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Influence of Perceived Parental Power and Prestige on Parental Acceptance and Psychological Adjustment of Adult Offspring

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This study explored the effects of perceived paternal and maternal power and prestige on remembrances of parental acceptance and the current psychological adjustment of adult sons and daughters. The sample consisted of 200 young adults (100 males and 100 females) from Bangladesh. Participants responded to the Index of Parental Power and Prestige, the mother and father versions of the Adult Parental Acceptance-Rejection Questionnaire, and the Adult Personality Assessment Questionnaire. Results showed that children in families where fathers were perceived by them to have higher power and prestige than mothers tended to perceive their fathers to be significantly more loving (accepting). Importantly, the adult offspring who perceived their fathers to be more powerful than their mothers reported better psychological adjustment than did the adult offspring who perceived their mothers to be more powerful than their fathers. The status of fathers' power and prestige within the family, however, did not appear to affect significantly offspring's perception of maternal love (acceptance).

Keywords: paternal acceptance, maternal acceptance, interpersonal power and prestige, psychological adjustment

Research studies show that perceived paternal acceptance has stronger implications than perceived maternal acceptance for children's positive developmental outcomes, including psychological adjustment (Rohner & Veneziano, 2001). A recent meta-analytic review of 66 studies involving 19,511 respondents from 22 countries of five continents showed that paternal love tends to have a significantly stronger effect on children's psychological adjustment than maternal love on children's psychological adjustment cross-culturally (Khaleque & Rohner, 2012). Moreover, in a

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review of a large number of cross-cultural studies, Rohner and Britner (2002) found that perceived paternal rejection tends to have stronger negative effects than perceived maternal rejection on the development of depression, conduct disorder and substance abuse. On the other hand, some studies have indicated that maternal acceptance-rejection has significantly stronger effects on children's psychological adjustment, personality, and behavioral development than paternal acceptance-rejection (e.g., Rohner, Uddin, Samshunnaher, & Khaleque, 2008; Ripoll-Nunez & Alvarez, 2008). A meta-analytic review of recent studies has revealed that both paternal and maternal acceptance-rejection have significant effects on the psychological adjustment and personality development of children (Khaleque, 2013). A similar meta-analytical review based on 43 studies, representing 7,563 respondents from 15 nations including major ethnic groups in the United States, showed that significant pancultural associations exist between perceived maternal and paternal acceptance and the overall psychological adjustment of both children and adults (Khaleque & Rohner, 2002a). Results of another meta-analysis based on 36 studies involving 10,943 respondents (8,573 children and 1,370 adults) from 18 countries showed that both children's and adults' perceptions of paternal and maternal acceptance are transculturally associated with their personality dispositions, including low hostility and aggression, independence, positive self-esteem, positive self-adequacy, emotional responsiveness, emotional stability, and positive worldview (Khaleque & Rohner, 2012).

From these researches it remains unclear, why paternal love sometimes has a stronger impact on offspring's psychological adjustment than maternal love, and why in other cases just the opposite happens, and still in other cases both parents appear to make approximately equal contributions to offspring's adjustment and development? Some researchers have suggested that children's perceptions of differences in their parents' interpersonal power and prestige in the family may explain the differential outcomes of paternal and maternal acceptance-rejection on children's psychological adjustment and personality development (Rohner & Veneziano, 2001; Wentzel & Feldman, 1996; Veneziano, 2008). To address this issue, an international research project involving a number of studies in different parts of the world was undertaken under the title of the 'International Father Acceptance-Rejection Project' (Rohner & Veneziano, 2008). Studies in this project were designed to find out the

differential effects of perceived paternal and maternal acceptance – rejection on the psychological adjustment of offspring (including children, adolescent and young adult) in the context of perceived parental interpersonal power and prestige in the family. The present study is a part of that project. The specific purpose of this study was to explore the effects of paternal and maternal acceptance on the young adults' current psychological adjustment in the context of perceived paternal and maternal power and prestige in Bangladeshi families.

Method

Sample

The sample consisted of 200 Bangladeshi university students (100 males and 100 females). They were selected randomly from the University of Rajshahi in Bangladesh. The sample consisted of both undergraduate (78%) and graduate (22%) students. The respondents ranged in age from 18 through 24 years with a mean of 20 years.

Measures

Index of Parental Power and Prestige (Rohner, 2008): This is a short questionnaire designed to assess individuals' overall perceptions of their parents' interpersonal power and prestige. The questionnaire was not intended to be domain specific. Interpersonal power was measured by individuals' responses to the question: "Who in your family usually has the best ideas that other family members follow? Your mother or your father?" Interpersonal prestige was measured by individuals' responses to the question: "Who do you personally admire or respect more in your family? Your mother or your father?"

Four categories of responses were identified from these two items: Mother higher power than father, father higher power than mother, mother higher prestige than father, and father higher prestige than mother. In addition, the following four pairs of responses were identified: Mothers having higher power and higher prestige than fathers, fathers having higher power and higher prestige than mothers, mothers having higher power but lower prestige than fathers, fathers having higher power but lower prestige than mothers. In a separate study using this measure, Lloyd and Moore (2011) found an alpha coefficient of .84 for the Power scale

and .91 for the Prestige scale. More information about reliability and validity of this index can be found in Carrasco and Rohner (2012).

Adult version of the Parental Acceptance-Rejection Questionnaire for Fathers and Mothers (Adult PARQ: Father and Mother; Rohner, 2005): These measures consist of 60 items each. The two versions are virtually identical except for reference to mothers' behavior versus fathers' behavior. Both versions are designed to measure adults' remembrances of maternal and paternal acceptance or rejection when the adults were about seven through 12 years of age. Both measures consist of four subscales each: (a) paternal or maternal Warmth/Affection (e.g., "My father [mother] said nice things about me"), (b) Hostility/Aggression (e.g. "My father [mother] got angry at me easily"), (c) Indifference/Neglect (e.g., "My father [my mother] paid no attention to me" and (d) Undifferentiated Rejection (e.g., "My father [mother] did not really love me").

In both versions, items are scored on 4-point Likert-type scale with 4 (almost always true), 3 (sometimes true), 2 (rarely true), and 1 (almost never true). Scores on the four acceptance-rejection scales are summed after reverse scoring the Warmth/Affection scale to create a measure of coldness and lack of affection. Similarly, seven of the items on the indifference/neglect scale (which are worded positively) must be reverse scored to make them consistent with the other negatively worded items on that scale. This produces an overall measure of perceived acceptance-rejection that ranges from a low of 60 (maximum perceived acceptance) to a high of 240 (maximum perceived rejection). Scores between 140 and 149, however, reveal that respondents experienced high level rejection, but not more overall rejection than acceptance in childhood. On the other hand, scores between 60 and approximately 120 reveal individuals' perception of parental love in childhood.

The PARQ is available in about 40 languages and has been used in over 500 studies worldwide. Details about the reliability and validity of the PARQ may be found in Rohner and Khaleque (2005). A meta-analysis of 7,152 respondents from Africa, Asia, Europe, the Caribbean, and major American ethnic groups (i.e., African Americans, Asian Americans, European Americans, and Hispanic Americans) revealed the mean weighted effect size of coefficient alpha (a measure of internal reliability), aggregated across all versions of the measure, to be .89 (Khaleque &

Rohner, 2002b). Moreover, the mean test-retest reliability across time periods ranging from three weeks through seven years (median 15 months) is .62 (Khaleque & Rohner, 2002b).

Adult version of the Personality Assessment Questionnaire (Adult PAQ; Rohner & Khaleque, 2005): The Adult PAQ consists of seven scales assessing self-reports about seven personality dispositions of an individual. The instrument consists of 63 items, nine items for each of seven scales: (1) Hostility/Aggression, (2) Dependence, (3) Negative Self-Esteem, (4) Negative Self-Adequacy, (5) Emotional Unresponsiveness, (6) Emotional Instability, and (7) Negative Worldview. Sample items on the Adult PAQ include: "I feel resentment against people" (Hostility/Aggression); "I like people to feel sorry for me when I am sick" (Dependency); "I get disgusted with myself" (Negative Self-Esteem); "I think I am a failure" (Negative Self-Adequacy); "It is hard for me to be emotionally spontaneous around people" (Emotional Unresponsiveness); "I get upset when things go wrong" (Emotional Instability); and, "I view the universe as a threatening, dangerous place" (Negative Worldview).

Adults respond to PAQ items on a four-point Likert-type scale ranging from (4) "almost always true of me" to (1) "almost never true of me." A profile of an individual's overall self-reported psychological adjustment is achieved by summing the seven scale-scores after reverse scoring appropriate items. Scores on the Adult PAQ range from a low of 63, indicating healthy psychological adjustment, to a high of 252 indicating serious psychological maladjustment. The instrument is designed in such a way that scores at or above the test's midpoint of 157 reveal that individuals experience themselves to be more psychologically maladjusted than adjusted.

The Adult PAQ is available in 30 languages. The instrument is known to have been used in more than 500 cross-cultural studies on five continents and among the most American ethnic groups. A meta-analysis of the alpha coefficient of the total PAQ based on several cross-cultural studies revealed that the overall mean unweighted effect size of coefficient alpha is .90, and the overall mean weighted effect size of coefficient alpha is .86 (Khaleque & Rohner, 2002b). Moreover, the test-retest reliability coefficient across time periods of 12 through 18 months for the Adult PAQ is .76. Evidence of the validity of the PAQ along with additional

evidence regarding its reliability is summarized in Rohner and Khaleque (2005).

Procedure

The respondents were informed of the purpose of the study. The questionnaires were administered in one session on different working days in different classrooms after obtaining the consent of the respondents as well as their teachers. The respondents were students from different academic departments of the same university. The respondents were assured of the confidentiality of their responses. For anonymity each respondent was assigned a code number written on the questionnaires.

Results

Results of the present study are presented in Tables 1 through 5.

Table 1. Distribution of Adult Offspring's Perceptions of Mothers' and Fathers' Power and Prestige

	Higher Power				Higher Prestige			
	Father	Mother	χ^2	p	Father	Mother	χ^2	p
Son	87%	13%	27.32	<.001	36%	64%	3.92	<.05
Daughter	79%	21%	16.82	<.001	51%	49%	0.08	ns

As shown in Table 1, significantly ($\chi^2 = 27.32$, $df = 1$, $p < 0.001$) greater percentage of adult sons (87%) and adult daughters (79%) perceived their fathers more powerful than their mothers in the family. But significantly ($\chi^2 = 16.82$, $df = 1$, $p < 0.001$) greater percentage of adult sons (64%), not adult daughters (49%), perceived their mothers having more prestige than their fathers in the family.

Table 2. Differences between mean scores on Father PARQ, Mother PARQ, and PAQ of the adult offspring who perceived their fathers as having higher power-prestige than their mothers, versus those who perceived their mothers having higher power-prestige than fathers

Scale	Power and Prestige	N	M	SD	t	df	p
PARQ: F	Father with higher power-prestige	80	94.74	20.83			
					2.06	106	<.05
	Mother with higher power-prestige	28	107.18	29.42			
PARQ: M	Father with higher power-prestige	80	92.65	22.74			
					1.00	106	*ns*
	Mother with higher power-prestige	28	93.07	17.73			
PAQ	Father with higher power-prestige	80	125.73	21.29			
					1.96	106	<.05
	Mother with higher power-prestige	28	134.32	22.58			

As depicted in Table 2, the adult offspring who perceived their fathers having more power and prestige than their mothers reported their fathers significantly more loving ($t = 2.06$, $df = 106$, $p < 0.05$) than their mothers. These respondents also reported significantly greater psychological adjustment ($t = 1.96$, $df = 106$, $p < 0.05$) than those who perceived their mothers having more power and prestige than their fathers.

Results concerning the effects of perceived maternal and paternal power and prestige on the perceived maternal and paternal acceptance and psychological adjustment of adult sons are presented in Table 3.

Table 3. Differences between mean scores on Father PARQ, Mother PARQ, and PAQ of adult sons who perceived their fathers as having higher power-prestige than their mothers, versus those who perceived their mothers as having higher power-prestige than fathers

Scale	Power and Prestige	N	M	SD	t	df	p
PARQ:F	Father with higher power-prestige	33	97.09	18.45			
	Mother with higher power-prestige	10	114.10	34.86	2.04	41	<.05
PARQ:M	Father with higher power-prestige	33	94.06	19.25			
	Mother with higher power-prestige	10	91.10	10.03	.64	41	ns
PAQ	Father with higher power-prestige	33	69.91	9.19			
	Mother with higher power-prestige	10	62.40	12.23	2.09	41	<.05

As shown in Table 3, the adult sons who perceived their fathers having higher power and prestige than their mothers reported their fathers significantly ($t = 2.04$, $df = 41$, $p < 0.04$) more loving than mothers.

Table 4. Differences between mean scores on Father PARQ, Mother PARQ, and PAQ of adult sons who perceived their fathers as having higher power-prestige, versus those who perceived their fathers not having higher power-prestige

Scale	Power and Prestige	N	M	SD	t	df	p
PARQ: F	Father with higher power-prestige	33	97.09	18.45			
	Mother with higher power-prestige	67	107.85	22.80	2.53	98	<.01
PARQ:M	Father with higher power-prestige	33	94.06	19.25			
	Mother with higher power-prestige	67	94.37	18.78	0.08	98	ns
PAQ	Father with higher power-prestige	33	129.51	21.13			
	Mother with higher power-prestige	67	130.42	23.29	0.19	98	ns

As shown in Table 4, the adult sons who perceived their fathers having higher power and prestige reported significantly more father love ($t = 2.53$, $df = 98$, $p < .01$) than adult sons who perceived their fathers not higher power and prestige.

Table 5. Differences between the mean scores on Father PARQ, Mother PARQ, and PAQ of the adult daughters who perceived their fathers having higher power-prestige and that of those who perceived their fathers not having higher power-prestige

Scale	Power and Prestige	N	M	SD	t	df	p
PARQ:F	Father with higher power-prestige	47	93.09	22.39			
	Mother with higher power-prestige	53	104.32	27.72	2.24	98	<.02
PARQ:M	Father with higher power-prestige	47	91.66	25.05			
	Mother with higher power-prestige	53	94.21	26.35	.49	98	ns
PAQ	Father with higher power-prestige	47	123.06	21.21			
	Mother with higher power-prestige	53	134.53	25.99	2.43	98	<.01

As shown in Table 5, the adult daughters who perceived their fathers having higher power and prestige reported significantly more father love ($t = 2.24$, $df = 98$, $p < 0.02$), and mother love ($t = 2.43$, $df = 98$, $p < 0.01$), and also significantly greater psychological adjustment ($t = 2.24$, $df = 98$, $p < 0.02$) than the adult daughters who perceived their fathers not having higher power and prestige.

Discussion

Findings of this study reveal that significantly greater numbers of adult sons and adult daughters perceive their fathers to be more powerful than their mothers in the family. But significantly greater numbers of adult sons (not adult daughters) perceive their mothers having more prestige than their fathers. These findings are not surprising because the

respondents are from Bangladesh, one of the South Asian countries, where family system is generally patriarchal with fathers being the undisputed head of the family. In such male dominant societies, fathers usually exercise more power than mothers in making decisions about family's social and economic affairs. Mothers are typically responsible for domestic works including child rearing. Mothers provide for nurturance and social-emotional support to the family members. Nonetheless, children tend to respect their mothers almost as much as they do their fathers (Rohner, Khaleque, Riaz, Khan, Sadeque, & Laukkala, 2005). The adult offspring, regardless of gender, who perceive their fathers having higher power and prestige also perceive them (fathers) to be more loving than fathers who are perceived having less power and prestige in the family. These findings are consistent with the findings of some recent studies (e.g., Carrasco, Holgado, & del Barrio, 2013; Tkalic, 2010). Adult offspring who perceive their fathers having higher power and prestige reported better psychological adjustment than adult offspring who perceive their fathers having lower power and prestige. These results confirm findings of some other studies (Ibrahim, 2010).

It is interesting to note that adult offspring's perceptions of maternal love and psychological adjustment are not affected by the perceived power-prestige status of their mothers. Moreover, the status of paternal power and prestige does not tend to affect offspring's perceptions of maternal acceptance. The psychological adjustment of adult daughters (not of adult sons) is likely to be better in families where fathers are perceived to have more power and prestige than that of mothers. This is not clear why paternal acceptance has greater impact on daughters' psychological adjustment (not on adult sons'). One possible explanation may be that due to cross gender effect paternal acceptance tends to have greater influence on daughters' psychological adjustment than that of sons' (Rohner & Khaleque, 2008).

The present study has certain limitations. For example, the study is based on a small sample representing a particular culture. More cross-cultural and longitudinal studies are needed to clearly understand the relationships between perceived parental power-prestige, parental acceptance and psychological adjustment of offspring. Despite these limitations, the results of this study provide valuable information for future researchers and practitioners, who are interested in this issue.

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Attitude Towards Family and the Self-Esteem of Young Adults

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Self-esteem is a personality trait that is determined by many factors like perceived family and peer supports, academic achievement, perceived physical security, socioeconomic status, and maturity. The present study investigates the relationship between attitude towards family and self-esteem. Convenience sampling technique was followed to select 100 young adults (50 males and 50 females) from different colleges in Dhaka city. Self-esteem was measured administering the Bangla version of *Rosenberg's Self-esteem Scale*. Attitude towards family was measured using the *Family Scale* adapted on Bangladeshi population by the authors. The Pearson product-moment correlation coefficient ($r = -0.325$, $p < 0.01$) between the attitude towards family and self-esteem of young adults revealed that young adults who had more favorable attitude towards their families possessed high level of self-esteem and the value of adjusted R^2 also confirmed that 9.6 unit variation in self-esteem occurs in every 100 unit attitude change towards family.

The present study was designed to examine the relationship between self-esteem, as a personality variable, and the attitudes towards family of the young adults in the Dhaka City. A family is an exclusive group of people who share a close relationship; a unit typically (or traditionally) composed of a mated couple and their dependent children (procreation) in co-residence. Families create generations, each of which gain in maturity and self sufficiency such as to create and provide for subsequent generations. From the perspective of children, the family is a 'family of orientation' i.e. the family serves to locate children socially and plays a major role in their enculturation and socialization. From the point of view

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of the parent(s), the family is a 'family of procreation', the goal of which is to produce, acculturate and socialize children. It is also the primary agent of socialization and learning of values and perception of the surrounding world of the individual.

During industrialization, the family as a repository of warmth and tenderness (embodied by the mother) stands in opposition to the competitive and aggressive world of commerce (embodied by the father). The family's task was to protect its members against the odds of the outside world. However, after Zinn and Eitzen (1987), "The protective image of the family has been changed in recent years as the ideals of family fulfillment have taken shape. Today, the family is more compensatory than protective. It supplies what is vitally needed but missing in other social arrangements". The attitude towards family of an individual helps us to show the relative position of the "self" and magnitude of relation with the other family members to that self (individual).

Self-esteem is a widely used concept both in popular language and psychology. It refers to an individual's sense of his or her value or worth, or the extent to which a person values, approves of, appreciates, prizes, or likes him or herself (Blascovich & Tomaka, 1991).

The most broad and frequently cited definition of self-esteem within psychology is Rosenberg's (1965), who described it as a favorable or unfavorable attitude towards the self. Self-esteem is generally considered the evaluative component of the self-concept, a broader representation of the self that includes cognitive and behavioral aspects as well as evaluative or affective ones (Blascovich et al., 1991). It is also widely assumed that self-esteem functions as a trait, that is, it is stable across time within individuals. Self-esteem is an extremely popular construct within psychology, and has been related to virtually every other psychological concept or domain, including personality (e.g., shyness), behavioral (e.g., task performance), cognitive (e.g., attributional bias), and clinical concepts (e.g., anxiety and depression). While some researchers have been particularly concerned with understanding the nuances of the self-esteem construct, others have focused on the adaptive and self-protective functions of self-esteem (Blascovich et al., 1991).

Self-esteem is the evaluative aspect of the self that corresponds to an overall view of the self as worthy or unworthy (Baumeister, 1993). It is

the sum of evaluations across salient attributes of one's self. Rogers (1951) said, 'Self-esteem can be defined by the term 'self-attitude'. Self-esteem means evaluating one's capabilities. A student should have self-esteem for self-judgment and popularity from that point of view, self-esteem is of great importance. It is observed that, persons with low self-esteem seem to be shy. Besides, these persons feel alienated from the large society and think themselves to be weak (Rosenberg, 1989). On the other hand, people with high self-esteem think themselves to be more efficient and capable than those with low self-esteem. Characteristics of people with high self-esteem include satisfaction with life, positive mental health, and effectiveness in meeting environmental demands (Rosenberg, 1979). People with low self-esteem, however, would tend to be at risk for anxiety, depression, and feelings of unworthiness (Coopersmith, 1967; Rosenberg, 1979).

There exists a great deal of research that concludes that family support has a major influence on self-esteem. A study (Yabiku, Axinn, & Thornton, 1999) explored the relation among the family structure, function, and support of 913 mothers and their 1-year-old children and the Rosenberg Self-Esteem Scale scores of the children at 24 years of age in a longitudinal study. They concluded that children have higher self-esteem when their parents loved, supportive, and deeply involved in their lives.

Gecas and Schwalbe (1986) found that adolescents and their parents have similar but distinct perceptions of their relationships; and self-perceptions of these relationships, especially self-judgments of communication, are important in predicting levels of self-esteem for both adolescents and their parents.

Gecas and Schwalbe (1986) also examined the relationship between parental behavior as reported by parents, children's perceptions of parental behavior, and the effects of each on various aspects of children's self-evaluations---specifically, self-worth, self-efficacy, and general self-esteem. The study was based on a sample of 128 families, each consisting of a mother, a father, and a child in late adolescence (17 to 19 years of age). Results found little correspondence between parents' reports of their behavior (on measures of control/autonomy, support, and participation) and children's perceptions of this behavior. Furthermore, children's self-evaluations were much more strongly related to their perceptions of parental behavior than to parents' self-reported behavior. Boys' self-esteem

was found to be more sensitive to the control/autonomy aspect of parental behavior; girls' self-esteem was more strongly affected by parental support and participation. In general, perceptions of paternal behavior were somewhat more consequential for adolescent self-esteem than were perceptions of maternal behavior, and surprisingly, these parent-child interaction variables were found to be more strongly related to boys' self-esteem than to girls' self-esteem. These findings tend to support the symbolic interactional perspective on the development of self-concept.

In a discussion of Erikson's differential approach to human development, Lerner (1986) described the period of adolescence as the crucial time for identity formation. Adolescents at this time will learn to think about the self "abstractly and hypothetically". They will be assessing roles of significant others (Burger & Luckman, 1966) and through the process of role taking, will internalize the attitudes of those others towards themselves (Mead, 1934). In Lerner's (1986) discussion of Erikson's theory of human development, he noted that those who fail to form a firm sense of identity at this stage experience "role confusion and identity diffusion". Relevant to the current investigation, Lerner (1986) also noted that Erikson proposed there may be negative consequences for self-esteem resulting from this "identity crisis". Adolescents, at this transitional stage of life, would seemingly benefit from a sense of constancy. Living in the midst of familial disruption due to divorce makes adolescents much more prone to long term effects of any adjustment problems (Brown, Portes, & Christensen, 1989).

Adolescents in divorced families are at risk for internalization disorders and having lower self-esteem (Amato & Keith, 1991). Parents play the most important part in an adolescent's exploration for information about the self (Killeen & Forehand, 1998). Kohut (1977), as discussed by Mecca, Smelser, and Vasconcellos (1989), concluded that a strong sense of identity cannot be attained without identification with a parental figure.

Morrison, Rogers, and Thomas (1995) noted that, role models serve as a source of identification for adolescents thereby building a strong foundation for a positive self-esteem.

Dekovic and Meeus (1997) conducted an investigation on parenting effects, peer relations and self-esteem in adolescence. The mother's show of acceptance had a positive correlation with her adolescent's self-concept, in that the more approval communicated, the

more solid the self-concept. Simons (1996) also concluded that, of both parents, it is typically the mother's interaction with children which is vital to their psychosocial development.

Another study done in Australia on the correlation between children's perspective of family cohesion and their self-esteem involved 467 fifth and sixth graders from six private schools. This study found that the amount of perceived family conflict and self-esteem was negatively correlated. The children who felt that their families were unsupportive had the lowest self-esteem (Copper, Holman, & Braithwaite, 1983). This study did not investigate this relationship in adolescents who are especially at risk for the social problems connected to low self-esteem (Mruk, 1995; Nunley, 1996). The current study tries to explore the correlation of family attitude and self-esteem in adolescents.

In a recent study, Mandara and Murrey (2000) measured family functioning using the Family Environment Scale (FES), which includes a Moral-Religious subscale and other subscales such as Cohesion and Conflict, which are associated with family support. The participants of this study were fifteen-year old African American high school students ($N = 116$) from Southern California. It was found that family functioning 90% of the time predicted self-esteem, which was measured by the Multi-Dimensional Self-Esteem Inventory (MDSEI). This study supports the theory that the quality of family functioning/support is directly related to the children's self-esteem.

Self-esteem is of great importance. It is observed that persons with low self-esteem seem to be shy. Besides, these people feel alienated from the large society and think themselves to be weak (Rosenberg, 1965). On the other hand, people with high self-esteem think themselves to be more efficient and capable than those with low self-esteem. Parents play the most important role in an adolescent's exploration for information about his/her self (Killeen & Forehand, 1998). Self-esteem, a person's positive or negative evaluation of him- or herself, has been recognized as a predictor of social problems in the recent research of psychological and social development (Donahue & Benson, 1995; Mecca et al., 1989; Mruk, 1995). Past research studies have found direct links between low self-esteem and substance abuse, unprotected sex, criminal behaviours, particular personality disorders, depression, and suicide. Self-esteem can

be used to predict possible occurrences of depression (Mruk, 1995; Nunley, 1996).

Because of the high correlation between low self-esteem and depression and the resulting risk of suicide among today's adolescents, more research needs to be done on self-esteem and its related factors that might contribute to it. Because social identity and social context have been linked to self-esteem (Mecca et al., 1989; Mruk, 1995), the current study considered the relationship between family attitudes and self-esteem.

The present study attempted to examine the relationship between attitudes towards family and self-esteem. Its findings would suggest the parents as well as other family members to be more proactive in building a better relationship among them, improving the interaction pattern, developing a better understanding among the members, making the home environment enjoyable, developing a sense of caring and sharing so that can help one to grow more favorable attitudes towards the family as well as high self-esteem which can lead him or her towards the better success of life.

The objective of the present study is to find out whether attitudes towards family have any relationship with the young adults' self-esteem and if the relation found then to understand the direction and magnitude of that correlation.

Method

Sample

Convenience sampling technique was used to collect data from 100 young adults as respondents where the criterion for selection of sample was the age of the respondent. Among them, 50 were males and 50 were females. Their age range was 16 to 18 years. All of them were students from different colleges in Dhaka city. There were 49 students from class 11 and the rest 51 from class 12. Monthly income of their families ranged from Tk.5,000 to Tk.1,80,000. Among the respondents, 60% were from middle class, 22% from upper class and 18% from lower class socioeconomic status.

Measures

Personal Information Form (PIF): A demographic and personal information questionnaire was used to collect data about age, gender,

educational qualification, monthly incomes of families and socio-economic status of the respondents.

Rosenberg Self-esteem Scale (Rosenberg, 1965): The scale was originally developed to measure adolescent's feeling of self-worth or self-acceptance. The scale was translated to Bangla (Ilyas, 2002). It is a 10-item Likert type scale in Bangla. The items are answered on a four-point response format (*strongly agree, agree, disagree, strongly disagree*). The raw score of the scale ranges from 10-40; with higher score representing higher self-esteem. Five items estimated positive feelings whereas the rest five items negative feelings about self. Test-retest reliability coefficients of the original scale ranged from 0.82 to 0.88, and Cronbach's Alpha for various samples ranged from 0.77 to 0.88 (Blascovich et al., 1991). Significant correlation between English and Bangla versions ($r_{48} = 0.87$, $p < 0.0005$) indicated translation reliability of the Bangla version of the scale (Ilyas, 2002). Satisfactory level of Cronbach's Alpha ($\alpha = 0.87$) coefficient of the Bangla version further indicated internal consistency of the scale (Ilyas, 2002).

Family Scale (Rundquist & Sletto, 1936): Like the *Familism Scale*, this scale was designed to measure attitude toward the family. It was developed by Rundquist and Sletto (1936) following Likert method of scale construction. The mean discriminative value of the items of the *Family Scale* was 1.251. The standard Likert type response alternatives are used for responses: *strongly agree, agree, undecided, disagree, strongly disagree*. Subjects respond by putting a tick mark on one of the five alternatives. Weights ranging from 1 to 5 are assigned to each response alternative, with a weight of 1 given to "*strongly agree*" for items expressing a favorable attitude towards the family. The scoring is reversed for negative items. The attitude score is obtained by summing up the item scores. Higher raw scale score indicates more unfavorable attitude towards family.

Split-half reliabilities, after the Spearman-Brown correction formula, for samples of 500 men and 500 women were found to be consecutively 0.84 and 0.82. Test-retest reliabilities with a sixty-day interval of administrations were found to be 0.83 for 70 men, and 0.78 for 75 women. This scale was translated into Bangla by authors taking expert's opinions from the teachers. Test-retest reliability coefficient of

the Bangla version of this scale with a fourteen-day interval of administrations found to be 0.78 for 30 respondents.

The family scale was designed to reflect parent-child relations and family tensions, and the items appear to reflect this intent. Other evidence of validity is limited, although the attitude scores of men were related in the expected direction to the following variables: occupational security, age, separation of parents, father's retirement, and mother's death. Similarly, the attitude scores of women were related to separation of parents, mother deceased, mother employed, divorced, and unemployed. The validity of the Bangla version of this scale was not measured.

Design

Cross-sectional survey design was followed to conduct the present study.

Procedure

To collect the data of this study, each of the respondents was approached individually and he or she was told about the purpose of the study. After having voluntary consent, they were administered the scales. At first, they filled up his or her personal information sheet that was asked as a part of research purpose. Then they were asked to indicate his or her feeling about the items of the *Family Scale* and the *Self-Esteem Scale*. Respondents were asked to indicate his or her feeling towards all the 32 items. Respondents were asked to work rapidly and carefully. After completion, raw scores for each item were summed up to get the total score. At last, data were analyzed by appropriate statistical techniques.

Results

To summarize the findings of the present study, the obtained data were analyzed and presented using Pearson's product-moment correlation coefficient, scatter plot and simple regression.

Table 1. Correlation between attitudes toward family and self-esteem of young adults ($N = 100$)

Variables	r
Attitude towards family and Self-esteem	-.325[*]

*$p < 0.01$

Table 1 indicates significant negative correlation between attitude towards family and self-esteem of young adults. That means, the higher the attitude score towards the family, the lower the self-esteem score and vice versa. As noted earlier, the *Family Scale* indicates more unfavorable attitude towards the family in case of higher raw score on the scale, whereas lower raw score of self-esteem scale indicated lower level of self-esteem. So, we can conclude that, when the young adults had negative attitude towards their family their self-esteem was lower, and the young adults having higher self-esteem had favorable attitude towards their family.

Based on the significant correlation ($r = -.325$, $p < 0.01$) between family attitude and self-esteem, the following scatter plot was drawn considering family attitude as the independent variable and self-esteem as the dependent variable.
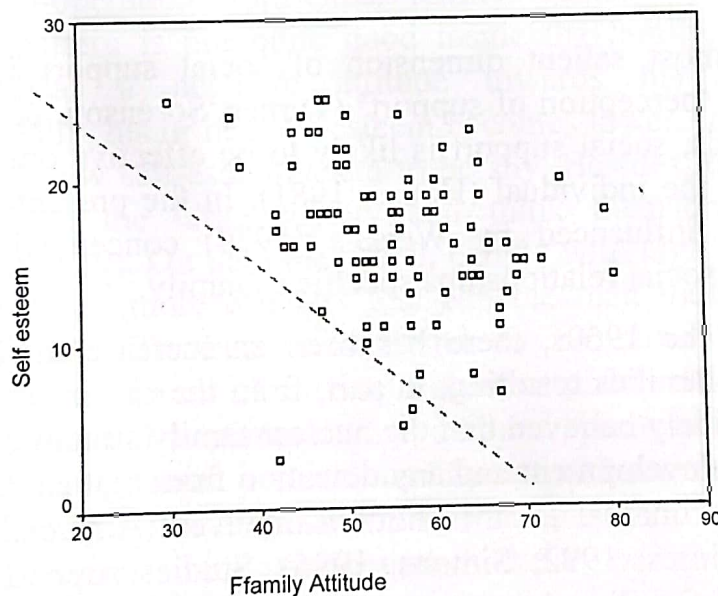
Figure 1. Scatter plot for family attitude on self-esteem of young adults.

The scatter diagram suggested us to do a further simple regression analysis considering family attitude as the independent variable and self-esteem as the dependent variable.

Table 2. Regression of self-esteem on family attitude

Variables	B	SEB	β	t
Family Attitude	-.162	.048	-.325	3.401*

Note. Adjusted $R^2 = 0.096$ ($F_{1, 98} = 11.569$, $p < 0.001$).
* $p < 0.001$

Family attitude ($\beta = -.325$, $p < 0.001$) as a predictor of self-esteem was found to be significant. And the simple regression model reveals that 9.6% variation in self-esteem would be explained by the variation of family attitude of the participated young adults.

Discussion

One of the important social contexts for the development and expression of self-esteem is the family. For children, their families are the important context because of their functions for socialization and care of children. Our family is the first primary group that we experience-the place where some of our most important identities take shape (e.g., male/female, boy/girl, son/daughter, and sister/brother). Assessments of role performances based on these identities become the early sources of self-esteem.

The most salient dimension of social support is theorized to highlight the 'perception of support' (Turner, Sorenson, & Turner, 2000). In other words, social support is likely to be effective only to the extent perceived by the individual (House, 1981). In the present study we took into account influenced by Weiss's (1979) conceptualization of the provisions of social relationships specific to family.

Since the 1960s, there has been an increase in the number of single-parent families resulting, in part, from the rise in divorce (Simons, 1996). It is widely believed that the nuclear family structure is the best for optimal child development and any deviation from that environment could only prove detrimental for the children involved (Amato & Keith, 1991; Kitson & Holmes, 1992; Simons, 1996). Studies support that children from divorced families demonstrate more problem behaviours and lower psychological well-being than children from two-parent families (Hetherington, 1989). This study investigates the correlation between family relations in the form of family attitude and self-esteem of the individuals. Family factor is one of the main factors that can enhance the development of one's self-esteem. For adolescents, parents are one of the most accepted and important sources of information about the self (Killeen & Forehand, 1998). Thomas, Gecas, Weigert, and Rooney (1974) noted that parental support from each parent is strongly and consistently related to adolescents' self-esteem.

This study examines the correlation between perceived family relation and self-esteem in the context of Bangladesh. For this purpose, the *Family Scale* and the *Self-esteem Scale* were used. Where higher score on family scale means an unfavorable attitude towards the family and higher score on self-esteem scale means a person having higher level of self-esteem. Reversely, lower score on family scale means a favorable attitude towards the family and lower score on self-esteem scale means a person having low self-esteem. The findings suggest that, there is a significant (negative) correlation between attitude towards family and self-esteem of young adults (Table 1). The result shows, the higher the attitudes score on family scale which represents an unfavorable attitude toward the family, the lower the self-esteem among the young adults. Student tends to have a negative attitude means he or she does not get proper parental support, necessary co-operation from other family members and so on. If the interaction pattern is not quite good inside the family, the person also tends to bear a negative attitude towards his or her family. Consequentially, his or her self-esteem becomes lower. It is observed that, persons with low self-esteem seem to be shy. Besides, these persons feel alienated from the large society and think themselves to be weak (Rosenberg, 1989). On the other hand, people with high self-esteem think themselves to be more efficient and capable than those with low self-esteem. Boys' self-esteem was found to be more sensitive to the control/autonomy aspect of parental behavior; girls' self-esteem was more strongly affected by parental support and participation in previous research, too. In general, perceptions of paternal behavior were somewhat more consequential for adolescent's self-esteem than were perceptions of maternal behavior, and surprisingly, these parent-child interaction variables were found to be more strongly related to boys' self-esteem than to girls' self-esteem. So, we can conclude that, if the person tends to have a negative attitude towards his or her family, the self-esteem of that person will be lower, but if the person tends to have a positive attitude toward his or her family, self-esteem of that person will also be higher accordingly. The finding of the present study is supported by the previous research on this field.

The connection between family factors and self-esteem is best made by using Mead's (1934) symbolic interactionism. This theoretical framework most easily shows how large an impact the relationships between parents and adolescents have on the adolescents' developing self-

esteem. So, in conclusion we can say that family attitude can contribute in developing one's self-esteem, yet it would not be the only one single factor that determines one's self-esteem.

For further research, it is suggested that the sample be larger and include adolescents from various locations across the country so as to be more nationally representative. Perceived peer support, academic achievement, perceived physical security, socioeconomic status, and maturity should be included as other possible demographic variables to correlate with adolescent's self-esteem in future research.

This is a correlation study and not an experiment. However, the significant correlation and regression between attitudes towards family and self-esteem would suggest that increasing the amount of family support an adolescent's self-esteem can be enhanced. If this is true then parents should be encouraged to provide their children with a large amount of support in order to raise their children's self-esteem and lessen the likelihood that their children will fall prey to the antisocial behavior associated with lower self-esteem. Being able to predict which adolescents are at risk of having such lower self-esteem we can also help school counselors, teachers, and others to be better able to anticipate and take preventive actions against the possible problems that adolescents with low self-esteem are likely to have.

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Job Satisfaction of Teachers at Private and Public Secondary Schools

Oli Ahmed[1]

The present study was conducted to ascertain the level of job satisfaction of public and private secondary school teachers as against the conflicting findings in the existing researches. To conduct the present study, 126 respondents from 12 schools were selected by multi-stage sampling technique. The 'Job Satisfaction Scale' and two open-ended questions for assessing the reasons for job satisfaction and dissatisfaction, were used to collect data. The findings revealed that the job satisfaction of public school teachers was significantly higher than that of private school teachers, but there was no significant difference in total job satisfaction of teachers by their gender. In response to the open-ended questions, the more commonly cited reasons for job satisfaction were good relationship with colleagues, good results (by students) in examinations, and discipline and punctuality as mentioned by public school teachers; and good relationship with colleagues, headmasters' cooperation and empathy, infra-structural environment, and guardian's interest and cooperation as mentioned by private school teachers. The more commonly cited reasons for job dissatisfaction were poor pay, teacher shortage, and infrastructural problems as mentioned by the teachers from both the public and private schools.

Keywords: job satisfaction, public school, private school, gender

Education is the key to a nation's development. A properly educated nation can put the country at the zenith of its development. In Bangladesh, there are three main levels of education. Secondary education is the second level of education following the primary level. In the existing education system, secondary education includes classes from VI to X. Age range of students during this period is 12 to 16 years that corresponds with adolescence period. It is also known as the stage of storm and stress. During this stage, rapid physical and psychological changes occur in the

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life of children. Children feel extra pressure to adjust with these changes. During this period, proper and effective guidelines must be needed for children. During this period, the school teachers have to play a vital role to manage the behavior of the students. So, the secondary level is an important stage of education, as such it is important to know the teachers' attitudes towards their jobs, as an important element of quality education. Teachers are important because learning programs used in schools are run by them. The quality of education depends, among other things, upon the teachers' job satisfaction. Job satisfaction is an attitudinal variable that reflects how people feel about their jobs as well as various aspects of them (Spector, 2004). For effective education, higher level of job commitment and job satisfaction are required. Teachers' job satisfaction depends on many factors such as work environment, pay, promotional facilities, relationship with co-workers, management, their position in the society, etc. (National Center for Education Statistics, 1997; Dikmen, 1995, as cited in Sönmezer & Eryaman, 2008). Zigarreli (1996) pointed out that teacher's job satisfaction is a single, general measure that is a statistically significant predictor of effective school performance. He found that the most important characteristics of effective schools are achievement-oriented school culture, principal's autonomy in hiring and firing teachers, and high morale of the teachers.

Factors that contribute to job satisfaction differ for public and private sector employees (DeSantis & Durst, 1996). Levels of job satisfaction among teachers vary according to types of schools (Akhter, Hashmi, & Naqbi, 2010; Kaur & Sidana, 2011; Mahmood, Nudrat, Asdaque, Nawaz, & Haider, 2011; Rahaman, 2012; Gupta & Gehlawt, 2013; Chughati & Perveen, 2013) and by gender (Chapman & Lowther, 1982, as cited in Bogler, 2002; Nash, 1985, as cited in Mahmood et al., 2011; Kaur & Sidana, 2011). A study by Crossman and Harris (2006) indicated a significant difference in the overall job satisfaction scores of teachers by types of school. Teachers in independent and privately managed schools showed the highest level of satisfaction while those in foundation schools showed the lowest level. They, however, found no significant differences in job satisfaction when data were analyzed by age, gender, and length of services. Some studies, however, indicate that public school teachers are more satisfied (Gupta & Gehlawt, 2013; Chughati & Perveen, 2013), while other studies indicate that private school teachers are more satisfied (National Center for Education Statistics, 1997;

Crossman & Harris, 2006). There is also a third group of studies that indicates no differences of job satisfaction among the teachers of public and private schools (Akter et al., 2010).

For these contradictory findings as reported by different studies, the present study was designed to find out the level of job satisfaction among the public and private school teachers. The findings of this study would provide such information as is expected to help to take appropriate measures to improve the quality of teaching and education at the secondary level. Relevant authority would find the findings of this study useful as they attempt to reduce dissatisfaction and unrest among the teachers in secondary schools. The main objective of this study is to ascertain the level of job satisfaction of secondary school teachers in public and private institutions. There are also three other objectives. These are: (i) to compare the level of job satisfaction of secondary school teachers by types of schools; (ii) to compare the level of job satisfaction of secondary school teachers by gender and (iii) to assess respondents' perceived causes of job satisfaction/ dissatisfaction.

Method

Sample

The participants of the present study were the secondary school teachers of Netrakona District in Bangladesh. The sample comprised 126 secondary school teachers from both public and private schools. Among them, 69 were from public and 57 were from private schools. A three stage sampling technique was followed. At the first stage, from 64 districts of Bangladesh, Netrakona district was selected on the basis of convenience. In the next stage, a list of all secondary schools in Netrakona district was collected from 'Bangladesh Bureau of Educational Information & Statistics (BANBEIS)'. From that list, 12 schools (6 public and 6 private schools) were selected randomly using the Random Number Table (Blommers & Lindquist, 1960). In the last stage, all the teachers of the selected schools were selected on census basis. Of the respondents, 32.5% were female and 67.5% male, of whom 94.4% of the respondents were married, 4.8% unmarried and 0.8% were widows. By education, 63.5% of them were graduates and 36.5% were post-graduates. Their mean age was 40.35 years with standard deviation of 6.13 years. The mean year of experience was 12.18 years with standard deviation of 6.57

years. Their mean family income (monthly) was Tk21430.95 with standard deviation of Tk2557.19.

Measures

Job Satisfaction Scale (Warr, Cook, & Wall, 1979): The scale comprised items for measuring total job satisfaction and there was one additional item for measuring overall job satisfaction. Respondents were required to express their satisfaction or dissatisfaction concerning each item using a 7-point scale, ranging from 'extremely dissatisfied'(1) to 'extremely satisfied' (7). Test-retest correlation coefficient for total job satisfaction was 0.63. Correlation between intrinsic and extrinsic satisfaction subscale for the full sample was 0.65. Correlations of total job satisfaction scale with personal life and style scale were 0.36 and 0.28 respectively. All of these correlations were significant.

The Bangla version (Khaleque, 1990) of the 'job satisfaction scale (Warr et al., 1979)' was put to a pilot test by the author. Piloting was done in two schools other than the selected sample schools. The pilot test suggested modifications of a few words or phrases (e.g., 'infra-structural environment' in place of 'physical work conditions', 'relationship between teachers and school management committee' in place of 'industrial relations between management and workers', and 'institution' in place of 'firm') as those were not appropriate for the school teachers.

Along with the quantitative statement on job satisfaction, the respondents were asked two open-ended questions to ascertain the aspects of the job they 'liked most' and aspects of the job they 'liked least'. The responses to these questions were categorized and coded, and reported in terms of percentage of responses.

In addition to the above, one information sheet for collecting personal/ demographic information (e.g., educational qualification, age, experience, gender, marital status, monthly family income and expenditure, name of institution, type of institution) about the respondents accompanied the data collection instruments.

Study design

Though basically, it was a cross-sectional survey, the study was a combination of both quantitative and qualitative approaches. The quantitative instrument was the job satisfaction scale of Warr et al. (1979),

while the qualitative part included two open-ended questions. However, the method of data collection was face to face interviews using the above instruments.

Procedure

Before administering the questionnaires on the study sample, the items of the quantitative questionnaire were finalized by piloting with FGD. After finalizing the items, the questionnaires were administered on the study samples individually. Respondents were given written instructions along with the questionnaire. They were also given verbal instructions so that they could better understand their task. They were also assured that the information collected from them would be strictly confidential and would be used only for research purposes. Sometimes, it required to clarify the meaning of some items. They were asked to read the questionnaire and express their feelings. In quantitative questionnaire, they expressed their opinion by putting 'tick' ($\sqrt{}$) marks on the appropriate response boxes which represent the best expression of their feelings. In the open-ended questionnaire, participants were asked to write three causes for their satisfaction and dissatisfaction regarding their jobs. After completing their task, they were thanked for their cordial cooperation.

Results

The collected data on total job satisfaction were subjected to an independent sample *t-test* to examine whether total job satisfaction differs by types of schools (public versus private). Results are shown in Tables 1 to 4 below.

Table 1. Job satisfaction by types of school

Types of Schools	N	M	SD	df	t
Public	69	70.01	8.34		
				124	2.52*
Private	57	66.42	7.49		

*$p < 0.05$ (for a two-tailed test)

Figures in Table 1 indicate that total job satisfaction of secondary school teachers differed significantly ($p < 0.05$) by types of schools. An examination of the mean satisfaction scores reveals that the total job

satisfaction was higher for the public school teachers ($M = 70.01$) than the private school teachers ($M = 66.42$).

Similarly, *t-test* was also done to examine whether total job satisfaction of the secondary school teachers differs by their gender. Results of this test appear in Table 2 below.

Table 2. Job satisfaction by gender

Types of Gender	N	M	SD	df	t
Male	85	67.74	8.36		
				124	1.29
Female	41	69.73	7.56		

Figures in Table 2 did to show any significant difference in job satisfaction by gender.

In order to elaborate on the above results, the respondents were additionally asked two open-ended questions about the factors 'they liked most' and the factors 'they liked least' while in working with the present institution. Analyses of responses to these open-ended questions appear in Tables 3 and 4 below.

Table 3. Causes of job satisfaction by types of school (Multiple Responses)

Perceived causes of job satisfaction (factors most liked)	Types of School	
	Public ($N = 69$)	Private ($N = 57$)
Good relationship with colleagues	37.7(26)	52.6(30)
Headmaster's cooperation and empathy	21.7(15)	36.8(21)
Desired behavior and interest of students	21.7(15)	17.5(10)
Skill of School Management Committee (SMC)	20.3(14)	17.5(10)
Good results in examination by the students	31.9(22)	3.5(02)
Discipline and punctuality	26.1(18)	7.0(04)
Overall educational environment	17.4(12)	14.0(08)
Infra-structural environment	7.3(05)	19.3(11)
Guardians' interest and cooperation	4.3(03)	19.3(11)
Extracurricular activities	7.3(05)	----
Recognition for good work	2.9 (02)	5.3(03)
Others (opportunities for expression of ideas, opportunities to apply competence etc.)	7.3 (05)	----

A closer look at the figures in Table 3 reveals that the three more commonly cited factors for job satisfaction of the public school teachers were the following: i) good relationship with colleagues (37.7%), ii) good results (by the students) in examinations (31.9%), and iii) discipline and punctuality (26.1%). On the other hand, the four more commonly cited factors for job satisfaction of the private school teachers were the following: i) good relationship with colleagues (52.6%), ii) headmaster's cooperation and empathy (36.8%), iii) good infra-structural environment (19.3%), and iv) guardians' interest and cooperation (19.3%). It is apparent that from the above information that except 'good relationship with colleagues' (which was the most liked factors for both groups), there was not much commonality in the responses of the public and private school teachers in respect of the 'factors they liked most' in working there.

Table 4. Causes of job dissatisfaction by types of school (Multiple Responses)

Perceived causes of job dissatisfaction (factors liked least)	Types of school	
	Public (N = 69)	Private (N = 57)
Poor pay/ salary	47.8(33)	70.2(40)
Infra-structural problems (insufficiency of classroom, library, laboratory facility, etc.)	44.9(31)	57.9(33)
Teacher shortage (class overload)	46.4(32)	14.0(08)
Lack of promotional opportunities	13.0(09)	7.0(04)
Lack of good relationship between teachers and guardians	11.6(08)	7.0(04)
External pressure from the influential people	2.9(02)	15.8(09)
Student's disrespect, disobedience	14.5(10)	1.8(01)
Improper distribution of responsibilities	10.1(07)	----
Negative role of school management committee (SMC)	2.9(02)	7.0(04)

A closer look at the figures in Table 4 reveals that the three more commonly cited factors for job dissatisfaction among the public school teachers were: i) poor pay/ salary (47.8%), ii) teacher shortage (46.4%),

and iii) infra-structural problems (44.9%). On the other hand, the four more commonly cited factors for job dissatisfaction among the private school teachers were: i) poor pay/ salary (70.2%), ii) infra-structural problems (57.9%), iii) external pressure from the influential people (15.8%), and iv) teacher shortage (14.0%).

It is apparent from the above table that with the exception of 'external pressure from the influential people' (which was least liked factor for private teachers), there was much commonality in the responses of the public and private school teachers in respect of the 'factors they liked least' in working there.

Discussion

The present study was conducted to ascertain the level of job satisfaction of secondary school teachers. Other objectives of the present study were to examine whether job satisfaction of secondary school teachers varies as a result of (i) types of schools (public and private), ii) their gender differences, and iii) to assess respondents' perceived causes of job satisfaction and dissatisfaction.

With respect to the total job satisfaction scores of the respondents, the present study revealed (i) significant difference by types of school, and (ii) no significant difference by gender of respondents. The finding that the total job satisfaction was higher for public school teachers than private school teachers was consistent with some recent studies (e.g., Kaur & Sidana, 2011; Chughati & Perveen, 2013). In Bangladesh, public school teachers have higher job security, but they appear to have poor accountability. Because of poor accountability, they go to schools, take classes according to their will. It is also noticeable that except a very few urban private schools, public school teachers also get a relatively higher salary on regular basis. Public school teachers also have a financially secured future in terms of retirement benefits. On the other hand, the private school (only Monthly Pay Order (MPO.) included) teachers get a little retirement benefits after their retirement. But, most of the school teachers, who are not included in the MPO schools, are not getting such financial benefits. They also have less job security than public school teachers. The presence of job security in the public or private schools has also been mentioned as an important factor for job satisfaction (Sömmezer & Eryaman, 2008). Similarly, the finding of no significant difference in job satisfaction of secondary school teachers by their gender was also

consistent with some past studies (e.g., Imam, 1990; Crossman & Harris , 2006; Ali & Akhter, 2009; Gupta & Gehlawat, 2013). Gender difference in job satisfaction was still a matter of controversy. Some studies showed no gender differences (e.g., Imam, 1990; Crossman & Harris, 2006; Ali & Akhter, 2009; Gupta & Gehlawat,. 2013), while other studies showed significant differences due to gender differences (e.g., Kaur a& Sidana, 2011; Gupta, Pasriji, & Bansal, 2012 as cited in Gupta & Gehlawat, 2013).

Like their differences in magnitude of job satisfaction, there were also differences among public and private school teachers in terms of the job factors they 'liked most'. For public school teachers, these factors included: good relationship with colleagues, good results (by students) in examinations, and discipline and punctuality. On the other hand, for private school teachers, the 'most liked' factors included: good relationship with colleagues, headmasters' cooperation and empathy, infra-structural environment, and guardians' interest and cooperation. However, there was no noticeable difference between public and private school teachers in terms of the job factors they 'liked least'. More commonly cited 'least liked' factors by both groups included: poor pay, teacher shortage, and infrastructural problems. Since the factors of job dissatisfaction (i.e. factors 'liked least') were almost common for both public and private school teachers, it would be appropriate for the relevant authorities to address these problems in order to turn the negative attitudes of the teachers to the positive direction and hence help to increase teachers' interest in imparting education. Fair pay, interesting working conditions, good promotional facilities, supportive supervisor, friendly colleagues are the predictors of employee job satisfaction (Brief, 1998, as cited in Kaur & Sidana, 2011).

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Residential Density and Adolescents' Adjustment

Mahfuza Khanam[1] and Umme Marium[2]

The present study investigated the impacts of residential density on adjustment of adolescents. The objectives of the study were to find out whether the adjustment of adolescents differ according to their residential density and also to their gender and family income. 270 adolescents (135 boys and 135 girls) were selected from five schools of Dhaka city. The instruments used to collect data were: Adjustment Inventory and a Bio-data form. The main impact of residential density was found to be significant in adjustment of adolescents. It has been found that respondents of medium density groups have the best adjustment than their other counterparts. No significant difference between boys and girls were found in adjustment of adolescents. But significant difference was found among three different family income levels.

Keywords: residential density, adjustment, adolescents

Household crowding is not a new phenomenon. It is very common in various societies and subcultures around the globe. The household is usually the nexus of daily life, a continuing experience. The degree of household crowding is an objective reality; the number of people who comprise the household is not subject to individual perceptions. As more and more people compressed into a finite amount of space, two major possibilities may arise that could have adverse consequences for individual's adjustment. Increasing the number of people within a limited space may: (a) multiply the number of intrusions or unwanted inputs from others and (b) lead to interruptions in an individual's activities or increase the number of interferences. People may find it difficult to cope with the deficiency in needed space because of continued stimulus overload. Since the household represents a place to which one habitually returns, any environmental deficiencies can act as chronics stressors, it can intensify a person's psychological reactions. In case of intense and continuous stress, coping mechanisms may be threatened and the resulting psychological reactions may be adverse in character.

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Evans, Lepore, and Schroeder (1996) observed that residents of crowded homes with greater architectural depth-the number of spaces one must pass through to get from one room in the house to another-are less likely to socially withdraw or to be psychologically distressed than residents in crowded homes with relatively low depth. They also found that greater depth buffers the association between residential crowding and psychological distress because it reduces social withdrawal among residents of crowded homes. Dalma (1971) stated that there is a minimum of space, which every human needs to be psychologically adjusted. Apparently human, like many species of animals, have optimum size of group, above and below which they do progressively less well.

The psychological literature on density is both enormous and complex. An empirical study of 175 male heads of household among inner city residents in India suggests that the adverse effects of residential crowding on Psychological health are mediated by breakdown of social support system (Evans, Palsane, Lcpore, and Martin, 1989). Baum and Greenberg (1975) found that social density creates withdrawl and reductions in eye contacts. It is also related to poor self evaluation and poor self esteem (Gove , 1978) . The study of Gove, Hughes and Galle (1979) revealed that both objective and subjective crowding are related to poor mental health, poor social relationship in the home and poor child care and poor social relations outside the home. Choldin, Jacobson and Yahnke (1975) were concerned with the effects of household density on various behaviors. The results of their study indicated a number of behavioral problems associated with higher density households, including inhibition of work, play and entertainment activities, a lack of privacy and a variety of behavioral conflicts within the unit. Baldassare (1975) found that overcrowding was related to poor interpersonal relationship in the home but not to poor mental health.

Not all research on household density has reported data that high household density leads to decrements in satisfaction and health or to behavioral problems. The results of the work by McPherson (1975), Levy and Herzog (1974), suggest a very small or nonexistent association between household density and measures of behavior or adjustment.

There are certain specific reasons for conducting the present study. Residential density and its hazards have become issues of discussion among common people. But to know the exact effect of density, if any,

scientific research is necessary. To explore the effects of residential density studies were carried out in the Western culture. But in Bangladesh (which has its own culture so different from Western one), no study has yet been conducted. So it is assumed that the findings of the present study, will add new knowledge to existing literature, whatever that is. Finally, findings of the study may be used to create awareness among general population against residential density if impact of residential density is found to be negative. People might be motivated to keep the size of the family small. These in turn might contribute to the success of family planning program of the government of Bangladesh.

The specific objectives of the present study were to find out the differences in adjustment among adolescents according to (a) low, medium and high residential density and also find out the differences between (b) boys and girls and (c) low, medium and high income groups.

Method

Sample

The study comprised 270 adolescents selected from five different schools of Dhaka city. They were categorized equally into three groups on the basis of their residential density namely high, medium and low density. Each group was again equally subdivided according to gender and family income.

At first, about 800 bio data forms were collected from 800 adolescent students (age range 13-16 years) of five different schools of Dhaka city. These schools were selected following convenient sample technique. From these filled bio-data, 270 respondents were selected purposively. Specific criteria were maintained to determine residential density and income. According to Bedford (1964), the optimum floor space requirements per person vary from 50 to 100 square feet. In this study residential density was estimated in the following manner. Low density: two rooms, two persons. Minimum room size 100 square ft. each. Medium density: Two rooms, three persons and high density: two rooms, more than three persons. In case of income, respondents were divided in the following manner-low income group: monthly income upto 8000/; middle income group: 8001-20000/ and high income group: over taka 20000/ (Wadud, 2000). Those who fulfilled these criteria were selected as sample. The distribution of sample is shown in Table 1.

Table 1. Sample distribution according to density, gender and income

	Low Density		Medium Density		High Density		Total
	Boys	Girls	Boys	Girls	Boys	Girls	
High income	15	15	15	15	15	15	270
Medium income	15	15	15	15	15	15	
Low income	15	15	15	15	15	15	

Measures

To measure the overall adjustment of the adolescents, the Bangla version of the adjustment inventory was used. The scale was originally developed by Bhattacharya, Shah and Parikh (1967). It was translated by Khanam and Zaman (2008). This inventory contained 55 items, where 46 were negative and 9 were positive. Each item of the inventory is a 3-point scale with the following response categories: yes, uncertain and no. For the positive items, scores were calculated as follows: yes = 2, uncertain = 1 and No = 0 and the score for negative items was in reverse order. Total scores were obtained by summing. The possible range of score is 0 – 110. High scores indicate better adjustment and low scores worse adjustment.

The English and Bangla version of the inventory were administered to 30 high school students, who were proficient in both the languages, with a gap of three weeks. Significant correlation $(r = .79, p < 0.01)$ was found between these two versions. This indicates that the translation of the inventory was quite satisfactory.

A bio-data form was also used in the present study to collect information about gender, age, monthly income, number of the rooms in the household and their approximate sizes and total number of the family members, name of the school, etc.

Design

A cross-sectional survey design was used in the present study.

Procedure

To collect data, the investigator went to each school for two days. In the first day all students of class VIII, IX, X filled up the bio-data forms. After the form being filled, the investigator collected all the forms. Following this procedure, about 800 bio-data form were collected from

five schools of Dhaka city. From these filled up forms, 270 respondents were selected purposively according to the above mentioned criteria mentioned in sampling section. During the second day, the inventory was administered on these selected samples only in class room situation. The investigator answered every question raised by them and gave them all possible clarification. After completing the inventory, all of them were thanked and they were assured that the information given by them would be kept secret.

Result

The purpose of the present study was to find out whether residential space has any impact on adjustment of adolescents. This study also tried to find out the effects of gender and family income level on adjustment of adolescents. For these objectives, three way analyses of variance were applied to analyze the obtained data. The findings are presented in the following tables.

Table 2. Three-way ANOVA of adjustment scores by density (D), gender (G), and family income (I)

SV		SS	df	MS	F	p
Main effect	D	1841.17	2	920.58	8.76	0.001
	G	90.87	1	90.87	.86	ns
	I	4117.85	2	2058.93	19.59	0.001
Interaction	D × G	49.14	2	24.57	.23	ns
	D × I	355.82	4	88.95	.85	ns
	G × I	47.33	2	23.67	.23	ns
	D × G × I	983.76	4	245.94	2.34	ns
	Error	26489.47	252	105.12		
	Total	1379328				

The analysis of variance showed significant effects of density ($F = 8.758$, $df = 2, 252$, $p < 0.001$), and income ($F = 19.587$, $df = 2, 252$, $p < 0.001$) on adjustment of adolescents. But the effect of gender was found to be not significant. Interactions among density, gender and income were also found non-significant. Table 3 shows the mean and standard deviation of adjustment scores of different residential density groups.

Table 3. Mean and Standard Deviation of adjustment scores of different density group

Residential	N	M	SD
High	90	68.54	11.472
Medium	90	74.69	10.442
Low	90	68.46	11.242

Table 3 shows that adjustment score of the adolescents of medium density group is best (*M* = 68.54) and high and low density group (*M* = 68.54, *M* = 68.46) is more or less similar. Table 4 shows the mean and standard deviation of adjustment scores according to different income level.

Table 4. Mean and Standard Deviation of adjustment scores of different income level

Income	M	SD
High	70.27	9.37
Medium	72.81	10.32
Low	62.62	9.11

Table 4 shows that adjustment score of the adolescents of the middle income group (*M* = 72.81) is the highest among the groups and the adolescents of the low income have the lowest adjustment scores.

Discussion

The present study was conducted to investigate the impact of residential density on adjustment of adolescents. The result revealed that household density had a significant impact on adjustment of adolescents (Table 2). It has been found that adolescents off medium density have the best adjustment than the respondents of high and low density household .This finding may be explained in the light of the findings of Gabe and Williams (1986). They found that low as well as high levels of crowding are detrimental to physical as well as psychological health. Levi and Anderson (1975) also argued that both high and low population densities interfere with human wellbeing and quality of life .It could be explained

otherwise. It may be that medium density elevates more warm interpersonal relationship. Due to this interpersonal engagement of the self with others enhance wellbeing and adjustment of the respondents of medium density. Kitayama and Markus (1999) also observed that in East Asian cultures, participation in a certain form of mutually sympathetic relationship is closely associated with good feelings and good adjustment.

Srivastava (1977) found that male students are better adjusted than female students. But the result of the present study is very much inconsistent with his findings. The result revealed that gender has no significant impact on adjustment. Now in Bangladesh, especially in urban areas, the socialization process has changed a lot. Parents are treating their boy and girl equally. Both of them are enjoying the same opportunities. Due to this equal treatment and opportunity they have obtained non significant adjustment score.

Another significant finding of this study is the significant effect of income on adjustment of the adolescents. It has been found that respondents of middle income group have the best and the respondents of the low income group have the poorest adjustment scores. Myers and Diener (1996) stated that beyond a certain level of survival, having more money does not lead to greater happiness. Similarly, it can be said that more money does not always lead to better adjustment. McLoyd, Jayaratno, Ceballo and Borquez (1994) found that economic difficulties can increase anxiety for children as well as adults. From this finding, it can be concluded that due to economic difficulties, the respondents of low income group have more anxieties and for this reason their adjustment is poor.

Because of the limitations of the study with regard to sample size, the findings are suggestive but not conclusive. However, it may be said that the phenomenon of density and adjustment are too vast a problem to be dealt with in such a short research. It is expected that the present study will throw some light into the area which will open the field for future exploration.

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Adaptation of the Classroom Climate Scale in Bangladeshi Culture

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The Classroom Climate Scale (CCS) is pervasively used instrument to measure the levels of the classroom climate (i.e. student-student relationship, student-teacher relationship and students' awareness/ reporting). The aim of this study was to adapt the instrument for the use in Bangladeshi culture. Following the guidelines of the International Test Commission, we field tested the final Bangla translated version on a purposive-incidental sample of 140 secondary school students (male = 70, female = 70) aged between 10 and 18 years. Cronbach's alpha coefficient was found to be 0.868, which was highly satisfactory. Significant correlation between the subscales determined the convergent validity. Thus, the Bangla version of CCS appears to be psychometrically sound and hence suitable for use in Bangladesh.

Keywords: classroom, climate, scale adaptation, Bangladeshi culture

The Classroom Climate Scale measures the levels of the classroom climate, i.e. student-student relationship, student-teacher relationship and students' awareness/ reporting. The present study intends to focus on the adaption of the CCS according to Bangladeshi ethnicity. Adaption of psychological instruments is very well recognized for maximizing cultural appropriateness and also minimizing bias. It is an accepted practice for any psychological test which has been developed in one language and for one ethnic group, to be translated for using in another language and ethnic group. It differs from the traditional concept of translation because it not only produces a linguistically equal version in another language but also takes into account different cultural issues as well.

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Classroom environment, or climate as it is often called, is important in the learning process. Kowalski (1996) defined classroom climate as "a comprehensive structure made up of culture, physical plant, organizational structure, social relationships, and individual behaviors" (p.16). This definition implies that climate is sporadic rather than static and is affected by constant changes in the environment or outside forces within the school system. Over the past years, classroom climate has emerged as a thriving field of study (Deng, 1992; Edmonds & Frederiksen, 1979; Fisher & Fraser, 1981; Walberg, 1979). It has been studied extensively over a long time (Anderson & Walberg, 1974; Fraser, 1989, 1998a; Nielsen & Kirk, 1974; Von Saldern, 1992). Researchers have used classroom climate in several types of studies with a view of improving classroom climate. This includes studies of person-environment fit, studies of the differences between teacher and student perceptions of preferred and actual classroom climate, and studies of the association between classroom climate and student outcomes (Fraser, 1989, 1991, 1998b). Classroom Climate can significantly impede learning (Freiberg, 1999).

The CCS which was originally developed by Multisite Violence Prevention Project (2004). Total number of items of the scale is 18. Respondents' responses on each item are measured using a Likert type that range from 1 (strongly disagree) to 4 (strongly agree). Point values are summed up and then divided by the total number of items for each subscale. Intended range for each subscale is 1-4. Higher score in items 1 to 7 means a more positive student- student relationship and a lower score means a more negative relationship. Higher score in items 8 to 11 means a more positive student-teacher relationship and a lower score means a more negative relationship. Higher score in items 12 to 18 indicates a strong awareness of the need for reporting violent incidents and a lower score means a weak awareness of the need for reporting violent incidents. The CCS can yield a score of 18 to 72. The details about the number of items and internal consistency of classroom climate variables are shown in Table 1 below.

Table 1. Number of items and internal consistency of classroom climate variables

Classroom Climate Variables	Total Items	Items no	Internal Consistency
Student-Student relationships	7	01-07	0.69
Student-Teacher relationships	4	08-11	0.78
Awareness/Reporting	7	12-18	0.80

The CCS was developed in English language for use in the Western world according to their cultural context. However, the researchers of the present study realized that the respondents of Bangladesh would find it easier to react to the scale in Bangla language. Therefore, they undertook the present adaptation study. Another reason behind the adaptation attempt of the CCS was developing a new scale is highly complicated and time consuming. That is why the original CCS, which is already reliable and valid, was selected to adapt in Bangla. Moreover, the relationship between classroom climate variables and student's achievement is well documented in studies in a number of countries and for different cultural groups (Byrne, Hattie & Fraser, 1986; Cheng, 1994; Fraser, 1989, 1998a; Margianti, Fraser & Aldridge, 2001; Moriarty, Douglas, Punch, & Hattie, 1995; Townsend, Moore, Tuck & Wilton, 1998; von Saldern, 1992; Watkins & Hattie, 1990). Taking the theoretical and empirical aspects of the studies mentioned above into consideration, the need for a measure of classroom climate is noticed on demands. So, the current study is focused on adapting the CCS in Bangla with appropriateness of Bangladeshi ethnicity. Bangla version of the CCS can be used for non-clinical purposes. For example, the scale can be used in school settings to investigate the different aspects of classroom environment as pointed out earlier.

Method

The guidelines of the International Test Commission were followed to adapt the CCS in Bangladeshi culture. The adaptation process consisted of six steps; namely (1) Ensuring construct equivalence, (2) Forward translation, (3) Back translation, (4) Pre-testing-I and cognitive interviewing, (5) Pre-testing-II, and (6) Field test.

Step one: Ensuring construct equivalence

Available literature on CCS published in different scientific journals and books written by Bangladeshi educational psychologists has been appraised to determine whether the constructs have the same meaning in Bangladeshi culture as in foreign culture. Also, the opinions of experts from the Department of Psychology have been sought as to the equivalence of the constructs between the two cultures. It appeared convincing from literature review along with experts' opinions that the constructs under study do exist and the same definition equally applies to the language and cultural group of Bangladesh.

Step two: Forward translation

Three translators were selected who independently translated the English version inventory into Bangla without consulting one another. Their mother tongue was Bangla, their medium of education was English, and they were familiar with foreign language and culture. They are very knowledgeable about the principles of test adaptation and were well conversant with the construct being measured. The researchers headed together with the translated versions and selected the best words, expression, or items by arriving at a consensus. Thus, the preliminary Bangla version inventory was prepared. A teacher of the University of Dhaka was requested to check for the language structure and quality of translation, and conceptual equivalence of words or phrases, but not a word-for-word translation. Modifications of some words, expression, or items were made following his suggestions.

Step three: Back translation

A teacher of Psychology, proficient in both English and Bangla languages, was entrusted with the task of translating the Bangla version into English. A panel consisting of three psychologists having expertise in psychology and proficiency in English judged the equivalence of the original English version and the back translated version of CCS. There was a perfect agreement among the panel members on the issue of similarity between the two versions indicating the correctness of the forward translation. The Bangla version was then subjected to subsequent processes.

Step four: Pre-testing-1 and cognitive interviewing

The first pre-testing was carried out by administering the Bangla version of CCS on a group of convenience sample of 50 students of ages 10 to 16 years. The students were informed of the objectives and significance of the study. Only the students who showed interest to participate were selected. Three methods namely inventory administration, interview, and item analysis were used to get primary validity evidence for each item.

Scale administration

An examiner, trained in assessment procedure, administered the scale on the respondents in a classroom. At first, the students were asked to read the instructions on the top of the items of the scale very carefully. Also the examiner orally explained what was to be done, emphasizing that there were no right or wrong answers. The examiner directed the students to answer every question honestly and to select only one response for each question. The students responded to each item by indicating how frequently the statement was true for them. During the test, the students were allowed to ask questions about words or concepts which they did not understand. The words or expressions that the students asked about were noted by the administrator to check whether it was necessary to modify them. Students were allowed to change responses but it was made sure that the original response was completely erased.

Interview

Individual interview method was used to ask students about any word, concept, or expression that they found confusing, difficult, unacceptable or offensive. For some items there were several possible alternative words or expressions. In these cases, the students were asked to choose the best option which conformed better to their usual language.

Item analysis

Students' responses in each subscale were analyzed to determine corrected item-to-total correlation which indicated the appropriateness of each item. Negative or low correlation of an item score with total score in an inventory indicates that the item is defective in measuring what the whole inventory is supposed to. Item analyses for each subscale

separately revealed that a total of 05 items had low positive correlation and 02 items had low negative correlations with total score. However, internal consistency reliability (alpha coefficient) for each subscale was very high ranging from .658 to .576. Interestingly, these were the items which the respondents criticized. The remaining 11 items had significant and acceptable correlation with total score. The panel of psychologists who worked in the back translation phase had modified the language of the faulty items in consensuses with each other which resulted in the revised preliminary Bangla Version of Classroom Climate Scale.

Step five: Pre-testing-II

Second pre-testing was carried out to check the validity of the items of revised preliminary Bangla Version of Classroom Climate Questionnaire. In this phase, two methods were followed: scale administration and item analysis.

Scale administration

The inventories were administered to a purposive and conveniently selected sample of 72 students of ages between 10 and 16 years. Data were collected following the same procedure used during scale administration for the first pre-testing.

Item analysis

Corrected item-to-total correlation coefficients were highly satisfactory for items of each inventory. However, internal consistency reliability (alpha coefficient) for each subscale was very high and ranged from .866 to .890. The coefficients are comparable to those of the original English version of CCS.

Step six: Field test

The field test was carried out to determine the reliability and validity of the Bangla version of CCS. We used purposive and convenience sampling techniques to collect data from 140 students aged from 10 to 18 years. Among them 70 were males and 70 were females. First, the testing was carried out conveniently in class rooms with kind permission from and cooperation of the institution authorities. We collected data from the students who were available and willing to

participate in the study. Second, though many students were available, we purposively included in our sample only those who met three inclusion criteria: (a) studied at Bangla medium schools, (b) attended the school regularly, and (c) had no severe physical or mental condition that might interfere with the assessment. The students were informed of the purpose of the study and they were told that their names would not appear on the tests, and the responses would be anonymous. Trained research assistants administered the scale following a detailed testing protocol. The number of students at test sites varied depending on the number of students available on the testing day.

At the beginning of administration, the examiner read the instructions aloud. Students were directed to read the written instruction on each subscale very carefully and answer every question in the way that was most true of them. They were told that there was no right or wrong answer but it was important to answer honestly. They were assured that no one would know their responses since their names were not on the tests. Students were asked to answer the items silently while sitting on their chairs but to raise their hands if they faced any difficulty in reading or understanding an item.

Results

The results of the present study involved the computation of the coefficients of reliability and validity of the CCS.

Item analysis. We computed corrected item-to-total correlations for each subscale to see how individual item goes with the total score. Primarily, the item analysis was calculated for 1st Phase (Pre-testing-I) and 2nd Phase (Pre-testing-II) (Table 2). The convergent validity of a scale can be measured by assessing the correlation between individual item score and total test score. For the CCS, the 18 items were thoroughly analyzed and corrected item-total correlation was determined. The corrected item-total correlation value of 18 items was found to be significant (Table 3).

Table 2. Item analysis of the sub-scale scores and total scale score for 1st phase and 2nd phase

Sub-scale and total scale	Alpha	
	1st Phase (N = 50)	2nd Phase (N = 72)
Student-Student Relationship (No. of Items 7)	.698	.721
Student-Teacher Relationship (No. of Items 4)	.650	.687
Awareness (No. of Items 7)	.581	.601
CCS (N0. of Items 18)	.799	.849

Table 3. Item-total correlation and the reliability in field test sample (N = 140)

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach Alpha if Item Deleted
1	50.6714	107.445	.594	.857
2	50.8857	105.843	.567	.858
3	50.6429	106.519	.514	.860
4	50.7857	105.148	.560	.858
5	51.0000	105.511	.567	.858
6	50.5929	109.999	.493	.861
7	50.7071	108.352	.516	.860
8	50.9286	108.556	.545	.859
9	51.0000	106.676	.559	.858
10	50.8857	105.282	.603	.856
11	50.9000	109.659	.423	.864
12	50.6286	109.803	.421	.864
13	50.4357	110.075	.498	.861
14	50.4286	111.096	.467	.862
15	50.3714	111.473	.392	.865
16	50.2929	110.381	.448	.863
17	51.0286	111.424	.330	.868
18	50.7143	112.983	.231	.873

Note. Total scale α = .868.

Cronbach's alpha

In the CCS, Cronbach alpha was computed to determine the internal consistency reliability. The Cronbach alpha was found to be 0.868. This value is highly significant with an alpha level of 0.01(Table 4). The reliability coefficients were quite equivalent to the original scale.

Table 4. Reliability coefficients of the scale and subscale for field test sample ($N = 140$)

Scale and subscales	Alpha
CCS	.868
Student-Student Relationship	.777
Student-Teacher Relationship	.711
Awareness	.667

Correlation among the subscales

Reliability refers to the degree to which measurements can be repeated, that's why it can be assumed that the scores of each subscale will be significantly correlated with each other. To assess the convergent validity of the instruments, we determined inter-correlations among the subscale of CCS. These provided evidences for the internal structure of the instrument. Overall, the scores of the CCS were significantly correlated with each other within the field test group. Correlations between the student-student relationship, student-teacher relationship and Awareness were the highest, ranging from .428 to .766 (Table 5). A notably high correlation was observed between scores on the Student-Student Relationship and Student-Teacher Relationship ($r = .766$). These were again comparable to those of the original version of the instrument.

Table 5. Inter-correlations among the subscales of the CCS for the field test sample ($N = 140$)

Variable	1	2	3
1. Student-Student Relationship			
2. Student-Teacher Relationship	.766**		
3. Awareness	.619**	.428**	

** Correlation is significant at the 0.01 level (2-tailed).

Discussion

The present study was designed to adapt and investigate the psychometric properties of a Bangla version of the CCS. Analyzing the data, the internal consistency and corrected item-total correlation indicated that the instrument is reliable and all items of the scale are important or in other words non-redundant. This study demonstrated that the internal consistency reliability of all subscales of the Bangla CCS appeared acceptable or good as the Cronbach's alpha ranged between .856 and .873. According to George & Mallery (2003; cited in Uddin, Huque & Shimul, 2011), the rules of thumb for evaluating alpha coefficient was described as follows: "$\alpha \geq 0.9$ = Excellent, $0.9 > \alpha \geq 0.8$ = Good, $0.8 > \alpha \geq 0.7$ = Acceptable, $0.7 > \alpha \geq 0.6$ = Questionable, $0.6 > \alpha \geq 0.5$ = Poor, and $0.5 > \alpha$ = Unacceptable". It is notable that the coefficients of alpha of the original CCS ranged from 0.82 to 0.90 considering all age group together which is slightly higher than those of the Bangla CCS. On the basis of the respondents' responses, the reliability and validity of the CCS were determined. In the process of determination of the reliability of the adapted version of the CCS, it was found that the Cronbach alpha is 0.868 and the correlations among the subscales ranged from 0.667 to 0.777. These findings specify that the adapted version of the CCS possesses a high level of reliability which also ensures the usability of this scale in Bangladesh. The inter-correlations among three subscales of the Bangla CCS are indicative of high convergent validity. Thus, the findings can be taken to suggest that the adapted Classroom Climate Scale is suitable for assessing three main dimensions of classroom environment (i.e. student-student relationship, student-teacher relationship and students' awareness of the need for reporting violent incidents) in Bangladesh.

Few limitations of this present study are to be noted. Firstly, the participants were not selected from all corners of Bangladesh. Secondly, we could not compare the reliability and validity of the CCS across the culture, as CCS was applied on a small numbers of respondents. More studies on classroom climate are, therefore, necessary for understanding the underlying patterns of individual anxiety issues. Further researches will be still required in this field to discover the relationship with a lot of more other factors. Future researchers should incorporate different variables or situations in the studies of classroom climate. However, the present study will help future researchers to be inspired on researching in this field.

Finaly, this study equips us with a psychometric tool (Bangla version of CCS) to assess students' insight of their classroom climate. The educators and school authorities can then take necessary steps to develop classroom atmosphere so that students can build stronger peer relations and improve associations with their teachers for performing better.

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Predictors of life Satisfaction among Noninstitutionalized older Adults

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As the number of older adults is on the rise in recent years, psychologists are facing challenges of working with those adults in order to address their psychological issues and thereby enhancing their life satisfaction-one of the key components of successful aging. The present study examined the relationship between life satisfaction and social network, perceived health status, and dispositional optimisms among noninstitutionalized older adults. The sample consisted of 200 participants over the age of 65 years ($M = 62.30$, $SD = 8.53$) distributed equally by gender. They were selected from different areas of the Dhaka city by using convenience sampling technique. The instruments used in this study were demographic and personal questionnaire, abbreviated version of Social Network Scale, Bangla version of OARS Multidimensional Functional Assessment Questionnaire and Bangla version of revised Life Orientation Test (LOT-R). Mean, Standard deviation, correlation and stepwise multiple regressions were performed to analyze data. Results indicated that perceived health status ($\beta = .767$, $p < .0005$), dispositional optimism ($\beta = .392$, $p < .0005$) and social network ($\beta = -.134$, $p < .0005$) were significant predictors of life satisfaction. All the three variables combined contributed 72 %($R = .85$) of the total variance of life satisfaction. Among these three variables, perceived health status was the strongest predictor, which alone explained 61% variance of life satisfaction. The results suggest that perceived health status, dispositional optimism and social network work as the key contributors of life satisfaction among noninstitutionalized older adults in the context of Bangladesh.

Keywords: social network, perceived health status, dispositional optimism, life satisfaction

Perhaps one of the most remarkable demographic developments in modern times is the progressive demographic ageing of the older population. Virtually in all countries, the most elderly of the older generation is growing faster than its younger segment. Indeed, according to United Nations Population Division (2002) projections, the average annual growth rate of persons aged 80 years or over (3.8 percent) is currently

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twice as high as the growth rate of the population over 60 years of age. Moreover, the proportion of those older than 80 is projected to increase almost fourfold over the next 50 years to 4.1 percent in 2050. It is speculated that currently the population of elderly people in Bangladesh is gradually increasing, perhaps owing to the advancement in and relatively easy access to scientific and technological products as well as life supporting services in Bangladesh. By reason of this, doctors and clinicians need to know more about this age group because the number and proportion of older adults in the population are increasing, and more psychologists will be called upon to deliver psychological services to them. For this reason, the objective of current study was to explore the relationship of social network, perceived health status, and dispositional optimisms with life satisfaction among older adults. The definition of "older adult" varies, depending on different perspectives and purposes. For example, gerontologists traditionally focus on persons aged 60 years and older. Usually, this category of people is the target of government social security packages, including pensions.

Researchers identify subgroups of "older adults" as "younger old" (ages 65-75), "older-old" (ages 75-85), and "oldest old" (ages 85+). In this research, "older adult" is defined as an individual who is aged 65 and older who does not reside in an assisted living facility or nursing home. Life satisfaction among the elderly is an important concept as it gives us an overall view of the adjustment as well as adaptive coping ability of the individual. Life satisfaction is used to indicate relatively long-term feelings. Life satisfaction is a judgmental process whereby individuals evaluate the quality of life based on sets of criteria (Pavot & Diener, 1993). Studies have proposed that life satisfaction is mutually influenced by personality traits and psychosocial variables of life events (Headey & Wearing, 1989; Diener, 1996; Lu, 1999). Therefore, social support network, perceived health and dispositional optimism may be associated with life satisfaction.

Several variables were employed to predict life satisfaction. Among them social network, perceived health status and dispositional optimism are very important. Social network refers to the type, size, closeness, and frequency of contacts in a respondent's current social surroundings (Lubben, 1988). Ideally, social networks can be defined as all the people with whom the individual interacts, typically including persons who they live with as well those in categories of social identities

such as neighbors, friends and colleagues at work. Strong associations of social support networks with physical health outcomes have consistently been found (Berkman, & Glass, 2000). Studies have demonstrated an association between increased levels of social support and reduced risk for physical disease, mental illness, and mortality (Seeman, 2000; Stroebe, 2000). Of the 109 subjects surveyed, 81 "very frequently" spoke to a member of their family and 25 "frequently" spoke with their family. In addition, 104 subjects stated they were pleased or satisfied with this contact (Seeman, 2000; Stroebe, 2000).Research indicates that the maintenance of robust social networks becomes an important factor in prediction of satisfaction with life of older adults (Van Willigen, Chadha & Kedia, 1995). Perceived health status is defined as the individual's subjective measure of his or her own health through one's own perception of the state of one's health and it is an important aspect of life satisfaction because life satisfaction may have a stronger correlation with health perception than with objective measures of health (Brief, Butcher, George, & Link, 1993). Self-assessed health status has been consistently proven to be a significant predictor of increased life satisfaction. Okun (1986) reported that health has been found to be one of the most powerful predictors of well-being in old age. Berg, Hassing, McClearn, & Johansson (2006) found that there was a strong association between life satisfaction and self-rated overall health. Research studies demonstrate that poor perceptions of health are significantly associated with diminished perceptions of life satisfaction for older adults (Leung, Moneta, & McBride- Chang, 2005). Furthermore, a number of research studies have also reported the positive relationship between health perceptions and life satisfaction (e.g., Berg et al., 2006; Borg, Hallberg, & Blomqvist, 2006; Siahpush, Spittal, & Singh, 2008). In addition to personality traits, general findings show that health perception is related to life satisfaction (Arrindell, Heesink, & Feij, 1999; Rapkin & Fischer, 1992).

Researchers have shown that optimism is one of the indicators for predicting life satisfaction (Scheier & Carver, 1992). Scheier and Carver (1987) defined dispositional optimism as a generalized expectancy that good things will happen. They claim that an individual's tendency to be optimistic and pessimistic is a relatively stable characteristic across time and context. Optimism positively influences both physical (Brenes, Rapp, Rajeski, & Miller, 2002; Scheier & Carver, 1987, 1992) and psychological

well-being (Ferreira & Sherman, 2007; Scheier & Carver, 1992; Uskull & Greenglass, 2005). A greater sense of optimism was found to be significantly related to fewer psychological problems and greater life satisfaction in older adults (Chang, 2002; Ferreira & Sherman, 2007). Restaurant managers who reported higher dispositional optimism also reported higher life satisfaction (Austrom, Perkins, Damush, & Hendrie, 2003; Hayes & Weathington, 2007; Kim & Feldman, 2000; Szinovacz & Davey, 2005; Wu, Tang, & Yan, 2005).

In Asia, aged population is increasing at a faster rate than both Europe and North America (Nayar, 2003). Thus, for Asian societies, the issues related to the elderly need immediate attention of researchers, planners, and welfare agencies. Since the primary health care system is not geared up for meeting the demands on this vast number, this will result in increasing the burden of care on both the individual and the families of these older adults. Therefore, mobilizing additional resources for geriatric care as well as monitoring health behaviors will emerge as a major responsibility for health care professionals in Bangladesh. However, challenges arising from growing old, especially in the area of behavioral and emotional health, have not received much attention in the past. More information and research is, therefore, needed with regards to the determinants of quality of life, self-concept, well-being, and health to further our understanding of life experiences in later years. This need provides a rationale for this study.

Hypothesis

It is hypothesized that older adults who have higher levels of social network, health perception and dispositional optimism will have more life satisfaction and that social network, health perception and dispositional optimism combined would explain more of the variance in life satisfaction than other variables taken individually.

Methods

Sample

The eligible participants for the present study were noninstitutionalized older adults aged 65 and over. The sample was drawn from residential communities of Dhaka cities. The sample consisted of 200 participants, 100 males and 100 were females. Among them, 180

(90%) participants lived with their spouse, children, or friends, and the remaining 20 (10 %) only with their children or family member.

Measures

Demographic and personal information questionnaire: This questionnaire was used to collect personal and demographic information of the participants, such as age, gender, religion, education, marital status, participant's occupation, spouse's occupation, length of residency in home, alcohol and prescription drug use, home ownership, and living arrangement.

Lubben's Social Network Scale: Bangla Version of abbreviated Lubben's (1988) Social Network Scale (LSNS-6) was used for measuring social network of older adult population. The LSNS-6 assesses the size of the respondent's active social network (i.e., relatives or friends seen or heard from times/month), perceived support network (i.e., relatives or friends who could be called on for help), and perceived confidant network (i.e., relatives or friends to whom the respondent could talk about private matters).

Each LSNS-6 question is scored on a 0 to 5 point scale. The total score is an equally weighted sum of these 6 questions, with scores ranging from 0 to 30. Higher scores indicate larger social networks. The validated LSNS-6 has been used widely and has established a cut point of 12 for best overall sensitivity. The questionnaire was translated into Bangla. Then English and Bangla versions of the scale were administered to 50 participants with an interval of 7 days. Significant positive correlation (r = .801, p < .0005) was obtained between scores of English and Bangla versions indicating high translation reliability of the scale.

OARS Multidimensional Functional Assessment Questionnaire. The modified version of the Older Adults Resources and Services Multidimensional Functional Assessment Questionnaire (OARS) (Fillenbaum & Smyer, 1981) was used to assess current health status of older adults. The health status variable is made up of three indicators. The first, subjective health perceptions, consists of four items. The second, mental health satisfaction has four items. The third indicator, physical ADL's, has six items. The modified version of the OARS is a 14-item scale that measures perceived health status. Twelve items is scored on 3-

point scale. The remaining two items are scrod on 4 point scale. Each item on the Modified version of the OARS is scored; higher scores indicate positive health perceptions. The test-retest reliability of the physical health section was ranged from .78 to .92 over a 12-18 month interval (Fillenbaum & Smyer, 1981).

The questionnaire was translated into Bangla. Then the English and Bangla versions of the scale were administered to 50 participants with an interval of 7 days. Significant positive correlation (r =.773, p <.0005) was obtained between scores of English and Bangla versions indicating high translation reliability of the scale.

Dispositional Optimism Scale: The Bangla version of the revised life orientation test (LOT-R LOT: Scheier & Carver, 1987) was used to assess dispositional optimism. It is a four-point Likert scale which is composed of three optimism items, three pessimism items, and four filling items. Pessimism items are reverse scored and summed with other optimism items. The four filling items were not calculated in the analysis. The LOT-R is scored for optimisms items, 0 = strongly disagree, 1 = disagree, 2 = neutral, 3 = agree, and 4 = strongly agree. For pessimism items, scoring was in reverse order. Responses to all items are then summed up to compute an overall optimism score, thus scores in principle can range from 0 to 24. Here low score indicates pessimism and higher score indicates optimism. Significant correlation (r = 0.805, p <.0005) between sores of English and Bengali versions indicated translation reliability of the scale.

Life satisfaction scale: Bangla version of Diener, Emmons, Larson, and Griffin's (1985) Satisfaction with Life Scale (SWLS) was used to measure global life satisfaction. This scale has been extensively used and has proven to be applicable to adult age groups (Hamarat, Thompson, Zabrucky, Steele, Matheny, & Aysan, 2001; Pavot & Diener, 2004, 2008). SWLS is a five-item scale that measures perceived life satisfaction. The SWLS is rated on 7-point Likert scales (1=strongly disagree and 7=strongly agree), and the responses are summed to produce a total score. Higher scores indicate greater satisfaction with life. Internal consistency of SWLS items was .80 (Reistetter, Spencer, Trujillo, & Abreu, 2005). Significant correlation (r (48) = 0.805, p < .0005) between sores of English and Bengali versions indicated translation reliability of the scale.

Procedure

Standard data collection procedure was followed to collect data for the current study. The participants were contacted and informed consent was obtained. They were informed of the purpose of the present study and necessary rapport was established before administering the questionnaire. The questionnaires were administered to older adult individually in each household by trained undergraduate and graduate students. They were asked to give tick marks in the appropriate box. They were also requested not to omit any item in the questionnaire. They were assured that information would be kept confidential and would be used only for research purposes. After finishing the questionnaire they were given lots of thanks. To complete all the instruments, approximate average time required was 40 to 45 minutes per individual respondent. All data were collected within two weeks.

Results

The objective of current study was to explore the relationship of social network, perceived health status, and dispositional optimisms with life satisfaction among older adults. For this purpose, correlation coefficients (r) of social network, perceived health status, and dispositional optimisms with life satisfaction were calculated. Stepwise multiple regression methods were conducted to estimate a model predicting life satisfaction. The mean and standard deviation of life satisfaction ($M = 21.34$, $SD = 2.8$), social network ($M = 20.83$ $SD = 3.5$) perceived health status ($M = 21.72$, $SD = 3.2$) and dispositional optimism ($M = 19.90$, $SD = 3.9)$ scores indicate that the older adults perceived positively their health status, higher social network and high optimistic and they were well satisfied in their life. Pearson correlation-coefficients showed that there were statistically significant relationships among variables. Social network, dispositional optimism and perceived health were found to be significantly associated with life satisfaction. Life satisfaction had a significant relationship with perceived health status ($r = .783$, $p < .0005$); dispositional optimism ($r = .570$, $p < .0005$); and Social network ($r = .509$, $p < .0005$). Thus, the results of correlation indicated that a person with a higher score on any of the independent variable had higher life satisfaction.

Table 1. Predicting Life Satisfaction

	R	R²	R² change	β	SE	t	p	F	p
Perceived health status	.78	.61	.61	.77	.04	15.78	.0005	313.95	.0005
Dispositional optimism	.85	.71	.10	.39	.03	8.52	.0005	250.45	.0005
Social network	.85	.73	.01	.13	.05-	-2.34	.0005	172.59	.002

Adjusted R^2 = .72

The results of stepwise multiple regression methods were consistent. These are presented in Table 1. Results suggested that perceived health status (β = .769, p < .0005), dispositional optimism (β = .392, p < .0005) and social network (β = -.134, p < .0005) were significant predictors of life satisfaction. The results also show that physical health has the strongest contribution to the variance of life satisfaction. It contributes 61% of the variance in life satisfaction. All three variables combined contribute 72 % (R = .85) of the total variance of life satisfaction.

Discussion

The current study explored the relationship of social network, perceived health status, and dispositional optimisms with life satisfaction among older adults. The findings based on regression analysis revealed that perceived health status (β = .769, p < 0.0005), dispositional optimism (β = .392, p < .0005) and social network (β = -.134, p < 0.0005) were signification predictors of life satisfaction. Findings on perceived health status and life satisfaction revealed that perceived health status was an important predictor of life satisfaction. It explained 61% variance of life satisfaction. Significant correlation and standardized beta (Table 1) have confirmed the hypothesis. Our finding is closely in line with existing evidence (Okun 1986; Berg et al. 2006). A question may be raised: what is the main reason behind this hypothesis? It is said to be that health is wealth. Possible explanation may be that overall physical health of the body plays a critical role in determining the energies and adaptive capacities available to the older people. The concept of physical health has played a prominent role in both the basic and applied research related to

health and aging. Life satisfaction and its derivatives, such as quality of life and well-being, are the most persistently researched areas in gerontology (Whitelaw & Liang, 1991). Physical health is, and always will be, a major component in the conceptualization and operationalization of life satisfaction. Solomon (1996) found that health was associated with more aspects of humor than any other dimension of aging, and that better health was positively related to using humor to reduce problems. Celso, Ebener, and Burkhead (2003) found that in case of older adults residing in a supervised living facility, health status produced a significant positive influence on a person's life satisfaction.

Findings on dispositional optimisms and life satisfaction revealed that dispositional optimisms were a second important predictor of life satisfaction. It explained 10% variance of life satisfaction. Significant correlation and standardized beta (Table 1) have confirmed the hypothesis. Our findings are closely in line with previous research evidence (Isaacowitz, 2005). Again a question may be raised as to why those older adults who have higher optimistic outlook would have more improved life satisfaction than those older adults who have higher level of pessimistic outlook? One explanation may be that optimistic people tend to display more effective behavioral and cognitive strategies for dealing with stressful situation and depression. Another explanation may be that optimist tends to hold positive experiences for their future. In addition, optimists are enthusiastic about their life, emotionally balanced, alert, energetic, curious, secure, constructive and responsive to others. The results on social network and life satisfaction revealed that social network was also another important predictor of life satisfaction. Significant standardized beta supported the view that social network would contribute significantly to the variation of life satisfaction. Because of social network can promote satisfaction by providing persons with positive experiences, sharing socially rewarding roles, or improved ability to cope with stressful events. Aging takes place within a social context, with the individual belonging to a variety of kinship and social groups at each phase of the human cycle. The extent to which the older adults are enmeshed within the social network of family, friends and neighbors, greatly affects their satisfaction and experience of aging (Rikhi & Chadha, 2004). Besides, the more active the networks as experienced by the elderly, the more support is received in terms of informational, emotional, and instrumental support. Various studies have noted that social networks

usually generate support and satisfaction (Berkman, & Glass, 2000; and Yodpet, 2001).

There were some limitations in the present research which should be mentioned here. First, the sample size (200) of the present study was too small to come to a definite conclusion. Secondly, the selection of the subjects was not random enough to include older adults from different strata of the society. For examples most of the subject selected in this study were highly educated, financially stable, and were living in their own homes with satisfying contact with their family members. So, the researchers suggest that more such studies should be conducted with large number of subjects using stratified random sampling techniques to include samples from different strata of the society. In spite of all these limitation, the findings of this study indicate that an understanding of the different variables such as social network, perceived health status and dispositional optimisms, etc. which are related to life satisfaction will help people adjust with changes that occur during the aging process.

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Emotional Intelligence and Psychological Adjustment of University Students

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The present study investigated whether emotional intelligence and psychological adjustment each varies between students of public and private universities. Additionally, it explored whether there is any relation between emotional intelligence and psychological adjustment. Two hundred students from public and private universities in the Dhaka city were selected using convenience sampling technique. Bangla adapted versions of "Emotional Intelligence Scale" and "Personality Assessment Questionnaire" were used along with a personal information form to collect data. Data were analyzed applying Pearson product moment correlation and t test. Results of analyses revealed that there was a significant difference in emotional intelligence between public and private university students. The findings of the present study have been interpreted in the light of past studies.

The stage of university life is an important part of a student's life as he moves from the total dependence on the teacher, family and curriculum into the complete independence. Moreover, many students move away from their cities into new places causing a change in their cultural, social and psychological environment, this may affect their adjustment with the university life (Al-shinawi & Abdurrahman, 1994). It is known that university life has its own demands and challenges. Failure in meeting those demands and challenges may cause academic, psychological and social problems for the students (Abu Baker, 1997). Therefore, it is important to guide students to adjust in order to avoid those problems and achieve their goals. Students' psychological adjustment and emotional intelligence plays a vital role in navigating their route to success.

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Psychological adjustment is an adjustment with the surroundings which offers the ability to satisfy most social and psychological needs. Psychological adjustment concerns mental health aspects such as depressive symptoms, mood disturbances, general well-being and satisfaction with life. Adjustment with university life is considered one of the main indicators of success in university as it is an indicator for the student's ability to face the problems resulting from fulfilling academic, social and emotional needs. The students form good relationship with others in the university through adjusting with university life. It escorts him to enhance his academic achievement. Although, psychological adjustment has a prime role in a student's way to success, there is another factor that should be given equal importance.

Individuals differ in the level of skills that will help them to understand their feelings and the emotions of others, and then organize these sentiments and excitements and make use of them in raising the level of cooperative behavior. The organization of these skills and putting them into a practical framework is called "emotional intelligence" (Salovey & Mayer, 1990). Emotional intelligence (EI) has attracted great interest in the field of education as a vehicle to improve the socio emotional development of students. EI refers to the ability to perceive, control and evaluate emotions. It is a form of social intelligence which includes the ability of monitoring your own feelings and other people's feelings and applying this knowledge behaviorally, intellectually, emotionally and physically (Salovey & Mayer, 1990). Some researchers suggest that emotional intelligence can be learned and strengthened, while others claim it is an inborn characteristic.

The concept of emotional intelligence (EI) was first used by Solovey and Mayer in 1990. They said that "EI is the process of dealing with emotions including the ability to have appropriate responses to show emotions and expression, both with the same person or with others. All this happens while trying to improve the level of life through the acquisition of the capacity to adjust to those emotions. It is one of the forms of social intelligence, which includes the ability to recognize and discriminate between yours and others feelings and utilize this knowledge in your intellectual, emotional and physical behavior". Pellitteri (2002) has designed a conceptual model that is composed of three key elements of EI:

1) *Emotional awareness* refers to the ability of the individual to know his/her emotions and reactions of others, being aware of them, and the

ability to distinguish between negative and positive expressions of others.

2) *Emotional self-regulation* refers to the ability of the individual to control and use his/her behavior and the meanings and expressions of others.

3) *Emotional knowledge* refers to the individual's understanding of his emotions and others'. It also includes the use of emotions and emotional knowledge to draw attention and to focus on the important area of social life, in order to develop creative and flexible views as well as to maintain the level of motivation to achieve positive goals.

People who are emotionally and socially intelligent are able to understand and express themselves, can relate well to others, and successfully cope with demands of daily life (Bar-On, 2000). Emotional intelligence has been suggested to be an important factor to predict psychological adjustment to life (Salovey & Mayer, 1990). Fernandez-Berrocal, Alcaide, Extremera, & Pizarro (2006) found that emotional abilities are an important and unique contributor to psychological adjustment. Extrema, Dura'n and Rey (2007) found significant correlation between perceived emotional intelligence and psychological adjustment in adolescents. Several studies suggested that emotional intelligence skills are strong predictors of student's social adjustment, emotional intelligence and personal trait with satisfaction of their social relationships (Engelberg and Sjoberg, 2004; Adeyemo, 2003; Yip & Martin, 2006). Austin, Evans, Goldwater, and Potter (2005) state that, students require early emotional intelligence program in order to adjust their transition because emotional intelligence fuses a number of abilities related to the transition stage. Wolman (1989) defines the psychological adjustment as an adaptive relationship with the environment and the ability to meet the individual's needs and to meet most social and psychological requirements.

Emotional intelligence and psychological adjustment has been extensively studied over the years. Haffey (2007) explored the relationship between emotional intelligence and psychological adjustment in children. Hafizoglu (2007) and Ranjha and Shujja (2010) found positive correlation between emotional intelligence and psychological adjustment. There is a dearth of research work in this area in Bangladesh. The researchers wanted to explore such relations in the universities of Bangladesh. However, huge difference prevails between the public and private universities when

education, evaluation of the certificate in the job market, student background, teacher quality, etc. are taken into account. University life is very important for every student which plays a vital role in the personality development of a student. However, these students enter the university with a matured EI. Public and Private universities differ a lot in terms of environment. Their matured EI has different effects on students' psychological adjustment due to different environments. This effect can either be positive or negative. Therefore, the researchers chose to assess if there was any existing relationship between emotional intelligence and psychological adjustment of public and private university students.

The objective of the present study was to investigate the relationship between emotional intelligence and psychological adjustment of tertiary level students studying in the private and public universities. The specific objectives were:

i) To investigate whether there is any difference in emotional intelligence between the students of private and public universities

ii) To investigate whether there is any difference between the factors of psychological maladjustment among the students of private and public universities

iii) To investigate the relationship between emotional intelligence and the factors of psychological maladjustment;

In the light of the above literature and the objectives, the following hypotheses were tested in the present study:

a) Significant differences would be found between the students of private and public universities in terms of emotional intelligence

b) Significant differences would be found between the students of private and public universities in terms of the factors of psychological adjustment

c) Significant relationship would be found between the factors of psychological maladjustment and emotional intelligence

Method

Sample

Sample was selected on a convenient basis from different public and private universities situated in Dhaka city. Two hundred respondents participated in this research of which 100 (50 male and 50 female) were

from public universities and the rest 100 (50 male and 50 female) were from the private universities. The mean age of the students was from 20.25 to 25.75 years. The participants were chosen from undergraduate and graduate programs.

Measures

The study used two questionnaires and a demographic form: Emotional Intelligence Scale; the adult version of the Personality Assessment Questionnaire (PAQ); and the Personal Information Form (PIF) for demographic information.

Demographic and Personal Information Questionnaire: A demographic and personal information questionnaire was used to collect personal and demographic information such as- age, gender, education, socio-economic status, current semester and academic result of the participant. There was no fixed time to complete the questionnaire but average completion time was 15 to 20 minutes.

Emotional Intelligence Scale (EIS): Emotional Intelligence Scale was developed by Hyde, Pethe and Dhar (2002). This tool contains 34 items and participants rated each item using a 5-point scale anchored "1" (*strongly disagree*) to "5" (*strongly agree*). Scores on the emotional intelligence scale range from a low 34 (indicating lower level of emotional intelligence) to a high 170 (indicating higher level of emotional intelligence). Adapted Bangla version of the Emotional Intelligence Scale (Hossain & Uddin, 2008) was used for the present investigation. The Bangla version of EIS contains a Cronbach alpha value of 0.862, and Split-half value of 0.895. This version also assured high level of content and construct validity (corrected item total correlation & convergent validity).

Personality Assessment Questionnaire (Adult Form): The adult version of the Personality Assessment Questionnaire is a 63-item self-report questionnaire to assess psychological adjustment-maladjustment (Rohner & Khaleque, 2005). Bangla version of the scale (Jasmine, & Uddin, 2007) was used to measure adolescent overall psychological adjustment of the respondents. This form of psychological adjustment (or maladjustment) is defined by seven personality dispositions measured on the PAQ. These include: (1) hostility/aggression, passive aggression, or problems with the management of hostility and aggression (items 1, 8, 15, 22, 29, 36, 43, 50

and 57); (2) dependence or defensive independence (items 2, 9, 16, 23, 30, 37, 44, 51, 58); (3) Negative self-esteem (items 3, 10, 17, 24, 31, 38, 45, 52, 59); (4) Negative self-adequacy (items 4, 11, 18, 25, 32, 39, 46, 53, 60; (5) Emotional unresponsiveness (items 5, 12, 19, 26, 33, 40, 47, 54, 61); (6) emotional instability (items 6, 13, 20, 27, 34, 41, 48, 55, 62) and (7) negative worldview (items 7, 14, 21, 28, 35, 42, 49, 56, 63) each of which contains nine items. Participants responded to statements on a 4-point Likert-type scale from 4 (*almost always true*) to 1 (*almost never true*). Scores on the adult PAQ range from a low of 63 (indicating highly psychological adjustment) to a high of 252 (indicating serious psychological maladjustment). The instrument is designed in such a way that score at or above the tests midpoint of 157 reveals that individuals experience themselves to be more psychologically mala adjusted. The PAQ has been used successfully in several hundred studies internationally, and it has been shown to have excellent reliability and validity for use in cross-cultural research (Khaleque & Rohner, 2002; Rohner & Khaleque, 2005). The adult PAQ, which is available in more than 13 languages, has been used in many studies cross-culturally. Khaleque and Rohner (2002) reported the measure to be reliable and valid for use in cross-cultural research with a coefficient of alpha .86.

Study Design

A cross-sectional survey research design was followed for conducting the present study.

Procedure

For collecting information from the participants, permission was taken from the university authority. The purpose of this study and any information concerning confidentiality were clearly explained to the participants before administering the questionnaire. The questionnaire was given only to those people who were suitable for the investigation. Necessary rapport was established before administration of the test. Students were asked to follow the instructions carefully, which were given in the questionnaire. First they were asked to fill out the personal information form (PIF) which was attached with the questionnaire. The respondents were encouraged to ask questions coming in their mind during the task and they were informed of their right to withdraw from the study at any time. After completing the questionnaires the respondents were

thanked for their kind co-operation. Ethical issues on this study were carefully handled and the participants' personal information was strictly protected.

Results

The data obtained from the surveys were analyzed using descriptive and inferential statistics, including item means, standard deviations, t-test and Pearson product moment correlation. The obtained results are presented in table 1 through 3. All statistical analyses were carried out using the statistical program SPSS version 16.0.

Table 1. Mean, Standard Deviation, and Independent t for psychological adjustment and emotional intelligence for total sample (N = 200), boys (N = 100), and girls (N = 100)

Variable	Male		Female		t	p
	M	SD	M	SD		
Hostility/Aggression	11.26	3.61	12.08	3.88	-1.54	.124
Dependency	17.70	3.02	17.52	2.95	.426	.671
Negative self-esteem	12.32	2.88	12.14	3.12	.423	.673
Negative self-adequacy	12.74	2.94	12.36	3.01	.902	.368
Emotional unrespensiveness	12.22	3.51	11.98	3.17	.896	.385
Emotional instability	15.62	3.37	15.35	3.25	.576	.565
Negative worldview	11.48	3.34	11.32	3.75	.318	.751
Psychological Adjustment	93.34	13.56	91.95	13.99	.713	.476
Emotional Intelligence	108.93	14.98	110.71	17.43	-.774	.440

The result showed no significant difference in psychological adjustment factors such as aggressive, dependency, negative self-esteem; negative self-adequacy, emotional unresponsiveness, emotional instability and negative worldview in relation to gender (see Table 1). Descriptive statistics showed that the difference in aggressiveness between the male (M = 11.26, SD = 3.61) and female (M = 12.08, SD = 3.88) students was not found significant. Likewise, the difference in dependency between the male (M = 17.70, SD = 3.02) and female (M = 17.52, SD = 2.95) students, the difference in negative self-esteem between the male (M = 12.32, SD =

2.88) and female (M = 12.14, SD = 3.12) students, the difference in negative self-adequacy between the male (M = 12.74, SD = 2.94) and female (M = 12.36, SD = 3.01) students, the difference in emotional unresponsiveness between the male (M = 12.22, SD = 3.51) and female (M = 11.98, SD = 3.17) students, the difference in emotional instability between the male (M = 15.62, SD = 3.3.37) and female (M = 15.35, SD = 3.25) students and the difference in negative worldview between the male (M = 11.48, SD = 3.34) and female (M = 11.32, SD = 3.75) students was not found significant. Descriptive statistics also show that the difference between the male (M = 108.93, SD = 14.98) and female (M = 110.71, SD = 17.43) students in terms of emotional intelligence was not found significant.

Table 2. Mean, Standard Deviation, and Independent t for psychological adjustment and emotional intelligence for total sample (N = 200), Public University (N = 100), and Private university (N = 100)

Variable	Public University		Private University		t	p
	M	SD	M	SD		
Hostility/Aggression	14.64	2.76	12.05	2.62	5.76	0.01
Dependency	18.53	2.86	17.98	3.11	-.350	.727
Negative self-esteem	14.30	3.02	13.15	2.99	.340	.734
Negative self-adequacy	13.51	3.07	13.58	2.89	-.164	.870
Emotional unresponsiveness	13.54	3.28	13.85	3.47	-.639	.523
Emotional instability	16.35	3.75	14.91	2.81	-.555	.579
Negative worldview	16.16	2.44	13.40	2.01	4.18	0.01
Psychological Adjustment	92.26	13.68	93.01	13.88	-.388	.698
Emotional Intelligence	110.46	15.58	107.19	15.46	4.04	0.01

Difference in psychological adjustment between the students of public and private universities was not found significant (see Table 2), but significant differences were found in two variables of psychological adjustment, hostility/aggression, negative worldview and emotional intelligence. Descriptive statistics show that the difference between the student of public (M = 14.64, SD = 2.76) and the student of private

university ($M = 16.16$, $SD = 2.44$) in terms of hostility/aggression and the student of public ($M = 3.40$, $SD = 2.01$) and the student of private university ($M = 12.05$, $SD = 2.62$) in terms of negative worldview was found significant. However, aggression ($t = 5.76$, $p < .01$) and negative worldview ($t = 4.18$, $p < .01$) levels of the students of public and private universities differed significantly. Descriptive statistics also show that the difference in emotional intelligence level of the students of public ($M = 110.46$, $SD = 15.58$) and the students of private university ($M = 107.19$, $SD = 15.46$) was significant ($t = 4.04$, $p < .01$). The findings further indicate that dependency does not significantly vary between the students of public ($M = 18.53$, $SD = 2.86$) and private university ($M = 17.98$, $SD = 3.11$). Likewise difference in psychological adjustment factors such as negative self-esteem; negative self-adequacy, emotional unresponsiveness and emotional instability were not significant.

Table 3. Correlations between different aspects of Psychological Adjustment and Emotional Intelligence ($N = 200$)

Variable	1	2	3	4	5	6	7	8
1 Hostility/ Aggression	-							
2 Dependency	.05	-						
3 Negative self-esteem	.36**	-.22**	-					
4 Negative self-adequacy	.44**	-.12	.53**	-				
5 Emotional unresponsiveness	.27**	-.002	.40**	.51**	-			
6 Emotional instability	.38**	.05	.21**	.24**	.12	-		
7 Negative worldview	.39**	-.14*	.50**	.50**	.39**	.25**	-	
8 Psychological Adjustment	.72**	.13	.66**	.74**	.65**	.55**	.71**	-
9 Emotional Intelligence	-.17*	-.17*	-.15*	-.01	-.03	-.03	.04	-.06

Note: *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Most factors of psychological adjustment were found correlated with each other emotional intelligence. Emotional intelligence was not found significantly correlated with overall psychological adjustment, but some factors of psychological maladjustment such as aggressiveness,

dependency, and negative self-esteem were found to be negatively correlated (see table 3) with emotional Intelligence of the students.

Discussion

The researchers of the present study endeavored to find the difference in levels of emotional intelligence and psychological adjustment of public and private university students. They formulated three hypotheses to test in the study and used descriptive and inferential statistics, including item means, standard deviations, t-test and Pearson product moment correlation on the collected data in order to obtain results that are discussed below.

The first hypothesis states that significant differences would be found in terms of emotional intelligence between the students of private and public universities. The results supported that emotional intelligence levels of the students of public universities is higher than that of private university students ($t = 4.04$, $p < .01$). The obtained results confirm the first hypothesis. The researchers wanted to find out if there were any differences between the emotional intelligence of public and private university students. Thus, the results fulfilled the researchers' expectations. Emotional intelligence is a quality which develops overtime with the help of family, school, peer group and society. By the time a person enters into the university life, his emotional intelligence is already matured. However, the environments of public and private universities are different from each other. These differences in environments may have differential effects on the levels of students' emotional intelligence.

The second hypothesis states that significant differences would be found between the students of private and public universities in terms of factors related to psychological adjustment (i.e. hostility/aggression, negative worldview, negative self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability and dependency). The results revealed no significant difference between the students of public and private universities in psychological adjustment in most of the variables. However, significant differences were found in hostility/aggression ($t = 5.76$, $p < .01$) and negative worldview ($t = 4.18$, $p < .01$). Thus the result confirmed the 2nd hypothesis partially. Student politics is a part and parcel of the public universities in Bangladesh. Thus, public university students are quite notorious for their hostility/

aggression. Again, these students are not held answerable to anyone due to political support. This adds to their hostile/ aggressive behavior. In Bangladesh, students have to struggle a lot in order to get the opportunity to pursue their studies in a public university. However, these students have to face a lot of problems even after getting admitted in the institution, e.g. accommodation problem, financial problem, partiality in results due to political intervention, etc. these problems have a detrimental effect on their vision towards the world around them thus increasing their negative worldview.

The last hypothesis states emotional Intelligence would be negatively co-related to most of the factors of psychological maladjustment. As evident in Table 3, most aspects of psychological maladjustment factors are negatively correlated with emotional intelligence e.g. aggressiveness, dependency and negative self-esteem. The researchers failed to support this finding through past research. However, many researchers have suggested emotional intelligence to be an important factor to predict psychological adjustment to life (Salovey & Mayer, 1990). For example, Fernandez-Berrocal et al., (2006) found that emotional abilities are an important and unique contributor to psychological adjustment. Again, Extrema et al., (2007) found significance correlation between perceived emotional intelligence and psychological adjustment in adolescent.

Additionally, it explored gender differences in EI and psychological adjustment factors. The result reveals that psychological adjustment factors did not vary significantly according to gender. The result further indicates that there are differences in psychological adjustment between male ($M = 93.34$) and female ($M = 91.95$). However, there was some difference in emotional intelligence between males ($M = 108.93$) and females ($M = 110.71$), but the difference is not significant. Today, boys and girls are treated as equals. They have equal rights as well as responsibilities. Thus, it is very natural that their EI and psychological adjustment will not differ much.

The present study had some limitations, which were unavoidable. The major limitation was the accessibility to the target population. So, due to small sample size, the study does not fully represent the overall students. Moreover, problem of collecting information and shortage of literature about this topic are also realized.

The researchers hope that their present report will be an important source for future surveys. This study reveals the emotional intelligence and psychological maladjustment levels of both public and private university students. It is a message to institutions, parents and the society to become aware of emotional intelligence aspects of students and how it effects their psychological adjustment. Support of parents, teachers and elders is essential for emotional intelligence and psychological adjustment of adolescents.

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Short Term Memory for Vocabulary as a Function of Stimulus Presentation

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The present study investigated the effects of stimulus presentation on short term memory for vocabulary. For this purpose, the presentation of vocabulary was varied in three ways such as audio, visual and audio-visual condition. Thirty students between the ages of 8 and 10 years, who studied in class three at Udayan Uchcha Madhyamik Bidyalaya, were taken as sample in this study. An independent groups design was followed to conduct this experiment in which there were three groups where the first group heard 20 unfamiliar words, the second group saw those words and the third group heard and saw those words simultaneously. The program for generating stimuli was prepared with the help of Microsoft PowerPoint 2007 and those stimuli were presented on a 14.10 LED Fujidsu laptop monitor. The results of descriptive statistics revealed that short term memory in visual and audio-visual presentation was better than audio presentation and short term memory in audio-visual presentation was better than visual presentation. On the other hand, the data were analyzed by employing one-way ANOVA indicating that there was a significant difference among audio, visual and audio-visual presentation regarding short term memory ($F_{2,27} = 12.29$, $p < 0.001$). Again, Post-hoc pair-wise comparisons (Tukey's method, $p < 0.001$) showed that short term memory varied significantly between audio and visual presentation; and between audio and audio-visual presentation but not significantly varied between visual and audio-visual presentation. Therefore, it could be said that teachers should use visual and audio-visual presentation as teaching techniques in order to improve the short term memory for better memorization and learning.

Keyword: short term memory, types of presentation, unfamiliar bangla words

Generally, memory is the ability to recall information accurately and it is also to encode, store, and retrieve information and experiences. According to an information processing approach, there are three main stages in the formation and retrieval of memory which are: a) encoding or registration

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(receiving, processing and combining of received information), b) storage (creation of a permanent record of the encoded information), and c) retrieval, recall or recollection (calling back the stored information in response to some cue for use in a process or activity). It is known that memory is of three types such as are sensory memory, short term memory, and long term memory. But the present study's main concern is short term memory which is as follows: short term memory allows recall for a period of several seconds to a minute without rehearsal and its capacity is also very limited. Miller (1956) conducted experiments showing that the capacity of short-term memory was 7±2 items.

However short term memory depends on how stimuli are presented. There are many types of stimulus presentation which are shown in the table 1. But in spite of all that attention there is no universal technique in teaching vocabulary that would be 100% effective. For many English language teachers, it is easier to stick to grammar as grammar is something systematic and finite, whereas vocabulary is not. Presenting vocabulary is a part of vocabulary teaching, thus it contributes to its success. But success of memorization depends on how the new vocabulary is presented. Therefore, there are three stages of teaching vocabulary: a) presenting new vocabulary, b) practice or consolidation, and c) production or usage. Before presenting new vocabulary it should have to take into consideration to whom it is presented, how learners remember the new item. Oxford (1990) suggests memory strategies to aid learning, and these can be divided into: a) creating mental linkages: grouping, associating, placing new words into a context; b) applying images and sounds: using imagery, semantic mapping, using keywords and representing sounds in memory; c) reviewing well, in a structured way; d) employing action: physical response or sensation, using mechanical techniques. Another thing to be considered is what kind of memory the learners use, which also determines the choice of technique for presenting vocabulary. Some (and probably most of) people remember something better if they see it. For such people, visual techniques including flashcards, posters, pictures, blackboard drawings etc. may be used as they pertain to visual memory. So what a teacher can do to ease the process of vocabulary learning? What aspects s/he should keep in his mind? How can s/he present vocabulary so that it would contribute to successful memorization? In this study it would be investigated to find answers to these questions.

Table 1. Types of presentation

School Audience	Type of Presentation (Multimedia is a combination of written, oral and visual, e.g. in a computer presentation or a web site.)		
	Written	Oral	Visual
One person	story, manual, report, book review, annotated bibliography, newspaper article, magazine article, document, letter, diary, script, book, story	interview, report, telephone conversation	project cube, page sized chart or diagram
Small group	questionnaire, survey, scroll, scrapbook, pamphlet, booklet	discussion group, seminar, debate	cartoon or comic strip, photographs, photo essay, artifact, model, diorama, game, display
Large group	questionnaire, survey, advertisement, chart	advertisement, lecture, talk show, song, debate, choral speech, lesson	poster, timeline, web page, map, model, mobile, large diagram, puppet show, skit, overheads

Several researchers conducted experiments to examine the effects of presentation on learning or memory which are followed: An experiment conducted by Deboth and Dominowski (1978) where a list of twenty words was presented either visually or auditorily to participants. They found that short term memory recall in audio presentation increased, but overall there were no conclusive results indicating whether visual or auditory learning resulted in greater memory recall. Watkins and Peynircioglu (1986) also designed a study that examined visual and auditory effects on recall where they found that auditory learning resulted in better short term memory while visual learning resulted in better long term memory. Again, Tindall, Chandler, and Sweller (1997) found that

superior learning was made possible through a dual mode presentation of information. Further again, Pickering, Peaker, and Gathercole (1998) conducted an experiment whether the same memory process was implemented in the recall of verbal and visuo-spatial information. They found that separate memory processes were involved in verbal and visuo-spatial recall indicating that recall was affected by the medium in which the information is presented. Furthermore, Mayer (1998) found that the information is integrated more easily when words or instructions are given auditorily rather than visually. Another study by Doty and Savakis (1997) examined whether visual and auditory memory recalls were focused in different hemispheres of the brain. Their study did not find a significant difference in visual verses auditory recall. Again, visual recall was also found to be greater in a study by Kargopoulos, Bablekou, Gonida, and Kiosseoglou (2003).

Therefore, the present study is a logical extension of the pre-existing research and literature. By studying the effect of the type of learning (visual or auditory) over both immediate and delayed posttests, it is to provide more evidence for the theory that visual stimuli create better recall both immediately and delayed over auditory stimuli. Since short term memory depends on several factors including the types of stimulus presentation. But no previous study was conducted to investigate the effects of stimulus presentation on short term memory in our culture. That is why, the present study explored whether or not short term memory in one type of presentation is better than another type of presentation. This study can also be subjected to roughly investigate the visual and auditory condition or both. Again, it can be also used to identify the students who are less intellectuals and who are high intellectuals regarding memorization of vocabulary. For these aforesaid reasons, it was aimed to conduct this study with a view to investigating the effect of mode of stimulus presentation on short term memory.

Problem

The present experiment was aimed at investigating whether short term memory varied in terms of mode of stimulus presentations (audio, visual and audio-visual).

Hypotheses

1. Short term memory would be higher in audio-visual presentation than in visual and audio presentation.

2. Short term memory would be higher in visual presentation than in audio presentation but lower than that of audio-visual presentation.

Variables

Dependent variable: Short term memory (in terms of stimulus words correctly recalled)

Independent variable: Mode of stimulus presentation: audio, visual and audio-visual.

Method

Sample

Thirty students of class three, who studied at Udayan Uchcha Madhyamik Bidyalaya, participated as respondents of the present experiment. The respondents were selected from three sections of class three following simple random sampling technique and they were randomly assigned to three groups each having ten respondents. These three groups were randomly assigned to audio, visual and audio-visual presentation as first, second and third group. Their ages ranged from 8 to 10 years and the eye sight and the hearing ability of them were normal.

Apparatus and stimuli

Twenty unfamiliar Bangla words were selected as stimuli for this experiment. The unfamiliarity of the words was ascertained by five school going children between the ages of 8 and 10 years. The unfamiliar words were related to the names of flowers, fishes, vegetables and birds. These were as follows:

Table 2. Unfamiliar Bangla words used as stimuli

Stimuli words (flower)	Stimuli words (fish)	Stimuli words (vegetable)	Stimuli words (bird)
আকন্দ	আনজু মাছ	পেস্তা আলু	সারস
ভাঁটফুল	বানোহারা মাছ	আমরুল শাক	হলদে পাখি
শ্বেতচাঁপা	চুনা মাছ	নুনিয়া শাক	পিউ কাহা
মধুমালতি	গেছুয়া মাছ	সীতা লাউ	পানিকাক
অতসী	কাকিলা মাছ	শ্যামকালা	বউ কথা কও

The stimuli words were presented on a 14.1 inch LED Fujitsu laptop monitor (Model : 00426-OEM-8992662-00006, Brand : IBM, made in China, voltage :100-240~) with a pixel resolution of 2.30 GHz and refresh rate of 2.29 GHz. The program for generating stimuli words were built in with the help of Microsoft PowerPoint 2007.

Design

An independent group design in which three groups of participants, each having 10 students, was used. These groups of participants were treated under three different conditions: audio, visual, and audio-visual presentation. The design used in the present experiment was as follows:

Table 3. Design of the present experiment

Participants	Mode of stimulus presentation		
	Audio	Visual	Audio-visual
	1	1	1
	2	2	2
	3	3	3
	4	4	4
	5	5	5
	6	6	6
	7	7	7
	8	8	8
	9	9	9
	10	10	10

Procedure

The present experiment was conducted in a room at Udayan Uchcha Madhyamik Bidyalaya in Dhaka city under well-controlled condition. Each participant was instructed to sit in a comfortable chair at a distance of 45cm from the laptop monitor. After then, 20 unfamiliar words were presented to each participant of three different groups under audio, visual and audio-visual condition separately. Each word was presented for 10 seconds in all conditions. First, in the audio condition, 20 unfamiliar words were presented one after another using audio recorder. After presenting the words to the participants, they were instructed to write down whether they could remember within 5 minutes. Second, in the

visual condition, 20 words were displayed on the computer screen one after another using PowerPoint 2007. After presentation, the participants were asked to write down whether they could remember within 5 minutes. Third, in the audio-visual condition, the words were presented using both audio recorder and PowerPoint one after another. After presenting the words, they were instructed to write down whether they could remember within 5 minutes.

Basic data

The total frequencies of correct responses and errors were tabulated for each group under 3 different presentations.

Results

The total frequencies of correct responses, errors and means of each group regarding short term memory of vocabulary were calculated. One-way *ANOVA* and Post-hoc pair-wise comparisons (Tukey's method, $p < 0.001$) were administered for analyzing the data. The findings of the present investigation were as follows:

Table 4. Correct responses, errors and means of vocabulary memorization in audio, visual and audio-visual presentation.

Audio presentation			Visual presentation			Audio-visual presentation		
Participants	No. of correct response	No. of error	Participants	No. of correct response	No. of error	Participants	No. of correct response	No. of error
1	1	19	1	9	11	1	6	14
2	2	18	2	6	14	2	10	10
3	5	15	3	4	16	3	5	15
4	2	18	4	7	13	4	8	12
5	5	15	5	9	11	5	5	15
6	4	16	6	5	15	6	6	14
7	5	15	7	8	12	7	9	11
8	6	14	8	9	11	8	8	12
9	4	16	9	6	14	9	9	11
10	5	15	10	9	11	10	8	12
Total	10	39	161	10	72	128	6	74	126
Mean		3.9			7.2			7.4	

As shown in the Table 4, the total frequencies and the mean of correct responses for audio presentation were 39 and 3.9 respectively, for visual presentation, the total frequencies and the mean of correct responses were 72 and 7.2 respectively and for audio-visual presentation, the total frequencies and the mean of correct responses were 74 and 7.4 respectively. It could be said that short term memory of vocabulary was better in visual and audio-visual presentation than in audio presentation.

Table 5. Analysis of variance of short term memory as a function of mode of stimulus presentation.

SV	SS	df	MS	F
Between Groups	77.27	2	38.63	
Within groups	84.9	27	3.14	12.29*
Total	162.17	29		

* $p < .001$

As shown in the table 5, the obtained result indicated that there was a significant difference among audio, visual and audio-visual presentation regarding short term memory ($F_{2,27} = 12.29$, $p < .001$)

That is, short term memory was found to be different at least one of possible pairs of three mode of stimulus presentation. However, we cannot determine which pair is significant? To answer this question, we further carried out post-hoc pair-wise comparisons of the stimulus presentation on short term memory. The results are shown below:

Table 6. The mean differences of short term memory at possible pairs of mode of stimulus presentation

Mode of stimulus presentation	1	2	3
1(Audio)	---------------	3.3*	3.5*
2(Visual)		---------------	.20
3(Audio-visual)			---------------

As shown in the Table 6, Post-hoc pair-wise comparisons (Tukey's method, $p < 0.001$) showed that short term memory varied significantly between audio and visual presentation; and between audio and audio-visual presentation but not significantly varied between visual and audio-

visual presentation. That is, it indicated that short term memory differed with the variation of mode of stimulus presentation.

Discussion

The aim of the study was to investigate whether short term memory varied in terms of mode of stimulus presentations (audio, visual and audio-visual). For this purpose, it was hypothesized that a) short term memory will be higher in audio-visual presentation than that of visual and audio presentation; and b) short term memory will be higher in visual presentation than in audio presentation but lower than in audio-visual presentation. The findings of the descriptive statistics revealed that the total frequency and means of correct responses in audio-visual presentation were found to be higher than that of audio and visual presentation and it was also found that the total frequency and means of correct responses in audio presentation were less than in visual and audio-visual presentation. On the other hand, one-way ANOVA and Post-hoc pair wise comparisons (Tukey's Method) indicated that short term memory was found to be significantly different among audio, visual and audio-visual presentation and the hypotheses have been confirmed by the data.

Why audio-visual presentation is more important for better learning than that of audio and visual presentation? In answer to this question, there may have some reasons which are as follows: a) audio-visual material helps the teacher to present his or her lessons clearly and effectively and this in turn catches the attention of the students, b) audio-visual materials guide learners to learn well and it reduces the stress involved in the process of teaching and learning, c) audio-visual aids in the classroom enhance teaching methods and improve learners' comprehension, and d) finally people learn in different ways like some of them are good in retaining information passed to them orally, while some others are extraordinarily good in retaining information through what they read and others through pictures and some other means. But generally, the best means of facilitating good teaching and learning is through the use of instructional materials which encompass audio-visual materials like radio, charts and projectors or various kinds.

The described historical backgrounds have provided more evidence for the theory that visual presentation creates higher recall over auditory presentation. The performance for audio presentation was lower

because individuals must consider the exact location and possible source of an unknown sound, a problem the eyes don't have. In spite of having some limitations like small sample size, stimulus presentation under controlled condition and selection of vocabulary, this study supports the theory that visual and audio-visual presentation lead to more correct responses than audio presentation. Overall, the use of these findings in the classroom setting could be proven as effective through further study and research. Therefore, it is recommended that teachers should use visual and audio-visual presentation as teaching techniques with a view to improving short term memory for better leaning and to transform the information from short term memory to long term memory.

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Personality Factors and Academic Achievement of Undergraduate Students

Noor Muhammad[1], Muhammad Ershad Ali Rahman[2] and Muhammad Ashiquzzaman[3]

The purpose of present study was to investigate the relationship between academic achievement and big five personality factors. Two hundred undergraduate students were selected purposively as respondents in the present study. In order to measure big five personality traits, the Bangla version of big five personality test was administered on the respondents. Second year second semester final results of the students were recorded as academic achievement. Six hypotheses were formulated to test in the present study. The results of correlation matrix indicate that there are significant positive relationships between academic achievement and four factors (openness to experience, extraversion, agreeableness & conscientiousness) out of big five personality factors. Result also shows that there is a significant negative relationship between academic achievement and neuroticism. Results of regression analysis indicated that strongest predictor of academic achievement was conscientiousness which alone explained 36.1% of variance. The results of the analysis further indicated that neuroticism was the second important predictor of academic achievement. R-square change indicated that 9.1% of variance in academic achievement was accounted for by the neuroticism. R-square also indicated that these three variables account for 47.2% of variance in academic achievement. Therefore, big five personality factors have important role in explaining the undergraduate students' academic achievement.

Keywords: personality, Big Five personality factors, academic achievement

Understanding the reasons for individual differences in levels of scholastic achievement has always been a concern of educational psychologists. Many educators, for example, are interested in knowing beforehand who will perform well, and who will perform poorly, in academic programs. Other researchers are concerned with identifying the determinants of academic success in an effort to develop curricula aimed at improving

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levels of academic achievement. Researches have established that cognitive ability is an important determinant of academic achievement (Ackerman & Heggestad, 1997). Ability factors alone, however, are not sufficient to account fully for individual differences in academic success (Chamorro-Premuzic & Furnham, 2006). Thus, researchers have sought to identify non-cognitive predictors of academic achievement, including variables related to personality dispositions. One group of predictor variables that has generated a considerable amount of interest is the big five personality dimensions.

McCrae and Costa (1997, 1999) have identified five-factor model of personality. These are extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. People who score high in extraversion are characterized as outgoing, sociable, upbeat, friendly, assertive and gregarious. People of neuroticism group tend to be anxious, hostile, self-conscious, insecure and vulnerable. Openness is associated with curiosity, flexibility, vivid fantasy, imaginativeness, artistic sensitivity and unconventional attitudes. People who score high in agreeableness tend to be sympathetic, trusting, co-operative, modest and straightforward. Those who score at the opposite end of this personality dimension are characterized as suspicious, antagonistic and aggressive. Finally, conscientiousness people tend to be diligent, disciplined, well-organized, punctual and dependable.

Achievement refers to what a person has acquired or achieved after a specific training has been imparted and academic achievement is to acquire knowledge from educational institutions. In the field of education, the instructors give specific training to a group of students during a specific time. After completing the classes, they make some questions to measure their academic achievement. The individual's score of that subject is to be considered his academic achievement. If he achieves high score, he is evaluated as a good student.

Reserch literature on personality and academic achievement suggests that conscientiousness is positively associated with GPA (Conard, 2006; Duckworth & Seligman, 2005). Conscientiousness also predicts academic success. Further studies have shown taht conscientiousness is positively associated with GPA, indicating that conscientious students tend to perform better academically than do less conscientiousness students (Chamorro-Premuzic & Furnham 2003a;

Chamorro-Premuzic & Furnham 2003b; Conard, 2006; Goff, & Ackerman, (1992); Wolfe & Jonson, 1995). Conscientiousness has also been found to be associated with higher productivity in a variety of occupational areas (Hogan & Ones, 1987).

Besides conscientiousness, both openness and agreeableness are positively related to academic achievement and neuroticism is negatively associated with academic achievement (Chamorro-Premuzic & Furnham, 2003b, Furnham & Mitchell, 1991). Openness to experience has been associated with academic success in school (Shuerger & Kuma, 1987) and university, both at an undergraduate (De Fruyt & Mervielde, 1996) and postgraduate (Hirschberg & Itkin, 1978) levels. Openness has often been found to be positively correlated with measures of intelligence (Chamorro-Premuzic & Furnham, 2005). Agreeableness has been positively associated with GPA and final course grades (Conard, 2006) in some studies, but negatively associated with GPA (Paunonen, 2003). Agreeableness may have its roots in childhood temperament and appears to promote altruistic (helping) behavior in social interactions (Graziano & Eisenberg, 1997).

Researches have shown that negative relation exists between academic achievement and neuroticism (Chamorro-Premuzic & Furnham, 2005; Furnham & Medhurst, 1995). Specifically speaking, negative associations have been found between neuroticism and post-secondary academic achievement (Chamorro-Premuzic & Furnham, 2003a; Chamorro-Premuzic & Furnham, 2003b; De Fruyt & Mervielde, 1996) and a positive association has been found between extraversion and academic achievement. Extraversion has also been studied extensively for many decades (Watson & Clark, 1997).

Most of the shedies on the relationship between personality factors and academic achievement mentioned above were carried out in the Western and Eastern countries, but no such studies were condected in Bangladesh. That is why the present authors intended to carryout this study in Bangladesh. The findings of this study are likely to be useful to the parents, guardians, students, educators etc. to understand about the relationships pattern among the study variables. Thus, the present study bears more important applied significance.

The main objective of the present study was to explore the relationship between the big five personality factors and academic achievement of the undergraduate students.

On the basis of the findings of previous studies, theoretical perspective and above discussion, the following hypotheses were formulated to test in this empirical study:

H_1: *Openness to experience will be positively and significantly related to academic achievement*

This is predicted on the basis of the significant correlation between openness to experience and intelligence (Zeidner & Matthews, 2000). However, some studies have failed to support this hypothesis, suggesting that the creative and imaginative nature of open-minded individuals may be a disadvantage in academic settings, particularly when individuals are required to reproduce curricular contents rather than produce novel responses or creative problem-solving (Blickle, 1996; De Fruyt & Mervielde, 1996).

H_2: *Conscientiousness will be positively related to academic achievement*

This would confirm the results of several recent studies that reported significant associations between these variables (Blickle, 1996; Busato et al., 2000; De Raad & Schouwenburg, 1996).

H_3: *Extraversion will be positively and significantly related to academic achievement*

DeGuzman, Calderon,& Cassaretto (2003) found that big five personality factors are significantly related to academic performance.

H_4: *Agreeableness will be positively related to academic achievement*

This prediction is based on the existing evidence for the significant relation between agreeableness and academic performance on one hand (Conard, 2006), and agreeableness and intelligence on the other (Zeidner & Matthews, 2000).

H_5: *Neuroticism will be negatively related to academic achievement*

This would confirm previous findings (Chamorro-Premuzic & Furnham, 2003a, 2003b) as well as reflecting the modest but

consistent positive association between neuroticism and test anxiety (Zeidner & Matthews, 2000).

H6: *The Big Five Personality traits will significantly predict academic achievement*

This hypothesis is stated in terms of the previous predictions that refer to the significant associations between academic performance and five main personality traits.

Method

Sample

The target population of the present study was honours students who studied at the different public universities in Dhaka city of Bangladesh. A total of 200 students (100 male & 100 female) were used as respondents in the present study. The respondents were between 18 years to 25 years of age. Mean age of the respondents was 21.23 years (SD = 5.65). Mean education span was 14.94 (SD = 1.74). The respondents were selected by purposive sampling method from the target population.

Measures

Big Five personality test: In the present study the Bangla version of Big Five personality test (Muhammad, Rahman, & Ashiquzzaman, 2011) was used to measure the respondents' big five personality factors. This test was originally developed by McCrae and Costa (1999). It contains 45 items. It has five dimensions such as openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. There are nine items in each dimension and five alternative options to give answer in each statement. Among nine items, four are negative and remain five are positive. The lowest possible score in each dimension is 9, highest possible score 45 and neutral point is 27. In the case of four dimensions (O, E, A, C) high score indicates positive symptoms of the personality characteristics and in the case of neuroticism, people who score high in neuroticism tend to be anxious, hostile and self-conscious.

The English and Bengali versions were administered on 50 participants with a gap of seven days. Significant correlations between scores of English and Bengali versions indicated translation reliabilities of the scale. The correlation coefficients [r (open) = .93, p < 0.01; r (cons) =

.83, $p < 0.01$; r (extra) = .82, $p < 0.01$; r (agree) = .91, $p < 0.01$ & r (neuro) = .86, $p < 0.01$] of both forms of big five personality factors were found significant. The test-retest reliabilities of the Bengali version of big five personality factors [r (open) = .87, $p < 0.01$; r (cons) = .82, $p < 0.01$; r (extra) = .90, $p < 0.01$; r (agree)= .86, $p < 0.01$ & r (neuro) = .92, $p < 0.01$] were also found significant.

To assure the content validity of the scale, the Bangla version of the scale was given to Subject Matter Expert (SME), the Subject Matter Expert gave their essential remarks during the translation of the items from English to Bangla. Their essential remarks also assure the content validity of the adapted version of the scale. Finally, to assess the the construct validity of the scale correlation coefficients between score of each item and the total score of the scale were determined. The correlation coefficients [r (open) = .94, $p < 0.01$; r (cons) = .86, $p < 0.01$; r (extra) = .84, $p < 0.01$; r (agree) = .79, $p < 0.01$ & r (neuro) = .92, $p < 0.01$] were highly significant.

Design

For conducting the present study the cross-sectional survey research-design was followed. This design indicates that all data were collected at a single point in time.

Procedure

In the present study, three public universities in Dhaka city were selected purposively as the study area to collect data. For collecting data the researchers went to the selected universities and met the respondents and had an informal talk with them in order to ensure a good rapport. After the establishment of rapport, the researchers expressed the objectives of the study and also assured them of the confidentiality of the responses. After that the respondents were requested to fill up personal information blank. When the personal information blank was filled up, the questionnaire of the Bangla version of the Big Five Personality Test was given to them. The respondents went through the instructions given on the front page of the questionnaire. Then the respondents were advised to start the task without wasting time. There was no limitation of response time. But, one and half hours to two hours were needed to complete the total task. After the respondents had completed the task according to the

instructions, the inventory booklet was collected from the respondents. Data from all the respondents were collected in individual session.

Results

In order to analyze the data, zero order Pearson correlation and stepwise multiple regression analysis were applied on the obtained scores. According to the objectives, the results of the study have been presented in three segments: For example, in the first segment, mean and standard deviations of the six sets of scores were determined (Table-1).

Table1. Mean and Standard Deviation of the Scores of the big Five Personality Factors and Academic Achievement

Variables	M	SD
Openness	27.08	5.358
Conscientiousness	30.16	4.499
Extraversion	28.28	3.918
Agreeableness	28.99	3.973
Neuroticism	29.00	2.207
Academic Achievement	03.48	0.210

Correlation matrix among the dependent and independent variables is shown in Table 2. To consider, in second segment, the effects of each independent variable on academic achievement, a stepwise regression analysis is performed (Tables 3, 4, 5). Finally, to see the effects of each independent variable on academic achievement, a stepwise regression analysis was also carried out.

Stepwise multiple regression permits the study of the relationship between a set of independent variables and a dependent variable, while accounting for the interrelationships among the independent variables. Here, firstly, the direct effect of each independent variable on academic achievement is estimated by the partial standardized regression coefficient with all over independent variables in the equation (Table 3). R^2 change is also calculated for determining the relative importance of each independent variable (Table 4). The joint effects of significant predictor variables on academic achievement are estimated by R square (Table 4). The overall F-test is also performed for determining the joint influences of all independent variables to variation of academic achievement (Table 5).

Table 2. Correlation Matrix between the Big Five Personality Factors and Academic Achievement

Variables	1	2	3	4	5	6
1. Openness	-					
2. Conscientiousness	.213**	-				
3. Extraversion	.268**	.079	-			
4. Agreeableness	-.074	.166*	-.164	-		
5. Neuroticism	-.249**	-.377**	.158*	-.119	-	
6. Academic Performance	.319**	.601**	.175*	.187*	-.506**	-

** Correlation is significant at p < 0.01 level (2-tailed) & * Correlation is significant at p < 0.05 level (2-tailed)

The results indicated that conscientiousness had the largest correlation [r = .601, p < 0.01]; neuroticism is the second largest [r = -.506, p < 0.01]; openness the third largest [r = .319, p < 0.01]; agreeableness the fourth largest [r = .187, p < 0.01]; extraversion [r = .175, p < 0.05] the lowest correlation with dependent variable. Results of Table-2 further indicated that there were strong inter-correlations among the variables. For overcoming this difficulty stepwise multiple regression analysis was performed.

Table 3. Stepwise Multiple Regression of Academic Achievement on the Big Five Personality Factors

Independent variables	Standardized Beta	t	p
Constant		22.441	0.001
Conscientiousness	.458	8.092	0.001
Neuroticism	-.296	-5.194	0.001
Openness	.148	2.731	0.007

The partial standardized betas (βs) indicated that three variables in the model were predictors of academic achievement. These variables were conscientiousness (β = .458, p < 0.001), neuroticism (β = -.296, p < 0.001), and openness (β = .148, p < 0.007) . Thus, conscientiousness was the strongest predictor, although other three variables had highly significant standardized βs.

Table 4. Selected Statistics from Regression of Academic Achievement on the Big Five Personality Factors

Independent Variables	R	R-square	R-square change	F-change	p
Cons.	.601	.361	.361	111.846	0.001
Cons & Neuro..	.672	.452	.091	32.61	0.001
Cons., Neuro., & Open.	.687	.472	.020	7.459	0.003

Cons = conscientiousness, Neur = Neuroticism, Open = Openness to experience

Results of regression analysis indicated that strongest predictor of academic achievement was conscientiousness which alone explained 36.1% of variance. The results of the analysis further indicated that neuroticism was the second important predictor of academic achievement. R square change indicated that 9.1% of variance in academic achievement was accounted for by the neuroticism. R-square indicated that these three variables account for 47.2% of variance in academic achievement.

Table 5. The overall F-test for regression of Academic Achievement on the Big Five Personality Factors

Source of Variations	SS	df	MS	F	p
Regression	4.166	3	1.389		
Residual	4.664	196	0.024	58.368	0.001
Total	8.834	199			

The significant F-test [$F(3, 196) = 58.368$, $p < 0.000$] of Table-5 indicated that variation in academic achievement was accounted for by joint linear influences of the conscientiousness, neuroticism and openness to experience.

Discussion

The present study was designed to investigate the relationship between academic achievements the big five personality factors. In order to measure the respondents' personality traits, the Bengali version of big five persondily test was applied on two hundred students selected from different public universities in Dhaka city. Every student's second year second final result (CGPA) was recorded as academic achievement. The obtained data were analyzed by applying Pearson product method to

determine the correlation coefficients among the dependent and independent variables which are presented in Table 2. To consider the effects of each independent variable on the respondents' academic achievement, a stepwise regression analysis is also carried out. Results of regression analyses were presented in Table 3 through 5.

Six hypotheses were formulated to test in the present study. The first hypothesis states that openness will be positively and significantly related to academic achievement. Result presented in Table-2 indicates that there is a significant positive relationship between academic achievement and openness to experience. Standardized Betas (Table-3) also indicate that academic achievement is positively related to openness to experience. The results of the analysis further indicated that openness was the third predictor of academic achievement. R-square change indicated that 2% variance of academic achievement was accounted for by the openness to experience.

In explaining this relationship it can be said that open people are intellectually curious, appreciative of art, and sensitive to beauty. They tend to be, compared to closed people, more aware of their feelings. They are emotionally stable; they like to achieve satisfying results at work. Students who are more open have a strong desire to accomplish higher GPAs. Openness experience may have a positive effect in academic performance when artistic, imaginative and creative intervention of students is highly regarded (Chamorro-Premuzic & Furnham, 2005).

The second hypothesis states that conscientiousness will be positively and significantly related to academic achievement. Result presented in Table-2 indicates that there is a significant positive relationship between academic achievement and conscientiousness. Standardized Betas (Table-3) also indicate that academic achievement is positively related to conscientiousness. The results of the analysis further indicated that conscientiousness was the first important predictor in academic achievement. R-square change indicated that 36.1% variance of academic achievement was accounted for by the conscientiousness.

This result is supported by the research findings of many investigators (Busato et al., 2000; DeGuzman, Calderon, & Cassaretto, 2003). They concluded that conscientiousness is the best predictor of academic performance. Conscientious students have a strong desired to achieve higher GPA. They are predisposed to be organized, exacting,

disciplined, diligent, dependable, methodical, and purposeful. Conscientiousness has been linked to educational achievement and particularly to the will to achieve. In work settings, recent research has demonstrated that managers perceive cognitive ability and conscientiousness as the most important attributes related to applicants' hirability (Mount, Barrick, & Stewrt, 1998). Conscientiousness has been found to be of special interest to educators (De Fruyt & Mervielde, 1996). Blickle (1996) has demonstrated that conscientiousness is related to learning outcome mediated by learning strategies. Conscientious students are good at organizing their work, managing their time and studying hard with clear goals. They have an intrinsic motivation and a positive attitude (Entwistle & Entwistle 1970). Students low in conscientiousness tends to be less careful, less focused and more likely to be distracted from tasks.

The third hypothesis states that extraversion will be positively and significantly related to academic achievement. Result presented in Table-2 indicates that there is a significant positive relationship between academic achievement and extraversion.

This result is supported by the findings of previous studies. For example, Busato et al., 2000; DeGuzman et al., (2003) found that extraversion is positively correlated with academic performance. In explaining this finding it can be said that extroverts are usually sociable, talkative and communicative, and friendly. They are described as active, bold, assertive, exciting, and stimulating (Costa and McCrae, 1992; Goldberg, 1992). Introverts, on the other hand, tend to be reserved, even-paced and independent. Extrovert people like other people openly demonstrate positive feelings towards others. They make friends quickly and it is easy for them to form close, intimate relationships. They enjoy the excitement of crowds.

Fourth hypothesis states that agreeableness will be significantly related to academic achievement. Results presented in Table-2 indicates that there is a significant positive relationship between academic achievement and agreeableness. This result is supported by the findings of Conard, (2006). He explained that agreeable students have a strong desire to achieve good grade in the field of education. Their motivation especially achievement motivation is higher than disagreeable students. Disagreeable students may be more likely to display uncooperative or antisocial behavior in the class room (Hogan, 1986; Mount et al., 1998;

Digman, 1990). Agreeable persons tend to deal with conflict cooperatively or collaboratively, strive for common understanding and maintain social affiliations. McCrae and Costa (1991) argued that agreeable individuals have greater motivation to achieve interpersonal intimacy, which lead to greater levels of well-being as well as better performance in field of education.

Fifth hypothesis states that neuroticism will be negatively and significantly related to academic achievement. Results presented in Table-2 indicates that there is a significant negative relationship between academic achievement and neuroticism. Standardized Beta (Table-3) also indicates that academic achievement is negatively related to neuroticism. The results of the analysis further indicated that neuroticism was the second important predictor in academic achievement. *R-square* change indicated that 9.1% of variance in academic achievement was accounted for by the neuroticism.

This result is supported by Chamorro-Premuzic and Furnham, (2003b); Furnham and Mitchell, (1991). They, for explanation, suggest that emotionally stable students perform better academically than do more neurotic students. This relation has been most often interpreted in terms of the debilitating effects of anxiety–under academic evaluation conditions, neurotic individuals are thought to experience anxiety and stress, impairing their performance (Chamorro-Premuzic & Furnham, 2005).

To explain this result it may be said that neuroticism refers to the tendency to experience negative feelings. Those who score high on neuroticism may experience primarily one specific negative feeling such as anxiety, anger, or depression, but are likely to experience several of these emotions. People high in neuroticism are emotionally reactive. They respond emotionally to events that would not affect most people, and their reactions tend to be more intense than normal. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These problems in emotional regulation can diminish a neurotic's ability to think clearly, make decisions, achieve high academic performance and cope effectively with stress. At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally

reactive. They tend to be calm, emotionally stable, and free from persistent negative feelings.

Last hypothesis of the present study was that the big five personality traits will significantly predict academic achievement. The results presented in Table-2 indicates that there are significant positive correlation between academic achievement and big four traits (openness, conscientiousness, agreeableness & extraversion). Table-2 also indicates that there is a significant negative correlation between academic achievement and neuroticism. Standardized Betas (Table-3) also indicate that academic achievement is positively or negatively related to big five personality factors. Thus, results of the analysis further indicate that big five personality traits are important predictors of academic achievement. R-square change indicate that variation of academic achievement the by different individuals can be accounted for by the big five personality factors. So, it can be concluded that big five personality factors have significant role four positve and one negative in academic achievement of the students.

A caution is, however, expressed that the results calculated by applying correlation and regression analysis do not demonstrate the causal relation. They just show relationship between two or more variables. Nevertheless, the findings of the present study may be useful for teachers and parents for helping their students or offspring to develop the positive personality traits.

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Psychological Interventions for Vaginismus: A case study in Bangladesh

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Vaginismus is one of the female psychosexual dysfunctions, where females are unable to take vaginal penetration. In this single case study, an adult female client with Vaginismus was treated with psychological interventions which were combinations of behavioral and cognitive approaches. Clinical interview, observation, Anxiety Scale and Depression Scale were used to assess the factors which were related to her sexual problems in order to understand the causes of the present Vaginismus case. The principal techniques used in this case were psychosexual education, relaxation therapy, Kegel exercise, graded exposure and cognitive restructuring. Improvement was found in both objective and subjective measurement of the client. This case study represents successful implementation of psychological interventions in the treatment of females with Vaginismus in Bangladesh.

Keywords: vaginismus, psychosexual dysfunction, psychological intervention

Vaginismus is defined as the recurrent and persistent difficulty to allow any kind of imagined or real vaginal penetration due to involuntary muscle contraction. Female with vaginismus shows avoidance behavior and variable level of anticipation/fear/experience of pain (Basson, et al., 2003; Reissing, Binik, Khalife, Cohen, & Amsel, 2003). According to Diagnostic and Statistical Manual (DSM-IV-TR), Vaginismus is a recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina. It causes marked distress or interpersonal difficulty in a person's life. Moreover, the disturbance is not better accounted for by another axis I disorder (e.g. somatization disorder) and is not exclusively due to the direct physiological effect of a general medical condition (American Psychiatric Association, 2000).

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Vaginismus is classified as either primary or secondary types. When a female is unable to have vaginal penetration in the first attempt of intercourse is called Primary or lifelong vaginismus. In the secondary or acquired vaginismus, a woman loses the ability to have intercourse after a period of normal functioning due to physical or psychological factors (Tulla, Dunn, Antilus, & Muneyyirci-Delale, 2006).

One of the most common psychosexual dysfunctions among females is Vaginismus, however, little is known about the prevalence rate of Vaginismus over the world. It is evident that about 76% of women have some types of Sexual Dysfunction (Frank, Anderson, & Rubinstein, 1978; Spector & Carey, 1990) where about in between 5% to 42% (Nusbaum, Gamble, Skinner, & Heiman, 2000; Oniz, Keskinoglu, & Bezircioglu, 2007; Reissing, Binik, & Khalife, 1999) females reported problem of Vaginismus. As a sensitive social issue, it might be assumed that many females suffer but never seek treatment.

Various researches tried to find out the factors which make females vulnerable for muscular spasms. The role of emotional aversion, feelings of threat, avoidant behavior, fear of pain and all facets of anxiety were found as the factors of Vaginismus in different studies (Reissing, et al., 2003; van der Velde & Everaerd, 2001). Sexual trauma, religious background, cultural and environmental factors may also count as predisposing factor (Fertel, 1977). Vaginismus is also seen as related to several factors such as characteristics of women with vaginismus and their families (Barnes, 1986), sexual and physical abuse (Biswas & Ratnam, 1995; Fritz & Wagner, 1981), finding sexuality and sexual organs disgusting and negative attitude towards sexuality (Blazer, 1964; Hawton, 1985), lack of sexual knowledge (Audibert & Kahn-Nathan, 1980; Ellison, 1968; Hawton, 1985; Silverstein, 1989), having various disturbing thoughts and images about sexuality (Hawton & Catalan, 1990; Masters & Johnson, 1971), religious conservatism (Masters & Johnson, 1971), marital problems (Grafeille, 1986; Weiner, 1973), miscommunication between couples (Bancroft, 1989), guilt feelings about sexuality (Kayır, Salman, & Arı, 1992), negative feelings towards body such as incapacity of vagina to meet requirements of sexual intercourse (Blazer, 1964; van der Velde & Everaerd, 2001), and intense anxiety (Kennedy, Doherty, & Barnes, 1995).

Both physiological and psychological interventions have been considered as the treatment for Vaginismus. Wolpe (1958) at first suggested behavior therapy for sexual dysfunction including Vaginismus. The most legendary and the most applied intervention 'Sex Therapy' was introduced by Masters and Johnson (1970). The authors did not describe the terms concretely, however, it was mainly thought as partners' relationship focused therapy. It was an unique combination of behavioral, psychotherapeutic and educational components of management approach (Hawton, 1985) to minimize conditioned fear of vaginal penetration. In later times cognitive approach, which was developed in the early 1960s by Aaron T. Beck (Beck, 1995), was also combined with behavior therapy for restructuring cognitions related to psychosexual problem (Ersin Akpınar, 2007).

It has been only about a decade since psychosexual dysfunction got clinical attention in Bangladesh. Very few researches have been done on psychosexual dysfunction, sexual behavior and misconception about sex in Bangladesh. It would be mentioned that all of these researches were done on male participants (Miah, Mamun, & Mozumder, 2011; Mozumder & Rahman 2004). One reason might be that females do not access to treatment or do not admit their problems. Therefore, the picture of Vaginismus in Bangladesh is not clear enough to understand the nature and treatment suited for females with psychosexual problem.

The general objective of the present single case study was to see the implementation of psychological interventions (mainly cognitive and behavioral approaches) in treating Vaginismus in Bangladeshi female.

Method

Sample

A 27 years old female client was married for one and half years. She was a housewife and from a middle class Muslim family. She completed her post-graduation. She came along with her husband with the complaint of inability to allow vaginal penetration and felt excessive fear in initiation of sexual activity since the first attempt of intercourse. The client had a comprehensive gynecological examination which excluded organic causes for the dysfunction before referring for psychological interventions. She was diagnosed as Vaginismus under Sexual Pain Disorder by the psychiatrist of National Institute of Mental Health (NIMH).

Measure

Assessment of the client was done by observation and in-depth interview of the client and her husband as a key informant. Client's problems were assessed in five domains which are presented below.

Table 1. Problem distribution in domains

Domain	Assessed problems
Cognitive	Distorted knowledge about size and shape of vagina and sexual intercourse, negative thoughts about vaginal penetration (such as I will never tolerate penetration)
Affective	Low mood, Anxious, loss of pleasure, fear of penetration
Physiological	Palpitation, sleep disturbances
Behavioral	Avoid sexual intercourse, decreased activity level
Environmental	Disrupted couple relationship and social interaction

Client's own subjective ratings of the problems were recorded on linear numerical scale with rating range of 0 to 100. Two standardized scales, Depression Scale (Uddin & Rahman, 2004) and Anxiety Scale (Deeba & Begum, 2004) were also used in different sessions to get objective measurement of client's depression and anxiety level respectively.

Procedure (Therapeutic Interventions)

After completion of assessment and sharing the formulation (Figure 1) with the client and her husband, treatment goal and treatment plan were set with collaborative way. Behavior therapy associated with some cognitive techniques was the treatment of choice for their problems. Before starting homework sessions of behavior therapy, psychosexual education was provided to both the client and her husband.

Psychosexual education: Psychosexual education was provided to the client and her husband about the nature and causes of sexual dysfunction, available treatments for sexual dysfunction, male and female sexual anatomy, physiology and response, role of psychological factors on sexual behavior and problems. The client was shown colorful drawing photographs of male and female sexual organs and anatomy to dispel her

misconceptions as well as for reducing her fear. The client was given some materials about right information of common sexual myths and misconceptions in the context of Bangladesh with some appropriate analogies.

Breathing relaxation and Kegel exercise: Deep slow breathing relaxation training was applied for reducing her anxiety symptoms. Kegel exercise was introduced by Kegel (1952) to encourage the development and control of the pubococcygeus muscles which surrounded the entrance to the vagina. The client was taught the exercise for relaxing and gain more control over her vaginal muscles. The client was asked to practice both relaxation and Kegel exercise at home whenever she feels anxiety especially exposing to vaginal penetration.

Examining self-genital organ: To make the client more comfortable with her genital and to dispel misconceptions about self-genitals, she was asked to examine self-genital organ at home with a hand mirror. During the time of practice at home, she tried to identify various parts of her genital anatomy, which was described using photographs in session. Before starting the practice of examining self-genital organ, she was prescribed breathing relaxation therapy.

Cognitive restructuring: In the cognitive restructuring process (Beck, 1995), thought challenge technique was used to change the dysfunctional thoughts interfering with sexual functioning. It was also used to modify distorted ideas and misconceptions about vagina and sexual intercourse. Firstly, she was taught to identify irrational cognitions (e.g. my vaginal entry is tiny), then she was learnt to challenge these irrational cognitions into more rational cognitions through evidence seeking and using scientific sexual knowledge.

Gradual exposure: Exposure to vaginal penetration was divided into some steps. Those are- visual inspection by the client of her vagina using a handheld mirror, vaginal insertion of one finger by herself, insertion of two fingers, vaginal insertion of one finger of the partner in which she guided the partner's hand, two fingers of the partner directed by client. Exposure exercises started with the least anxiety provoking step under applied breathing relaxation exercise. She was guided to move into next

step by the experience of repeated successful performance while she felt relax and confident.

The following step was the vaginal containment with or without movement exercise which was introduced by Master and Johnson (1970). The client and her husband were guided to practice at home. The couples were instructed in vaginal containment where the client was asked to take superior position to insert penis by herself without any movement. It helps the client to retain sense of control. Slowly she tried to insert half of penis into the vagina and stayed some times in the same position and then finished the trial. After several practices of two weeks she was successful in penis penetration completely.

After repetitive practices, while the client could remain relax during vaginal containment without movement, she started slow movement by herself with the penetrated penis. Whenever she felt anxious, she was asked to stay for a while and then tried again. It was practiced until the couple was able to have full sexual intercourse. They also suggested that if they wish, they could perform sexual intercourse with different positions for variation.

Results

Case Formulation

Although the client brought up in a middle class educated and Muslim family, sex education was thought as conservative issue in her family. For that reason, client came to know about sexual intercourse and related issues (for example: sexual intercourse is very painful and makes happen excessive bleeding in females) from different unreliable ways such as friends, magazines. From these sources she gained some distorted knowledge about shape and size of vaginal route, sexual intercourse, size and shape of penis and erection process during sexual activity before her marriage. The client reported that at her 5-6 years of age she fell down from tree and her genital organ was injured. She informed that she needed stitch in her genital organ and had been suffered for several days. After that accident she started thinking that her vaginal opening was stitched or tiny than others.

The present case formulation is shown in Figure 1 on the basis of the interaction of predisposing factors, precipitants and maintaining factors (Hawton, 1985).
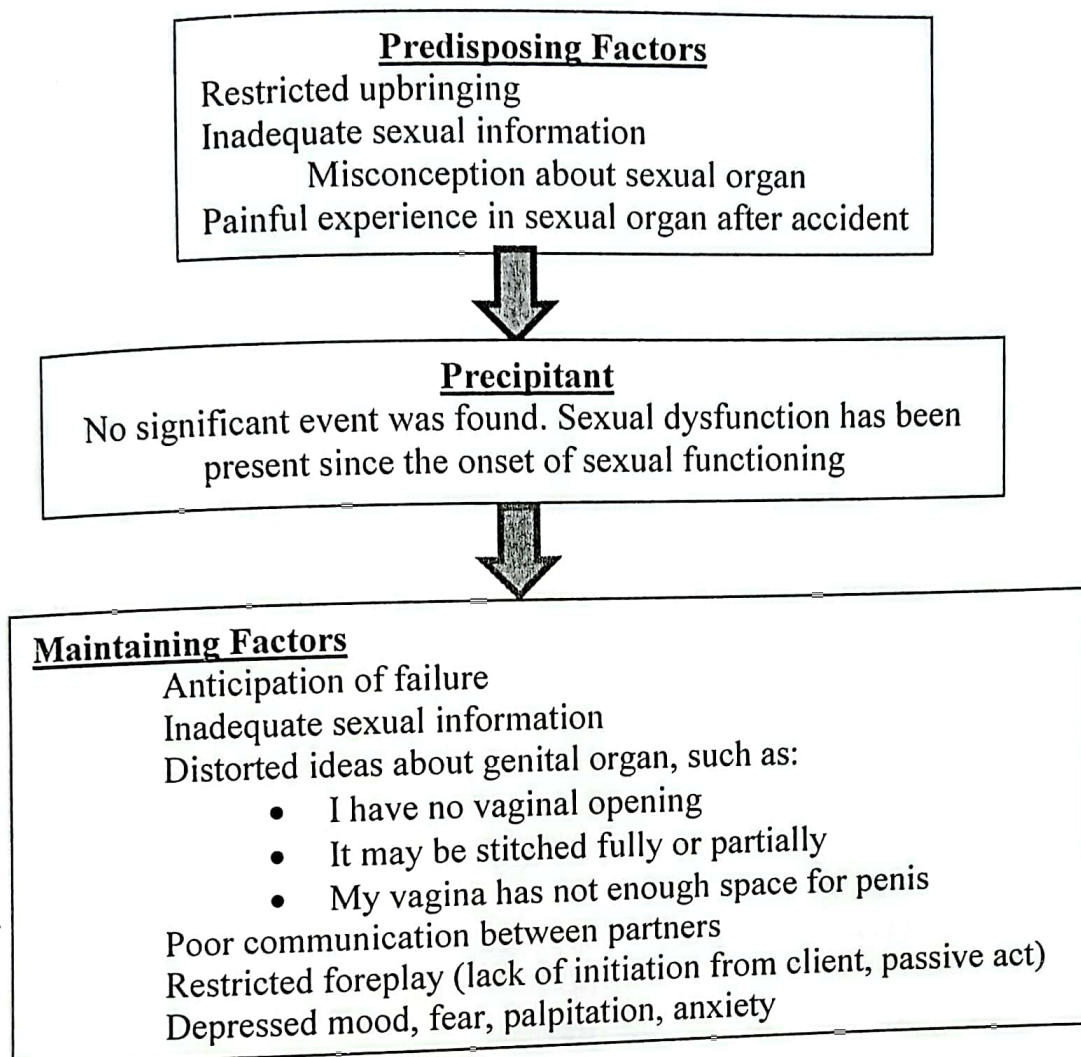
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┌─────────────────────────────────────────────────────────┐
│                  Predisposing Factors                    │
│ Restricted upbringing                                    │
│ Inadequate sexual information                            │
│        Misconception about sexual organ                  │
│ Painful experience in sexual organ after accident        │
└─────────────────────────────────────────────────────────┘
                            ⬇
┌─────────────────────────────────────────────────────────┐
│                      Precipitant                         │
│ No significant event was found. Sexual dysfunction has been│
│        present since the onset of sexual functioning     │
└─────────────────────────────────────────────────────────┘
                            ⬇
┌─────────────────────────────────────────────────────────┐
│ Maintaining Factors                                      │
│         Anticipation of failure                          │
│ Inadequate sexual information                            │
│ Distorted ideas about genital organ, such as:            │
│        • I have no vaginal opening                       │
│        • It may be stitched fully or partially           │
│        • My vagina has not enough space for penis        │
│ Poor communication between partners                      │
│ Restricted foreplay (lack of initiation from client, passive act)│
│ Depressed mood, fear, palpitation, anxiety               │
└─────────────────────────────────────────────────────────┘
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Figure 1. Problem formulation of the client with Vaginismus

Predisposing factors include experience of vaginal injury and treatment early in the client's life which made her vulnerable to develop sexual difficulties. As because of her restricted upbringing, she admitted that she had no scientific sexual education and knowledge about sexual anatomy as well. Most of the information about sexuality was gained from unreliable sources. Moreover, her painful experience in injured genital organ after an accident also made her vulnerable for present problems. Therefore, sexual dysfunction has been present since the onset of sexual functioning. Poor sexual knowledge, misconception and distorted ideas about vagina might maintain client's present problems. She also mentioned that she felt very fear and anxious when her husband got prepared to penetrate. She had preoccupied with the fear of repeated failure. Hence, repeated failures accelerate low mood and disruption in their couple relation. At the initial sessions, her anxiety level was

profound and depression level was moderate. These all factors perpetuated her current Vaginismus problems.

Outcome of Interventions

Total twelve sessions were conducted and more than three months were required to complete the sessions. Outcome of interventions was measured into two ways. Those are Objective and Subjective Outcome.

Objective outcome: During therapy sessions, the objective measures of Anxiety and Depression scale indicated improvement of client's mood state. Anxiety Scale measures the level of anxiety where '54 and less' score means mild level of anxiety and '135 and above' score indicates anxiety in profound level. Figure 2 is showing the gradual decrease from profound level to mild level in Anxiety scale from 1st session to 12th session.
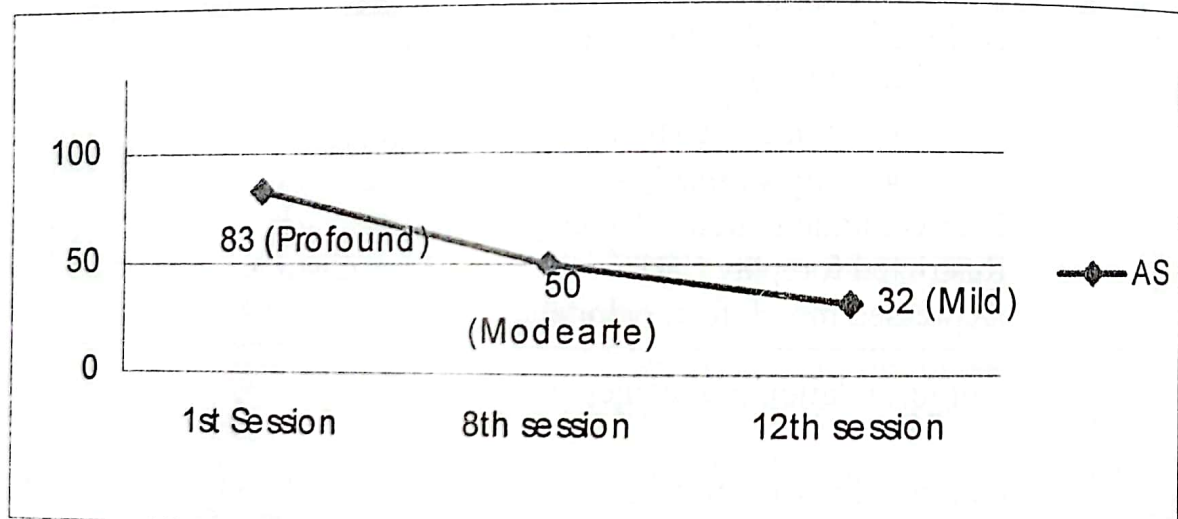

Figure 2. Progress graph indicating changes in total score on Anxiety Scale (AS)

In the same way Depression Scale measures depression level where '30-100' score means minimal level and '124-150' score means severe level of depression. Figure 3 is showing the gradual decrease from moderate level to minimal level in Depression scale in total of 12 sessions.
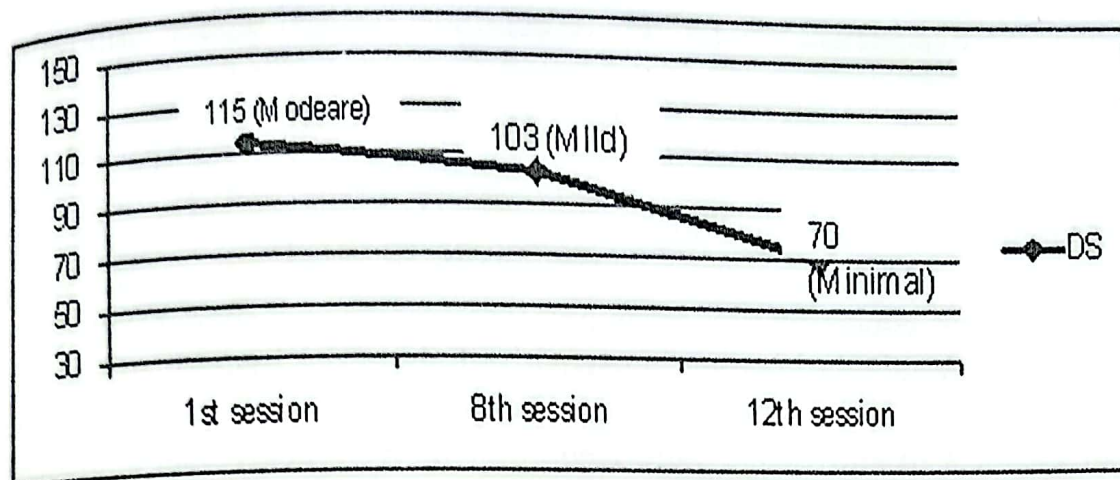
Figure 3. Progress graph indicating changes in total score on Depression Scale (DS)

Subjective outcome: The subjective ratings of client's problems were recorded on a numerical scale of '0' to '100'. The baseline rating of fear of penetration was 100% which turned into 30% at 12th session. Moreover, her avoidance from sexual intercourse was 100% in baseline rating which was found 20% at 12th session and after one year follow up session it was 0%.

According to the verbal report of client and her husband, she never allowed penis to insert into the vagina before accessed to psychological treatment program. After 12th session she could involve a successful intercourse, however, she felt less sexual pleasure in intercourse. She also reported that her distorted knowledge about sexual anatomy and intercourse also turned into more accurate after providing psychosexual education and materials. After one year in a follow up session, they informed that they started enjoy their sexual intercourse and the client conceived.

Discussion

The aim of present single case study was to see the implementation of psychological interventions for treating Vaginismus problems in Bangladeshi women. For that purpose, the treatment goal was set collaboratively with client according to her problems. The treatment goals were to reduce fear while sexual penetration, to dispel sexual misconceptions, to reduce anxiety during intercourse and reduce her depressed mood. To meet those goals twelve sessions were conducted. The client was sent for follow up sessions when she reported most of her

goals were achieved. She did not continue further regular follow up sessions, however, after one year a follow up session was conducted.

Pre-post ratings of subjective and objective measures indicate the overall improvement of client's psychosexual dysfunction. In baseline assessment, the client had high ratings of misconceptions about sexual intercourse, sexual anatomy and negative thoughts as well. While psychosexual education was given and formulation was shared with client and her husband, she was getting sensitized about the issue. It might help to normalize the client and to correct her sexual misconceptions as well. Her changes in knowledge were also confirmed by her verbal subjective report which was found low in post treatment assessment compare to the baseline assessment. Beside these, thought challenge was applied to challenge and modify her negative thoughts about self and her sexual performance which were related with her fear and avoidant behavior.

The results of the present case study are steady with the behavioral model of Vaginismus, which hypothesizes that the vaginistic reaction represents a conditioned fear response to certain (sexual) stimuli that can be overcome by exercising behavior therapy. To overcome avoidance and reduce fear of penetration some behavioral techniques were introduced. Gradual exposure and Kegel exercise with breathing relaxation were instructed to practice at home. Psychosexual education and thought challenge were applied to correct irrational thoughts for overcoming anxiety and avoidant behavior. The overall sexual functioning of the client improved at the end of the therapy.

In figure 2, in addition, it can be seen that in the initial session anxiety level was very high and depression was in moderate level. After providing psychological interventions at the 12th session both her anxiety and depression level was reduced to mild and minimal level respectively. The objective result was matched with subjective findings. The progress has been continued which was confirmed by a follow up session after one year. Therefore, it is evident that like previous studies (Ersin Akpınar, 2007; Hawton & Catalan, 1990; Kabakci & Batur, 2003; ter Kuile, et al., 2007) behavior therapy with some cognitive approaches can be effectively utilized in the treatment of Vaginismus for Bangladeshis' as well.

Psychological intervention which was comprised of cognitive and behavioral approach is evident as successful in this study. For concrete success in the treatment of any cases collaboration between therapist and

client is important. It should be also mentioned that for better success in the treatment of psychosexual problems like Vaginismus, involvement of client's partner throughout the sessions is essential. Client with her partner's help actively engaged in homework assignment and carried out successfully in this study. Hence, all these factors contributed in the achievement of success of psychological intervention.

Despite of the success in this study, the limitation is a lack of generality of obtained effects. Indeed, psychological interventions showed to be effective for a single individual that may not be effective with other individuals with psychosexual problems. Therefore, further research is needed to know the effectiveness of psychological interventions for psychosexual problems of both male and female clients.

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Service Quality of the Bangladesh Railway as Perceived by the Passengers

Muhammad Kamal Uddin[1] and Mallika De[2]

One of the service quality indicators for rail transportation system is the service evaluation from passenger's perspective. The purpose of the present study was to analyze the service quality of the Bangladesh Railway. Data were collected from 120 respondents by means of a questionnaire containing open- and close-ended questions concerning rail services. An in-depth analysis of the responses revealed an overall picture of the rail services. The service quality of the railway was a mixed blessing to passengers. The most common curses to them were hassles in getting train tickets, dishonesty of Train Ticket Examiners, unclean conditions of toilets, unreasonable food-price, substandard foods in the canteen, and a disproportionately fewer number of coaches than required, etc. The findings of the present study can be taken to use in policy making such that user expectations and needs can be met.

Keywords: Bangladesh Railway, service quality, passenger's perception

The Bangladesh Railway (BR) is playing a vital role in the socioeconomic development and industrialization of the country. The BR has been serving both as a commercial enterprise and as a public utility services. As a commercial enterprise, the BR has an obligation to generate sufficient revenues to meet its cost and as a public utility services it has special responsibility to provide transport facilities to a large number of passengers and movement of essential commodities for mass consumption. The BR is also required to provide transport facilities in emergency situations like flood, cyclone, draught, etc.

The rail transportation is much cheaper than road transportation. For example, a bus ticket costs taka 400/- from Dhaka to Rajshahi while a train ticket costs taka 343/- (as in 2013). Also from Dhaka to Rajshahi the accident rate is lesser in case of rail communication than road (Mahmud &

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Hoque, 2011). The Ministry of Railway also claims that railway has become the most popular mode of travel for passengers and for transportation of goods as it is considered cheaper, safer, and more comfortable than roadway. But according to ADB (2000), Bangladesh Railway shares around only 20% passengers among all transport sectors in Bangladesh. It is just after roadway which covers around 65% and waterway has a contribution of about 16% of total passengers. A question naturally arises then what factors contribute to the lesser use of railway services for carrying both passengers and goods even when it is cheaper, safer, and more comfortable.

A recent study on the South Indian Railway reported that the important factors determining satisfaction of train passengers were basic facilities, hygiene, safety and security, catering service, health care service, punctuality and behavior of service providers (Sheeba & Kumuthadevi, 2013). Another study conducted at Allahabad in India revealed that factors like refreshment, safety and security, basic facilities, information system, and behavioral aspects of service quality are the important determinants of railway passenger satisfaction (Nandan, 2010). A similar study was conducted in Bangladesh by Rahaman and Rahaman (2009). However, their study had many methodological faults. The study did not mention how the research was indeed carried out. More specifically, there was a complete absence of research design, measures used to collect data, demographic information of the participants, etc. So, it has been imperative to carry out the present research. The present study, therefore, has been designed to explore in greater details the possible problems of Bangladesh Railway services. If all possible factors can be identified then ways to improve the quality of railway services might be suggested.

Method

Sample

The target population of the present study was railway passengers. Since the list of passengers was inaccessible, passengers of two routes e.g., Dhaka to Bhairab and Dhaka to Tangail were approached when they were actually undertaking the journey on a particular date. So, the passengers were selected by adopting a convenience sampling technique. A total of 120 passengers who agreed to volunteer the study constituted the sample of the present study. Of them, 90% were male and 10% were

female. Further, 46.7% were service holders, 32.5% students, 12.5% businessmen, 4.2% housewives, 2.5% unemployed, and 1.7% agricultural workers. Fifty percent of the respondents traveled by train once in a month, 35% once in six months, 7.5% once in a year, and the remaining 7.5% less than once in a year. The reported monthly family income of the passengers ranged from Tk. 2000 to 500000 with a mean of Tk. 53747.5. With regard to education, almost half of the respondents (44.2%) had secondary to higher secondary level, 30.8% had graduate level, 22.5% had post-graduate level and 2.5% had primary level. About half of them were married (51.7%) and 48.3% were unmarried.

Measures

Data were collected using semi-structured interview guide developed by the authors. The interview guide was based on the review of relevant literature and the information from the railway personnel. The following key points were identified for inclusion in the interview guide:

1. Issues related to purchasing ticket,
2. Behavior of rail employees,
3. Enquiry facilities and information dissemination arrangement,
4. Security inside the train and at the train station,
5. Amenities in the waiting room,
6. Punctuality of the train schedule,
7. Cleanliness in the train compartments and in the canteens,
8. Condition of toilet inside the train and at the station platform,
9. Quality and price of food inside the train canteen, and
10. Suggestions for government, rail authority, and passengers

With these key points, an interview guide was prepared for the respondents. The interview guide was supplemented with Personal Information Form (PIF) and an informed consent form. After the development of interview guide, a pilot study was conducted on 20 passengers at Dhaka Airport station. It took a day to complete the pilot study. The interview guide was finalized after incorporating the observations obtained from the pilot study.

Procedure

Necessary permission to collect data was obtained from the Divisional Railway Manager at Kamlapur Railway Station. Data were

collected during the period from 12.01.2014 to 12.02.2014, as permission was granted for one month only.

Data were collected by the second author upon receiving consent from the selected passengers of 4 intercity routes namely, Dhaka-Lalmonirhat (Lalmoni Express), Dhaka-Khulna (Tista Express), Dhaka-Chittagong (Mohanagar Express) and Dhaka-Sylhet (Jayantika Express). The semi-structured interview was conducted to record responses to questions concerning basic facilities e.g., enquiry, ticket, waiting room, toilet, security, etc. Additionally, they were asked to make suggestions to improve the quality of services. Finally, information relating to personal and socioeconomic characteristics namely age, occupation, gender, monthly family income, educational qualification and marital status of the selected passengers were also collected. After recording their responses to all the questions, they were given thanks for their sincere cooperation.

The collected data were carefully examined by the authors. The responses carrying the same meaning or sense were brought under a single category. Then, the identified category was given a code number for computer processing.

Results

The collected data were analyzed using descriptive and inferential statistics like percentages and Chi-squares. Percentage distributions of the responses to those questions appear in the following tables:

Table 1. Distribution of passengers in response to the question, "Have you ever faced any problems while buying train tickets ($N = 120$)?"

Response Category		χ^2	p
Yes	No	9.633	0.0019
77 (64.2)	43 (35.8)		

A significantly greater number of passengers (64.2%) said 'yes'. In response to the type of problems passengers usually had to face were, long queue or failure to get a ticket even after waiting in queue, failure to get a ticket for desired class, etc. (Table 2).

Table 2. Distribution of passengers in response to the question, "What are the problems associated with buying train tickets ($N = 77$)?"

	Response Category	N (%)*
a)	Long queue or failure to get a ticket even after waiting in queue	66 (85.7)
b)	Failure to get a ticket for desired class	37 (48.1)
c)	Black marketing of ticket	18 (23.4)
d)	Inconvenience of buying ticket through mobile phone	7 (9.1)
e)	Others (scarcity of seats after having tickets/ claims more money)	7 (9.1)

*Multiple responses

The passengers were further asked about their degree of satisfaction with behaviors of employees. As can be seen in Table 3 that only 10% of the respondents reported to have been very satisfied and 24% were very dissatisfied with behavior of employees at ticket counter.

Table 3. Distribution of passengers in response to the question, "How satisfied are you with the behavior of railway employees while buying train tickets ($N = 120$)?"

	Response Category	N (%)
a)	Very satisfied	12 (10.0)
b)	Moderately satisfied	67 (55.8)
c)	Moderately dissatisfied	12 (10.0)
d)	Very Dissatisfied	29 (24.2)

Further questions of whether passengers ever enquired information about train journey, almost two-thirds (69%) of the passengers reported to have done the same (Table 4).

Table 4. Distribution of passengers in response to the question, "Have you ever enquired information about train journey ($N = 120$)?"

Response Category		x^2	p
Yes	No	17.633	0.0001
83 (69.2)	37 (30.8)		

With respect to degree of satisfaction of the passengers with behavior of rail employees while they enquired information, about 4% of the passengers reported to have been very satisfied and 28% were very dissatisfied (Table 5).

Table 5. Distribution of passengers in response to the question, "How satisfied are you with the information provided by the rail employees (N = 83)?"

Response Category	N (%)
a) Very satisfied	3 (3.6)
b) Moderately satisfied	48 (57.8)
c) Moderately dissatisfied	9 (10.8)
d) Dissatisfied	23 (27.7)

With respect to whether they ever had to wait for long at the train station, almost all of the passengers (96.7%) said 'yes' (Table 6).

Table 6. Distribution of passengers in response to the question, "Did you have to wait for long at the train station (N = 120)?"

Response Category		χ^2	p
Yes	No	104.533	0.0001
116 (96.7)	4 (3.3)		

Passenger's perception concerning security at the railway station was mixed. About 72% reported "well" and 28% reported "not well".

Table 7. Distribution of passengers in response to the question, "How was the security during your stay at the train station (N = 116)?"

Response Category	N (%)
a) Well	39 (33.6)
b) Moderately well	44 (37.9)
c) Not well	33 (27.5)

Table 8. Distribution of passengers in response to the question, "Have you ever used waiting room at the station ($N = 120$)?"

Response Category		x^2	p
Yes	No	20.833	0.0001
85 (70.8)	35(29.2)		

Among the respondents, 70.8% reported that they have used waiting room at the station (Table 8). When they were asked about the conditions of the waiting room, they reported a number of problems. The most common problems were unhealthy toilet and a fewer number of seats (Table 9).

Table 9. Distribution of passengers in response to the question, "What was the condition of the waiting room ($N = 85$)?"

Response Category	N (%)*
a) Unhealthy toilet	72 (84.7)
b) Inadequate seating space	50 (58.8)
c) No dustbins	36 (42.4)
d) Inadequate fans and lights	20 (23.5)
e) No supply of pure drinking water, newspaper etc.	19 (22.4)
f) Others (washrooms are locked, waiting rooms are kept close)	10(11.8)

*Multiple responses

In response to the question of whether the train left the station in time, about 39% said "never" and 58% "sometimes" (Table 10).

Table 10. Distribution of passengers in response to the question, "Have you found the train to have left the station of embarkation in time during your journey ($N = 120$)?"

Response Category	N (%)
a) Always	4 (3.3)
b) Sometimes	69 (57.5)
c) Never	47 (39.2)

The most common reasons of delay as perceived by the passengers were mismanagement and faulty lines (Table 11).

Table 11. Distribution of passengers in response to the question, "What are the reasons of the delay of leaving (N = 116)?"

Response Category	N (%)*
a) Mismanagement	97 (86.6)
b) Faulty lines	55 (47.4)
c) Strike	39 (33.6)
d) Mechanical fault	28 (24.1)
e) Inadequate number of trains	27 (23.3)
f) Others (weather)	1 (0.9)

*Multiple responses

In response to the question of whether train tickets are checked regularly, majority of the respondents (75.0%) replied in the affirmative (Table 12). Further queries revealed that the most common action TTE takes is either he leaves after taking some bribe or provides ticket with a penalty (Table 13).

Table 12. Distribution of passengers in response to the question, "Are tickets checked by the Train Ticket Examiner (TTE) regularly (N = 120)?"

Response Category		χ^2	p
Yes	No	30.00	0.0001
90 (75)	30 (25)		

Table 13. Distribution of passengers in response to the question, "What measures TTE take if any passenger travels without a ticket (N = 120)?"

Response Category	N (%)*
a) Takes bribe and leaves	62 (51.7)
b) Provides ticket with a penalty	57 (47.5)
c) Know nothing	14 (11.7)

*Multiple responses

With respect to degree of cleanliness of the compartment, only 6.7% of the passengers reported it 'very clean' (Table 14).

Table 14. Distribution of passengers in response to the question, "How clean was the train compartment ($N = 120$)?"

Response Category	N (%)
a) Very clean	8 (6.7)
b) Moderately clean	92 (76.7)
c) Very unclean	20 (16.7)

Table 15. Distribution of passengers in response to the question, "Have you ever used train toilet ($N = 120$)?"

Response Category		x^2	p
Yes	No	36.300	0.0001
93 (77.5)	27 (22.5)		

About 78% of the passengers reported that they used toilet during their journey (Table 15). Among the 78% of the respondents 52.7% reported the toilet to have been 'moderately clean' while the remaining 47.3% reported 'very unclean' (Table 16).

Table 16. Distribution of passengers in response to the question, "How clean was the toilet ($N = 93$)?"

Response Category	N (%)
a) Very clean	0 (0)
b) Moderately clean	49 (52.7)
c) Very unclean	44 (47.3)

About supply of water, 61% of the passengers reported that water supply in the train toilet was either inadequate or absent (Table 17).

Table 17. Distribution of passengers in response to the question, "How was the supply of water in the train toilet ($N = 93$)?"

Response Category	N (%)
a) Enough	36 (38.7)
b) Inadequate	38 (40.9)
c) Not at all	19 (20.4)

The response to the next question appearing in Table 18 shows that a significantly greater number of passengers (97.8%) reported that there was no washing soap or liquid in the train toilet.

Table 18. Distribution of passengers in response to the question, "Was there any hand washing detergent in the train toilet ($N = 93$)?"

Response Category		χ^2	p
Yes	No	85.172	0.0001
2 (2.2)	91 (97.8)		

When passengers were asked whether they ever have had food in the train, about 68% of the passengers said yes (Table 19).

Table 19. Distribution of passengers in response to the question, "Have you ever had food of the train canteen ($N = 120$)?"

Response Category		χ^2	p
Yes	No	14.70	0.0001
81 (67.5)	39 (32.5)		

However, 61% of the passengers reported that the quality of food was moderately good (Table 20).

Table 20. Distribution of passengers in response to the question, How was the quality of the food you have had ($N = 81$)?"

Response Category	$N (\%)$
a) Good	15 (18.5)
b) Moderately good	50 (61.7)
c) Bad	16 (19.8)

In response to the question about food price, almost all (about 82%) of the passengers reported that the food price was unreasonable (Table 21).

Table 21. Distribution of passengers in response to the question, "Do you think the food price in the train canteen was reasonable ($N = 81$)?"

Response Category		χ^2	p
Yes	No	32.111	0.0001
15 (18.5)	66 (81.5)		

Table 22. Distribution of passengers in response to the question, "How clean was the train canteen ($N = 81$)?"

Response Category	N (%)
a) Very clean	3 (3.7)
b) Moderately clean	49 (60.5)
c) Unclean	26 (32.1)
d) Very unclean	3 (3.7)

With respect to the cleanliness of the compartment that housed the canteen of the train, about 36% of the passengers reported either "Unclean" or "Very unclean" (Table 22).

Table 23. Distribution of passengers in response to the question, "Had there any announcement before the train reached each station ($N = 120$)?"

Response Category		x^2	p
Yes	No	19.20	0.0001
84 (70.0)	36 (30.0)		

In response to the question of whether there was provision of announcement before the train reaches the station, 70% of the passengers said 'yes' (Table 23). About security, almost half of the passengers were dissatisfied (Table 24).

Table 24. Distribution of passengers in response to the question, "How was the security inside the train during your journey either by the day or at night ($N = 120$)?"

Response Category	N (%)
a) Good	65 (54.2)
b) Bad	51 (42.5)
c) Don't know	4 (3.3)

Table 25. Distribution of passengers in response to the question, "What were the reasons of their dissatisfaction with the security (N = 51)"?

Response Category	N (%)*
a) Carelessness of the security guards	37 (72.5)
b) Insufficient number of security guards	25 (49.0)
c) Mismanagement	23 (45.1)
d) Negligence in checking train tickets	13 (25.5)
e) Others (insufficient light in the train)	2 (3.9)

*Multiple responses

Further queries concerning passengers' dissatisfaction uncovered a number of reasons (Table 25). The most common reasons were carelessness of the security guards and a fewer number of security guards than required. About the train schedule, 50% of the passengers reported that the train was late to reach the station (Table 26).

Table 26. Distribution of passengers in response to the question, "Have you ever found the train to have reached the station of destination in time during your journey (N = 120)?"

Response Category	N (%)	x^2	p
a) Always	4 (4.2)		
b) Sometimes	58 (48.3)	48.6	0.0001
c) Never	58 (48.3)		

In response to the reasons of delay, the passengers reported mismanagement, faulty lines, strikes, mechanical fault, etc. (Table 27). In response to how the government, rail authority, and the passengers themselves can improve the quality of services, the passengers' are presented in Tables 28-30.

Table 27. Distribution of passengers in response to the question, "What were the reasons of the train delay of reaching the station of destination ($N = 116$)?

Response Category	N (%)*
a) Mismanagement	94 (81.7)
b) Faulty lines	52 (45.2)
c) Strike	34 (29.6)
d) Mechanical fault	33 (28.7)
e) Waiting for long time in different stations	33 (28.7)
f) Stopping the train at undetermined stations	22 (19.1)
g) Others (weather problem/ insufficient number of train)	2 (1.7)

*Multiple responses

Table 28. Distribution of passengers in response to the question, "What measures should be taken by the government in order to improve the quality of services ($N = 120$)?"

Response Category	N (%)*
a) Increasing the number of trains/ engines/ coaches	108 (90.0)
b) Expanding train lines/ making double lines	99 (82.5)
c) Taking appropriate steps against corruption	66 (55.0)
d) Appointing more employees	44 (36.7)
e) Infrastructural development of the stations	32 (26.7)
f) Ensuring accountability of rail authority	31 (25.8)
g) Improving monitoring system inside the train	19 (15.8)
h) Others (minimizing ticket price/ increasing the rail budget)	5 (4.2)

*Multiple responses

Table 29. Distribution of passengers in response to the question, "What measures should be taken by the rail authority to improve the quality of services (N = 120)?"

	Response Category	N (%)*
a)	Being more careful about maintenance of time schedule	96 (80.0)
b)	Ensuring cleanliness of the toilet	75 (62.5)
c)	Ensuring transparency in ticket selling	71 (59.2)
d)	Providing adequate dustbins in the platforms, waiting rooms and inside the train	65 (54.2)
e)	Ensuring comfort in the compartment	55 (45.8)
f)	Providing quality food inside the train at a reasonable price	52 (43.3)
g)	Strengthening security system	44 (36.7)
h)	Increasing the number of ticket counters	36 (30.0)
i)	Ensuring regular checking of tickets	28 (23.3)
j)	Avoiding carrying passengers beyond the capacity of the train	27 (22.5)
k)	Controlling the movement of hawkers inside the train	18 (15.0)
l)	Providing necessary information through posters and signs on the walls	8 (6.7)
m)	Others (providing first-aid facilities, keeping complaint box)	6 (5.0)

*Multiple responses

Table 30. Distribution of passengers in response to the question, "What measures service recipients should take in order to improve the quality of services (N = 120)?"

	Response Category	N (%)*
a)	Improving their level of awareness and behave responsibly	105 (87.5)
b)	Being conscious about buying train tickets	104 (86.7)
c)	Being careful about proper use of railway properties	79 (65.8)
d)	Raising public awareness, developing social movement	36 (30.0)
e)	Others (informing the authority about any discrepancy, maintaining cleanliness of the washroom)	1 (0.8)

*Multiple responses

The most common suggestions were to increase the number of trains, engines, coaches, expand train lines, make double lines, maintain train schedule, ensure cleanliness of the toilet, ensure transparency in ticket selling, ensure comfort in the compartment, etc. (Table 28-29). The last question was how passengers themselves can help improve the service quality. The most common responses were to improve their level of awareness and behave responsibly, to be conscious about buying train tickets, to be careful about proper use of railway properties, etc. (Table 30).

Discussion

The present study revealed that passengers face a lot of problems, especially while they go for buying train tickets. The most common problems in this context include, 'long queue/ failure to get a ticket even after standing in a queue (85.7% of the respondents), followed by 'failure to get a ticket for desired class' (48.1%). Almost all the respondents (97.0%) reported that they had to wait for long time at the train station. A vast majority of the respondents also expressed their opinions that trains were often late in starting from the station of embarkation due to 'mismanagement' (86.6%). For most of the respondents (84.7%), the toilets in the waiting room were in 'unhealthy' condition. As evident, almost half of the respondents (41.0%) reported that there was inadequate supply of water in the toilets of the train, and almost all (98.0%) who used toilet in the train said that 'washing soap/ liquid' was unavailable in the toilet.

The suggestions regarding steps that might be taken *by the railway authority* were to maintain time schedule, ensure cleanliness of the toilets, etc. The suggestions regarding steps that might be taken *by the government* were to increase the number of trains/ engines/ coaches, expand train lines/ making double lines. In respect of the suggestions regarding steps that might be taken *by the service recipients* themselves were improved awareness, responsible behavior, consciousness about buying train tickets, and careful about using railway properties.

With the increase of transportation demand, excessive pressure on railway service has emerged. But along with the increased demand, there has been no simultaneous improvement in the railway services. So, there is a greater need for further improvement of this service so that more passengers may be attracted to use this service. It may be concluded that the railway authority should take passengers' perceptions into account. If

done so then more people will be willing to travel by train which in turn will help increase government revenues.

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