample was divided into four categories i.e., Those with the underweight (BMI = <18.5; $n = 561$), normal weight (BMI = >18.5 to 23 ; $n = 556$), overweight (BMI = > 23; $n = 49$), and obese (BMI = > 25; $n = 84$). To see the differences analysis of variance with post hoc analysis was computed for eating attitude and food myth scale. Results presented in Table 42 showed underweight and obese show more negative eating attitude as compared to normal and overweight adolescents. Over all the highest scores obtained by the group of underweight adolescents and similarly the underweight adolescents with higher score on food relation with body as compared to rest of three groups. Overweight adolescent score higher on overeating and follow irregular eating routines but these differences are nonsignificant. Mean scores for underweight and obese

adolescents show they are more food myths believers as compared to normal and overweight adolescents but these results are found to be nonsignificant.

Table 42

Comparison along BMI Groups on Eating Attitude and its Subscales and Food Myths Scale (N = 1250)

	Under Weight (n = 561)	Normal Weight (n = 556)	Over Weight (n = 49)	Obese (n = 84)				95% CI	
	M (SD)	M (SD)	M (SD)	M (SD)	F	i-j	Mean D.(i-j)	LL	UL
EAS	119.09 (18.41)	103.72 (16.50)	107.79 (16.58)	113.23 (20.32)	22.13˙	1>2	5.37*	3.03	7.71
						1>3	11.35*	5.82	16.78
						1>4	16.86*	12.28	21.43
						2<3	5.97*	.46	11.39
						2<4	11.45*	6.86	16.11
						3<4	5.58	-1.2	12.33
FRB	67.60 (14.36)	52.15 (13.78)	57.84 (13.57)	63.64 (16.20)	29.15˙	1>2	4.45*	2.60	6.26
						1>3	9.73*	5.48	14.17
						1>4	14.93*	11.43	18.48
						2<3	5.36*	.95	9.64
						2<4	10.55*	7.20	13.65
						3<4	5.90	-.75	10.46
OE	31.49 (7.54)	32.66 (6.98)	32.26 (7.16)	31.88 (6.91)	1.90	n.s	.83	-.06	1.74
IER	17.05 (4.71)	16.77 (4.27)	16.69 (4.12)	17.62 (4.62)	.97	n.s	.38	-.98	1.61
FMS	41.88 (11.64)	36.79 (12.28)	36.90 (8.94)	39.80 (10.43)	.80	n.s	-.90	-2.47	.63

Note. between group df = 3; within group df = 1246; group total df = 1249. EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating- Eating Attitude Scale; IER = Irregular Eating routine; FMS = Food Myth Scale; 1 = Under Weight; 2 = Normal Weight; 3 = Overweight; 4 = Obese. * p < .05, ** p < .0.01, *** p < .001.

Table 43

Comparison along BMI Groups on Subscales of MBSRQ-AS Urdu Version (N = 1250)

Scale	Under Weight (n = 561) M (SD)	Normal Weight (n = 556) M (SD)	Over Weight (n = 49) M (SD)	Obese (n = 84) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	95% CI UL
AE	20.86 (4.41)	21.11 (4.21)	21.41 (3.94)	21.09 (4.40)	.45	n.s	.016	-.90	1.07
AO	39.59 (8.45)	37.54 (7.65)	39.13 (7.33)	40.36 (7.90)	2.57*	1<2	-.95	-1.92	.08
						1<4	1.22	-.62	3.07
						2<3	1.41	-.93	3.76
						2<4	2.17*	.33	4.02
						3<4	.762	-2.09	3.50
OP	11.81 (3.92)	10.84 (3.54)	10.73 (3.93)	12.73 (3.44)	10.50**	1>2	-1.03*	-1.26	-.59
						1>3	-.92	-2.95	.16
						1<4	-1.92*	-2.49	-1.06
						2<4	-.89*	-1.20	-.09
						3<4	-.90	-2.26	.30
BAS	32.73 (8.41)	33.91 (8.08)	31.34 (8.12)	29.61 (7.90)	4.35**	1<2	1.50	-1.01	3.81
						1>3	3.15*	1.26	5.01
						1>4	1.56	-.87	3.96
						2>3	3.20*	1.45	5.11
						2>4	1.74	-1.11	4.68
						3>4	1.56	-3.21	5.12

Note. between group $df = 3$; within group $df = 1246$; group total $df = 1249$.

AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; 1 = Under Weight; 2 = Normal Weight; 3 = Overweight; 4 = Obese.

* $p < .05$, ** $p < .0.01$, *** $p < .001$.

Table 43 represented the results of adolescents on MBSRQ-AS Urdu Version across different BMI groups. The obese adolescents score higher on appearance orientation as compared to normal weight adolescents; underweight and overweight show more appearance orientation concern as compared to normal weight

adolescents. Moreover, results indicated obese and overweight adolescent score higher on overweight pre-occupation as compared to normal weight group. Normal weight adolescents show higher score on body area satisfaction as compared to obese and underweight adolescents.

Actual weight groups of participants. Actual weight of the individual contributes in the health status. Body mass index is nutritional indicator of body fatness and based on actual weight and height of the individual. BMI is a simple and inexpensive substitute measure of body fat. High BMI used to screen obesity and its health risks. As compared to BMI, people classify themselves as obese based on their actual weight as everyone is not familiar with concept of BMI generally in Pakistan (Mellin-Olsen & Wandel, 2005). This is the reason actual weight is considered for analyses to see the differences In order to see the role of actual weight of participants on eating attitude and food myths whole sample was grouped into three weight categories i.e., 30-50 kg ($n = 660$), 51-75 kg ($n = 522$), and 71-90 kg ($n = 68$). Results in the Table 44 indicated adolescents with the weight range of 30-50 kg showed more negative eating attitude as compared to participants from other two groups. Similar results were found for food relation with body and over eating but there is nonsignificant results were found for irregular eating routines. Moreover, results showed adolescents with the weight range of 71-90 kg are more food myths believers as compared to rest of two lesser weight groups. This finding is quiet interesting as more belief on food myths restricts eating but also indicates that the more weight you gain by eating the more food myths believer you became.

Table 44

Comparison along Actual weight Groups on Eating Attitude Scale and its Subscales and Food Myths Scale (N = 1250)

Scale	30-50 kg (n = 660) M (SD)	51-70 kg (n = 522) M (SD)	71-90 kg (n = 68) M (SD)	F	i-j	Mean D(i-j)	95% CI LL	95% CI UL
EAS	119.72 (18.07)	110.95 (15.99)	100.51 (17.78)	50.87***	1>2	8.76*	6.57	10.96
					1>3	19.20*	14.37	24.02
					2>3	10.43*	5.55	15.30
FRB	67.33 (14.55)	61.52 (13.42)	52.37 (15.34)	42.80***	1>2	5.80*	4.07	7.53
					1>3	14.95*	11.13	18.77
					2>3	9.14*	5.28	13.09
OE	34.24 (7.59)	31.53 (6.46)	30.50 (6.77)	23.30***	1>2	2.70*	1.85	3.51
					1>3	3.73*	1.91	5.57
					2>3	1.03	-.81	2.88
ER	17.02 (4.82)	16.90 (4.10)	17.06 (3.56)	.116	n.s	.12	-.40	.65
FMS	36.43 (12.54)	38.18 (10.56)	39.91 (10.59)	4.22**	1<2	-1.74*	-3.22	-.27
					1<3	-3.48*	-6.61	-.34
					2<3	-1.73	-4.97	1.44

Note. between group df = 3; within group df = 1246; group total df = 1249.

EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating- Eating Attitude Scale; IER = Irregular Eating routine; FMS = Food Myths Scale; 1 = 30-50 kg; 2 = 51-70 kg; 3 = 71-90 kg.

* $p < .05$, **$p < .0.01$, ***$p < .001$.

Table 45

Comparison along Actual Weight Groups on Subscales of MBSRQ-AS Urdu Version
(N = 1250)

Scale	30-50 kg (n = 660) M (SD)	51-70 kg (n = 522) M (SD)	71-90 kg (n = 68) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
AE	20.98 (4.83)	21.12 (4.18)	21.01 (4.07)	.151	n.s	.17	-1.00	1.04
AO	39.96 (8.49)	40.15 (7.50)	38.86 (7.13)	.773	n.s	.18	-1.27	.74
OP	9.66 (3.95)	11.24 (3.36)	11.94 (3.28)	31.836***	1<2	1.57*	-2.00	-1.14
					1<3	2.27*	-3.19	-1.35
						.70	-1.63	.22
BAS	32.79 (8.44)	32.65 (8.05)	31.66 (7.70)	.589	n.s	.14	-.81	1.10
BMI	17.60 (3.40)	21.53 (12.96)	25.67 (2.70)	44.72***	1<2	-3.92*	-4.94	-2.89
					1<3	-8.06*	-10.20	-5.85
					2<3	-4.14*	-6.37	-1.90

Note. between group *df* = 3; within group *df* = 1246; group total *df* = 1249.

AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; BMI= Body Mass Index; 1 = 30-50 kg; 2 = 51-70 kg; 3 = 71-90 kg.

* $p < .05$, **$p < .0.01$, ***$p < .001$.

Results in the Table 45 indicated adolescents with reference to their body image and BMI. As results indicated only significant results are found for overweight pre-occupation and adolescents with highest weight category 71-90 kg score high on overweight pre-occupation. It is evident from the results as the weight increase the overweight pre-occupation is also increasing among adolescents. Moreover, it has been found the actual weight showed differences on BMI and results showed adolescents with highest weight category have more BMI which is very obvious and logical with reference to their weight status.

Comparison of actual weight and ideal weight among adolescents. To see

the differences on actual weight and ideal weight of the participants paired sample *t*-

test analysis was conducted and results are presented in the Table 46.

Table 46

Means, Standard Deviations, and t values across actual and ideal weight of
Adolescents (N = 1250)

Sample	N	Actual Weight (n = 1250)		Ideal Weight (n = 1250)		r	t	df	95% CI		Cohen's d
		M	SD	M	SD				LL	UL	
Overall	1250	53.37	20.15	52.19	12.26	.40**	.81	1248	-.64	1.56	.21
Boys	609	58.40	25.53	59.55	11.16	.26**	1.12	607	-3.18	.86	.31
Girls	641	48.19	10.05	46.06	9.19	.50**	5.20**	639	1.32	2.96	.56

*p < .05, **p < .0.01, ***p < .001.

Table 46 indicated mean differences on actual and ideal weight across overall

sample and girls and boys separately. It can be seen in results that mean score values

for actual weight was higher as compared to ideal weight but this difference is only

significant for girls. Results can be interpreted as girls are more dissatisfied with their

actual weight and desire for low ideal weight as compared to boys.

Role of gender and BMI groups on eating attitude and body image. In

order to see the combined effect of gender and BMI groups on eating attitude and

body image, the multivariate analyses of variance was performed. The significant

combined effects are found for eating attitude, body area satisfaction and overweight

pre-occupation. The results are presented in the following tables.

Table 47

2 x 4 Analyses of Variance for Gender (boys and girls) x BMI Groups (underweight, normal weight, overweight, and obese) on Eating Attitude (N= 1250)

Source	Sum of Squares	df	Mean Squares	F	p	η^2_p
Gender	3798.813	1	3798.813	14.765	.00	.012
BMI Groups	17919.837	3	5973.279	23.217	.00	.056
Gender x BMI Groups	1170.198	3	390.066	7.516	.05	.014
Error	302825.253	1177	257.286			
Total	1.597E7	1185				

Table 47 represents the findings of multivariate analysis for assessing influence of gender and BMI on eating attitude. The *F* values for main effect and combined effect are found significant indicating BMI in combination with gender represent significant change in eating attitude of adolescents. The interactive effect of gender with BMI groups i.e., how girls and boys with different BMI groups vary in eating attitude has been illustrated in Figure 22. As depicted in Figure 22 (see page no. 239), underweight adolescents including both girls and boys score higher on eating attitude as compared to other three groups. Moreover, underweight adolescents' girls show more negative eating attitude as compared to normal and obese adolescents' girls. Similar trends exist among boys.
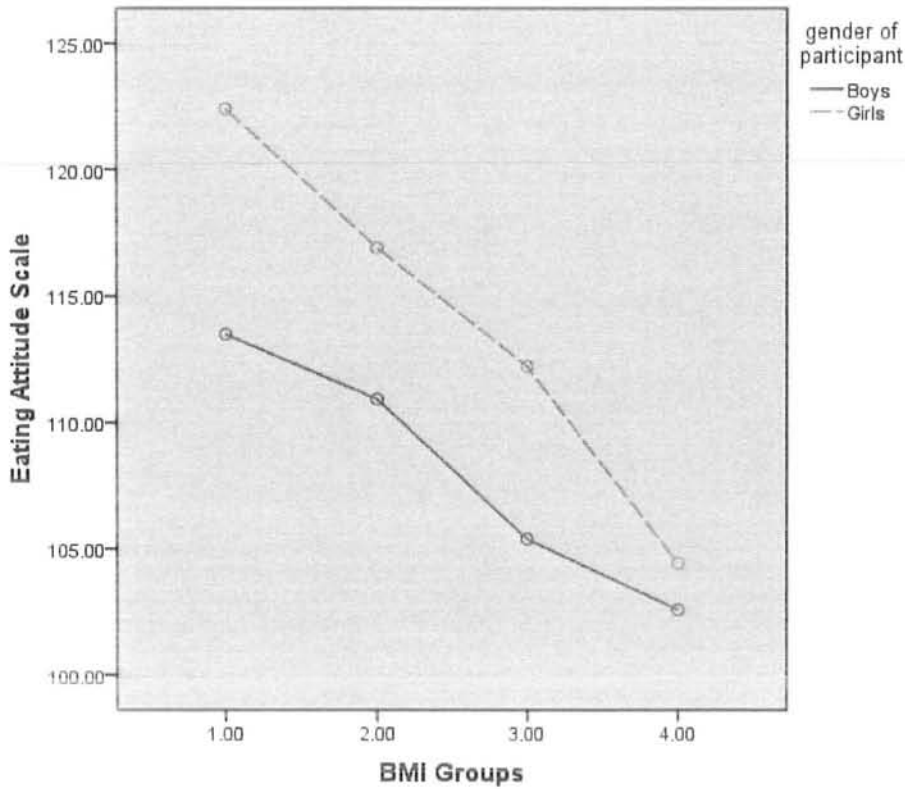
Figure 22. Interactive Effect of gender and BMI groups on Eating Attitude

Table 48

2 x 4 Analyses of Variance for Gender (boys and girls) x BMI Groups (underweight, normal weight, overweight, and obese) on Body Area Satisfaction (N= 1250)

Source	Sum of Squares	df	Mean Squares	F	p	η^2_p
Gender	370.025	1	370.025	5.521	.019	.005
BMI Groups	890.788	3	296.929	4.430	.004	.011
Gender x BMI Groups	932.102	3	310.701	4.636	.003	.012
Error	78883.453	1177	67.021			
Total	1335314.500	1185				

Table 48 represents the findings of multivariate analysis for assessing influence of gender and BMI on body areas satisfaction. The *F* values for main effect ad combined effect are found significant. The interactive effect has been illustrated in Figure 23.
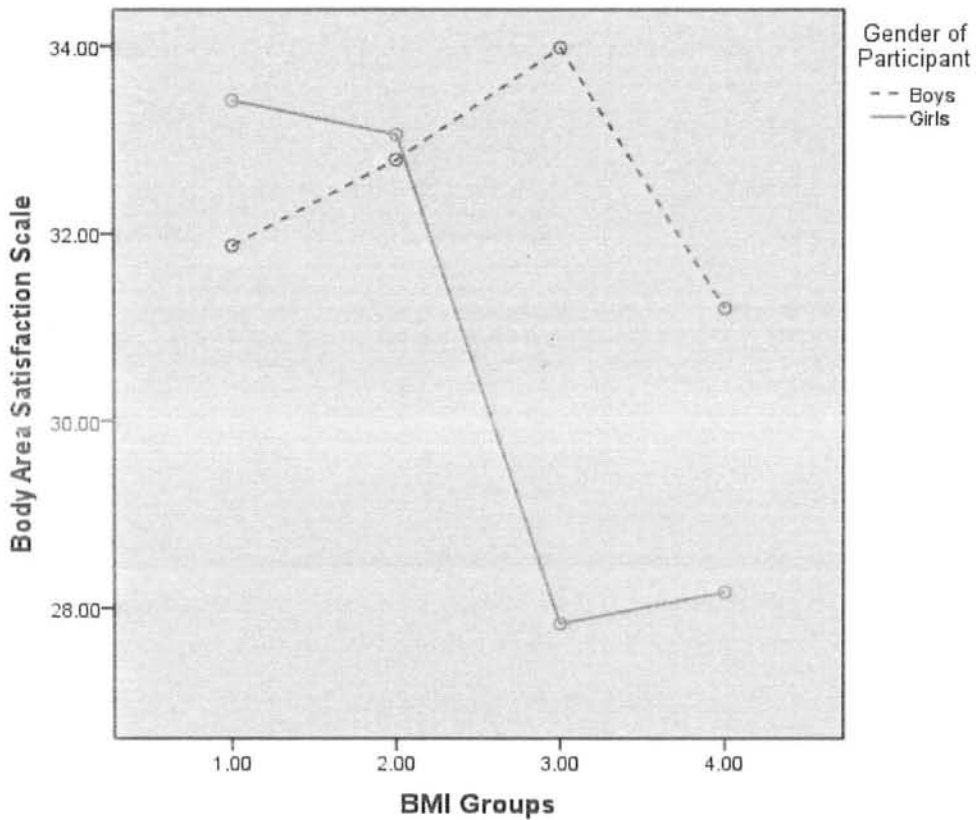
Figure23. Interactive Effect of gender and BMI groups on Body Area Satisfaction

As depicted in Figure 23, underweight adolescents' girls score higher on body area satisfaction as compared to overweight and obese. Moreover results indicated that underweight boys show more body area satisfaction as compared to girls. With the boys group on BMI, the overweight boys report more body area satisfaction as

compared to other groups. Obese group reported the lowest body are satisfaction for both sexes but girls are showing more dissatisfaction as compared to boys.

Table 49

2 x 4 Analyses of Variance for Gender (boys and girls) x BMI Groups (underweight, normal weight, overweight, and obese) on Overweight Pre-Occupation (N= 1250)

Source	Sum of Squares	df	Mean Squares	F	p	η^2_p
Gender	230.353	1	230.353	17.963	.000	.015
BMI Groups	312.541	3	104.180	8.124	.000	.020
Gender x BMI Groups	177.418	3	59.139	4.612	.003	.012
Error	15093.596	1177	12.824			
Total	146244.313	1185				
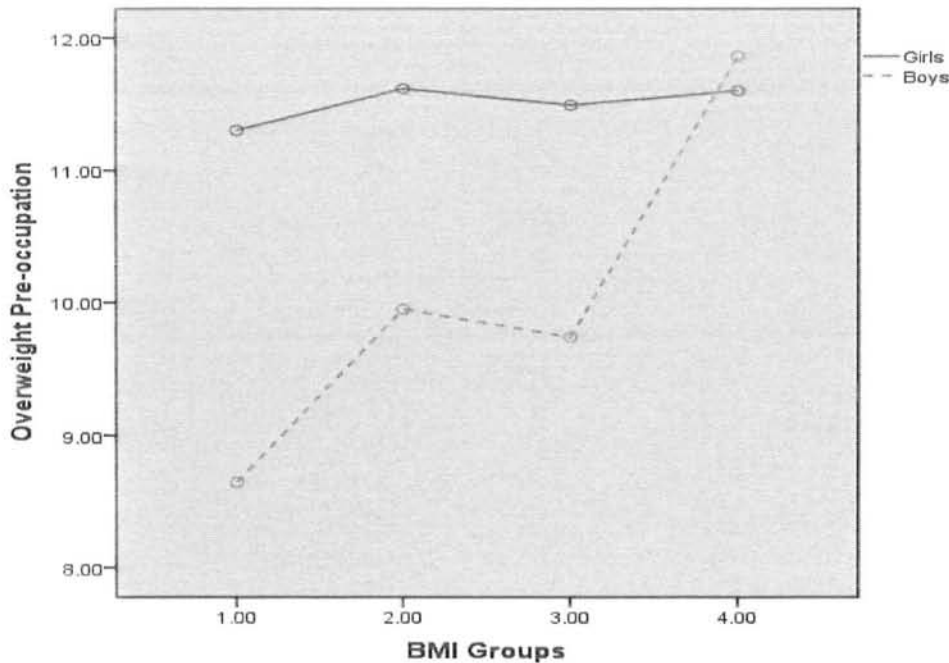
Figure 24. Interactive Effect of gender and BMI groups on Overweight Pre-Occupation

Table 49 represents the findings of multivariate analysis for assessing influence of gender and BMI on Overweight pre-occupation. The F values for main effect ad combined effect are found significant. The interactive effect has been illustrated in Figure 24, indicate normal weight adolescents girls show more overweight pre-occupation as compared to other three groups. Moreover results indicated that there is gradual increase in overweight pre-occupation among boys and obese boys are found to be more pre-occupied with weight as compared to girls. Overweight pre-occupation means fat anxiety is found to be higher in normal weight adolescents is a sign of their constant worry over gaining weight. Interestingly, findings show that this fat anxiety is less among over-weight adolescents as compared to normal weight adolescents but it increases to its peak among obese adolescents.

Role of BMI groups and exercise on eating attitude and body image. In order to see the combined effect of BMI groups and exercise on eating attitude and body image, the multivariate analyses of variance was performed. The significant combined effects are found for eating attitude and overweight pre-occupation. The results are presented in Table 50. Table represents the findings of multivariate analysis for assessing influence of exercise and BMI groups on eating attitude. The F values for main effect and combined effect are found significant. The interactive effect has been illustrated in Figure 25.

Table 50

3 x 4 Analyses of Variance for Exercise (yes, no, and sometime) x BMI Groups (underweight, normal weight, overweight, and obese) on Eating Attitude (N= 1250)

Source	Sum of Squares	df	Mean Squares	F	p	η^2_p
Exercise	4072.430	2	2036.215	6.779	.001	.013
BMI Groups	16649.104	3	5549.701	18.476	.000	.001
Exercise *x* BMI Groups	1232.861	6	205.477	.684	.048	.018
Error	290162.832	966	300.376			
Total	1.327E7	978				
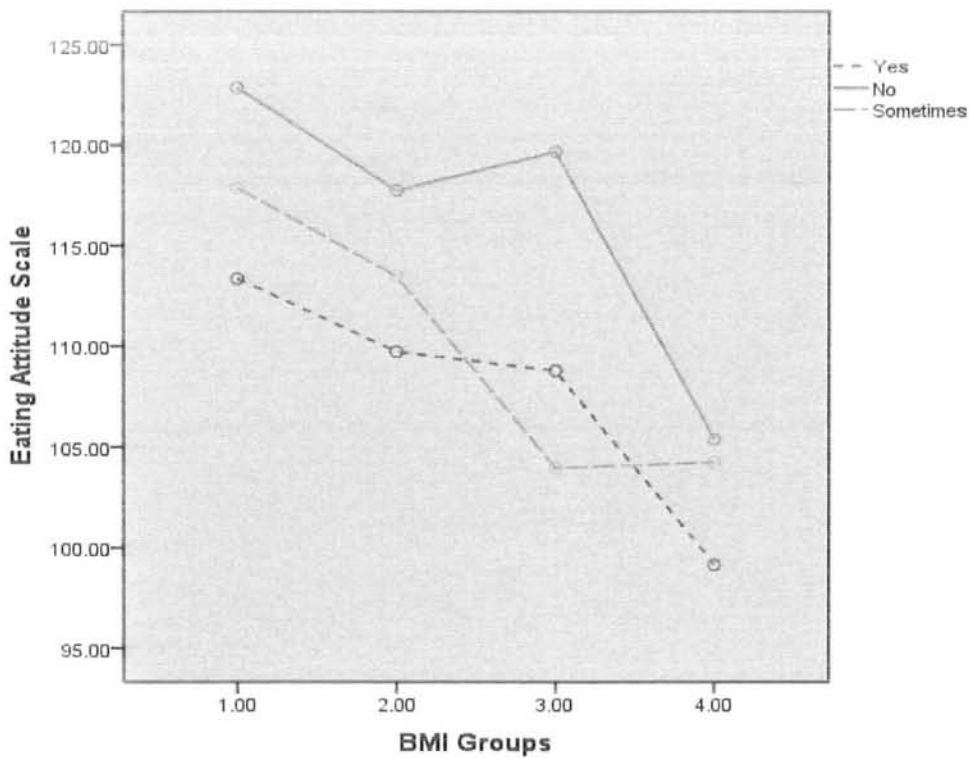
Figure 25. Interactive Effect of Exercise and BMI groups on Eating Attitude.

As depicted in Figure 25, underweight adolescents who do not exercise show more negative eating attitude as compared to underweight adolescents who exercise regularly and sometime. Interestingly, overweight adolescents who exercise regularly show more negative eating attitude as compare to those who exercise sometimes is a sign of constant worry over the weight among regular exercisers. Obese adolescents who do not exercise show better eating attitude may reflect their lack of concern over weight with reference to their eating and do not bother to exercise to regulate their weight.

Table 51

3 x 4 Analyses of Variance for Exercise (yes, no, and sometime) x BMI Groups (underweight, normal weight, overweight, and obese) on Overweight Pre-occupation (N= 1250)

Source	Sum of Squares	df	Mean Squares	F	p	η^2_p
Exercise	236.694	2	118.347	8.859	.000	.015
BMI Groups	388.119	3	129.373	9.684	.000	.001
Exercise x BMI Groups	101.437	6	16.906	1.266	.030	.041
Error	15616.893	1169	13.359			
Total	145875.313	1181				

Table 51 represents the findings of multivariate analysis for assessing influence of exercise and BMI on overweight pre-occupation. The *F* values for main effect and combined effect are found significant. The interactive effect has been illustrated in Figure 26.
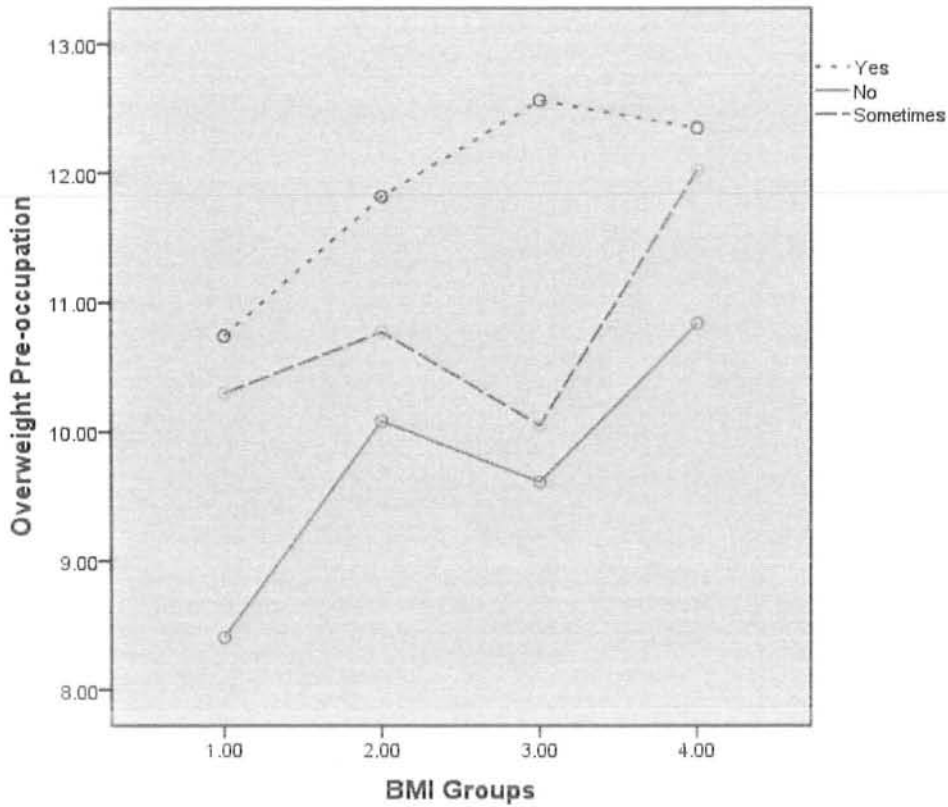
Figure 26. Interactive Effect of Exercise and BMI groups on Overweight Pre-occupation

As depicted in Figure 26, overweight adolescents are more pre-occupied with weight and exercise regularly as compared to other three groups (i.e., underweight, normal, and obese). Overweight adolescents who exercise regularly are found to be more pre-occupied with fat anxiety as compared to underweight and obese adolescents. Moreover, results indicated overweight adolescents who do not exercise and exercise sometimes show less overweight pre-occupation as compared to normal and obese adolescents, is sign that as compared to normal weight and obese adolescents who do not exercise and exercise sometime show less fat anxiety so do not put much effort on exercise to control their weight.

Food items preference of adolescents in daily routine. During the data collection in their demographic sheet adolescents were asked to share how many of the following food items i.e., rice, bread, egg, milk or yogurt, fruits or juices, lentils, cheese, *desi ghee*, and butter, cold drinks, and sweets are included in their daily food. These preferences were identified in the Study I during the qualitative exploration of phenomenon of eating attitude. These food items were found famous and eaten more by Pakistani adolescents among available food options. It also reflects nutritional awareness in adolescents to choice in food items. In order to see food preferences among adolescents' frequencies and percentages on each food item were calculated. Because of the presence of some missing data on each category of food preference the total number of participants has been mentioned in each category of food preference.

Table 52

Frequencies and percentages on each food item reports by adolescents (N= 1250)

Food Items	Never $f(\%)$	Rarely $f(\%)$	Sometime $f(\%)$	Often $f(\%)$	Always $f(\%)$
Rice	9 (0.70)	42 (3.4)	413 (33.0)	551 (44.1)	220 (17.6)
Bread	13 (1.0)	43 (3.4)	277 (22.0)	401 (32.1)	499 (39.9)
Egg	40 (3.2)	61 (4.9)	231 (18.5)	258 (20.6)	643 (51.4)
Milk or yogurt	46(3.7)	114 (9.1)	330 (26.4)	306 (24.5)	438 (35.0)
Fruits or juice	20 (1.6)	55 (4.4)	248 (19.8)	351 (28.1)	562 (45.0)
Lentils	36 (2.9)	107 (8.6)	391 (31.3)	402 (32.2)	294 (23.5)
Cheese, *desi ghee,* butter	117 (9.4)	175 (14.0)	416 (33.3)	362 (29.0)	160 (12.8)
cold drinks	98 (7.8)	238 (19.0)	393 (31.4)	271 (21.7)	227 (18.2)
sweets	108 (8.6)	271 (21.7)	480 (38.4)	260 (20.8)	112 (9.0)

Table 52 represented frequencies and percentages of food items included in the daily diet of adolescents. Results indicated highest percentage for rice (44.1) on response category of "Often". Highest percentage for bread (39.9), eggs (51.4), milk and yogurt (35.0), and fruits or Juice (45.0) can be seen on response category of always. For lentils, highest percentage can be seen on response category of "Often" i.e., 32.2. Highest percentage for cheese and *desighee* were found on sometime i.e., 33.3. For cold drinks and sweets highest percentages were seen on the response category of sometime i.e., 31.4 and 38.4 respectively. On the basis of above mentioned results it can be concluded that mostly adolescents do not show the common food choices and do not show any unique trends in their food preferences.

Role of number of meals per day in eating attitude and food myths. There is a lot of confusion about the optimal meal frequency, at least three meals a day is minimum requirement and many nutritionists believe eating breakfast gives the metabolism boost and fat burning start and at least three meals prevent to slow down the metabolism makes you healthy not obese and in turn helps to establish the positive feelings toward eating (Gunnars, 2013). Adolescents were asked in the demographic sheet that how many meals they took during the whole day. On their responses whole sample was divided into four groups. Those, who took one meal to four or more times a day. To see the distribution of sample across gender on meals per day the bar graph is presented at Figure 27.
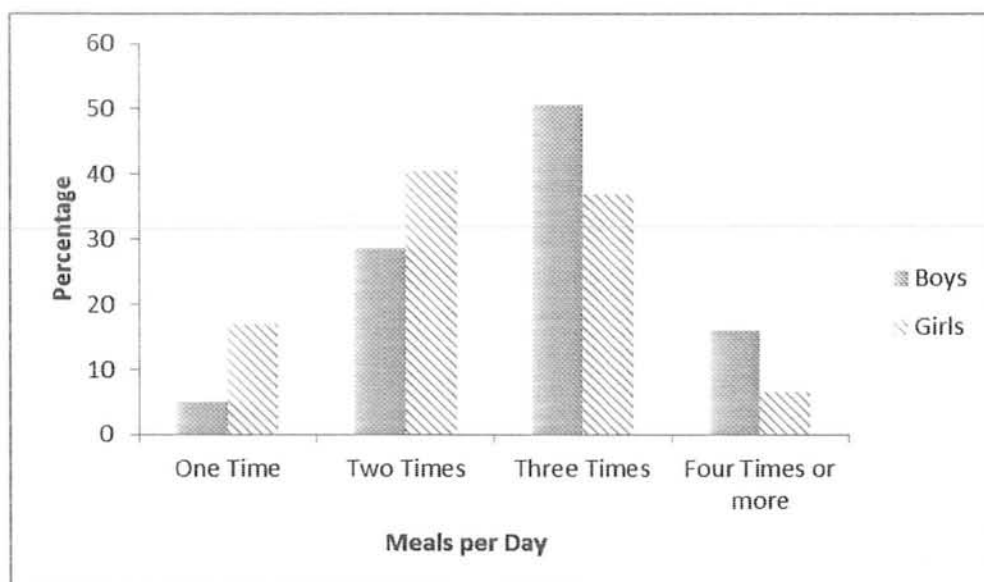
Figure 27. Distribution of Sample of Boys and Girls on Meals per Day.

Figure 27 indicate the gender distribution among adolescents across meals per day. Out of 1250 adolescents, highest frequency percentages for boys were found on three meals a day (51.61%). Girls reported highest percentage is on two meals per day (40.6%). Boys show the high percentages (15.9) on "four or more meals a day" as compared to girls (6.5%) while girls show high percentage (17.0%) on one meal per day as compared to boys (5.0%). Furthermore, to see the differences on meals per day analysis of variance with post hoc analysis was computed for eating attitude, food myths, disordered eating behavior, and body image.

Table 53

Comparison along Number of Meals per Day on Eating Attitude and its Subscale among Adolescents (N = 1250)

Scale	One time (n = 130) M (SD)	Two Times (n = 299) M (SD)	Three Times (n = 493) M (SD)	Four or more times (n =172) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
EAS	124.41 (31.46)	119.74 (20.27)	120.49 (18.05)	114.08 (18.01)	1.86*	1>2	4.67	-8.39	17.73
						1>3	3.92	-8.86	6.69
						1>4	10.32	-4.12	4.81
						2<3	-.75	-5.82	4.31
						2>4	5.65	-2.84	4.15
						3>4	6.40	-1.64	4.45
FRB	67.56 (21.23)	63.79 (17.84)	67.94 (14.58)	66.04 (16.54)	2.54*	1>2	-.88	-1.18	9.41
						1>4	1.01	-9.60	12.70
						2<3	-4.15*	-8.13	-.156
						2<4	-2.24	-9.06	4.57
						3>4	1.90	-4.56	8.36
OE	32.95 (11.71)	36.41 (7.44)	34.95 (7.35)	39.46 (8.49)	24.64*⁾	1>3	1.99	-1.41	5.40
						1>4	10.48*	6.59	14.38
						2>3	1.45*	0.10	2.81
						2>4	9.95*	7.62	12.27
						3>4	8.49*	6.28	10.70
IER	21.73 (4.67)	18.56 (5.34)	16.79 (5.90)	21.59 (5.47)	24.95*⁾	1>2	2.71*	0.39	5.03
						1>3	5.20*	2.94	7.47
						2>3	2.49*	1.56	3.43
						2<4	-3.07*	-4.72	-1.42
						3<4	-5.57*	-7.14	-3.99

Note. between group df = 3; within group df = 1246; group total df = 1249.

EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating- Eating Attitude Scale; IER = Irregular Eating routine; FMS = Food Myths Scale.

* p < .05, ** p < .0.01, *** p < .001.

Table 53 shows mean differences on number of meals per day on eating attitude scale and its subscales. Adolescents with one meal a day show more negative eating attitude as compared three times a day, two times a day, and four times a day respectively. Similar trends can be seen with reference to food relation with body, overeating, and irregular eating routine.

Table 54

Comparison along Number of Meals per Day on Food Myths Scale among Adolescents (N = 1250)

Scale	One time (n = 130) M (SD)	Two Times (n = 299) M (SD)	Three Times (n = 493) M (SD)	Four or more times (n =172) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
FMS	45.31 (18.74)	35.53 (14.28)	34.37 (11.54)	40.90 (13.25)	6.358**	1>2	9.78*	3.67	15.89
						1>3	10.93*	4.97	16.90
						1>4	5.22	-1.69	12.14
						2>3	1.15	-1.26	3.57
						2<4	-4.55*	-8.83	-.28
						3<4	-5.71*	-9.77	-1.64

Note. between group *df* = 3; within group *df* = 1246; group total *df* = 1249.

FMS = Food Myths Scale.

* *p* < .05, ** *p* < .0.01, *** *p* < .001.

Table 54 showed mean differences on number of meals per day on food myths scale. Adolescents with one meal a day are more food myths believer as compares to rest of three categories and it is sign that people with more food myths beliefs restrict their eating and they are not inclined to experiment with food to challenge their belief on myths rather their intake of food is limited to one time mostly.

Role of age on eating attitude, food myth, body image dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. To see the mean differences on age the sample was divided into two main groups i.e., middle adolescents (age ranges from 16-18 years) and late adolescents/young adults (age ranges from 19-22 years) (Printz, 2002).

Table 55

Mean, standard deviation, and t-values for Middle and Late Adolescents on study variables among Adolescents (N = 1250)

Scale	Middle Adolescents (n = 603)		Late Adolescents/ Young Adults (n = 647)				95% CI		Cohen's d
	M	SD	M	SD	t	p	LL	UL	
EAS	114.03	17.36	115.89	18.67	1.62	.10	-4.10	.38	.10
FRB	63.63	14.02	64.65	15.17	1.15	.24	-2.76	.71	.06
OE-EAS	32.82	7.16	32.89	7.36	.16	.87	-.92	.78	.00
IER	16.54	4.29	17.37	4.61	**3.14**	.00	-1.35	-.31	.36
FMS	36.22	11.27	38.43	12.12	**3.01**	.00	-3.6	-.76	.31
Ext	37.31	5.73	37.67	6.11	1.05	.29	-1.0	.31	.06
DEBS	96.49	15.55	97.02	14.40	0.61	.54	-2.23	1.17	.03
AE	20.56	4.31	21.48	4.18	**3.73**	.00	-1.39	-.43	.21
AO	39.60	8.09	40.43	7.85	1.80	.07	-1.73	.07	.10
OP	10.40	3.76	10.45	3.79	.23	.81	-.47	.37	.01
BAS	32.43	8.25	32.99	8.18	1.17	.24	-1.49	.37	.06

Note. df = 1248; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating-Eating Attitude Scale; IER = Irregular Eating routine; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myths Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating-Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal.

Table 55 indicated the mean differences for middle and late adolescents on study subjects and results indicated significant values for irregular eating routine, food myths, and appearance evaluation. It was found that late adolescents score higher on irregular eating routine and more concerned about their appearance evaluation as compared to middle adolescents. Results in Table 55 showed that late adolescents are more food myths believers as compared to middle adolescents.

Role of exercise on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. To see the mean differences on exercise whole sample was divided into three groups "Yes", "No", and "Sometimes". To see differences on exercise, analysis of variance were computed for adolescents on eating attitude scale and its subscales i.e., food relation with body, overeating, irregular eating routines, food myths, and extraversion.

The results presented in the Table 56 represent the differences among adolescents on exercise and adolescents who do not exercise or physical workout show more negative eating attitude as compared to those who exercise regularly and sometimes. Adolescents with higher score on food relation with body exercise regularly as compared to those adolescents who score less. Adolescents with no exercise score higher on overeating as compared to those who exercise regularly or sometime. There is nonsignificant difference on irregular eating routines, food myths. People with higher extravert tendencies follow exercise regularly as compared to those who exercise sometimes and no differences exist with No exercise status.

Table 56

Comparison along Exercise on Eating Attitude and its Subscale and Food Myths Scale (N = 1250)

Scales	Yes (n = 263) M (SD)	No (n =337) M (SD)	Sometime (n =650) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
EAS	114.23 (16.72)	116.08 (18.06)	111.10 (18.34)	1.27*	1<2	-.84	-8.66	6.96
					1>3	3.97	-.93	8.89
					2>3	2.58	-.56	8.28
FRB	67.30 (12.96)	64.04 (14.58)	62.88 (16.48)	1.83*	1>2	3.26	-2.44	8.97
					1>3			
					2>3			
OE	30.03 (5.35)	33.04 (7.23)	30.58 (7.35)	5.864*	1<2	3.16*	-5.58	-.44
					2>3	2.46*	.62	4.31
IER	17.00 (4.28)	18.92 (4.48)	17.35 (3.76)	.281	n.s	.07	-1.59	1.75
FMS	39.88 (19.76)	39.33 (11.57)	39.67 (9.19)	1.452	n.s	2.54	-2.11	7.20
Ext	37.15 (6.00)	35.55 (5.91)	35.50 (5.75)	3.674*	1>3	1.65	-.83	4.13
					2>3	2.04*	.55	3.53

Note. EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating- Eating Attitude Scale; IER = Irregular Eating routine; FMS = Food Myths Scale; Ext = Extraversion; 1 = Yes; 2 = No; 3 = Sometime.

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

Table 57

Comparison along Exercise on Disordered Eating Behavior Scale and its Subscales (N = 1250)

Scale	Yes (n = 263) M (SD)	No (n =337) M (SD)	Sometime (n =650) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
DEBS	94.22 (16.32)	96.92 (15.05)	92.15 (13.69)	3.472*	1>3	2.07	-4.24	8.38
					2>3	4.76*	.97	8.55
SPE	22.78 (5.67)	22.90 (5.16)	22.14 (5.36)	.659	n.s	-.127	-1.92	1.67
ECH	19.06 (4.03)	19.02 (3.73)	17.52 (3.64)	4.922**	1>3	1.53	-.03	3.11
					2>3	1.50*	.56	2.44
EW	24.68 (5.20)	25.78 (5.48)	25.11 (5.38)	1.052	n.s	-1.09	-2.99	.80
OE	23.86 (5.17)	25.26 (4.88)	24.03 (5.07)	3.109*	1<2	-1.40	-3.10	.29
					1<3			
					2>3	1.23	-.05	2.46

Note. DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating- Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal; 1 = Yes; 2 = No; 3 = Sometime.
*p < .05, **p < .01.

Table 57 indicated adolescents who exercise regularly show less disordered eating behavior as compared to those who do not exercise. Adolescents with higher scores on eating choices and habits exercise regularly. Adolescents with no exercise score higher on overeating as compared to those who exercise regularly or sometime.

Table 58

Comparison along Exercise on Subscales of MBSRQ-AS Urdu Version (N = 1250)

Scale	Yes (n = 263) M (SD)	No (n =337) M (SD)	Sometime (n =650) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
AE	20.41 (4.77)	21.04 (4.24)	21.14 (4.44)	.370	n.s	-.62	-2.11	.85
AO	36.50 (8.36)	40.07 (7.96)	39.85 (7.94)	3.21*	1< 2	-3.56*	-6.32	-.79
					1< 3			
					2>3	3.56*	.79	6.32
OP	10.84 (4.09)	10.39 (3.78)	11.58 (3.37)	3.19*	1<3	-.73	-2.32	.84
					2<3	-1.19*	-2.14	-.242
BAS	32.81 (9.14)	32.55 (8.27)	33.05 (7.36)	.124	n.s	.26	-2.60	3.12

Note. AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; 1 = Yes; 2 = No; 3 = Sometime.

*p ≤ 0.05, **p ≤ 01.

The results presented in the Table 58 represent the differences among adolescents on exercise and MBSRQ-AS subscales. Adolescents with higher score on appearance orientation do not exercise as compared to those who exercise regularly and sometime. Similarly, adolescents with higher score on overweight preoccupation score higher on exercise sometime as compared to those adolescents who exercise regularly and do not exercise.

Role of family system related differences on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. Family structure help in adapting life style and is recognized as critical indicator for family working (Nigar, 2014). To see the mean

differences on nuclear and joint family systems, *t*-analyses were computed for adolescents on Eating Attitude, Food myths, Body Dissatisfaction, Extraversion, Disordered Eating Behavior, and Body Mass Index.

Table 59

Mean, standard deviation, and t-values on study variables among Adolescents living in Nuclear and Joint Family Systems (N = 1250)

Scales	Nuclear Family System (n = 830)		Joint Family System (n = 420)		*t*	*p*	95% CI		Cohen's
	M	*SD*	*M*	*SD*			*LL*	*UL*	*d*
EAS	114.9	18.46	114.76	17.46	.18	.85	-2.15	2.60	.00
FRB	63.88	14.86	64.47	14.32	.63	.52	-2.43	1.24	.00
OE-EAS	33.02	7.28	32.57	7.13	.98	.32	-.44	1.32	.06
IER	17.15	4.53	18.59	4.38	2.05	.04	.02	1.11	.47
FMS	37.37	11.64	37.65	11.95	.36	.71	-1.79	1.23	.02
Ext	37.45	5.93	37.36	5.85	.24	.81	-.61	.78	.01
DEBS	96.63	14.44	96.66	16.12	.03	.97	-1.75	1.80	0.00
SPE	22.91	5.45	22.73	5.24	.56	.57	-.43	.78	.03
ECH	18.94	3.66	18.96	3.90	.06	.95	-.45	.42	.00
EW	25.69	5.44	25.82	5.52	.40	.68	-.78	.51	.02
OE-DEBS	25.12	4.79	25.29	5.12	.57	.56	-.74	.40	.03
AE	21.23	4.29	20.58	4.23	2.55	.01	.15	1.16	.35
AO	40.39	7.78	39.03	8.37	2.82	.00	.41	2.30	.66
OP	10.58	3.84	10.28	3.59	1.08	.27	-.19	.69	.08
BAS	32.74	8.25	32.18	8.21	1.12	.26	-.41	1.53	.06

Note. *df* = 1248; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating-Eating Attitude Scale; IER = Irregular Eating routine; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myths Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating-Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal; BMI = Body Mass Index.

Table 59 indicated the mean differences on nuclear and joint family systems among adolescents and results indicated most of the values are nonsignificant except eating routine, appearance orientation and appearance evaluation. Results indicated the adolescents living in nuclear family systems show irregular eating routines as compared to adolescents living in joint family system. Similarly, adolescents those living in nuclear family system shows higher mean value on appearance evaluation and appearance orientation.

Role of study disciplines (science and arts) on eating attitude, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. Pereira, Trevisol, Quevedo, and Jornada (2011) studied there was a strong trend toward eating disorders in the health science students and that inadequate weight loss strategies are frequently used in this population. Inam et al. (2003) found medical students as food myths believers. Therefore it is important to study this difference among science and humanities students. To see the mean differences on study subjects sample was divided into two groups i.e. science and arts groups. t-analyses were computed for adolescents on eating attitude, food myths, body dissatisfaction, extraversion, disordered eating behavior, and BMI.

Table 60

Mean, standard deviation, and t-values on study variables among Adolescents studying in Science and Arts Discipline (N = 1250)

Scales	Science (n = 643)		Arts (n =607)				95% CI		Cohen's
	M	SD	M	SD	t	p	LL	UL	d
EAS	115.48	17.02	113.70	20.26	**2.44**	.04	-.64	4.20	.39
FRB	64.82	13.98	62.47	15.80	**2.47**	.01	.48	4.21	.35
OE-EAS	32.52	6.99	33.61	7.65	**2.37**	.01	-1.99	-.18	.44
IER	17.10	4.47	16.72	4.47	1.34	.18	-.17	.93	.08
FMS	38.34	11.87	35.53	11.15	**3.59**	.00	1.27	4.33	.44
Ext	37.22	5.92	38.78	5.90	1.53	.12	-1.27	.155	.09
DEBS	97.19	14.18	95.16	17.01	**2.16**	.03	.194	3.86	.59
SPE	23.18	4.88	22.12	5.72	**3.3**	.00	.43	1.68	.59
ECH	19.01	3.53	18.73	4.22	1.19	.29	-.17	.73	.07
EW	25.73	5.24	25.72	5.96	.02	.98	-.65	.67	.00
OE-DEBS	25.35	4.75	26.67	5.25	**2.25**	.02	.08	1.27	.43
AE	20.95	4.08	21.06	4.63	.44	.65	-.63	.40	.02
AO	39.76	7.60	40.17	8.81	.84	.39	1.38	.55	.04
OP	10.39	3.63	10.57	4.07	.77	.44	-.63	.27	.03
BAS	32.42	7.97	32.76	8.80	.67	.49	-1.34	.65	.04

Note. df = 1248; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating-Eating Attitude Scale; IER = Irregular Eating routine; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myths Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating-Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal.

Table 60 indicated the mean differences on science and arts study subjects among adolescents and results indicated significant mean differences on eating attitude, food relation with body, overeating, and food myths. Interestingly findings indicate that science students show more negative eating attitude and are more food myths believers as compared to students studying arts group. Tendency of overeating is found among arts group students as compared to science students.

Role of residence of participants and eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index among adolescents. Students living in hostels face many difficulties and hurdles including change in normal eating and sleeping, they become more social and follow the irregular eating routine (Iftikhar & Ajmal, 2015. Hostel students due to their limited approach toward food start to develop their own eating habits different from what they learn from family effect their health in long term (Famy & Phoebe, 2011). To see the mean differences on residence of participants including hostel and home residence of participants, t-analyses were computed for adolescents on eating attitude, food myths, body dissatisfaction, extraversion, disordered eating behavior, and BMI.

Table 61

Mean, standard deviation, and t-values on study variables among Adolescents Living in Homes and Hostels (N = 1250)

	Hostel (n = 147)		Home (n = 1103)				95% CI		Cohen's
Scale	M	SD	M	SD	t	p	LL	UL	d
EAS	118.06	17.51	114.61	18.13	1.72	.08	-.47	7.39	.13
FRB	67.00	15.12	63.77	14.62	**2.09**	.03	.21	6.24	.37
OE-EAS	31.47	6.40	33.02	7.29	**2.11**	.03	-2.98	-.11	.46
IER	17.55	4.09	16.91	4.49	1.43	.15	-.23	1.51	.14
FMS	41.90	13.94	36.97	11.40	**4.04**	.00	2.53	7.30	.58
Ext	36.13	6.10	37.57	5.87	**2.51**	.01	-2.56	-.31	.41
DEBS	94.70	15.34	96.80	14.99	1.43	.15	-4.96	.76	.138
SPE	22.76	4.99	22.86	5.21	.21	.83	-1.09	.88	.019
ECH	18.68	3.65	18.97	3.77	.78	.43	-1.00	.42	.078

	Hostel (n = 147)		Home (n = 1103)				95% CI		Cohen's
Scale	M	SD	M	SD	t	p	LL	UL	d
EW	24.92	5.61	25.81	5.45	1.68	.09	-1.93	.14	.160
OE-DEBS	24.47	5.20	25.23	4.86	1.59	.11	-1.69	.17	.151
AE	20.55	4.15	21.07	4.28	1.25	.21	-1.33	.29	.123
AO	38.09	7.67	40.13	8.00	**2.63**	.00	-3.56	-.52	.260
OP	9.79	3.60	10.51	3.79	**1.95**	.05	-1.43	.00	.197
BAS	32.48	8.02	32.61	8.28	.15	.88	-1.69	1.45	.015

Note. df = 1248; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating-Eating Attitude Scale; IER = Irregular Eating routine; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myths Scale; Extra = Extraversion; DEBS = Disordered Eating Behavior Scale; OE-DEBS = Over Eating-Disordered Eating Behavior Scale; ECH = Eating Choices and Habits; SPE = Social Pressure to Eat; EW = Eating Withdrawal.

Table 61 indicated the mean differences on study subjects among adolescents living in hostel and home and results indicated most of the values are nonsignificant except food relation with body, overeating, food myths scale, extraversion, appearance orientation, and overweight preoccupation. Adolescents living in hostel show more concern over food relation with body while students living in home are more prone toward overeating. Students living in hostel are more food myths believers as compared to those living in home. Adolescents living in home are more extroverts and showed more concern over appearance orientation and overweight preoccupation.

Role of family income and eating attitudes, food myths, body dissatisfaction, and BMI. In order see the family income related differences whole sample was divided into three groups based on their family income. First group was

with family income upto 20,000 Pakistani rupees was labeled as low, second group
with family income ranges 21,000 to 50, 000 Pakistani rupees labeled as Middle, and
third group with family income 51,000 or above Pakistani rupees labeled as high. To
see the mean differences, one way ANOVA was computed and results are presented
in Table 62 and 63.

Table 62

*Comparison along Family Income on Eating Attitude and its Subscale and Food
Myths Scale, and BMI (N = 1250)*

Scales	Upto 2000 Rs. (n = 333) M (SD)	20000 to 50000 Rs. (n =673) M (SD)	51000 Rs. and Above (n =244) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
EAS	141 (22.66)	143 (24.68)	142 (23.15)	6.09*	1<2	2.36*	-2.18	3.63
					1<3	1.77*	-3.83	-2.18
					2>3	1.33*	-3.25	4.50
FRB	79.21 (16.46)	80.13 (16.28)	78.13 (19.83)	0.88	n.s	0.87	0.32	1.62
OE	33.48 (8.10)	34.07 (7.72)	33.34 (8.40)	5.07*	1<2	0.58*	-.47	1.69
					1<3	0.73*	-1.42	1.13
					2>3	0.84*	-1.21	1.02
IER	17.58 (3.43)	16.11 (3.61)	15.12 (3.68)	5.69*	1>2	0.46*	-.05	.94
					1>3	0.24*	-.94	.01
					2>3	0.29*	-2.20	-.87
FMS	17.91 (3.89)	18.54 (4.12)	17.18 (3.76)	8.35**	1<2	1.53*	2.12	3.23
					1>3	1.85*	2.42	4.51
					2>3	1.92*	4.04	1.73
BMI	19.08 (3.69)	20.41 (15.34)	20.60 (11.51)	1.47	n.s	1.33	-2.00	3.46

Note. EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating- Eating Attitude
Scale; IER = Irregular Eating routine; FMS = Food Myths Scale; 1 = 20000 Rs; 2 = 20000-50000Rs; 3
= 51000 Rs. and Above

$*p < .05, **p < .01.$

Results in Table 62 indicated significant differences on eating attitude scale among adolescents for different family income groups. Adolescents from middle income group show more negative eating attitudes as compared to high and low income groups. Similarly, adolescents from middle income class show more overeating behavior as compared to low and high income class students. Adolescents from low income class show more irregular eating routines as compared to middle and high income class. Middle income class adolescents are found more food myths believers as compared to low and high income class adolescents.

Table 63

Comparison along Exercise on Subscales of MBSRQ-AS Urdu Version (N = 1250)

Scales	Upto 2000 Rs. (n = 333) M (SD)	20000 to 50000Rs. (n =673) M (SD)	51000 Rs. and Above (n =244) M (SD)	F	i-j	Mean D.(i-j)	95% CI LL	UL
AE	19.94 (4.37)	22.47 (4.14)	21.29 (4.29)	14.72**	1<2	1.52*	-2.09	-.96
					1<3	1.34*	0.66	2.02
					2>3	1.80*	-0.41	0.77
AO	38.87 (8.27)	40.52 (7.83)	39.83 (8.00)	4.63**	1<2	1.64*	-2.70	-0.58
					1<3	1.68*	-0.44	1.81
					2>3	1.95*	3.20	2.24
OP	10.57 (3.55)	10.47 (3.90)	10.30 (3.79)	.83	n.s	0.09	-0.40	0.59
BAS	33.93 (8.03)	31.53 (8.12)	32.89 (8.60)	10.58**	1>2	1.59*	-2.68	-0.54
					1>3	2.55*	-.36	2.27
					2<3	1.67*	.50	2.68

Note. AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; 1 = 20000 Rs; 2 = 20000-50000Rs; 3 = 51000 Rs. and Above.
$*p \leq 0.05, **p \leq 01.$

Results in Table 63 reflected body image related differences across adolescents from different income groups. Middle class adolescents show more negative evaluation and high on appearance orientation concerns as compared to low and high class adolescents. Adolescents from low income class show more body area satisfaction as compared to high and middle class adolescents. There are nonsignificant differences on overweight pre-occupation, mean fat anxiety is same for adolescents from different economic classes.

Comparison along low and high food myths believers on eating attitudes, BMI, body dissatisfaction, age, and weight. In order to see the differences among low and high food myths believers for study variables, the data was divided into two groups based on their scores. The group of adolescents score on lowest 33 cumulative percent was labeled as low food myths believers and top 33 cumulative percent was labeled as high food myths believers. To see the mean differences, t analysis was computed and results are presented in Table 64.

Results revealed high food myths believers score high on food relation with body, appearance evaluation, disordered eating behavior scale, BMI, actual and ideal weight of the participants. Moreover, results show low food myths believers are high on extraversion personality traits, overeating, appearance orientation, and body area satisfaction. It can be seen in the results that high food myths believers score high on BMI mean with increase in weight, one become more food myths believer and evaluate his/her appearance more negatively with low grooming efforts and show dissatisfaction with body areas. In comparison with high food myths believers, low food myths believers reflect healthy personality and score high on extraversion

personality traits. As we grow older, our attitudes get stable and stereotypical beliefs become constant so may be the reason late adolescents/young adult group is high food myths believers as compared to middle adolescents group. The results can be seen in Table 64.

Table 64

Means, Standard Deviations, and t values on Study Variables across High and Low Food Myths Believers (N = 1250)

Variables	Low Food Myths Believers (n =352)		High Food Myths Believers (n = 347)		t	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
EAS	114.83	19.21	115.80	18.43	.60	.54	-4.09	2.16	.05
FRB	62.87	15.34	65.18	14.56	1.89	.05	-4.69	.07	.42
OE-EAS	33.95	7.68	32.55	6.95	2.39	.01	.25	2.56	.56
IER	16.84	5.06	17.25	4.09	1.12	.26	-1.13	.31	.14
Ext	38.96	6.325	36.23	5.675	5.81	.00	1.81	3.64	.39
DEBS	95.95	15.33	97.52	15.70	2.01	.04	.060	4.79	.44
AE	20.79	4.15	22.42	4.43	4.09	.00	.709	2.01	.60
AO	41.92	8.39	38.12	7.50	6.13	.00	2.58	5.02	.75
OP	10.17	4.03	10.40	3.53	.78	.43	-.81	.34	.01
BAS	33.69	8.58	32.17	8.197	2.33	.02	.24	2.80	.38
BMI	18.98	3.54	19.80	3.68	2.94	.00	-1.38	-.27	.54
Age	18.46	1.78	19.39	4.46	3.42	.00	-1.4	-.39	.79
AW (kg)	49.52	10.17	54.91	12.80	6.03	.00	-7.14	-3.63	.68
I W (kg)	49.92	11.88	56.56	12.65	-6.76	.00	-8.56	-4.70	.58

Note. *df* = 697; EAS = Eating attitude scale; FRB= Food Relation with Body; OE = Overeating; IER = Irregular Eating routines; AE = Appearance Evaluation; AO = Appearance Orientation; BAS = Body Area Satisfaction; OP = Overweight Preoccupation; FMS = Food Myth Scale; Ext = Extraversion; DEBS = Disordered Eating Behavior Scale; BMI = Body Mass Index; AW = Actual Weight of Participants: IW = Ideal Weight of Participants.

Discussion

This section explains all salient findings of the present research with reference to correlates of eating attitudes and food myths among adolescents. All the findings reported in this chapter are discussed here successively with reference to fill the gaps in existing literature especially in south Asian region. All the proposed hypotheses were supported by the data of present research. The present chapter-VII addresses the discussion on results followed by sequence of descriptives, Pearson product moment correlation to assess the correlates, Regression analysis to check predictability, mediation, moderation analyses, and demographics related differences on study variables.

To check the normality assumption for data the descriptive analyses were performed. Descriptive statistics on eating attitudes, food myths, disordered eating behavior, multidimensional body self-relation questionnaire along with their dimensions, and BMI were calculated by computing mean, standard deviations, Cronbach alphas, skewness, and kurtosis (see Table 25). For all the variables of study except BMI indicating data is normally distributed and parametric tests can be applied (Field, 2009). Positive values of kurtosis are a sign distribution curve is heavy tailed and pointed for those variables, whereas, negative values indicate flat and light tailed distribution of variables. The larger values of skweness and kurtosis for BMI indicate the presence of extreme values in data which helped to use the inferential statistics with reference to different BMI groups from underweight to obese. Moreover, according to Field (2013) if data exceeds than 1000 one can assume normality of data without much consideration of these larger values. The alpha coefficients show good

reliabilities of the scales, so they are reliable enough to conduct the inferential statistics. These indigenous scales i.e., eating attitude scale, food myths scale, and MBSRQ-AS Urdu version are genuine contribution in the field of psychology especially in the field of psychometry.

Relationship between Eating attitudes, Food myths, Body Image, and Body Mass Index

First objective of the present study was to see the relationship between eating attitudes, food myths, body dissatisfaction, disordered eating behavior, and body mass index. The results of correlation between eating attitudes and other variables of research are discussed successively.

Food myths and eating attitudes. Food myths reflect the cognitions toward certain foods and these false beliefs are important not only to approach the food but to establish the attitudes toward food and eating. Results of present study revealed significant positive correlation between food myth belief and negative eating attitudes among adolescents confirm the hypothesis no. 1 stated as "food myths belief is positively related with negative eating attitudes among adolescents". Changing customary conviction arrangement of a general public is an overwhelming task. Coaxing out the myths from reality and support it up with logical proof is additionally very troublesome. However none of it is unthinkable. The beginning stage in teaching the masses must be in preparing and instructing the wellbeing professionals (Inam et al., 2003). Myths and misguided judgments about food are broadly common in Pakistan. Inam et al. (2003) expressed that invariably patients ask the going to doctor

in regards to "*perhaiz*" or specific food confinements amid scene of ailment. Amusingly, nutrition is excluded in the undergrad medicinal educational modules of Pakistan with the exception of in a couple of restorative universities so might be the reason that even experts indicate cliché approach about food. Thus, a lot of dietary counsel given by doctors depends all alone observations as opposed to on any logical confirmation, this further strengthens social convictions relating to *perhaiz* and belief on food myths. As the findings of the present research indicate those adolescents who are food myths believers reflect negative eating attitudes. Furthermore, in the present study the data was analyzed with reference to food myths beliefs by taking into account the top and bottom extreme groups on the basis of 33 cumulative percent of data spread. Mean value on food myths scale show, adolescents are not high food myths believers overall. This may be the reason there are nonsignificant mean differences on eating attitude among high and low food myths believers (see Table 64). Results indicate high food myths believers develop negative food relation with body and restrict their food choices in turn control their overeating. As high food myths believers are those who like to avoid experimentation with different food items that narrow down their thoughts about food items and making them more stereotypical toward eating and food.

Body image and eating attitudes. Results revealed that appearance evaluation is negatively related with eating attitudes confirming hypothesis no. 2 stated as "adolescents with negative eating attitudes score low on appearance evaluation and body areas satisfaction among adolescents". Similarly the correlation between eating attitudes and overweight preoccupation is found positive and confirm

the hypothesis no. 3. Positive correlation between eating attitudes and appearance orientation is partially rejecting the hypothesis no. 3 which is stated as "adolescents with negative eating attitudes score high on appearance orientation and overweight preoccupation among adolescents".

Significant positive correlation between eating attitudes and overweight preoccupation confirms the hypothesis no. 3. These results are found to be consistent with existing literature that participants with an eating disorder had significantly lower values on the scales i.e., appearance evaluation and body areas satisfaction. Moreover, the two scales appearance evaluation and body areas satisfaction had high negative correlations with all variables that were related to the psychopathological eating (see Table 27). Previous researches have consistently shown body dissatisfaction to be associated with disordered eating (e.g., Forbes et al., 2012; Stice et al., 2002; Untas et al., 2009; Vossbeck-Elsebusch et al., 2014), a finding which is in line for the subscales appearance evaluation and body areas satisfaction reported in the present study.

For appearance orientation, the expectations that can be derived from the results of previous research are more complex. The subscale contains items that tap into checking behavior (e.g., "Before going out in public, I always note how I look" and "I check my appearance in a mirror whenever I can"). Some patients with an eating disorder show excessive body checking behavior (Reas et al., 2002), while others display avoidance behavior (Meyer et al., 2011; Untas et al., 2009; Vossbeck-Elsebusch et al., 2014), such as avoiding looking in the mirror or using few grooming products on their bodies. Therefore, the avoidance behavior of some participants

might have attenuated the overall group differences for appearance orientation. So in the present study appearance orientation found to be positively related with negative eating attitudes. Results can be justified as people with negative eating attitudes are found to be more concerned about their appearance and invest more energy and concentration to their looks and engage more in grooming behaviors. Participants with eating disorders reached significantly higher values for the overweight preoccupation scale, which is in accordance with our expectations, as overweight preoccupation forms part of the diagnostic criteria for anorexia and bulimia nervosa (DSM-5; American Psychiatric Association, 2013). According to the American Psychiatric Association (APA, 2000), eating disorders are characterized by severe disturbances in eating behavior of the individual intended to control body weight and accompanied by distorted body image (Mousa et al., 2010).

Present results are similar with the existing researches (Makino, Hashizume, Yasushi, Tsuboi, & Dennerstein, 2006; Mumford & Choudry, 2000; Spurgas, 2005). Makino et al.'s (2006) conducted a study on Japanese women living in Tokyo and found the same results among Japanese women. This is in result of Westernization in Japan that thin ideal image is being adopted by the Asian nations. Disordered eating often occurs with mood and anxiety disorders, as well as substance use (Lähteenmäki et al., 2014; Touchette et al., 2011). In contrast to the overvaluation of weight and shape, which has been conceptualized not only as a symptom but also as an important maintenance factor for eating disorders, women with bulimia nervosa also experience body image disturbance, including disturbances in the perceptual, cognitive-affective, and behavioral realms (Delinsky, 2011).

Body mass index and eating attitudes. The findings of the present research in correlation results showed that body mass index is positively related with negative eating attitudes, appearance orientation, and overweight pre-occupation. Elevated BMI is found to be negatively related with appearance evaluation and body area satisfaction. Appearance evaluation and body area satisfaction is negatively related with elevated body mass index, confirming the hypothesis no. 4 that "Elevated body mass index is negatively related with appearance evaluation and body area satisfaction among adolescents". Hypothesis No. 5 stated as "Body mass index is positively related with appearance orientation and overweight pre-occupation among adolescents" is fully supported by the results as results indicate positive relationship with BMI and overweight preoccupation. Increased BMI may lead to overweight preoccupation and high appearance orientation related concerns and individual with high BMI found to be dissatisfied with their body areas and negative evaluate their appearance. Body mass index is an indicator of body fatness and is considerable varying with age and gender. It is believed there is steady increase in BMI values with age (Kang & Choue, 2010). This increase in weight and BMI create unrest in adolescents with reference to body image perception (Minhas et al., 2010) and they start to gain control over body by restricting their eating and following unhealthy eating patterns and it bring them on risk to develop eating disorders (Friend et al., 2012).

Body Image as Predictor of Eating Attitudes

In the present research the predictability of eating attitudes has been confirmed by establishing a model by controlling the effect of gender, age, exercise, and family

system. Model represented extraversion, food myths, body mass index and appearance evaluations are relatively week predictors and overweight pre-occupation is found to be strong predictor as compared to others and these results are according to existing literature (Downs et al., 2007; Evans et al., 2013; Rosenberger & Dorflinger, 2013). Previous research on the relation between personality traits and eating disorders indicate perfectionism, rigidity, inefficiency, fearfulness, interpersonal distrust, and feeling of failure are registered in anorexia and bulimia nervosa (Lilenfeld et al., 2000). Some other personality traits such as increased emotional responsiveness and impulsiveness that found among extraverts can either result from or be augmented by the current status of bulimia (Herrod, 2013; Steinhausen, 2005;).

There are a few observationally bolstered models that fuse body image disappointment in the etiology or support of eating related problems. Dual path model (Stice et al., 2011) can be explained with reference to findings of the present research. As thin ideal standards are internalized by women in result of social pressure and westerns standards exposure in culture overall. It may lead to body dissatisfaction so the individual start to control his/her eating and develop unhealthy eating related attitudes and behaviors.

Present study findings revealed that adolescents' developed negative relation of food with body in negative eating attitudes and these negative feelings may likewise lead indirectly to voraciously consuming food through the negative influence related with caloric hardship or its relationship with the dangers to self-regard related with endless dieting failures. Present research findings reveal negative self-evaluation is positively

associated with overeating. Findings can be interpreted as body image disappointment is regularly connected with negative effect, to a great extent because of the hugeness of physical appearance to an individual's self-assessment in our general public. Negative influence may lead straightforwardly to gorging and voraciously consuming food since eating capacities to self-relieve and sustain or to divert or maintain a strategic distance from negative feelings (Crowther & William, 2011).

The present research findings show the excessive worrisome on weight and shape concerns influence the individuals' attitude toward eating, they are inclined to follow irregular eating routines, may overeat, and establish negativity with eating with reference to their body. Thin ideal standards to follow among adolescents in the present study confirm the assertions of sociocultural models explaining the eating related pathologies. Model emphasized that thin beauty ideal as risk factor for the development of unhealthy eating. This model explains cultural influence on individual in three steps; first is the individual's exposure to the thin ideal, second is the internalization and third is the experience of a conflict between these two. This develops body dissatisfaction and eating related behavioral issues (Fairburn, 2008; Hrabosky, 2011; Striegel-Moore & Bulik, 2007).

Moderation of Gender and Food Myths Between Body image and Eating Attitudes

The present research assumed gender as important antecedent to develop the negative eating attitudes with reference to body image dissatisfaction based on existing literature. Based on the importance of gender, moderation analyses were

planned to see effect of gender on relationship between and body dissatisfaction and eating attitudes. Gender has been found a moderator between body image and eating attitudes and it is evident in results (see Tables 29-33) that girls show more negative body image and eating attitudes as compared to boys. Results showed girls low on appearance evaluation usually unhappy with their body show more negative eating attitudes as compared to boys. Girls high on overweight pre-occupation and appearance orientation, put more efforts to look good show more negative eating attitudes as compared to boys. Boys low on body area satisfaction show more negative eating attitudes as compared to girls. The results are quite as per the expectations as women with eating pathology encounter body disappointment, operationally characterized here as the negative and useless emotions and convictions about one's shape and weight. For the most part, research has found that albeit generous extents of females over the life expectancy report body disappointment, ladies report body disappointment at altogether more elevated amounts than ladies without eating disorders. Women with eating disorders5report "feeling fat," an affair that may change inside and crosswise over days, and express noteworthy pain and worries about their shape and weight (Hill, Masuda, & Latzman, 2013). As the present research showed girls with high overweight pre-occupation and with low satisfaction with their body areas reflect more negative eating attitudes as compared to boys.

Women with eating related problems also display both self-perception evasion and body checking. Body shirking includes practices that permit a person to abstain from seeing her shape as well as weight, including wearing loose garments, declining

to measure herself or to take a gander at herself in the mirror or other intelligent surfaces, and evading physical closeness (Down et al., 2007). In contrast, body checking involves repeated attention to one's body size, shape, and weight, with such attention being excessive and critical, and includes such behaviors as examining oneself in the mirror, feeling for bones, pinching one's arms or stomach, or monitoring the spread of one's thighs when sitting (Kichler & Crowther, 2008). As per the findings of the present research girls in our culture are found high on appearance orientation reflect more body checking behaviors among them in turn show negative eating attitudes as compared to boys.

Food myths role in the establishing the eating attitudes is unique to the existing literature as results indicated positive relationship with food myths beliefs and negative eating attitudes. Another attempt to contribute in the existing literature is the results for moderation of food myths on relationship between body image and eating attitudes. Results (see Tables 34-38) indicated adolescents who are more food myths believers show more negative eating attitudes found low on appearance orientation mean do not put efforts to look good and may show apathetic concern to their body appearance. High food myths believers are unhappy with their appearance and show more negative eating attitudes.

High food myths believers are not satisfied with their bodies and show more negative eating attitudes. High food myths believers are more pre-occupied with weight show more negative eating attitudes. Similarly, the results of food myths moderation on relationship between BMI and eating attitude show less food myth believers are low on BMI and show more negative eating attitudes. Present research

as results indicated not only the eating attitudes but one's belief on myths are also influenced by the distorted body image of adolescents. Women with eating pathology frequently overestimate their body estimate, detailing that their present figure or particular body parts, for example, the midsection, stomach, hips, and thighs, are bigger than is objectively valid. Strangely, perceptual body measure contortion generally has been viewed as a center component of eating pathology and the symptomatic criteria for anorexia nervosa incorporate aggravation as far as one can tell of body weight or shape. The two dietary problem bunches did not vary altogether from each other in their relative self-perception distortion (Delinsky, 2011).

Mediation of Body Image on Relationship Between BMI and Eating Attitudes

The present study affirms that overweight distraction and body disappointment essentially intercedes the relationship between BMI and negative eating attitudes for adolescents. Mediation model is tested and findings were based on assumptions of mediation as reported by Hayes and Preacher (2014). These results confirm the hypotheses no. 6 and 7 stated as "body areas dissatisfaction mediate the relationship between BMI and negative eating attitudes" and "overweight pre-occupation mediate the relationship between BMI and negative eating attitudes", respectively. Weight and shape concerns were found the strongest mediators. Mediation was assessed with the help of latent variable relations through SEM. Results are found to be consistent with findings of Lynch et al. (2008) as role of body image dissatisfaction in different ethnic groups has been found a strong mediator.

Yates et al. (2004) found that high BMI scores were related with more prominent body dissatisfaction among some ethnic groups than others and Caradas et al. (2001) announced that the affiliation between body image disturbance and EAT-26 scores was noteworthy for gatherings of White and blended race young ladies however not for Black South African young ladies. Present research results show the direct path between BMI and eating attitudes is influenced by the indicators of body image dissatisfaction. Eating attitudes in the present study may not be reliable indicator of eating disorder risk and associations between BMI and eating attitudes, but results indicated parallel mediation of body dissatisfaction through body area satisfaction and overweight pre-occupation for Pakistani adolescents. Results are same as previous outcomes proposing noteworthy relationship between body disappointment and eating related pathologies (e.g., Ghaderi, 2003; Stice et al., 2011). It ought to be noted, in any case, that distinctions among studies in the strategy for measuring eating pathologies may account, in any event to some degree, for contrast in its relationship with BMI and additionally dietary issue hazard.

Based on the findings regarding the moderation of gender on the relationship between BMI and eating attitudes (see Table 33) and mediation of body image (body area satisfaction and overweight pre-occupation) between BMI and eating attitudes, a mediated moderation model was tested (see Table 39) mediated moderation model was tested and results (see Table 40) showed significant moderation of gender on the mediation between BMI and eating attitudes. Early adolescence is an important period for the development of body image, especially for girls. For girls and boys a number of normative developmental challenges influence, and are influenced by, body image,

including pubertal development, emerging sexuality, incipient identity formation, gender role intensification, and exploring realistic possibilities for success in various realms. In general, this transition is more stressful for girls than boys because girls confront more of these demands (e.g., pubertal weight gains, dating, the move to middle school) simultaneously or in rapid sequence (Cash & Pruzinsky, 2002; Levine & Smolak, 2002).

Additionally, girls as a group experience more confined options for fulfillment in careers (Waqar, 2015) and in sports activities, greater threatening sexual harassment and abuse (Iqbal & Kamal, 2001), and different reminders of lower reputation. All these studies growth insecurity, restrict confidence, and increase a girl's tendency to outline herself in terms of the social and financial price of her body (Cash & Pruzinsky, 2002). Ladies' improvement thru the degrees of puberty in early childhood is associated with elevated frame mass, and extra poor frame image, and higher levels of force for thinness and weight-reduction plan.

A significant minority of girls enters the pubertal transition with weight and shape concerns, an investment in thinness as an important part of beauty and health, and a history of experimenting with dieting. Developmental psychologists have shown that the pubertal transition accentuates previously existing vulnerabilities and problems.

This model is found unique in existing literature and provide evidence that people with relatively high BMI are satisfied with their body areas will not show more negative eating attitudes and gender significantly moderate this path as boys were found less satisfied with their body area as compared to girls. Similarly, if people with

relatively high BMI are more preoccupied with their weight show more negative eating attitudes and gender significantly moderate this path as girls were found more pre-occupied with weight as compared to boys.

Demographic Variables on Eating Attitudes and Body Image Dissatisfaction

Another important objective of the present research was to see the differences among adolescents on different demographic variables including gender, age, weight, exercise, family systems, residence of hostel and home, and arts and science study disciplines among adolescents. Our findings revealed some interesting findings on above mentioned demographics with reference to study variables. This section of discussion is meant to discuss our findings pertaining to each demographic variable.

Gender. Gender has been emerged the most promising variable contributing in the development of eating attitudes. The impact of gender has been analyzed with the help of different analyses such as moderation through regression analyses already discussed under the heading of moderation. To see the overall gender differences t-analysis was computed for eating attitudes, food myths, body image dissatisfaction, extraversion, disordered eating behavior, and body mass index. Results indicated the significant mean differences on eating attitudes, food myths, body image, extraversion, disordered eating behavior. Results revealed girls show more negative eating attitudes as compared to boys on eating attitude scale and disordered eating behavior scales. These results confirm the hypothesis no. 9 and 10 which stated as "Boys score higher on appearance evaluation and body area satisfaction as compared

to girls". "Girls score higher on appearance orientation and overweight preoccupation as compared to boys among adolescents". Results are in accordance with the existing literature. Results on body image confirm the hypotheses no. 9 and 10. Other than hypotheses results indicated boys are more food myths believers as compared to girls. Girls are found to be more extraverts as compared to boys. Girls, score higher on disordered eating behavior scale or is subscale as compared to boys. There are significant differences on BMI; Mean score for boys are higher as compared to girls among adolescents. All the variables show mean scores differences with moderate to high cohen's *d* values (Cohen, 1992).

Results are as per the existing literature, Davison et al. (2014) found disorder risk binging and dieting behavior were consistently significant in girls as compared to boys. Radmanović-Burgić et al. (2011) demonstrated a higher prevalence rate of abnormal eating attitudes and behaviors especially among girls than boys. Sex differences in eating disorder prevalence are pronounced, with the female-to-male ratio estimated to be 3:1 to 10:1 (Hudson et al., 2007).

Boys are found satisfied with their appearance and feel good and happy as compared to girls in present study. Results can be interpreted as familial and peer negative communication and modeling may be related to preadolescent girls' body image dissatisfaction and maladaptive eating attitudes and behaviors (Kichler & Crowther, 2008; Rosenblum & Lewis, 1999). Results showed girls score higher on appearance orientation, expend more energy and efforts to look good as compared to boys. Overweight girls scored higher than average-weight girls on body dissatisfaction and dieting trends, because they are being judged with negative

comments and attributions about their appearance (Neumark-Sztainer & Hannan, 2000; Thompson et al., 2007).

Similarly, Aruguete et al. (2006) found women were more dissatisfied with their bodies, engaged in more self-loathing, dieted more, and showed a greater drive for thinness than men. It can be seen in the present study as girls are found more dissatisfied with the different body areas as compared to boys. Similar results with a high level of dissatisfaction were found out in the study that included the sample of 576 adolescent girls aged from 10 to 14 years (Cousineau et al., 2010) indicating boys were found satisfied generally about their appearance without much focusing on each body area exclusively.

Present study results indicate girls experience more fat anxiety and found more vigilant toward dieting as compared to boys. As Striegel-Moore, Wilson, Wilfley, Elder, and Brownell (1998) found out female adolescents and young women, aged from 12 to 23 years, that 67% of the sample were dissatisfied with their body weight and 54% of them were dissatisfied with their body image. Susceptibility of women for negative evaluations in our culture encourages them for psychological investment in their appearance and develops more pathological view about their body image as compared to men.

In the present study we found boys have more BMI as compared to girls. Boys have more weight and are taller as compared to girls in Pakistan so these differences across gender are very general and obvious and reflected in their attitudes toward diet and body image. Similar results by Radmanović-Burgić et al. (2011) found almost 20% of girls with BMI of 18.5 to 25 kg/m² want to be slimmer, while 41.9% want that

sometimes and 33% of girls stated that they were always or very often following a diet. Caradas et al. (2001) concluded abnormal eating attitudes to be more prevalent in Asian women as compared to Caucasian and African-Caribbean women. This provides insight into the extent of abnormal eating attitudes and associated body image concerns in South Asian adolescent girls. Pakistani culture may be characterized as dynamic with increasing urbanization with marked industrial growth lead to introduction of Western standards here. As per the notion of sociocultural theorists women face more social pressure to look thin and attractive as desirable. Young girls internalize this belief so seriously that to have control over their weight and appearance, they establish pathological attitude toward eating by developing negative relationship between food and body, following irregular eating patterns and overeating.

Weight status and body mass index. Body Mass Index is found to be important predictor variable for eating attitudes. In order to study the body mass index related differences on study variables, the whole sample was divided into four categories i.e., underweight (BMI = <18.5), normal weight (BMI = >18.5 to 23), overweight (BMI = >23), and obese (BMI = >25) as per the criteria of WHO for South Asian Countries (Minhas et al., 2010). To see the differences analysis of variance with post hoc analysis was computed for eating attitude and food myths scale. Results showed underweight and obese show more negative eating attitudes as compared to normal and overweight adolescents. Over all the highest scores obtained by the group of underweight adolescents and similarly the underweight adolescents with higher score on eating with concerns over weight and physical appearance as

compared to rest of three groups. Overweight adolescent score higher on overeating and follow irregular eating routines but these differences are nonsignificant. Similarly underweight and obese adolescents are more food myths believers as compared to normal and overweight adolescents. Results confirm the hypothesis No. 11 stated as "Obese/underweight adolescents will show more negative eating attitudes as compared to normal and overweight adolescents" In the present research underweight adolescents score higher on eating attitude scale.

The obese adolescents score higher on appearance orientation as compared to normal weight adolescents; underweight and overweight show more appearance orientation concern as compared to normal weight adolescents. Moreover, results indicated obese and underweight adolescent score higher on overweight pre-occupation as compared to normal weight group. Normal weight adolescents show higher score on body area satisfaction as compared to obese and underweight adolescents (Untas et al., 2009). Slater and Tiggemann (2006) concluded that early experiences of both physical activity and media use during childhood and adolescence played an important role in the development childhood and of adult women's body image.

The combined effect of gender and BMI groups on eating attitudes and body image was tested through Factorial ANOVA and results indicated underweight girls show more negative eating attitudes as compared to normal to obese. Overweight boys show more body area satisfaction as compared to underweight, normal and obese group while underweight and normal weight girls show more body area satisfaction as compared to overweight and obese. Overweight boys show more

overweight pre-occupation as compared to underweight, normal and obese. Overall girls show more overweight pre-occupation as compared to boys.

BMI was independently associated with disturbed eating attitudes and behaviors, as has previously been found in Western studies (Furnham et al., 2002). The results of this present study are in line with the majority of researches on body image (Neumark-Sztainer et al., 2006; O'Dea & Wilson, 2006; Yates et al. 2004). These researchers have all found that dissatisfaction with body image is associated with elevated BMI. Results are consistent with reference to findings on eating attitudes (Furnham et al., 2002) as girls showed more concerns being overweight as compared to boys. With reference to negative eating attitudes, there is trend in Pakistan among young underweight girls experience more fear to gain weight and follow irregular eating routines and show negative eating attitudes.

Also, underweight and overweight girls reported less body satisfaction and more negative eating attitudes (Downs et al., 2007). The disparity between 'desired' body shape and 'actual' body shape may be more responsible for the increased prevalence in disturbed eating attitudes and behaviors than is actual BMI in Asian Countries like Korea (Yang et al., 2010). Dissatisfaction with body weight and body shape is in a positive correlation with gaining body weight around half of the girls with BMI <18.5 kg/m^2 (Radmanović-Burgić et al., 2011). Consistency in results may be due to sample of the similar population studied (Burger & Doiny, 2002; O'Dea & Wilson, 2006; Yates et al. 2004) as the majority of the participants in the present study were university educated and adolescent populations (Hudsn, 2008; McCabe & Ricciardelli, 2003; Neumark-Sztainer et al., 2006).

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Age. To see the mean differences on age whole sample was divided into two main groups middle adolescents (age ranges from 16-18 years) and late adolescents/young adults (age ranges from 19-22 years) (Printz, 2002). For age groups *t*-analyses were computed for adolescents on eating attitudes, food myths, body image dissatisfaction, extraversion, disordered eating behavior, and body mass index. Results (see Table 55) are as same found in previous literature as Nigar (2014) found higher value of appearance evaluation among late adolescents as compared to middle adolescents. Increase in age decline the concerns regarding the body image among boys and girls and they feel more positive about their appearance (Cash et al., 2004). Sejla and Osman (2008) conducted a research in Bosnia found older women set their weight standards more realistically and they do not identify with the models as symbols of beauty and fashion to such extent. Body image is a very important aspect of psychological and interpersonal development in adolescence, particularly for girls. No large-scale epidemiological studies have assessed the multidimensional aspects of body image in adolescent girls and boys and approximately 40–70% of adolescent girls are dissatisfied with two or more aspects of their body (Cash & Pruzinsky, 2002). Similar trends of results are found in the present research. Results indicate late adolescents follow more irregular eating routines as compared to middle adolescents. Similarly, late adolescents/young adults are found to be more food myths believers as compared to middle adolescents. As compared to young teenagers, late adolescents show more consistency in their behavior and show more normative behavior to adhere with culturally held beliefs without challenging them.

Adolescence is the time period between childhood and adulthood and there are many changes that go on in a person's life. This age is crucial with reference to development of attitudes and stereotypes. The important thing influence the teenagers to develop their attitudes is the cultural beliefs. Children in our society who are less rebellious and more obedient are considered to be good to follow the norms of society. As adolescents grow there are tendency to behave more according to cultural norms. They follow their parents and things communicated, instead of defying them, so is the reason late adolescents group show more pervasive pattern to believe on food myths as compared to early adolescents.

There is far less research on the development of body image in adolescent boys, and this research is inconsistent as to the impact of pubertal timing. Overall, it appears that the timing of puberty does not have a strong or lasting effect on boys' body image. More research is needed on body image as a function of actual and perceived pubertal development, gender, and ethnicity (Cash & Pruzinsky, 2002; Levine & Smolak, 2002).

Exercise or physical workout. To see the mean differences on exercise whole sample was divided into three groups "Yes", "No", and "Sometimes". To see differences on exercise, analysis of variance were computed for adolescents on eating attitude scale, food relation with body, overeating, irregular eating routines, food myths, and extraversion. The results presented in the Table 56 represent the differences among adolescents on exercise and adolescents who exercise regularly are those who have less negative eating attitudes as compared to those who exercise

regularly. Adolescents with higher score on eating with concerns over weight and physical appearance exercise regularly as compared to adolescents who score less on eating attitude scale.

Adolescents with no exercise score higher on overeating as compared to those who exercise regularly or sometime. There is nonsignificant difference on irregular eating routines, food myths. People with higher extravert tendencies follow exercise regularly as compared to those who exercise sometimes and no differences exist with no exercise. Table 57 indicated adolescents who exercise regularly show less disordered eating behavior as compared to those who exercise regularly and sometimes. Adolescents with higher scores on eating choices and habits exercise regularly. Adolescents with no exercise score higher on overeating as compared to those who exercise regularly or sometime.

Obesity has been linked with sedentary life style and inactivity of individual. It is generally believed that exercise is mostly associated with positive health outcomes and the present research confirms this belief as true. Regular exercise and physical activity develop positive effects on psychological functioning. The people who are regular exercisers they do not experience the fear with overeating and their physical workout give them empowerment on their weight control, so they develop healthy eating attitudes and build positive relationship of their body with food.

The results presented in the Table 58 represent the differences among adolescents on exercise and MBSRQ-AS subscales. Adolescents with higher score on appearance orientation do not exercise as compared to those who exercise regularly and sometime. Similarly, adolescents with higher score on overweight preoccupation

score higher on exercise sometime as compared to those adolescents who exercise regularly and do not exercise. Body image dissatisfaction leads to multiple behavioral outcomes. As the present research indicates overweight pre-occupation motivate adolescents toward physical workout and they follow exercise routines.

Combined effect of exercise and BMI groups showed underweight adolescents who do not exercise score higher on eating attitudes as compared to other three groups. Moreover, results indicated that adolescents who do not exercise show more negative eating attitudes as compared to those who exercise regularly and sometimes. Combined effect of exercise and BMI on overweight pre-occupation showed overweight adolescents are more pre-occupied with weight and exercise regularly as compared to other three groups. Moreover results indicated that obese adolescents who do not exercise are more pre-occupied with weight as compared to other groups.

The results of this study suggest that adolescents with relatively unhealthy eating attitudes are likely to believe that exercise will prevent negative social consequences (such as being viewed negatively by others and feeling inferior to others). In addition, they are likely to be motivated to exercise in order to preserve or enhance their physical appearance. The results also indicate that these same types of exercise belief (regarding social consequences and appearance) are predicted by feelings of defectiveness and shame and also by unrelenting high personal standards. People with unhealthy defectiveness/shame beliefs are likely to be motivated to exercise in order to increase their self-perceived social desirability, while those with unrelenting standards are likely to exercise in order to increase perceptions of or to preserve their own attractiveness.

The finding that adolescents with relatively unhealthy eating attitudes are likely to be driven to exercise by appearance related factors reflect their high levels of shape and weight concerns (e.g., Fairburn et al., 2003). Social anxiety is known to be characteristic of people with eating concerns (Gilbert &Meyer, 2005; Hinrichsen,Waller, & Dhokia, 2007). In addition to targeting levels of social anxiety in order to reduce eating disorder symptoms, as has been previously suggested (Hinrichsen, Wright, Waller, & Meyer, 2003), it is also possible that reducing fears of negative evaluation and comparison behaviors might reduce an individual's reliance on exercise.

Number of meals per day. Adolescents were asked the number of meals they took during the whole day. On their responses whole sample was divided into four groups. Those, who took one meal to four or more times a day. To see the differences analysis of variance with post hoc analysis was computed for eating attitudes, food myths, disordered eating behavior, and body image. Table 53 showed mean differences on number of meals per day on eating attitude scale and its subscales. Adolescents with one meal a day show more negative eating attitudes as compared three times a day, two times a day, and four times a day respectively. Similar trends can be seen on food relation with body, overeating, and irregular eating routine. Adolescents with one meal a day are more food myths believers as compared to other groups. In investigating influences on children's eating habits, it is necessary to differentiate between mealtime and snack eating behavior. While at mealtime parents are usually present, snacking behavior often occurs in parental absence. The presence of hunger feelings is a second point of differentiation. Whilst eating at

mealtime usually happens in response of hunger, snacking behavior might occur in the absence of hunger. This study will examine children's eating behavior in a context of free access to snacks as measured by the eating-in-the absence-of-hunger paradigm and will examine the relative contribution of parental versus child's characteristics in the prediction of snacking behavior (Moens, Braet, & Soetens, 2007). As per the nutritionist at least three meals a day considered normal with snacking as the calories intake with little interval boost your metabolism and it enable the body to resist the obesity (Gunnars, 2013). The present study revealed the majority of adolescents took three meals a day in Pakistan indicate the majority is showing trend to follow the normal meals schedule.

Family system. To see the mean differences on nuclear and joint family systems, *t*-analyses were computed for adolescents on eating attitudes, food myths, body image dissatisfaction, extraversion, and disordered eating behavior. Results for family systems (see Table 59) indicated the mean differences on nuclear and joint family systems among adolescents and results indicated most of the values are nonsignificant except irregular eating routines, appearance orientation and appearance evaluation. Results indicated the adolescents living in joint family systems show irregular eating routines as compared to adolescents living in nuclear family system. Similarly, adolescents those living in nuclear family system shows higher mean value on appearance evaluation and appearance orientation.

Cao et al. (2013) investigated the impact of family working on behavioral and mental issues. Researcher found media, peer, and family have influence on body dissatisfaction. Nigar (2014) found a significant relationship of joint family with

overeating and social pressure to eat. Similarly, in the present research eating routines are found to be more irregular in case of joint family may be because of the pressure of other family members who motivate toward eating irregularly. Another interesting finding of the research is with reference to body dissatisfaction. Adolescents living in the nuclear family system are found to score high on appearance evaluation and appearance orientation. There are conflicting discoveries between anorexic subtypes and styles of family communication. There are many components that add to the changeability of discoveries crosswise over dietary problem bunches. An individual's impression of family cooperation could be exceptionally important to establish healthy behavior toward eating (Blinder et al., 1988).

The results are consistent with findings of Rose (2014). As in the joint family system role models regarding the body shapes are more as compared to nuclear so adolescents are more prone to evaluate themselves more critical and put more efforts to look thin as per the media standards. Healthy feedback from family, serve as important buffering agent to correct cognitively erroneous thoughts and self-appraisal (Cao et al., 2013; Cattarin & Thompson, 1994).

This study extends previous research on social cognitive determinants of dietary intake by demonstrating the relationship of parent social cognitive attitudes and modeling of healthful dietary behavior to youth attitudes regarding healthful eating and dietary intake. Results presented suggest that parent attitudes and behaviors regarding healthful eating may impact youth diet not only through the shared food environment, but also by shaping the development of youth attitudes regarding healthful eating, highlighting the importance of parent eating behaviors in potentially

shaping long-term youth dietary trajectories. Notably, parent attitudes toward and modeling of healthful eating were associated with youth diet quality in the structural equation model, while the effect of youth attitudes was not significant. These findings are consistent with research indicating that among youth, emotionally-based determinants may be stronger drivers of dietary behavior than cognitively-based ones (Nansel et al., 2013).

Study disciplines (science/arts). To see the mean differences on study subjects sample was divided into two groups i.e. science and arts groups. *t*-analyses were computed for adolescents on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index. Table 60 indicated the mean differences on science and arts study subjects among adolescents and results indicated significant results for eating attitudes, food relation with body, overeating and food myths. Science students show more negative eating attitudes and are more food myths believers. Similarly, nonsignificant results are found for body image. It can be seen the health science and medical students are more inclined to establish eating disorders (Trevisol et al., 2011) and food myths believers (Inam et al., 2003). Unfortunately there is scarcity in literature comparing the students studying in science and arts group. But the result can be justified in a way that social sciences and arts studies encourage students to think more critically and they learn to justify the facts on cultural basis as compared to science students.

Residence (hostel/home) of participants. To see the mean differences on residence of participants including hostel and home residence of participants, *t*-

analyses were computed for adolescents on eating attitudes, food myths, body dissatisfaction, extraversion, disordered eating behavior, and body mass index. Results for residence (see Table 61) showed adolescents living in hostel show more concern about weight and physical appearance while students living in home are more prone toward overeating. Students living in hostel are more food myths believers. Adolescents living in home are more extroverts and showed more concern over appearance orientation and overweight preoccupation. Table 61 indicated the mean differences on hostel and home residents and results indicated most of the values are nonsignificant except eating with concerns about weight and physical appearance, overeating, food myths scale, extraversion, appearance orientation, and overweight preoccupation. Adolescents living in hostel show more concern about weight and physical appearance while students living in home are more prone toward overeating. Students living in hostel are more food myths believers. Adolescents living in home are more extroverts and showed more concern over appearance orientation and overweight preoccupation.

One of the possible explanations of the present findings can be on the basis of food facilities available at home and hostels. Adolescents living at home are more privileged to eat healthy and have better information sharing and feedback from parents and siblings on their appearance, it may contribute into their body image perception. Similarly, at home adolescents have better chances to get healthy food with more variety and experimentation which influence their stereotypical ideas about food, so they are less food myths believers as compared to adolescents living at hostels with limited food facilities and quality of food. Some studies find that parents'

attitudes and behaviors in regard to their own body image are correlated with body image in their adolescent children. Direct comments about body, weight, and eating are more potent sources of parental influence. Most parents think their children are physically attractive, but as girls proceed through puberty and become adolescents, they receive less praise for their appearance and more criticism. Across cultures, teasing and other negative verbal remarks with the aid of own family contributors have both quick- and lengthy-term negative consequences on body photo. Brothers are especially probable to be perpetrators, and the face, head, and weight of ladies are the maximum probably objectives. Despite the fact that large, heavier ladies are more likely to be teased, teasing is a sturdy predictor of frame dissatisfaction unbiased of BMI. There may be a cumulative effect in that teasing has a extra bad impact on folks that are already tense and self-acutely aware of their our bodies. A significant minority of girls is subject to sexual abuse within the family. In early adolescence girls are particularly vulnerable to sexual abuse and sexual harassment from family and peers. The consequences of sexual abuse—anxiety, shame, and loss of control over one's body—clearly contribute to negative body image, weight concerns, and disordered eating.

Family income. The relationship between family income and eating attitudes is not very simple and conclusive as it was found in the present research that adolescents from middle economic class show more tendencies to develop negative eating attitudes and are more food myths believers as compared to high and low economic class adolescents. High class adolescents score high on eating attitudes as compared to low economic class adolescents. Results are consistent with Rogers et al.

(1997) that SES influence the unhealthy eating and dieting behavior and this trend is more common in upper middle class. Similar findings can be seen for body image perception. Existing literature indicate that eating attitudes and body image perception is the reflection of one's understanding of subject's health (Felden, 2011). In Pakistani culture middle class economic group considered as one of the group struggling to maintain modern life standards and social approval so this group is more vulnerable to develop unhealthy concerns about eating and body image. This is the reason as compared to western cultures (Lee et al., 2013) middle and upper middle class found more vulnerable to negative eating attitudes and body image dissatisfaction.

Lee et al. (2013) found eating related problems are common with upper middle and upper economic class in Korea because of rapid westernization. Contemporary Pakistani culture can be characterized as dynamic with efforts to growth and diversification with reference to urbanization, industrialization, and economic struggles. The middle and upper class are with more resources available and are exposed to Western standards through media leading significant change in eating attitudes, food myths beliefs, and body image perception as compared to low economic group. Media exposure is one of the very important factors, as Nigar (2014) found adolescents in Pakistan with high perfectionist tendencies show more body image dissatisfaction that may be influencing their attitudes toward eating.

Conclusion

Findings of the present study revealed facts about adolescents and their attitudes toward eating and believe on food myths. Adolescents who are strong food myths believers show negative eating attitudes. Adolescents with positive eating attitudes feel more positive regarding their appearance and are satisfied with their different body areas. Similarly, for negative eating attitudes overweight preoccupation has been found as the strongest predictor as compared to appearance orientation, appearance evaluation, and body area satisfaction. Gender is important contributing factor in determining eating attitudes and body dissatisfaction and girls are found more victims of negative eating attitudes and body image dissatisfaction. Interesting fact revealed in the present research was about food myths as boys are found more food myth believers as compared to girls in Pakistani culture. Body Mass index is found another important variable with respect to eating attitudes and body image dissatisfaction. Underweight adolescents are found more prone to develop eating attitudes and tendency of underweight is found to be common among girls in Pakistan. Moderated mediation model indicate the significant moderation of gender on mediation of body area satisfaction and overweight pre-occupation on the relationship between BMI and eating attitudes.

GENERAL DISCUSSION ON SALIENT FINDINGS

The present research was carried out to explore the phenomenon of eating attitudes and to determine its psychosocial correlates among adolescents in Pakistan. Research was completed in five studies by following triangulation technique by using qualitative and quantitative methods. Most important objective of the research was to explore the concept of eating attitude indigenously followed by the scale development and validation, and after that mediational model was tested and verified and moderated mediation model was established as unique contribution of present research to existing body of knowledge.

Major research question of present study was to explore the meaning of eating reflecting in one's attitude in Pakistani context. Qualitative exploration unfold following; affective (relationship with food); behavioral (food preferences, overeating, and eating patterns); and cognitive (concerns over weight and physical appearance and food myths) components of eating attitudes. Food myths beliefs as the part of eating attitudes were found unique to Pakistani culture. Moreover, qualitative data revealed the fact that perception of body image is an important factor in establishing the attitude toward eating so this cnsruct was studied with reference to eating attitudes. Simultaneously, data indicated that consideration of gender is very important while addressing the construct of eating attitudes among adolescents. The cross cultural comparison of eating disorders is attributed by the evidence that problem vary with cultural context (Miller & Pumariega, 2008; Sousa & Rojjanasrirat, 2011).

Present research provides the evidence for the confirmation of sociocultural and continuum model to explain the development of attitude toward eating existed in each culture. Frequency and presentation of eating related pathologies have been increased overtime in Eastern societies. As we can see the number of studies in Japan (Makino et al., 2006), Hong Kong (Lee, 1993), China (Chen & Jackson, 2008), India (McGivering, 2003), and Malaysia (Edman & Yates, 2004) showed enormous increase in the cases of eating related pathologies. This required on the part of researchers to look deep into those indigenous factors contributing in establishment of eating pathology. Socio-cultural model emphasized ideal women images portrayal in magazines have become thinner with time while women getting heavier. This shape has become the symbol of beauty. Women, especially the adolescents' girls have been lead to believe that thin look is obtainable through dieting, exercising and other weight management techniques. Direct pressure to look thin greatly increase of unhealthy weight management behavior or eating disorders (Levine et al., 1994). Pakistani women like the other Asian cultures were more likely to receive praise being plump as a sign of affluence or good nutrition in last decades. Exposure to western standards through media has brought drastic change in the thin ideal standards in Pakistan over the last decades. So, the magazines and TV models are selling the idea of thinness in a glamourized way. Now a days, by adopting western trends in eating, youngsters are more inclined toward junk food. Chips, burger, coke, and etc are more likely taken food items as compared to bread and curry. The consequences of these trends can be seen in the form of increasing obesity among adolescents. Junk food related facts must be the focus of future studies. To get approval from society, present research emphasized that youngsters are inclined to

control their eating to get desirable body shape and following irregular routines of eating by developing negative relation of food with body.

Pakistan being Muslim and Asian culture has specific orientation toward food and establishes specific eating patterns. Food is served not only to celebrate success, achievements, happiness, and mourning rituals (*soyam* and *chehlum*), but has special importance on religious festivals. One of the famous religious festivals is *Urs* (death anniversaries) of *sufi* (saints) celebrated at shrines. Food and milk is served in order to facilitate the devotees among to those who visit the shrine at *Urs* from far flung area. This food has special importance as it is called *Lunger* or *Niyaz* (served after reading Quranic verses or *Fatiha*), is recommended to finish completely for the sake of blessings and leaving and refusing *niayz* is considered sinful act. Similarly, Guests in response to hospitality of host are pressurized to eat more to show courtesy and this develops the tendency to overeat among people. Present research explained this fact how individuals living in Pakistan associate themselves with the idea of eating and food. Our attitudes are the reflection of underlying problems and conflict within the culture then become internalized by sufferers. One such conflict arises between food access and beauty standards.

Eating refers to a social urge, people eat together; meal times are events when the whole family or settlement or village comes together. Food is also an occasion for sharing, for distributing and giving, for the expression of altruism, whether from parents to children, children to in-laws, or anyone to visitors and strangers. Food is the most important thing a mother gives a child; it is the substance of her own body,

and in most parts of the world mother's milk is still the only safe food for infants. Thus food becomes not just a symbol of, but the reality of, love and security.

Another important contribution of the present research in the field of psychology is the role of food myths belief in establishing eating attitude. Belief on food myths play integral role in eating attitude establishment. To determine the role of food myths a separate scale was developed to validate the common food myths in Pakistan. A myth, in the sense of being story, people tell in order to explain who they are and how they relate with this universe, what are the reasons to live the way they are, whether or not true in any historical or scientific sense, such stories draw consequences in the real world and considered as reality. Significant others like parents and peers shape our beliefs and influence our actions.

Mostly anthropologists have collected myths in history of sciences which look more or less like shreds and patches like disconnected stories without any clearer relationship between them. Such beliefs about food (based on information coming from parents and forefathers) refer to our misconceptions considered as reality, lead to unhealthy approach toward food and our attitude. The prevalent misconceptions about food in Pakistan are related to hot/cold effects (*taseer*) of food as it is believed among Pakistanis that food which are hot in its effect must be taken in cold weather and vice versa. Similarly, another common misconception about food is that some food combinations like milk with fish and etc. cause illnesses.

In present research, EAS unfold the three factors explaining the eating attitude i.e., food relation with body, overeating, and irregular eating patterns. Empirical evaluation helped to define eating attitude as positive feelings with relation to food and body, following regular eating patterns, and balanced eating without tendency of

overeating. Food myth scale represents the prevalent food myths in Pakistani culture. It was hypothesized that food myths would be positively related with negative eating attitudes. As food myths reflect the cognitive processing of information about food. The more individual belief on myths the more vulnerable he is to develop the unhealthy attitudes toward food and eating. Findings of the present research confirmed the assumption. Role of food myths have been analyzed with reference to predictability of eating attitude. Findings suggest its predictive power is very weak as compared to bod image dissatisfaction.

Gender differences are so obvious with reference to eating attitudes. Girls have more negative eating attitude as compared to boys. In present study boys were found more food myths believers as compared to girls. In Pakistan men are more prejudiced as compared to women (Jami, 2013) as they are considered more responsible to maintain the cultural values and standards so they held more traditional beliefs. When prejudice occurs, stereotyping and discrimination may also result. In many cases, prejudices are based upon stereotypes. A stereotype is a simplified assumption about anything based on prior assumptions. Stereotypes can lead to faulty beliefs, but they can also result in both prejudice and discrimination. It can be seen with respect to their beliefs on food myths in present research. Secondly, the boys in Pakistan are not encouraged to involve in cooking and to experiment with food so they lack optimum information about food make them more food myths believers. Eating patterns and food myths are unique contribution in sociocultural and continuum model of eating related problems.

Indigenous scales with good psychometric properties are always considered prime contribution to literature. Keeping in mind this validation of EAS and FMS were planned. As per the qualitative findings body image concern is directly associated with establishment of eating attitude. EAS was validated with body image scale MBSRQ-AS of Cash et al. (2000). A review of the literature identifies a gap concerning available tools in the Urdu language assessing several body image dimensions. To best of our knowledge it is the first study attempted to translate and validate the MBSRQ-AS in Pakistan.

Healthy personality traits are found to relate negatively with eating attitudes but in the present research (Study 4) relationship between extraversion and eating attitudes was found opposite. Eating attitudes is reflected by the tendency to overeat and food relation with body. So, extraverts being friendly are more party lovers and inclined toward overeating but may not be concerned and conscious about their eating. Extraverts' relation with irregular eating routines and food myths were found negative. As food myths believers usually restrict themselves toward many food items and their approach toward food based on typical stereotypes exist in society so they are inclined to less experiment with food while extraverts are open to different food experiences so they believe to experiment with food to challenge their myths.

Body mass index is indicator of obesity and considered reliable measure to evaluate the weight status of individual. Underweight and Obese adolescents in present study were found higher on negative eating attitudes as compared to normal and overweight adolescents. Further BMI based groups were analyzed and findings were more interesting and revealing as it was found not only obese but underweight adolescents also show more negative eating attitudes as compared to normal weight

and overweight adolescents. Obese group was found high on appearance orientation, overweight preoccupation as compared to normal and overweight adolescents. Similarly, obese show less body area satisfaction as compared to normal weight adolescents.

Body image is found to play very important role in eating attitude. It was hypothesized that body image negatively related with eating attitude. Appearance evaluation and body area satisfaction are negative related with eating attitude while appearance orientation and overweight pre-occupation are positively related with eating attitude. Positive relationship with appearance orientation is against the theory but not exactly the unique in existing literature as researches suggest that one's self check tendency in appearance orientation may contribute to establish the positive relationship with negative eating attitude.Tendency to look good do not indicate one's proneness to pathological behavior toward food and eating. Multiple linear regression analyses by controlling the effect of gender, age, exercise, and family system overweight preoccupation is found strongest predictor among study variables like extraversion personality traits, food myths, appearance evaluation, body area satisfaction, and appearance orientation. The more individual is pre-occupied with idea of weight the more negative eating attitude he will develop.

Body image unhappiness and disturbance in attitudes toward eating are directly related with eating pathology as one may internalize the societal pressures to be thin which is a source of eating disturbances. It is important for clinicians to be aware of the fact in establishment of eating disorders. A person with negative body image and high BMI lead to negative consequences including eating attitudes

disturbance. Past researches have shown us a negative impact of having body image dissatisfaction, elevated BMI (Delinsky, 2011), and negative eating attitudes (Ain, 2015; Evans et al., 2013; Lynch et al., 2008). Negative effects of body image dissatisfaction include; elevated anxiety, depression, and somatization as well as decreased social functioning, peer relationships and self-satisfaction.

Negative effects of elevated BMI include physical illness, psychological illness (such as eating disorders) and social stigma. The sociocultural pressures to be thin and its successive negative sound effects on eating related illnesses and quality of life mean there is requirement to understand the psychological routes that support the progress of these problems. The present study has subsidized information of the associations between body image, BMI, and eating attitudes in sample of women.

Prime findings of this research based on mediation model originally developed by Lynch et al. (2008). It explained the developmental path leading to unhealthy or negative eating attitude. Adolescents often proceed from increasing body size, to increasing body dissatisfaction, to negative eating attitude. So the present research found significant parallel mediation of overweight pre-occupation and body area satisfaction on the relationship between body mass index and eating attitude weaken the direct effect of BMI on eating attitude. Furthermore, moderation of gender on the mediating paths was found significant. This finding of moderated mediation refers to the modification of existing mediational model. The more body area satisfaction, weaken the relationship between BMI and negative eating attitude and boys are found more satisfied and this path is significant for boys. Girls are more expected to be thin so they are more pre-occupied with weight and this gender moderation significantly affects the path between BMI and eating attitude. Despite of these gender differences,

both genders have all the earmarks of being reacting in a for the most part comparable way to body disappointment

Adolescents are considered the best population to study with reference to attitude development in overall world, so the sample of present research address the developmental needs regarding eating attitudes of Pakistani adolescents or youth. Late adolescents/young adults (19-22 years) show more negative eating attitude as compared to middle adolescents (16-18 years). Similarly late adolescents were found more food myths believers as compared to middle adolescents. As the age increases, the concerns over weight and shape increases in our culture especially the late adolescents' girls approaching to the age of marriage, desire for social approval reaches to its peak regarding their looks so they are more vulnerable group in late adolescents and young adult age to develop negative eating attitude and dissatisfaction with body.

Like any other Asian country, Pakistan has strong institution of family. People find many benefits to live in joint family and their eating routines are more scheduled because of family pressure to eat with all family members. So may be the reason in present research adolescents living in nuclear family system follow irregular eating routines as compared to those adolescents living in joint family system. Similarly, because of the other family members they may get chance to get positive feedback on their appearance, so concerns over their appearance evaluation and appearance orientation are more positive as compared to adolescents living in nuclear family system.

Similarly, it was found adolescents living in hostels are more food myth believers as compared to adolescents living in home while adolescents living in home are found more concerned about their appearance evaluation and more pre-occupied with their weight as compared to adolescents living in hostels. Adolescents' eating patterns are established, under the influence of family and in our society and the concept of healthy and hygienic food is associated with home cooked food so the adolescents living in hostels prevent themselves experimentation with food and information about food reside on traditional belief that make them more food myths believers.

In Pakistan, three meals per day is considered normal and with negative eating attitude people declined their meals with the fear of gaining weight and develop the negative relationship with food and follow irregular eating routines. Adolescents taking one meal in a day show more negative eating attitude and are more food myths believers as compared to those who take two, three, and four or more times meal in a day. Number of meals per day effects adolescents' efforts to look good. Adolescents who take one meal a day show high appearance orientation concerns as compared to adolescents taking two, three, four or more times meal in a day. Conclusively it can be said disturbed eating lead them to take less meals in day that slowed down their metabolism and it leads to tendency of obesity.

Lack of knowledge amongst health care professionals and negative stereotypes towards individuals with eating related problems may prevent individuals from disclosing their symptoms and seeking help so it is important to see the path of eating attitude development to create awareness among general population to end

stigmatization. This research has shown us that negative eating attitude, food myths beliefs, dissatisfaction with body image, and BMI are related. This knowledge can be used by mental health professionals as it has been understood that if a person has body image issues, they will have negative eating attitudes, if a person has high BMI could be unhappy with body image and if a person is more food myths believer show more negative eating attitudes. This would be essential for monitoring related issues other than the issue the individual presents with

CONCLUSION

Present study was an empirical attempt to develop understanding about the eating attitude phenomenon indigenously through triangulation approach. A methodological strength of this study was the effort to define the construct of eating attitudes indigenously, as eating attitudes are reflected by the positive food relation with body, not to overeat, not to believe of food myths, and follow the regular schedule of eating. Gender and body image has been found equally significant in determining eating attitude among adolescents in Pakistan. Another important contribution of the present research is an attempt to establish causal link of negative eating attitude with body image dissatisfaction (especially related to overweight preoccupation and body area satisfaction) and BMI. Furthermore, a model of moderated mediation based on moderation of gender on this parallel mediation of overweight pre-occupation and body area satisfaction was developed and verified in this study. This moderated mediation model helps in developing the understanding regarding the cause of negative eating attitude

among Pakistani adolescents' as unique contribution to existing body of knowledge.

Limitations and Suggestions

Like any scientific research, present study has also some strengths and limitations. Therefore, before interpreting the results of present research following consideration should be kept in mind.

1. A large number of sample has been collected and analyzed to enhance the generalizability of findings but at the same time data was collected from Rawalpindi/Islamabad do not reflect the heterogeneity with reference to sample characteristics in overall country. Further national representative sample of research is needed to verify whether our findings are specific to Pakistan or non-Western cultural context or not.

2. Content analysis was applied to identify the categories but there are many other techniques like grounded theory approach can be followed for the indigenous theory of development of eating attitude.

3. Negative eating attitudes as consider risk factor for developing eating disorder but present study focused on normal population and these attitudes are really contributing in developing eating disorders can be further explored by having the comparative data from clinical population. Future researchers should focus on perspective of clinical population regarding the eating attitudes.

4. Moreover, in the present research urban population has been under study and rural population has been totally ignored which again limit research scope and applicability of findings as ethnic and subculture realities of eating may be different with reference to subcultures.

5. Factor analysis was not done separately for adolescents' girls and boys. As per the qualitative findings based on gender, there may be variation for factor structure with reference to gender.

6. Data was collected with help of self-report measures so objectivity of data is questionable as truthfulness of information may be compromised if respondents may not to report them accurately.

7. Gender is important contributing factor in concept of body image so while exploring the indigenous factor structure of MBSRQ-AS, future researchers are recommended to apply EFA separately for boys and girls in order to grasp the cultural specific gender variations. As it may help to understand the better factor structure of body image among adolescents in Pakistan.

8. Extraversion scale has been used for discriminant validity of eating attitudes and food myths scale but results showed partial supportive results and there is need to use it with neuroticism as per the most literature to see the personality trends on continuum of eating attitude.

9. Contrast group validation of EAS with clinical sample can be done in future researches to confirm the assertion that negative eating attitudes and high food myths beliefs are risk factors for establishing eating related pathologies among adolescents or not as in the present research the findings are based on the healthy normal individual and based on their information future on risk behaviors can be predicted with accuracy.

10. Ethnic and religious concerns with reference to eating are very important especially in Pakistani context but unfortunately have not been incorporated in the present research so, future researchers are recommended to keep in mind these important facts and their impact on body image and eating attitudes.

11. Eating related habbits vary in different geographical areas of Pakistan. This indigenous reality with reference to subcultures should be addressed in future researches.

12. The derivations that are made on connection investigations in a cross-sectional review should be seen with some alert. A relationship between these factors can be resolved however this does not give data on the causal systems. Encourage replication of this review would likewise profit by analyzing these measures longitudinally. This would include learning by figuring out if self-perception, eating attitudes, and food myths convictions change over grown-up life. Future researchers are recommended to follow the longitudinal research design so that causal inferences about the relationship among variables of interest can be understood.

13. Present study was exploratory in nature, though based on the western literature some hypotheses were formulated and studied by further moderation and meditational analyses or SEM are recommended to establish the predictive model in determining the eating attitude.

14. Future researchers are recommended to study this behavior within mind the developmental concerns and study the school children as in Pakistan insufficient literature available on eating attitude and its related facts among school children.

15. Future researchers are recommended to study the eating attitude by studying their family meal patterns, family influences, parental communication, and etc.

16. Lack of empathy for the suffering of people with eating related pathologies to the withholding of emotional and social support from friends and family so in future studies the role of family and peer must be studied.

17. Further research could also look at a comparison group as well. It would be interesting to see if the outcomes of these measures were different in different populations, for example men versus women or children versus adults. A comparison could also be done with a sample of younger and adult men.

Implications of Present Study

One of the recent challenges to health psychology is the fundamental conceptualization and theorization of health psychology topics such as social cognition, health beliefs to illness perceptions. Understanding of beliefs might also be beneficial for fostering a more contextual and culturally oriented health psychology. So the present research has its implication in the field of health psychology to understand the misperceptions about food in the form of myths contribute to establish unhealthy eating attitude. This may raise the question to theorize the eating attitude indigenously for health psychology practice and deserve close attention and consideration by health psychologists.

The trivialization of eating disorders among both the general public and health care professionals may further hinder people from acknowledging the necessity of treatment. Gender and weight status differences appear to exist for the risk of negative eating attitudes during adolescence. Our study findings illustrate that eating attitudes are determined differently for boys and girls on the basis of BMI, body image

perception, exercise, food myths belief, and etc, and findings establish the need for gender-specific (separately for girl and boys) interventions to encourage well eating attitudes in adolescence age.

The observed correlations among the meanings of eating behavior and dietary intake lend support to the importance of the meanings of eating behavior and the theory of meanings of behavior as a possible target for interventions. Previous researches focus on prevalence or eating related problems. Present research has opened the new door for the intervention psychologists to develop the better intervention plans to dealt with issue.

In contrast to existing models to explain the eating attitude, present research highlight affective meanings bypass cognition and knowledge, influencing behavior directly. Since the latter is more salient to youth health behavior, may be more effective in guiding strategies to increase healthy dietary intake in this population. Consequently, interventions designed to increase healthy dietary behavior should focus on increasing positive personal meanings of healthy foods.

The present research indicate the approach of general public toward eating and food based on conventional beliefs of society so the findings of the present research can be utilized for the awareness about the food nutritious values among people in Pakistan by health professionals and nutritionists. Similarly, the healthy strategies to counter the obesity including exercise can be utilized by the gym instructors to contribute in the development of healthy attitude toward eating among adolescents.

Another important implication of present research toward awareness about food myths is the information in secondary science books syllabus. Topic of food and nutrition should address the common misperceptions and false beliefs about food. This would increase knowledge of food among developing children which inturn help to establish the healthy eating patterns and overall positive attitude toward eating and food.

Healthy alternatives can be the focus of interventions by increasing awareness when children experience negative affect toward food. Obesity is becoming a serious threat to the health of people all over the world and in Pakistan. With the introduction of the EAS and FMS, it is now possible to identify those suffering from the issues of uncontrolled eating, which has not been addressed in literature before.

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APPENDICES

FOCUS GROUP GUIDE

Moderatar: _____   Date: _____   Place: _____

نمبر شمار	سوالات

1- آپ کے نزدیک کھانا کھانے سے متعلق رویے سے کیا مراد ہے؟

2- آپ کے کھانے سے متعلق کیسے احساسات وجذبات ہیں، اُن کی وضاحت کریں؟

3- آپ کے نزدیک ہمارے معاشرے میں خاندان والے اور دوست کھانے سے متعلق ہمارے رویے پر کیسے اثر انداز ہوتے ہیں؟

4- ہمارے معاشرے میں کھانے سے متعلق عام Myths کون کون سی ہیں؟

5- آپ کی کھانے سے متعلق ترجیحات میں کیا کیا شامل ہے؟ مثلا ظاہری شکل وصورت، ذائقہ اور غذائیت وغیرہ وغیرہ؟

6- آپ کو کھانے میں عموما کیا پسند ہے؟

7- Disordered Eating Behaviour جیسی اصطلاح سے آپ کے ذہن میں کیا خیال آتا ہے؟

8- وزن بڑھنے کا خیال آپ کی کھانے سے متعلق عادات میں کس طرح کی تبدیلی کا باعث بنتا ہے؟

9- آپ کے نزدیک دوستوں یا گھر والوں کے ساتھ مل کر کھانا کھانے کے کیا فائدے اور نقصانات ہیں؟

10- آپ دن میں کتنی دفعہ کھانا کھاتے ہیں؟

نوٹ: کوئی بھی اور معلومات جو اس موضوع کے متعلق آپ ضروری سمجھتے ہیں، اُسے آپ، ہم سے Share کر سکتے ہیں۔

FOCUS GROUP GUIDE TRANSLATED INTO ENGLISH

Moderator: _____   Date: _____   Place: _____

1. How would you define your attitude toward eating?

2. How many meals you take in a day?

3. What are those foods you like to eat most?

4. What are the myths related to food in our society?

5. What comes in your mind with the word of disordered eating behavior?

6. How much you feel comfortable with the idea of gaining weight?

7. How do the friends and family affect our attitude toward food and eating?

8. In your opinion what are the benefits of taking collective meal?

9. What are the preference of for food......taste, look, and nutrition.?

Note: Any other information you would like to share regarding the topic of discussion?

Appendix-C

Item Pool of Eating Attitude Scale (95 Items)

ہدایات:

اس سوال نامے میں چند بیانات دیئے گئے ہیں، جن کے ذریعے ہم آپ کی کھانے پینے سے متعلق رویوں کے بارے میں آپ کا نقطۂ نظر معلوم کریں گے۔ آپ سے درخواست ہے کہ ہر بیان کو غور سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					Food Preferences	
					میری کھانے کی ترجیح (ترجیحات) میں کھانے کا خوشنما ہونا شامل ہے۔	1-
					میں تیز چٹخارے دار (مصالحہ دار) کھانا کھانا پسند کرتی ہوں۔	2-
					غذا کا صحت بخش ہونا میری ترجیحات میں شامل ہے۔	3-
					میں غذائیت سے بھر پور کھانے کو ترجیح دیتی رہتی ہوں۔	4-
					کم تیل میں بنی ہوئی ہلکی پھلکی غذا میری ترجیح میں شامل ہے۔	5-
					میرے کھانے میں زیادہ تر تلی ہوئی (Fried) چیزیں شامل ہوتی ہیں۔	6-
					دوستوں کے اصرار پر میں کم غذائیت والی خوراک کی طرف بھی مائل ہو جاتا/جاتی ہوں۔	7-
					میں کھانے میں سب کچھ کھانا پسند نہیں کرتا کرتی ہوں۔	8-
					میں پریشانی یا اداسی میں زیادہ تر کھانا کھاتا کھاتی ہوں۔	9-
					میرے کھانے کی اعادات میرے گھر والوں جیسی ہیں۔	10-
					میں ناشتہ نہیں کرتا کرتی ہوں۔	11-
					میں ناشتہ کرنے کو ترجیح نہیں دیتا رہتی ہوں۔	12-
					Over Eating	
					میں دوستوں اور گھر والوں کے ساتھ کھانا کھانا پسند نہیں کرتا رہتی ہوں۔	13-
					میں گھر والوں کے ساتھ زیادہ کھانے (Overeating) کی طرف راغب ہوتا رہتی ہوں۔	14-
					گھر والوں کی آمادگی رضگی کے لئے میں اپنی ناپسندیدہ غذا بھی کھا لیتا رہتی ہوں۔	15-

						میرے لئے دوستوں اور گھر والوں کے ساتھ کھانا کھانا باعثِ مُسرت ہے۔	16-
						میں دعوتوں میں دوسروں کے اصرار پر زیادہ کھانے کی طرف مائل ہوتا رہتا ہوں۔	17-
						میں گھر سے باہر کھانے کے باوجود گھر آ کر دوبارہ کھانا کھاتا رکھاتی ہوں۔	18-
						مجھے Pizza یا برگر کھانے کے بعد بھی کھانا کھانے کی ضرورت محسوس ہوتی ہے۔	19-
						میرے خیال میں زیادہ کھانے کی رغبت کا تعلق امیر یا غریب ہونے سے نہیں، مگر شوق سے ہے۔	20-
						میں زیادہ کھانا کھانے کا ری شوقین ہوں۔	21-
						میں وقت بے وقت کھانے کے لئے تیار رہتا رہتی ہوں۔	22-
						میں جب پریشان یا اداس ہوں تو زیادہ کھانے کی طرف راغب ہوتا رہتی ہوں۔	23-
						میں ٹی وی دیکھتے ہوئے زیادہ کھانا کھا لیتا رلیتی ہوں۔	24-
						کام میں مصروفیت کی وجہ سے ہم سارا خاندان مل کر کھانا نہیں کھا پاتے۔	25-
						میرے گھر میں تمام لوگ صرف چھٹی والے دن مل کر کھانا کھاتے ہیں۔	26-
						میرا یقین ہے کہ مل کر کھانا کھانے میں برکت ہوتی ہے۔	27-
						میں دوستوں کے ساتھ مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتا رکھاتی ہوں۔	28-
						میں گھر والوں کے مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتا رکھاتی ہوں۔	29-
						Relationship with Food	
						میرے لئے کھانا کھانا مُسرت اور خوشی کا باعث ہے۔	30-
						اچھا کھانا کھانے سے میرا موڈ بہتر ہو جاتا ہے۔	31-
						میں پکنک یا ہوٹل میں کھانے سے بھرپور لطف اندوز ہوتا رہتی ہوں۔	32-
						میرے نزدیک خوشی کے موقع کا تصور بھی کھانے کے بغیر ادھورا ہے۔	33-
						میرے خیال میں غم کے موقع پر بھی کھانے کا اہتمام ضروری ہوتا ہے۔	34-

						میرے خیال میں دعوت کا اہتمام خوشی منانے کا بہترین زریعہ ہے۔	35-
						میرے خیال میں دوستوں اور گھر والوں کے ساتھ خوشی منانے کا بہترین طریقہ مل کر کھانا کھانا ہے۔	36-
						میرے خیال میں کھانے پینے کی چیزیں بطور انعام بچوں کو دینا عام سی عادت ہے۔	37-
						میرے خیال میں بچوں کے غیر مناسب رویے پر کھانے کی چیزوں سے محروم کرنا عام سی بات ہے۔	38-
						میرے خیال میں اچھی دعوت کا اہتمام باعثِ فخر (عزت و وقار) ہے۔	39-
						میرے گھر میں مہمانوں کے لئے کھانے کا (اچھا) اعلیٰ اہتمام کرنا باعثِ فخر ہوتا ہے۔	40-
						میرے نزدیک نجی اور سماجی تقریبات میں کھانا ایک اہم جزو ہے۔	41-
						میرے نزدیک نجی اور سماجی تقریبات میں کھانے کا بُرا اہتمام تذلیل کے مترادف ہے۔	42-
						میں کھانا کھانے کے لئے مہنگے ہوٹل میں جانے کو Status Symbol سمجھتا/سمجھتی ہوں۔	43-
						دولت مند طبقہ کے لئے کھانے کی دعوتوں کے اہتمام باعثِ فخر اور عزت ہے۔	44-
						میرے گھر میں احتراماً مردوں کو پہلے کھانا کھلایا جاتا ہے۔	45-
						میرے خیال میں لڑکوں کو لڑکیوں کی نسبت زیادہ بہتر خوراک دی جاتی ہے۔	46-
						میں وزن بڑھنے کے ڈر سے کھانا کم مقدار میں کھاتا/کھاتی ہوں۔	47-
						مرد اور عورت کی غذائی ضروریات یکساں ہیں۔	48-
						Overconcern About Weight and Appearance	
						دُبلا پتلا نظر آنے کی خواہش مجھ پر مسلط رہتی ہے۔	49-
						دُبلا پتلا نظر آنے کے لئے میں غذا کے استعمال میں ہمیشہ احتیاط برتتا/برتتی ہوں۔	50-

						میں دعوتوں میں جانے سے پرہیز کرتا رہتی ہوں تا کہ میرا وزن میرے کنٹرول میں رہے۔	51-
						دعوتوں میں دوستوں کے ساتھ زیادہ کھانا میرے وزن میں اضافے کا باعث ہے۔	52-
						دعوتوں میں زیادہ کھانا کھانے کے بعد میں وزن بڑھنے کے خوف سے فوری Dieting شروع کر دیتا رہتی ہوں۔	53-
						اپنے آپ کو فٹ (Fit) اور دُبلا پتلا رکھنے کے لئے میں Dieting کرتا رہتی ہوں۔	54-
						میں خوبصورت اور سمارٹ نظر آنے کے لئے ہر ممکن کوشش کرتا رہتی ہوں۔	55-
						تیل والے کھانے سے ممکنہ حد تک پرہیز، میری سمارٹ رہنے کی کوششوں کا حصہ ہے۔	56-
						میں خوبصورت اور سمارٹ نظر آنے کے لئے روزانہ ورزش کرتا رہتی ہوں۔	57-
						میں خوبصورت اور سمارٹ نظر آنے کے لئے صفائی ستھرائی اور روزانہ نہانے پر یقین رکھتا رہتی ہوں۔	58-
						میں فٹ اور خوبصورت نظر آنے کے لئے غذا کے ساتھ وِٹامنز اور پروٹین Supplements استعمال کرتا رہتی ہوں۔	59-
						میرے خوبصورت اور پُرکشش نظر آنے کے لئے معیار، میڈیا مقرر کرتا ہے۔	60-
						میں اپنی جسمانی ساخت سے مکمل طور پر مطمئن ہوں۔	61-
						میں اپنی ظاہری جسمانی ساخت سے کبھی مطمئن نہیں ہوتا رہتی ہوں۔	62-
						میں اپنی ظاہری جسمانی ساخت میں ہر ممکن بہتری کی کوشش کرتی ہوں۔	63-
						میں شیشے میں اپنے جسم کے مختلف حصوں جیسا کہ کمر و پیٹ، Buttock کا علیحدہ علیحدہ جائزہ لیتا رہتی ہوں۔	64-
						میں خود کو Overweight تصور کرتا رہتی ہوں۔	65-
						مجھے باقاعدہ ورزش کرنے کی ضرورت ہوتی ہے۔	66-
						میرے لئے جسمانی ساخت کا Ideal Standard (مثالی معیار) میڈیا مقرر کرتا ہے۔	67-

						میرا خود کو موٹا تصور کرنا دوسروں کے لئے میرے سے متعلق خیالات سے جڑا ہے۔	68-
						میں سمجھتا سمجھتی ہوں کہ دبلا پتلا اور سمارٹ دکھائی دینا ہر شخص کا بنیادی حق ہے۔	69-
						دبلا پتلا اور سمارٹ دکھائی دینے کی کوشش میرے نزدیک امیروں کے چونچلے ہیں۔	70-
						میں وزن کو کم کرنے کے لئے اپنے کھانے پینے کو کنٹرول میں رکھتا رکھتی ہوں۔	71-
						دبلا پتلا اور دلکش نظر آنے کی سوچ میری ہر سوچ پر محیط ہے۔	72-
						میں اگر دوستوں یا خاندان والوں کے ساتھ زیادہ کھالوں تو اگلے کئی دن تک مستقل Dieting کرتا کرتی ہوں۔	73-
						میں کم مقدار میں کھانا کھاتا کھاتی ہوں تا کہ میرا وزن نہ بڑھے۔	74-
						میرے خیال میں زیادہ تر نوجوان لڑکے لڑکیاں موٹاپے کا شکار ہیں۔	75-
						میں سمجھتا سمجھتی ہوں کہ لڑکوں کی نسبت لڑکیاں کم خوراک کھاتی ہیں۔	76-
						Fating Patterns	
						میرے کھانے کے اوقات کا رے ترتیب ہیں۔	77-
						پورے دن میرے کھانے کے اوقات کا رمقرر ہیں۔	78-
						کام میں مصروفیت کی وجہ سے میں با قاعدگی سے کھانا نہیں کھاتا کھاتی ہوں۔	79-
						کھانے بے قاعدہ روٹین (Routine) کی ایک بڑی وجہ میرا موڈ ہوتا ہے۔	80-
						میری کھانا کھانے کی روٹین (Routine) بے قاعدگی کا شکار ہوتی ہے۔	81-
						مصروف ہونے کی وجہ سے اکثر میں وقت پر کھانا بھول جاتا جاتی ہوں۔	82-
						تھوڑے تھوڑے وقفے سے بہت زیادہ کھانا میری عادت میں شامل ہے۔	83-
						میں بہت مقدار میں کھانا کھاتا کھاتی ہوں۔	84-
						میں ہمیشہ مقررہ وقت پر کھانا کھاتا کھاتی ہوں۔	85-
						میرے کھانے سے متعلقہ مسائل میں اہم ترین ورزش کا نہ کرنا اور ڈائٹنگ Dieting شامل ہے۔	86-

						روزمرہ کے کام میں بے قاعدگیوں کی وجہ سے کھانے کے مسائل پیدا ہوتے ہیں۔	87-
						میرے خیال میں وزن بڑھنے کی ایک اہم وجہ خوراک کو چبائے بغیر نگلنا ہے۔	88-
						میرے نزدیک وزن کم کرنے کے لئے ایک دم کھانا چھوڑ دینا درحقیقت وزن بڑھنے کی اہم وجہ ہے۔	89-
						میں چھپ کر یا بند کمرے میں کھانا کھاتا رکھاتی ہوں۔	90-
						میں چھپ کر یا بند کمرے میں کھانا کھاتا رکھاتی ہوں۔	91-
						میرے نزدیک کھانا کھانے کا مطلب صرف غذائی ضروریات کو پورا کرنا ہے۔	92-
						میرا اچھی غذا نہ کھانے کی وجہ وسائل کی کمی ہے۔	93-
						میں متوازن غذا پر اپنی پسندیدہ خوراک کو ترجیح دیتا دیتی ہوں۔	94-
						میرے مطابق موٹاپے کا تعلق خوراک سے نہیں بلکہ یہ روایتی بیماری ہے۔	95-

Appendix-D

ITEM POOL OF FOOD MYTHS SCALE (40 Items)

ہدایات :

مندرجہ ذیل بیانات کو غور سے پڑھیں اور جواب دیں کہ وہ آپ کی رائے میں صحیح یا غلط ہیں آپ کی رائے میں یہ بیان کسی حد تک صحیح یا بالکل صحیح ہیں

اگر کسی طرح یہ بیان آپ کی رائے میں کسی حد تک غلط یا بالکل غلط ہے۔ ہر بیان کے لئے صرف ایک ہی خانے میں نشان لگائیں۔

بالکل غلط	کسی حد تک غلط	ناصحیح ناغلط	کسی حد تک صحیح	بالکل صحیح	بیانات	نمبر شمار
					ایک کیلا کھانے سے قبض ہو جاتی ہے، ہمیشہ دو کھائیں۔	1-
					لڑکیوں کو زیادہ کھانا دینے سے وہ جلد سنِ بلوغت (Puberty) تک پہنچ جاتی ہیں۔	2-
					گرمیوں میں انڈے نہیں کھانے چاہئیں کیونکہ انکی تاثیر گرم ہوتی ہے۔	3-
					خشک میوہ جات یا ڈرائی فروٹ (Dry Fruit) صرف سردیوں میں کھانے چاہیں، کیونکہ گرم ہوتے ہیں۔	4-
					خربوزہ اور تربوز کھا کر پانی پینے سے ہیضہ ہو جاتا ہے۔	5-
					کھیرا کھا کر پانی پینے سے ہیضہ ہو جاتا ہے۔	6-
					آم کھانے کے بعد کچھ لسی پینے سے گرمی دور ہوتی ہے۔	7-
					آلو، گوبھی، چاول، دال ماش بادی ہوتے ہیں۔	8-
					خالی پیٹ پانی پینے سے وزن کم ہوتا ہے۔	9-
					کچا دودھ (بغیر ابلا ہوا) پینے سے تیزابیت نہیں ہوتی۔	10-
					Pregnancy میں کھوپرا، یا کچا ناریل کھانے سے بچے کا رنگ گورا ہوتا ہے۔	11-
					چائے زیادہ پینے سے رنگ کالا ہوتا ہے۔	12-
					مچھلی کھا کر دودھ پینے سے پھلبہری ہو جاتی ہے۔	13-
					Pregnancy کے شروع کے مہینوں میں گرم چیزیں (مثلاً انڈہ، ڈرائی فروٹ) نہیں کھانی چاہیں۔	14-
					کیلا کھا کر دودھ پینے سے ریشہ پیدا ہوتا ہے۔	15-
					شوگر کے مریضوں کے لئے شکر، شہد اور کھجور، مفید ہے شوگر میں اضافہ نہیں کرتا۔	16-
					زیادہ Cold Drinks پینے سے بچے Hyper ہو جاتے ہیں۔	17-

بالکل غلط	کسی حد تک غلط	نہ صحیح نہ غلط	کسی حد تک صحیح	بالکل صحیح	بیانات	نمبرشمار
					دودھ پینے سے رنگ گورا ہوتا ہے۔	18-
					آم کھانے سے گرمی دانے نکل آتے ہیں۔	19-
					کھانے کے بعد سگریٹ پینے سے کھانا ہضم ہو جاتا ہے۔	20-
					ڈبہ والا دودھ کھلے دودھ کی نسبت جراثیم سے پاک ہوتا ہے۔	21-
					روزانہ ایک سیب کا استعمال آپ کو بیماریوں سے دور رکھتا ہے۔	22-
					تلی ہوئی چیزیں کھا کر پانی پینے سے گلا خراب ہو جاتا ہے۔	23-
					مچھلی گرمیوں میں نہیں کھانی چاہیئے اسکی تاثیر گرم ہوتی ہے۔	24-
					تلی ہوئی چیزوں کے فوری بعد دودھ پینے سے Food Poisoning ہو جاتی ہے۔	25-
					گرمیوں میں املی اور آلو بخارے کا شربت لو لگنے سے بچاتا ہے۔	26-
					نہار منہ آم کھانے سے معدہ خراب ہو جاتا ہے۔	27-
					نہار منہ خربوزہ یا تربوزہ کھانے سے ہیضہ ہو جاتا ہے۔	28-
					آلو اور چاول کھانے سے موٹاپا ہو جاتا ہے/روزن بڑھتا ہے۔	29-
					چائے یا کافی پینے سے نیند اڑ جاتی ہے۔	30-
					کریلا ایک گرم سبزی ہے۔	31-
					گوشت میں سبزی ملا کر کھانے سے گوشت کی گرمی کم ہو جاتی ہے۔	32-
					سیب صرف نہار منہ کھانا چاہیے۔	33-
					نہار منہ کھجور کھانے سے وزن بڑھتا ہے۔	34-
					کبوتر کے گوشت کی یخنی (Stocks) پینے سے لقوہ (Facial Paralysis) ٹھیک ہو جاتا ہے۔	35-
					مونگ پھلی کے بعد فوری پانی پینے سے گلا خراب ہو جاتا ہے۔	36-
					کھانا کھانے کے فوری بعد سونا نہیں چاہیے اس سے کھانا ہضم نہیں ہوتا۔	37-
					کھانا کھانے کے فوری بعد پھل نہیں کھانے چاہئیں اس سے معدہ پھول جاتا ہے۔	38-
					کھانا کھانے کے فوری بعد چائے نہیں پینی چاہیے اس سے کھانا دیر سے ہضم ہوتا ہے۔	39-
					سفید رنگ کی کھانے کی چیزیں مثلاً دودھ، دلیہ وغیرہ کو نظر لگ جاتی ہے۔	40-

Demographic Information Sheet

جنس ------------------ عمر ------------------

تعلیم ------------------ پیشہ ------------------

قد ------------------ وزن ------------------

ماہانہ آمدنی ------------------ بالغ عمری کا کم سے کم وزن ------------------

مثالی وزن ------------------ بہن بھائیوں میں آپ کا نمبر ------------------

خاندانی نظام ------------------ Nuclear ------------------ Joint ------------------

تعلیمی مضمون ------------------ Science ------------------ Arts ------------------

والدہ کی تعلیم ------------------ والد کی تعلیم ------------------

رہائش ------------------ ہاسٹل _____ گھر _____

کیا آپ ورزش کرتے ہیں؟ ہاں _____ نہیں _____ کبھی کبھار _____

سگریٹ نوشی ہاں _____ نہیں _____ کبھی کبھار _____

آپ پورے دن میں کتنی دفعہ کھانا کھاتے ہیں؟

ایک دفعہ _____ دو دفعہ _____ تین دفعہ _____ چار یا اس سے بھی زیادہ _____

مندرجہ ذیل کھانوں کا آپ کی روزمّرہ کی خوراک میں شامل ہونا کس حد تک ضروری ہے؟

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	کھانے پینے کی اشیاء	نمبر شمار
					گوشت (مرغی، بکرا، گائے)	1-
					چاول	2-
					گندم (روٹی) یا ڈبل روٹی	3-
					انڈہ	4-
					دودھ/دہی	5-
					پھل (پھلوں کا جوس)	6-
					دالیں	7-
					پنیر، مکھن	8-
					کولڈ ڈرنکس	9-
					مٹھائی	10-

AUTHORITY PERMISSION LETTER FOR DATA COLLECTION

To Whom It May Concern

Subject: Issuance of Permission for Test Administration in Colleges/Universities of Rawalpindi/Islamabad

National Institute of Psychology (NIP), Quaid-i-Azam University, Islamabad is degree awarding research organization. The present research is on the topic of "Attitudes and Myths related to Eating Among Adolescents" to fulfill the degree requirement of Ph. D. For field testing, we need to administer the questionnaires on the sample of college and university students from the age group of 16-22 years. So, kindly issue the permission to administer the scales on students of intermediate and graduation studying in your college/university. It is assured that data will be kept confidential and used for research purpose only. We will be very thankful for your cooperation in the completion of data collection in this research.

Prof. Dr. Anila Kamal

Informed Consent

میں قومی ادارہ نفسیات، قائدِاعظم یونیورسٹی، اسلام آباد کی طالبہ ہوں اور ایک ریسرچ کر رہی ہوں جو روزمرّہ کھانے پینے سے متعلق آپ کے رویوں کو جاننے پر ہے۔ یہ ایک ایسا ادارہ ہے جو تدریس و تعلیم کے ساتھ ساتھ انسانی اور معاشرتی مسائل پر بھی ریسرچ کرتا ہے۔ موجودہ ریسرچ اسی سلسلے کی ایک کڑی ہے، جس کے لئے ہمیں آپ کا تعاون درکار ہے۔

آپ کی خدمت میں کچھ سوال نامے پیش کئے جا رہے ہیں۔ آپ سے درخواست ہے کہ سوالنامے کے ساتھ دی گئی ہدایت کو غور سے پڑھیں اور ان کی روشنی میں جوابات دیں۔ ان سوالناموں میں درج بیانات سے متعلق صحیح اور غلط کا کوئی تصور نہیں ہے۔ آپ سے درخواست ہے کہ آپ ایمانداری سے ممکنہ حد تک صحیح جواب دیں۔

آپ کو یقین دلایا جاتا ہے کہ آپ کی معلومات صیغہ راز میں رکھی جائے گی اور صرف تحقیقی مقاصد کے لئے استعمال کی جائیں گی۔ برائے مہربانی کوئی بھی بیان خالی چھوڑیں۔ اور تمام بیانات سے متعلق اپنے جوابات کا اظہار ضرور کریں آپ کا تعاون مدد گار ہوگا۔ شکریہ!

دستخط _____

FINAL EATING ATTITUDE SCALE (33 Items)

ORIGINAL IN URDU

ہدایات:

اس سوال نامے میں چند بیانات دیئے گئے ہیں، جن کے ذریعے ہم آپ کی کھانے پینے سے متعلق رویّوں کے بارے میں آپ کا نقطۂ نظر معلوم کریں گے۔
آپ سے درخواست ہے کہ ہر بیان کو غور سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					میں دعوتوں میں دوسروں کے اصرار پر زیادہ کھانے کی طرف مائل ہوتا رہتا ہوں۔	1-
					میرے کھانے کے اوقات کار بے ترتیب ہیں۔	2-
					میرے کھانے کی اعادات میرے گھر والوں جیسی ہیں۔	3-
					پورے دن میں میرے کھانے کے اوقات کار مُقرر رہیں۔	4-
					میں وزن بڑھنے کے ڈر سے کھانا کم مقدار میں کھاتا رکھاتی ہوں۔	5-
					دُبلا پتلا نظر آنے کی خواہش مجھ پر مُسلّط رہتی ہے۔	6-
					دُبلا پتلا نظر آنے کے لئے میں غذا کے استعمال میں ہمیشہ احتیاط برتتا برتتی ہوں۔	7-
					میں دعوتوں میں جانے سے پرہیز کرتا کرتی ہوں تا کہ میرا وزن میرے کنٹرول میں رہے۔	8-
					دعوتوں میں دوستوں کے ساتھ زیادہ کھانا میرے وزن میں اضافے کا باعث ہے۔	9-
					دعوتوں میں زیادہ کھانا کھانے کے بعد، میں وزن بڑھنے کے خوف سے فوری Dieting شروع کر دیتا رہتی ہوں۔	10-
					اپنے آپ کو فٹ (Fit) اور دُبلا پتلا رکھنے کے لئے میں Dieting کرتا کرتی ہوں۔	11-
					میں گھر سے باہر کھانے کے باوجود گھر آ کر ضرور کھانا کھاتا رکھاتی ہوں۔	12-
					مجھے Pizza یا برگر کھانے کے بعد بھی کھانا کھانے کی ضرورت محسوس ہوتی ہے۔	13-
					میں زیادہ کھانا کھانے کا رکی شوقین ہوں۔	14-
					میں بے وقت کھانے کے لئے تیار رہتا رہتی ہوں۔	15-
					تیل والے کھانے سے ممکنہ حد تک پرہیز، میری سمارٹ رہنے کی کوششوں کا حصہ ہے۔	16-

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					میری کھانا کھانے کی روٹین (Routine) بے قاعدگی کا شِکار ہوتی ہے۔	17-
					مصروف ہونے کی وجہ سے میں وقت پر کھانا بھول جاتا رہتی ہوں۔	18-
					تھوڑے تھوڑے وقفے سے بہت زیادہ کھانا میری عادت میں شامل ہے۔	19-
					میں بہت مقدار میں کھانا کھاتی رہتی ہوں۔	20-
					میں ٹی وی دیکھتے ہوئے زیادہ کھانا کھالیتا رہتی ہوں۔	21-
					میں ہمیشہ مقررّہ وقت پر کھانا کھاتی رہتی ہوں۔	22-
					میرے کھانے سے متعلقہ مسائل میں اہم ترین ورزش کا نہ کرنا اور ڈائٹنگ Dieting شامل ہے۔	23-
					کم کھانا کھانے کے باوجود میرا وزن بہت زیادہ ہے۔	24-
					میں دوستوں کے ساتھ مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتی رہتی ہوں	25-
					میں گھر والوں کے ساتھ مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتی رہتی ہوں۔	26-
					میں خود کو موٹا تا رموٹی (Overweight) تصوّر کرتا رہتی ہوں۔	27-
					مجھے با قاعدہ ورزش کرنے کی ضرورت ہوتی ہے۔	28-
					میرا خود کو موٹا تصوّر کرنا دوسروں کے میرے سے متعلق خیالات سے جُڑا ہے۔	29-
					میں وزن کو کم کرنے کے لئے اپنے کھانے پینے کو کنٹرول میں رکھتا رہتی ہوں۔	30-
					دُبلا پتلا اور دلکش نظر آنے کی سوچ میری ہر سوچ پر محیط ہے۔	31-
					میں اگر دوستوں یا خاندان والوں کے ساتھ زیادہ کھا لوں تو اگلے کئی دن تک مستقل Dieting کرتا رہتی ہوں۔	32-
					میں کم مقدار میں کھانا کھاتی رہتی ہوں تا کہ میرا وزن نہ بڑھے۔	33-

FINAL EATING ATTITUDE SCALE (33 ITEMS) TRANSLATED INTO ENGLISH

#	Statements
1	I tend to eat more in parties when others insist.
2	My eating schedule is irregular.
3	My eating habits are similar to my family.
4	My eating schedule is fixed throughout the whole day.
5	I eat less due to the fear of gaining weight.
6	The desire to look slim is inflicted upon me.
7	I am careful about the diet to look slim.
8	I avoid parties to control my weight.
9	Eating with friends in parties is the cause of my overweight.
10	Due to the fear of gaining weight, I start dieting immediately after overeating in parties.
11	I diet to keep myself fit and slim.
12	I eat at home regardless I have already eaten outside.
13	I still have a need to eat after eating a burger or pizza.
14	I am fond of eating more.
15	I am ready to eat at any time.
16	To avoid fried food to a possible extent as an effort to look lean.
17	My eating routines are irregular.
18	I forget to eat on time due to my busy schedule.
19	It is my habit to eat more after small intervals.
20	I eat a lot of food.

#	Statements
21	I eat more while watching TV.
22	I always eat on fixed time.
23	The most important among my eating problems are not to exercise and dieting.
24	I am overweight though I eat less.
25	I eat more than usual routine with my friends.
26	I eat more than usual routine with my family.
27	I consider myself overweight.
28	I need regular exercise.
29	My self-consideration as overweight is associated with the thoughts of others about me.
30	I control my food to lose weight.
31	Thought to look smart and attractive is dominated all over my thoughts.
32	I do dieting for next many days if I eat more with my friends or family.
33	I eat less so that I do not gain weight.

Food Relation with Body (17 Items)

ہدایات:

اس سوال نامے میں چند بیانات دیے گئے ہیں، جن کے ذریعے ہم آپ کی کھانے پینے سے متعلق رویّوں کے بارے میں آپ کا نقطہ نظر معلوم کریں گے۔
آپ سے درخواست ہے کہ ہر بیان کو غور سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					میں وزن بڑھنے کے ڈر سے کھانا کم مقدار میں کھاتی رکھاتی ہوں۔	1-
					دُبلا پتلا نظر آنے کی خواہش مجھ پر مسلّط رہتی ہے۔	2-
					دُبلا پتلا نظر آنے کے لئے میں غذا کے استعمال میں ہمیشہ احتیاط برتتا برتتی ہوں۔	3-
					میں دعوتوں میں جانے سے پرہیز کرتا رکرتی ہوں تا کہ میرا وزن میرے کنٹرول میں رہے۔	4-
					دعوتوں میں دوستوں کے ساتھ زیادہ کھانا میرے وزن میں اضافے کا باعث ہے۔	5-
					دعوتوں میں زیادہ کھانا کھانے کے بعد میں وزن بڑھنے کے خوف سے فوری Dieting شروع کر دیتا ردیتی ہوں۔	6-
					اپنے آپ کو فٹ (Fit) اور دُبلا پتلا رکھنے کے لئے میں Dieting کرتا رکرتی ہوں۔	7-
					تیل والے کھانے سے ممکنہ حد تک نہ پرہیز، میری سمارٹ رہنے کی کوششوں کا حصہ ہے۔	8-
					میرے کھانے سے متعلقہ مسائل میں اہم ترین ورزش کا نہ کرنا اور ڈائٹنگ Dieting شامل ہے۔	9-
					کم کھانا کھانے کے باوجود میرا وزن بہت زیادہ ہے۔	10-
					میں خود کو Overweight تصوّر کرتا رکرتی ہوں۔	11-
					مجھے باقاعدہ ورزش کرنے کی ضرورت ہوتی ہے۔	12-
					میرا خود کو موٹا تصوّر کرنا دوسروں کے میرے سے متعلق خیالات سے جُڑا ہے۔	13-
					میں وزن کو کم کرنے کے لئے اپنے کھانے پینے کو کنٹرول میں رکھتا رکھتی ہوں۔	14-
					دُبلا پتلا اور دلکش نظر آنے کی سوچ میری ہر سوچ پر مُحیط ہے۔	15-
					میں اگر دوستوں یا خاندان والوں کے ساتھ زیادہ کھا لوں تو اگلے کئی دن تک مستقل Dieting کرتا رکرتی ہوں۔	16-
					میں کم مقدار میں کھانا کھاتی رکھاتی ہوں تا کہ میرا وزن نہ بڑھے۔	17-

Appendix-K

Overeating (10 Items)

ہدایات:

اس سوال نامے میں چند بیانات دیئے گئے ہیں، جن کے ذریعے ہم آپ کی کھانے پینے سے متعلق رویّوں کے بارے میں آپ کا نقطہ نظر معلوم کریں گے۔ آپ سے درخواست ہے کہ ہر بیان کو غور سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					میں دعوتوں میں دوسروں کے اصرار پر زیادہ کھانے کی طرف مائل ہوتا رہتا ہوں۔	1-
					میں گھر سے باہر کھانے کے باوجود گھر آ کر کھانا ضرور کھاتا رکھاتی ہوں۔	2-
					مجھے Pizza یا برگر کھانے کے بعد بھی کھانا کھانے کی ضرورت محسوس ہوتی ہے۔	3-
					میں زیادہ کھانا کھانے کا کی شوقین ہوں۔	4-
					میں وقت بے وقت کھانے کے لئے تیار رہتا رہتی ہوں۔	5-
					تھوڑے تھوڑے وقفے سے بہت زیادہ کھانا میری عادت میں شامل ہے۔	6-
					میں بہت زیادہ مقدار میں کھانا کھاتا کھاتی ہوں۔	7-
					میں ٹی وی دیکھتے ہوئے زیادہ کھانا کھا لیتا رلیتی ہوں۔	8-
					میں دوستوں کے ساتھ مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتا رکھاتی ہوں۔	9-
					میں گھر والوں کے ساتھ مل کر ہمیشہ روٹین (Routine) سے زیادہ کھانا کھاتا رکھاتی ہوں۔	10-

Irregular Eating Routins (6 Items)

ہدایات:

اس سوال نامے میں چند بیانات دیئے گئے ہیں، جن کے ذریعے ہم آپ کی کھانے پینے سے متعلق رویّوں کے بارے میں آپ کا نقطۂ نظر معلوم کرسکیں گے۔ آپ سے درخواست ہے کہ ہر بیان کو غور سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کبھی نہیں	شاذ و نادر	کبھی کبھار	اکثر	ہمیشہ	سوالات	نمبر شمار
					میرے کھانے کے اوقاتِ کار بے ترتیب ہیں۔	1-
					میرے کھانے کی عادات میرے گھر والوں جیسی ہیں۔	2-
					پورے دن میں میرے کھانے کے اوقاتِ کار مقرر ہیں۔	3-
					میری کھانا کھانے کی روٹین (Routine) بے قاعدگی کا شِکار رہتی ہے۔	4-
					مصروف ہونے کی وجہ سے میں وقت پر کھانا، کھانا بھول جاتا/جاتی ہوں۔	5-
					میں ہمیشہ مقررہ وقت پر کھانا کھاتا/کھاتی ہوں۔	6-

FINAL FOOD MYTHS SCALE (18 Items)

ORIGINAL IN URDU

ہدایات :

مندرجہ ذیل بیانات کو غور سے پڑھیں اور جواب دیں کہ وہ آپ کی رائے میں صحیح یا غلط ہیں آپ کی رائے میں یہ بیان کسی حد تک صحیح یا بالکل غلط ہیں

اگر کسی طرح یہ بیان آپ کی رائے میں کسی حد تک غلط یا بالکل غلط ہے۔ ہر بیان کے لئے صرف ایک ہی خانے میں نشان لگائیں ۔

بالکل غلط	کسی حد تک غلط	ناصحیح ناغلط	کسی حد تک صحیح	بالکل صحیح	بیانات	نمبر شمار
					خربوزہ اور تربوز کھا کر پانی پینے سے ہیضہ ہو جاتا ہے۔	1-
					کھیرا کھا کر پانی پینے سے ہیضہ ہو جاتا ہے۔	2-
					آلو، گوبھی، چاول، دال ماش بادی ہوتے ہیں۔	3-
					خالی پیٹ پانی پینے سے وزن کم ہوتا ہے۔	4-
					مچھلی کھا کر دودھ پینے سے پھلبہری ہو جاتی ہے۔	5-
					Pregnancy کے شروع کے مہینوں میں گرم چیزیں (مثلاً انڈہ، ڈرائی فروٹ) نہیں کھانی چاہیں۔	6-
					کیلا کھا کر دودھ پینے سے ریشہ پیدا ہوتا ہے۔	7-
					دودھ پینے سے رنگ گورا ہوتا ہے۔	8-
					آم کھانے سے گرمی دانے نکل آتے ہیں۔	9-
					روزانہ ایک سیب کا استعمال آپ کو بیماریوں سے دور رکھتا ہے۔	10-
					تلی ہوئی چیزیں کھا کر پانی پینے سے گلا خراب ہو جاتا ہے۔	11-
					مچھلی گرمیوں میں نہیں کھانی چاہئے اسکی تاثیر گرم ہوتی ہے۔	12-
					تلی ہوئی چیزوں کے فوری بعد دودھ پینے سے Food Poisoning ہو جاتی ہے۔	13-
					گرمیوں میں املی اور آلو بخارے کا شربت لو لگنے سے بچاتا ہے۔	14-
					آلو اور چاول کھانے سے موٹاپا ہو جاتا ہے یا روز ن بڑھتا ہے۔	15-
					چائے یا کافی پینے سے نیند اُڑ جاتی ہے۔	16-
					کریلا ایک گرم سبزی ہے۔	17-
					گوشت میں سبزی ملا کر کھانے سے گوشت کی گرمی کم ہو جاتی ہے۔	18-

FINAL FOOD MYTHS SCALE (18 ITEMS) TRANSLATED INTO ENGLISH

#	Statements
1	Drinking water after eating melon and water melon causes cholera.
2	Drinking water after eating cucumber causes cholera.
3	Potato, cauliflower, rice, and white lentil produce gas in stomach or fat belly.
4	Drinking water at morning with empty stomach reduces weight.
5	Drinking milk after fish causes leucoderma.
6	Food which produces heat in body (e.g., egg and dry fruits) should not be taken during initial months of pregnancy.
7	Drinking milk after eating banana causes phlegm/ sputum.
8	Drinking milk fairer the skin complexion.
9	Eating mangoes causes prickly heat/ heat rash.
10	Eating an apple daily prevents you from diseases.
11	Drinking water after eating fried things/foods causes sore throat.
12	Fish should not be eaten in summers as it produces hot effect in body.
13	Drinking milk immediately after eating fried things/ foods cause food poisoning.
14	Tamarind and plum drink prevents heat stroke in summers.
15	Eating potato and rice causes obesity/ weight gain.
16	Drinking tea or coffee causes sleeplessness.
17	Bitter gourd is a vegetable may produce hot effect in body.
18	Vegetables cook with meat decreases hot effect of meat in body.

MYTH Vs. REALITY TABLE

#	Myths	Reality
1	Drinking water after eating melon and watermelon causes cholera.	Cholera is caused by Vibreo Cholera, a bacterium, so drinking water after melon/watermelon do not cause cholera but rotten fruit may have chance to carry the bacterium cause cholera (Ratini, 2014)
2	Drinking water after eating cucumber causes cholera	Combination of food like water after cucumber do not cause cholera but if the cucumber is rotten with bacterium vibreo cholera may lead to diarrahea (Ratini, 2014)
3	Potato, cauliflower, rice, and white lentil produce gas in stomach or fat belly.	Flat bellies usually aren't sustainable. It's possible to eat and drink in such a way that your belly will be flat temporarily, but with a little food, especially the kind that makes gas, your concave belly will revert to convex. That doesn't mean you have unsightly or unhealthy belly fat. It means that your stomach is distended, most likely from gas. When you eat, your stomach may produce gas until the food has been digested and the stomach is empty again so avoiding any food is not the solution. Don't fall for that ridiculous myth to avoid any food to get fat belly as only vegetables can not lead to flat belly is also a myth (Conn, 2015).
4	Drinking water at morning with empty stomach reduces weight.	Obesity have many physiological/ psychological reasons like overeating, depression, metabolism error, hypothyroidism, etc. (Ratini, 2015) but water do not affect any of above stated diseases, so reducing weight by drinking water is considered as a myth. Water does not cause weight loss, but it does keep you hydrated and might help you snack less. Water is essential for good health and wellbeing (Okaley, 2015)

5	Drinking milk after fish causes leucoderma.	Fish and curd combination does not cause leucoderma (vitiligo). The reason for this disease is the destruction of cells which produce the skin pigment melanin. This combination cannot destroy the skin cells. Even strict vegetarians get this disease. The regular, traditional fish eaters do not have it more than the average. There is no scientific basis for this belief (Padmanaban, 2010). In many countries fish are marinated or cooked in milk and dairy products. Many have no problems (Mughal, 2013).
6	Food which produce heat in body (e.g., egg and dry fruits) shouldn't be taken during initial months of pregnancy.	No food and fruit cause extra heat in body while egg is rich source of protein and similarly dry fruits contain many important nutrients and vitamins considered necessary for fetus development so it is a myth that these foods are dangerous for pregnancy rather they are the essential requirement during pregnancy (Knight, 2013).
7	Drinking milk after eating banana causes phlegm/ sputum.	There is no scientific research showing that milk produces mucus in the airways or the throat. Milk and banana do not cause the mucous production or sputum even in cold so it is myth that this combination or eating separately these foods cause sputum (Thieme, 2014)
8	Drinking milk fairer the complexion	Skin coloring is genetically driven not milk driven. Milk or any other food does not affect melanin the skin color pigmentation. This myth

		is reflection of desire to get fair in south Asian countries but unfortunately there is no scientific worth in it (Garodia, 2014)
9	Eating mangoes causes prickly heat/ heat rash.	No fruit or food cause extra heat in body not even mangoes. There is no scientific evidence in this. Yes prickly heat / heat rash may be caused by germs in extra sweating during summer (D'Mello, 2015)
10	Eating an apple daily prevents you from diseases.	Apples are good for health because they are high in fibre; contains essential vitamins and minerals, and flavonoids, a group of molecular compounds which are thought to prevent cancer and other health conditions. Researches on regular apple eater and non-eater provide no significant difference to their doctor visit so it can not be said only apple prevents the disease (Knapton, 2015). It is a myth commonly believed by people across the world.
11	Drinking water after eating fried things/foods causes sore throat.	A sore throat or Pharyngitis is often a forerunner of an impending upper respiratory tract infection with cold, cough, and chest infection. It is contagious and spreads by droplet infection through sneezing and coughing. There are no scientific proof that eating fried things can cause sore throat, avoiding fried food only helps to reduce irritation of throat but there is no scientific evidence to cause sore throat (Mughal 2013)
12	Fish shouldn't be eaten in summers due to its hot effect.	D'Mello (2015) explained that any food cause extra heat in body is misconception and similarly no food contain extra heat. Fish is rich protein meat which provide the quick energy to body so avoiding fish because of its hot effect

		is completely false
13	Drinking milk immediately after eating fried things/ foods cause food poisoning.	Food poisoning typically occurs when pathogens contaminate food or drinking water. So if the fried food or milk is contaminated the chances are there for food poisoning otherwise there is no scientific truth in it that this combination cause food poisoning (Krans, 2015)
14	Tamarind and plum drink prevents heat stroke in summers.	Heat exhaustion or stroke is caused by the exposure of excessive heat to your body that may cause dehydration and it can lead to serious consequences. Tamarind, plums, and other such drinks may help to hydrate body well to keep temperature balance so in this way they can be linked to prevent the stroke. Not only tamarind and plum but overall balanced fluid intake may help to resist body against environmental heat so it is partially truth and partially myth (Magee, 2004)
15	Eating potato and rice causes obesity/ weight gain.	Potatoes and rice are rich in carbohydrates and carbohydrate diet leads to obesity is a myth (Albert, 2006). Carbohydrates do not cause weight gain but eating the right quantity is more important (Oakley, 2015)
16	Drinking tea or coffee causes sleeplessness.	Caffeine is a stimulant that has an effect on the brain, which causes some people to stay awake. This acts like an adrenaline shot which becomes a catalyst for a rush of sugar in the bloodstream, thereby boosting energy levels. It is important to know that caffeine stays in the human body for about five hours before every trace of it has been eliminated from the body. As long as you drink your caffeine five hours before bedtime, you can avoid having a

		sleepless night. Conclusively, optimum amount of caffeine (3-5 cups coffee daily) do not effect sleep but excessive intake (6 or more) may cause sleeplessness in some people not all (Luis, 2013).
17	Bitter gourd is a vegetable produce heat in body	There is no scientific proof for any food to produce extra heat in body. Bitter gourd is used as vegetables in south Asian countries which have relatively high temperature but it does not mean that it absorbs heat and its use generate extra heat in body is completely myth (D'Mello, 2015)
18	Mixing vegetables in meat decreases meet's hot effect on body	This myth is related to prevalent misconception of cold and hot affects produced by food (Bronner, 2010). As no food produce extra heat in body (D'Mello, 2015) so combining meat with any vegetable will generate less heat in body is completely false.

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/2016   National Institute of Psychology, QAU Islamabad Mail - Fwd: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire

Fwd: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire

Irum Naqvi <irumnaqvi2006@gmail.com>   Fri, Feb 5, 2016 at 5:57 PM
To: Irum Naqvi <irumnaqvi@nip.edu.pk>

——— Forwarded message ———
From: **Dr. Tom Cash** <body-images@comcast.net>
Date: Sat, Mar 9, 2013 at 9:08 PM
Subject: RE: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire
To: Irum Naqvi <irumnaqvi2006@gmail.com>

Dear Irum,

Because orders from Pakistan are not possible via my website payment system, I will provide you with the MBSRQ materials free of charge to facilitate your research.

While you may translate the questionnaire into your language, you are expected to follow established scientific procedures for translational validation.

Your individual user's license grants you permission to use the materials in your

research for a period of 2 years with a total of no more than 1000 administrations (e.g., 1000

participants completing the assessment on one occasion; 500 participants completing the assessment on

two occasions; etc.). Materials may not be provided to other researchers for their use.

Commercial use (for ultimate profit) is prohibited, as it requires a commercial license.

You may be interested in the new (2nd) edition of Cash and Smolak's (2011) "Body Image: A Handbook

of Science, Practice, and Prevention." The publisher's link to this informative volume is

http://www.guilford.com/cgi-bin/cartscript.cgi?page=pr/cash2.htm&sec=toc&dir=pp/ed&
cart_id=792303.9996.

In July 2008, I published the second edition of "The Body Image Workbook," which presents my empirically

validated cognitive-behavioral treatment program for body-image problems. For more information, visit

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9/2016   National Institute of Psychology, QAU Islamabad Mail - Fwd: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire
http://www.newharbinger.com/productdetails.cfm?PC=583.

Finally, for your consideration, I'd like to make you aware of the peer-reviewed scientific journal

"Body Image: An International Journal of Research." For more information, see the journal's website at

http://www.elsevier.com/locate/bodyimage.

My best wishes in your body-image research.

Sincerely,

Thomas F. Cash, Ph.D.

www.body-images.com

Body-Images Research Consulting

Naples, Florida

email: body-images@comcast.net

From: Irum Naqvi [mailto:irumnaqvi2006@gmail.com]
Sent: Saturday, March 9, 2013 9:15 AM
To: body-images@comcast.net
Subject: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire

———— Forwarded message ————
From: **Irum Naqvi** <irumnaqvi2006@gmail.com>
Date: Fri, Mar 8, 2013 at 10:51 PM
Subject: Fwd: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire
To: "body-images@comcast.net" <body-images@comcast.net>, TCash@odu.edu, Tom_Cash@comcast.net
Cc: Irum Naqvi <irumnaqvi2006@gmail.com>

Dear Dr. Cash Thomas

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9/2016   National Institute of Psychology, QAU Islamabad Mail - Fwd: Information Requested regarding the Multidimensional Body Self-Relation Questionnaire

I am writing you with reference to your scale "Multidimensional Body Self-Relation Questionnaire- Appearance Scales comprised 34 items". I am doing my Ph. D Dissertation titled "Eating attitudes and Patterns among Young Adolescents in Pakistan" under the supervision of Prof. Dr. anila Kamal at National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.

For the sake of validation of my developed scale on eating attitude, i have been advised to work with the construct of Body Image. For that i will be grateful if you guide me to purchase and the permission to translate your scale and scoring protocols.

Best Regards

Irum naqvi

Ph. D Scholar

National Institute of Psychology

Quaid-i-Azam University, Islamabad

Pakistan

http://www.nip.edu.pk/Facultyrpofiles/IrumNaqvi.html

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2 attachments

MBSRQ Manual (2000-rev).pdf
134K

MBSRQ-AS 34-item Questionnaire.pdf
13K

MULTIDIMENSIONAL BODY SELF RELATIONS QUESTIONNAIRE-AS
ORIGINAL SCALE (34 ITEMS)

INSTRUCTIONS--PLEASE READ CAREFULLY

The following pages contain a series of statements about how people might think, feel, or behave. You are asked to indicate the extent to which each statement pertains to you personally. Your answers to the items in the questionnaire are anonymous, so please do not write your name on any of the materials.

In order to complete the questionnaire, read each statement carefully and decide how much it pertains to you personally. Using a scale like the one below, indicate your answer by entering it to the left of the number of the statement. There are no right or wrong answers. Just give the answer that is most accurate for you. Remember, your responses are confidential, so please be completely honest and answer all items.

EXAMPLE:

_____ I am usually in a good mood.

In the blank space, enter a 1 if you **definitely disagree** with the statement;

Enter a **2** if you **mostly disagree**;

Enter a **3** if you **neither agree nor disagree**;

Enter a **4** if you **mostly agree**;

Or enter a **5** if you **definitely agree** with the statement.

1. Before going out in public, I always notice how I look.
2. I am careful to buy clothes that will make me look my best
3. My body is sexually appealing.
4. I constantly worry about being or becoming fat.
5. I like my looks just the way they are.
6. I check my appearance in a mirror whenever I can.
7. Before going out, I usually spend a lot of time getting ready.
8. I am very conscious of even small changes in my weight.
9. Most people would consider me good-looking.
10. It is important that I always look good.
11. I use very few grooming products.
12. I like the way I look without my clothes on.
13. I am self-conscious if my grooming isn't right.
14. I usually wear whatever is handy without caring how it looks.
15. I like the way my clothes fit me.
16. I don't care what people think about my appearance.

17. I take special care with my hair grooming.
18. I dislike my physique.
19. I am physically unattractive.
20. I never think about my appearance.
21. I am always trying to improve my physical appearance.
22. I am on a weight-loss diet.

For the remainder of the items use the response scale given with the item, and enter your answer in the space beside the item.

23. I have tried to lose weight by fasting or going on crash diets.
1. Never
2. Rarely
3. Sometimes
4. Often
5. Very Often

24. I think I am:
1. Very Underweight
2. Somewhat Underweight
3. Normal Weight
4. Somewhat Overweight
5. Very Overweight

25. From looking at me, most other people would think I am:
1. Very Underweight
2. Somewhat Underweight
3. Normal Weight
4. Somewhat Overweight
5. Very Overweight

26-34. Use this 1 to 5 scale to indicate how dissatisfied or satisfied you are with each of the following areas or aspects of your body:

26. Face (facial features, complexion)

27. Hair (color, thickness, texture)

28. Lower torso (buttocks, hips, thighs, legs)

29. Mid torso (waist, stomach)

30. Upper torso (chest or breasts, shoulders, arms)

31. Muscle tone

32. Weight

33. Height

34. Overall appearance

Appendix-R

Forward Translation of Multi-dimensional Body Self-Relations Questionnaire-appearance Sclae (MBSRQ-AS)

ہدایات:

برائے مہربانی غور سے پڑھیں۔

مندرجہ ذیل صفحات میں لوگوں کے خیالات، محسوسات اور کردار سے متعلق بیانات درج ہیں۔ آپ سے پوچھا گیا ہے کہ ہر بیان کس حد تک آپ کی ذات کی نمائندگی کرتا ہے۔ سوالات کے جوابات کے لیے آپ کی شناخت درکار نہیں ہے اسلئے کسی بھی جگہ اپنا نام مت لکھیں۔

سوالنامے کو مکمل کرنے کے لئے نیچے دیئے گئے ہر بیان کو غور سے پڑھیں اور اپنی رائے کا اظہار دیئے گئے پیمانے کی مدد سے بیان کریں کہ ہر بیان کس حد تک آپ کی ذات سے متعلق ہے۔

سوالات کے جوابات میں صحیح اور غلط کا کوئی تصور نہیں۔ صرف وہی جواب دیں جو آپ کے لئے درست ہو۔ یاد رہے کہ آپ کے جوابات کو پوشیدہ رکھا جائے گا۔ اس لئے برائے مہربانی ایمانداری سے تمام سوالات کے جوابات دیں۔

مثال:

میں عموماً اچھے موڈ میں رہتا رہتی ہوں۔

خالی جگہ میں 1 درج کریں اگر آپ بیان سے قطعی غیر متفق ہیں۔

خالی جگہ میں 2 درج کریں اگر آپ بیان سے زیادہ تر غیر متفق ہیں۔

خالی جگہ میں 3 درج کریں اگر آپ بیان سے نہ متفق ہیں اور نہ ہی غیر متفق۔

خالی جگہ میں 4 درج کریں اگر آپ بیان سے زیادہ تر متفق ہیں۔

خالی جگہ میں 5 درج کریں اگر آپ بیان سے قطعی طور پر متفق ہیں۔

زیادہ تر	اکثر	کبھی کبھار	شاذ و نادر	کبھی نہیں	بیانات	نمبر شمار
					باہر جانے سے پہلے میں ہمیشہ دیکھتا دیکھتی ہوں کہ میں کیسا دکھائی دے رہا رہی ہوں۔	1.
					میں اپنے لباس کی خریداری میں محتاط ہوتا ہوتی ہوں جس میں میں بہترین نظر آؤں۔	2.
					میرا جسم جنسی طور پر پُرکشش ہے۔	3.
					مجھے موٹا ہونے یا ہو جانے کی مسلسل فکر لاحق ہوتی ہے۔	4.
					مجھے اپنی ظاہری شباہت پسند ہے، وہ جیسی بھی ہے۔	5.
					جب بھی ہو سکے میں اپنے آپ کو شیشے میں دیکھتا دیکھتی ہوں۔	6.
					باہر جانے سے پہلے میں عموماً تیار ہونے میں بہت وقت لگا تا لگاتی ہوں۔	7.
					میں اپنے وزن میں آنے والی چھوٹی سی بھی تبدیلی کے بارے میں بہت فکر مند ہو جاتا جاتی ہوں۔	8.

زیادہ تر	اکثر	کبھی کبھار	شاذ و نادر	کبھی نہیں	بیانات	نمبر شمار
					زیادہ تر لوگ مجھے خوش شکل شمار کریں گے۔	9.
					یہ ضروری ہے کہ میں ہمیشہ اچھا/اچھی نظر آؤں۔	10.
					میں تیار ہونے/خود کو سنوارنے (Grooming) کیلئے بہت کم مصنوعات کا استعمال کرتا/کرتی ہوں۔	11.
					میں کپڑوں کے بغیر جیسا/جیسی بھی لگتا/لگتی ہوں خود کو پسند کرتا/کرتی ہوں۔	12.
					میں فکرمند ہوجاتا/جاتی ہوں اگر میں صحیح طریقے سے تیار نہ ہوں۔	13.
					عموماً میں کارآمد/موزوع لباس زیب تن کرتا/کرتی ہوں اس سے قطع نظر کہ وہ کیسا لگتا ہے۔	14.
					مجھے پسند ہے جس طرح میرے کپڑے مجھے (Fit) فٹ ہوتے ہیں۔	15.
					مجھے اس سے فرق نہیں پڑتا کہ لوگ میری ظاہری حالت کے بارے میں کیا سوچتے ہیں۔	16.
					میں اپنے بال بنانے/سنوارنے (Grooming) کا خاص خیال رکھتا/رکھتی ہوں۔	17.
					مجھے اپنی جسامت ناپسند ہے۔	18.
					میں جسمانی طور پر پرکشش نہیں ہوں۔	19.
					میں کبھی بھی اپنی حالت کے بارے میں نہیں سوچتا/سوچتی۔	20.
					میں ہمیشہ اپنی ظاہری حالت کو بہتر بنانے کی کوشش میں رہتا/رہتی ہوں۔	21.
					میں وزن کم کرنے کے لئے (Dieting) پر ہوں۔	22.
					میں نے فاقہ کشی کرکے یا بہت کم کھا کر (Crach Diet) وزن کرم کرنے کی کوشش کی۔	23.

24. میرا خیال ہے کہ میں

1- بہت زیادہ کم وزن ہوں۔

2- کچھ حد تک کم وزن کا/کی ہوں۔

3- نارمل/مناسب وزن کا/کی ہوں۔

4- کچھ حد تک زیادہ وزن کا/کی ہوں۔

5- بہت زیادہ وزن کا/کی ہوں۔

25. مجھے دیکھتے ہی زیادہ تر لوگ سوچتے ہوں گے کہ میں

1- بہت زیادہ کم وزن ہوں۔

2- کچھ حد تک کم وزن کا/ کی ہوں۔

3- نارمل/مناسب وزن کا/ کی ہوں۔

4- کچھ حد تک زیادہ وزن کا/ کی ہوں۔

5- بہت زیادہ وزن کا/ کی ہوں۔

مکمل مطمئن یا غیر مطمئن ہونے کی نشاندہی کے لیے دیئے گئے 1 سے 5 تک کے پیمانے کو استعمال کرتے ہوئے بتایئے کہ آپ کس حد تک اپنے جسم کے مختلف حصوں کے بارے میں مطمئن یا غیر مطمئن ہیں۔

مکمل مطمئن	بہت حد تک مطمئن	کافی حد تک مطمئن	کسی حد تک مطمئن	غیر مطمئن	بیانات	نمبر شمار
					چہرہ (چہرے کے خدو خال، رنگت)	26-
					بال (رنگ، گھنا پن، ساخت)	27-
					جسم کا نچلا حصہ (Buttock، کولہے، رانیں، ٹانگیں)	28-
					جسم کا درمیانی حصہ (کمر، پیٹ)	29-
					جسم کا بالائی حصہ (سینہ، چھاتی، کندھے، بازو)	30-
					پٹھوں کی ساخت	31-
					وزن	32-
					قد	33-
					مکمل ظاہری حالت	34-

BACK TRANSLATION OF MULTI-DIMENSIONAL BODY- SELF RELATIONS QUESTIONNAIRE-APPEARANCE SCALE (MBSRQ-AS)

Instructions: Please read carefully

In the following pages there are statements related to thoughts, feelings, and character of people. You are asked to point out, how much of each statement represent you. To answer these questions your identity is not required, so do not write your name in any place. To complete this questionnaire read each statement carefully and gives your opinion with the help of scale that how much of each statement is related to your personality. There is no concept of right and wrong in answering the questions. Only give that answer which is most suitable for you. Remember, your answers will be kept confidential, so kindly answer all questions honestly.

EXAMPLE:
_____ I usually be in good mood.

In the blank, enter a **1** if you **definitely disagree** with the statement;

Enter a **2** if you **mostly disagree**;

Enter a **3** if you **neither agree nor disagree**;

Enter a **4** if you **mostly agree**;

Or enter a **5** if you **definitely agree** with the statement.

1. I always notice myself before going outside how do I appear to others
2. I am careful to buy my clothes in which I look best.
3. My body is sexually attractive
4. I am constantly worried about being fat or becoming fat.
5. I like myself the way I look like
6. Whenever I get a chance, I look myself in the mirror.
7. Before going out, usually I take a lot of time to get ready
8. I am conscious for even a small change in my weight.
9. Mostly people would consider me good looking
10. It is important that I should always look good.
11. I use very few products for grooming
12. I like myself, the way I look without clothes.
13. If my grooming is not right, I became very conscious.
14. Usually I wear easily available/ comfortable dress without caring how it looks
15. I like the way my clothes fit on me

16. I don't care what people think about my physical appearance
17. I take special care of my hair grooming
18. I dislike my physique
19. I am not physically attractive
20. I never think about my appearance
21. I always trying to improve my physical appearance
22. I am on dieting
23. I have tried to lose my weight by fasting or by using weight reduced diet.

For remaining statements, use the given scale and write your answer in the blank space beside the question.

24. I think that I am (1. Very much under weight. 2. Under weight to some extent. 3. Normal weight 4. Overweight to some extent. 5. Very over weight)
25. Looking at me, most of the people would think I am .

By using 1-5 scale, indicate that how much you are satisfied or unsatisfied with different parts of your body.

26. Face (Facial features, complexion)
27. Hair (color, thickness, quality)
28. Lower part of the body (Buttock, hips, thighs, legs)
29. Middle part of body (waist, abdomen, belly)
30. Upper part of body (chest, breast, shoulders, arms)
31. Muscle quality
32. Weight
33. Height
34. Overall appearance

Appendix-T

Urdu Version of Multi-dimensional Body Self-Relations Questionnaire-Appearance Scale (MBSRQ-AS) (34 Items)

ہدایات:

برائے مہربانی غور سے پڑھیں۔

مندرجہ ذیل صفحات میں لوگوں کے خیالات، محسوسات اور کردار سے متعلق بیانات درج ہیں۔ آپ سے پوچھا گیا ہے کہ ہر بیان کس حد تک آپ کی ذات کی نمائندگی کرتا ہے۔ سوالات کے جوابات کے لیے آپ کی شناخت درکار نہیں ہے اسلئے کسی بھی جگہ اپنا نام مت لکھیں۔

سوالنامے کو مکمل کرنے کے لئے نیچے دیئے گئے ہر بیان کو غور سے پڑھیں اور اپنی رائے کا اظہار دیئے گئے پیمانے کی مدد سے بیان کریں کہ ہر بیان کس حد تک آپ کی ذات سے متعلق ہے۔

سوالات کے جوابات میں صحیح اور غلط کا کوئی تصور نہیں۔ صرف وہی جواب دیں جو آپ کے لئے درست ہو۔ یاد رہے آپ کے جوابات کو پوشیدہ رکھا جائے گا۔ اس لئے برائے مہربانی ایمانداری سے تمام سوالات کے جوابات دیں۔

مثال:

میں عموماً اچھے موڈ میں رہتا/رہتی ہوں۔

خالی جگہ میں 1 درج کریں اگر آپ بیان سے قطعی غیر متفق ہیں۔

خالی جگہ میں 2 درج کریں اگر آپ بیان سے زیادہ تر غیر متفق ہیں۔

خالی جگہ میں 3 درج کریں اگر آپ بیان سے نہ متفق ہیں اور نہ ہی غیر متفق۔

خالی جگہ میں 4 درج کریں اگر آپ بیان سے زیادہ تر متفق ہیں۔

خالی جگہ میں 5 درج کریں اگر آپ بیان سے قطعی طور پر متفق ہیں۔

زیادہ تر	اکثر	کبھی کبھار	شاذ و نادر	کبھی نہیں	بیانات	نمبر شمار
					باہر جانے سے پہلے میں ہمیشہ جائزہ لیتا/لیتی ہوں کہ میں کیسا لگتا/لگتی ہوں۔	1.
					میں اپنے لباس کی خریداری میں محتاط ہوتا/ہوتی ہوں جس میں بہترین نظر آؤں۔	2.
					میرا جسم جنسی طور پر پُرکشش ہے۔	3.
					مجھے موٹا ہونے یا ہو جانے کی مسلسل فکر لاحق ہوتی ہے۔	4.
					میں جس طرح دکھائی دیتا/دیتی ہوں، مجھے اپنا آپ ویسی ہی پسند ہے۔	5.
					جب بھی ہو سکے میں اپنے آپ کو شیشے میں دیکھتا/دیکھتی ہوں۔	6.
					باہر جانے سے پہلے میں عموماً تیار ہونے میں بہت وقت لگا تا/لگاتی ہوں۔	7.
					میں اپنے وزن میں آنے والی چھوٹی سی تبدیلی کے بارے میں بہت فکرمند ہو جاتا/جاتی ہوں۔	8.

زیادہ تر	اکثر	کبھی کبھار	شاذ و نادر	کبھی نہیں	بیانات	نمبر شمار
					زیادہ تر لوگ مجھے خوش شکل شمار کریں گے۔	9.
					یہ ضروری ہے کہ میں ہمیشہ اچھا/اچھی نظر آؤں۔	10.
					میں تیار ہونے/خود کو سنوارنے (Grooming) کیلئے بہت کم مصنوعات کا استعمال کرتا/کرتی ہوں۔	11:
					میں کپڑوں کے بغیر جیسا/جیسی بھی لگتا/لگتی ہوں خود کو پسند کرتا/کرتی ہوں۔	12.
					میں فکرمند ہو جاتا/جاتی ہوں اگر میں صحیح طریقے سے تیار نہ ہوں۔	13.
					عموماً میں کارآمد/موزوع لباس زیب تن کرتا/کرتی ہوں اس سے قطع نظر کہ وہ کیسا لگتا ہے۔	14.
					مجھے پسند ہے جس طرح میرے کپڑے مجھے (Fit) فِٹ ہوتے ہیں۔	15.
					مجھے اس سے فرق نہیں پڑتا کہ لوگ میری ظاہری حالت کے بارے میں کیا سوچتے ہیں۔	16.
					میں اپنے بال بنانے/سنوارنے (Grooming) کا خاص خیال رکھتا/رکھتی ہوں۔	17.
					مجھے اپنی جسامت ناپسند ہے۔	18.
					میں جسمانی طور پر پرکشش نہیں ہوں۔	19.
					میں کبھی بھی اپنی حالت کے بارے میں نہیں سوچتا/سوچتی۔	20.
					میں ہمیشہ اپنی ظاہری حالت کو بہتر بنانے کی کوشش میں رہتا/رہتی ہوں۔	21.
					میں وزن کم کرنے کے لئے (Dieting) پر ہوں۔	22.
					میں نے فاقہ کشی (یا کم وقت میں وزن گھٹانے کی خوراک) کے ذریعے اپنا وزن کم کرنے کی کوشش کی ہے۔	23.

24. میرا خیال ہے کہ میں

1- بہت زیادہ کم وزن ہوں۔

2- کچھ حد تک کم وزن کا/کی ہوں۔

3- نارمل/مناسب وزن کا/کی ہوں۔

4- کچھ حد تک زیادہ وزن کا/کی ہوں۔

5- بہت زیادہ وزن کا/کی ہوں۔

25. مجھے دیکھتے ہی زیادہ تر لوگ سوچتے ہوں گے کہ میں

1- بہت زیادہ کم وزن ہوں۔

2- کچھ حد تک کم وزن کا/ کی ہوں۔

3- نارمل/مناسب وزن کا/ کی ہوں۔

4- کچھ حد تک زیادہ وزن کا/ کی ہوں۔

5- بہت زیادہ وزن کا/ کی ہوں۔

مکمل مطمئن یا غیر مطمئن ہونے کی نشاندہی کے لیے دیے گئے 1 سے 5 تک کے پیمانے کو استعمال کرتے ہوئے بتایئے کہ آپ کس حد تک اپنے جسم کے مختلف حصوں کے بارے میں مطمئن یا غیر مطمئن ہیں۔

کھل مطمئن	بہت حد تک مطمئن	کافی حد تک مطمئن	کسی حد تک مطمئن	غیر مطمئن	بیانات	نمبر شمار
					چہرہ (چہرے کے خدوخال، رنگت)	26-
					بال (رنگ، گھنا پن، ساخت)	27-
					جسم کا نچلہ حصہ (Buttock، کولہے، رانیں، ٹانگیں)	28-
					جسم کا درمیانی حصہ (کمر، پیٹ)	29-
					جسم کا بالائی حصہ (سینہ، چھاتی، کندھے، بازو)	30-
					پٹھوں کی ساخت	31-
					وزن	32-
					قد	33-
					مکمل ظاہری حالت	34-

AUTHOR'S REVIEW ON BACK TRANSLATION VERSION OF THE
MULTIDIMENSIONAL BODY SELF RELATIONS QUESTIONNAIRE-AS

Instructions: Please read carefully

In the following pages there are statements related to thoughts, feelings, and character of people. You are asked to point out, how much of each statement represents you. To answer these questions your identity is not required, so do not write your name in any place. To complete this questionnaire read each statement carefully and gives your opinion with the help of scale that how much of each statement is related to your personality. There is no concept of right and wrong in answering the questions. Only give that answer which is most suitable for you. Remember, your answers will be kept confidential, so kindly answer all questions honestly.

Comment [TC1]: Should be 'behaviors' or 'actions'

Comment [TC2]: 'you personally'

EXAMPLE:

_____ I usually be in good mood.

In the blank, enter a **1** if you **definitely disagree** with the statement;

Enter a **2** if you **mostly disagree**;

Enter a **3** if you **neither agree nor disagree**;

Enter a **4** if you **mostly agree**;

Or enter a **5** if you **definitely agree** with the statement.

Comment [TC3]: Very awkward; see original

1. I always notice myself before going outside how do I appear to others
2. I am careful to buy my clothes in which I look best.
3. My body is sexually attractive
4. I am constantly worried about being fat or becoming fat.
5. I like myself the way I look like
6. Whenever I get a chance, I look myself in the mirror.
7. Before going out, usually I take a lot of time to get ready
8. I am conscious for even a small change in my weight.
9. Mostly people would consider me good looking
10. It is important that I should always look good.
11. I use very few products for grooming
12. I like myself, the way I look without clothes.
13. If my grooming is not right, I became very conscious.
14. Usually I wear easily available/ comfortable dress without caring how it looks
15. I like the way my clothes fit on me

Comment [TC4]: The item is not about liking 'myself' (which may imply self-esteem); it is about liking how one looks.

Comment [TC5]: Should be 'look at myself'

Comment [TC6]: Should be 'Most', not 'Mostly'

Comment [TC7]: Not about liking 'myself', but is about liking my looks.

Comment [TC8]: Should be self-conscious, not conscious.

16. I don't care what people think about my physical appearance
17. I take special care of my hair grooming
18. I dislike my physique
19. I am not physically attractive
20. I never think about my appearance
21. I always trying to improve my physical appearance
22. I am on dieting
23. I have tried to lose my weight by fasting or by using weight reduced diet.

For remaining statements, use the given scale and write your answer in the blank space beside the question.

24. I think that I am (1. Very much under weight. 2. Under weight to some extent. 3. Normal weight 4. Overweight to some extent. 5. Very over weight)
25. Looking at me, most of the people would think I am .

By using 1-5 scale, indicate that how much you are dissatisfied or unsatisfied with different parts of your body.

26. Face (Facial features, complexion)
27. Hair (color, thickness, quality)
28. Lower part of the body (Buttocks, hips, thighs, legs)
29. Middle part of body (waist, abdomen, belly)
30. Upper part of body (chest, breast, shoulders, arms)
31. Muscle quality
32. Weight
33. Height
34. Overall appearance

زیادہ تر	اکثر	کبھی کبھار	شاذ و نادر	کبھی نہیں	بیانات	نمبر شمار
					میں تیار ہونے/خود کو سنوارنے (Grooming) کیلئے بہت کم مصنوعات کا استعمال کرتا/کرتی ہوں۔	10-
					میں فکر مند ہو جاتا/جاتی ہوں اگر میں صحیح طریقے سے تیار نہ ہوں۔	11-
					عموماً میں کارآمد/موزوع لباس زیب تن کرتا/کرتی ہوں اس سے قطع نظر کہ وہ کیسا لگتا ہے۔	12-
					مجھے اس سے فرق نہیں پڑتا کہ لوگ میری ظاہری حالت کے بارے میں کیا سوچتے ہیں۔	13-
					میں اپنے بال بنانے/سنوارنے (Grooming) کا خاص خیال رکھتا/رکھتی ہوں۔	14-
					مجھے اپنی جسامت ناپسند ہے۔	15-
					میں جسمانی طور پر پرکشش نہیں ہوں۔	16-
					میں وزن کم کرنے کے لئے (Dieting) پر ہوں۔	17-
					میں نے فاقہ کشی کر کے یا بہت کم کھا کر (Crach Diet) وزن کم کرنے کی کوشش کی۔	18-

مکمل مطمئن یا غیر مطمئن ہونے کی نشاندہی کے لیے دیئے گئے 1 سے 5 تک کے پیمانے کو استعمال کرتے ہوئے بتائیے کہ آپ کس حد تک اپنے جسم کے مختلف حصوں کے بارے میں مطمئن یا غیر مطمئن ہیں۔

کمل مطمئن	بہت حد تک مطمئن	کافی حد تک مطمئن	کسی حد تک مطمئن	غیر مطمئن	بیانات	نمبر شمار
					چہرہ (چہرے کے خد و خال، رنگت)	19-
					بال (رنگ، گھناپن، ساخت)	20-
					جسم کا نچلہ حصہ (Buttock، کولہے، رانیں، ٹانگیں)	21-
					جسم کا درمیانی حصہ (کمر، پیٹ)	22-
					جسم کا بالائی حصہ (سینہ، چھاتی، کندھے، بازو)	23-
					پٹھوں کی ساخت	24-
					وزن	25-
					قد	26-
					مکمل ظاہری حالت	27-

DISORDERED EATING BEHAVIOR SCALE

ہدایات:

ذیل میں ہماری روزمرہ کھانے پینے کی عادات سے متعلق کچھ بیانات دیئے گئے ہیں، اُنہیں غور سے پڑھیں اور صرف اس پر درست (✓) کا نشان لگائیں، جسے آپ اپنے لئے موزوں ترین سمجھتے ہیں۔

بالکل نہیں	بہت کم	کبھی کبھار	اکثر	ہمیشہ	بیانات	نمبرشمار
					میں ڈائٹنگ (پرہیزی غذا کا استعمال) کرتا رکرتی ہوں۔	1-
					میں خالی پیٹ رہنا پسند کرتا رکرتی ہوں۔	2-
					میں وزن بڑھنے کے خوف سے کھانا کھانے سے پرہیز کرتا رکرتی ہوں۔	3-
					میرے لئے یہ بات اہم ہے کہ جو کھانا میں کھا رہا رہی ہوں، اس کی حراروں (کیلوریز) کے بارے میں مجھے معلومات ہوں۔	4-
					میں ڈائٹ فارمولا والی خوراک کو ترجیح دیتا ردیتی ہوں۔	5-
					میں زیادہ میٹھے اور چکنائی والی غذا سے پرہیز کرتا رکرتی ہوں۔	6-
					میں کھانا کھانے کے فوری بعد اس سے چھٹکارہ پانے کی ترکیب استعمال کرتا رکرتی ہوں مثلاً قے کرنا، زیادہ ورزش کرنا یا جلاب وغیرہ۔	7-
					میں شدید بھوک کے باوجود کھانا نہیں کھاتا رکھاتی ہوں۔	8-
					میں اکیلے میں کھانا کھانا پسند کرتا رکرتی ہوں۔	9-
					میں دوسرے لوگوں کی نسبت زیادہ جلدی کھانا کھاتا رکھاتی ہوں۔	10-
					میں بہت زیادہ کھانا کھاتا رکھاتی ہوں۔ (بسیار خوری)	11-
					کھانے کے بعد مجھے پچھتاوے کا احساس ہوتا ہے۔	12-
					میں بہت وقت کھانے کے بارے میں سوچتا رسوچتی ہوں۔	13-
					میں تھوڑی تھوڑی دیر بعد کچھ نہ کچھ کھاتا رکھاتی ہوں۔	14-
					میرے کھانے پینے کے اوقات مقرر نہیں۔	15-
					میں جہاں بھی کھانا ملا معاوضہ ملا رہا ہو، ڈٹ کر کھاتا رکھاتی ہوں۔	16-
					میں دال یا سبزی میں علیحدہ سے مکھن یا گھی ڈال کر کھانا پسند کرتا رکرتی ہوں۔	17-

					میں سارے دن کے فاقے کے بعد ایک وقت میں بہت زیادہ کھانا کھا لیتا/لیتی ہوں۔	18-
					میں بلا ضرورت کچھ نہ کچھ چباتا/چباتی رہتا رہتی ہوں۔	19-
					میں روزانہ ایک ہی طرح کا کھانا کھاتا/کھاتی ہوں۔	20-
					میں مہمانوں کے ساتھ کولڈ ڈرنک یا چائے ضرور پیتا/پیتی ہوں۔	21-
					مجھے مہمانوں کا ساتھ دینے کے لئے کھانا کھانا پڑتا ہے۔	22-
					مجھے لگتا ہے کہ لوگ مجھے موٹا/موٹی سمجھتے ہیں۔	23-
					میرے دوست مجھے بے جا کھانے پر مجبور کرتے ہیں۔	24-
					میں اپنے ارد گرد ڈائٹ (پرہیزی غذا) پر موجود دوستوں کو دیکھ کر کھانا کھانے سے جھجکتا/جھجکتی ہوں، خواہ مجھے بھوک لگی ہو۔	25-
					تقریبات میں مرغن غذا کھانے کے بعد میں ڈائٹ ڈرنگ پینے کو ترجیح دیتا/دیتی ہوں۔	26-

EXTRAVERSION SUBSCALE of NEO-FFI

ہدایات:

اس سوال نامے میں درج بیانات آپ کی شخصیت کے مختلف پہلوؤں کے بارے میں آپ کا نقطہ نظر معلوم کرنے سے متعلق ہیں۔ ہر بیان کو احتیاط سے پڑھیں اور جس جواب سے آپ متفق ہیں، اُس کے سامنے (✓) کا نشان لگائیں۔

کمل متفق	زیادہ تر متفق	غیر جانبدار	زیادہ تر متفق	مکمل غیر متفق	بیانات	نمبر شمار
					میں بہت سے لوگوں کے درمیان رہنا پسند کرتا رہنا پسند کرتی ہوں۔	1-
					میں آسانی سے ہنس لیتا ہنس لیتی ہوں۔	2-
					میں اپنے آپ کو خوش دل طبیعت کا مالک نہیں سمجھتا سمجھتی۔	3-
					مجھے لوگوں سے بات چیت کر کے واقعی لطف آتا ہے۔	4-
					مجھے اکثر ولولہ انگیز صورتِ حال کی تمنا ہوتی ہے۔	5-
					عموماً میں اکیلے ہی کام کرنے کو ترجیح دیتا دیتی ہوں۔	6-
					میں اکثر اپنے آپ کو توانائی سے بھر پور محسوس کرتا کرتی ہوں۔	7-
					میں ایک خوش باش اور بلند حوصلہ شخص ہوں۔	8-
					میں ایک زندہ دل اور روشن پہلو دیکھنے والا اور رد دیکھنے والی نہیں ہوں۔	9-
					میری زندگی میں تیز رفتاری نمایاں ہے۔	10-
					میں نہایت سرگرم انسان ہوں۔	11-
					میں دوسروں کا راہ نما بننے کی بجائے اپنی طرز سے رہنا پسند کروں گا کروں گی۔	12-