

Anxiety among high school students in India: Comparisons across gender, school type, social strata and perceptions of quality time with parents

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ABSTRACT

The broad objective of the study was to understand better anxiety among adolescents in Kolkata city, India. Specifically, the study compared anxiety across gender, school type, socio-economic background and mothers' employment status. The study also examined adolescents' perceptions of quality time with their parents. A group of 460 adolescents (220 boys and 240 girls), aged 13-17 years were recruited to participate in the study via a multi-stage sampling technique. The data were collected using a self-report semi-structured questionnaire and a standardized psychological test, the State-Trait Anxiety Inventory. Results show that anxiety was prevalent in the sample with 20.1% of boys and 17.9% of girls found to be suffering from high anxiety. More boys were anxious than girls ($p < 0.01$). Adolescents from Bengali medium schools were more anxious than adolescents from English medium schools ($p < 0.01$). Adolescents belonging to the middle class (middle socio-economic group) suffered more anxiety than those from both high and low socio-economic groups ($p < 0.01$). Adolescents with working mothers were found to be more anxious ($p < 0.01$). Results also show that a substantial proportion of the adolescents perceived they did not receive quality time from fathers (32.1%) and mothers (21.3%). A large number of them also did not feel comfortable to share their personal issues with their parents (60.0% for fathers and 40.0% for mothers).

INTRODUCTION

Anxiety is one of the most common psychological disorders in school-aged children and adolescents worldwide (Costello, Mustillo, Erkanli, Keeler & Angold, 2003). The prevalence rates range from 4.0% to 25.0%, with an average rate of 8.0% (Bernstein & Borchardt, 1991; Boyd, Kostanski, Gullone, Ollendick & Shek, 2000). These figures could be underestimated since anxiety among a large number of children and adolescents goes undiagnosed owing to the internalized nature of its symptoms (Tomb & Hunter, 2004). Anxiety is associated with

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substantial negative effects on children's social, emotional and academic success (Essau, Conradt & Petermann, 2000). Specific effects include poor social and coping skills, often leading to avoidance of social interactions (Albano, Chorpita & Barlow, 2003; Weeks, Coplan & Kingsbury, 2009), loneliness, low self-esteem, perceptions of social rejection, and difficulty forming friendships (Bokhorst, Goossens & De Ruyter, 2001; Weeks et al., 2009). Importantly, school avoidance, decreased problem-solving abilities, and lower academic achievement have also been noted as consequences (Donovan & Spence, 2000; McLoone, Hudson & Rapee, 2006; Rapee, Kennedy, Ingram, Edwards & Sweeney, 2005). Anxiety is considered to be a universal phenomenon existing across cultures, although its contexts and manifestations are influenced by cultural beliefs and practices (Good & Kleinman, 1985; Guarnaccia, 1997).

In India, the main documented cause of anxiety among school children and adolescents is parents' high educational expectations and pressure for academic achievement (Deb, 2001). In India, this is amplified in secondary school where all 16-year old children attempt the Class X first Board Examination, known as the *Secondary Examination*. Results of the Secondary Examination are vital for individuals since this is the main determining criteria for future admission to a high quality senior secondary school and a preferred academic stream. There is fierce competition among students since the number of places in these educational institutions is fewer than the number of students. Therefore, parents urge their children to perform well in the first Board Examination and, to this end they may appoint three to four private tutors or more for special guidance. After the Secondary Examination, all students appear in the Class XII Final Board Examination known as the *Higher Secondary Examination*. Competition is again ferocious as performance in this examination determines university entrance. Admission to courses in Medicine, Engineering and Management are the most preferred choices for parents because these qualifications are seen to guarantee future job prospects. It is relevant to mention here that in one year alone in India, 2320 children, or more than six children per day, committed suicide because of failure in examinations (National Crime Records Bureau, Ministry of Home Affairs, Government of India, 2000). This shocking figure underlines the seriousness of this problem and its resounding social costs to communities.

Previous research on the sociodemographic correlates of anxiety reveals well-established relationships with gender and socioeconomic status, but little evidence of consideration of school type. Gender effects for anxiety disorders and symptoms have been found in studies of children and adolescents in English-speaking countries. Generally, more girls than boys develop anxiety disorders and symptoms. Adolescent girls report a greater number of worries, more separation anxiety, and higher levels of generalized anxiety (Campbell & Rapee, 1994; Costello, Egger & Angold, 2003; Poulton, Milne, Craske & Menzies, 2001; Weiss & Last, 2001). Socioeconomic status has been found to be both related and unrelated to anxiety. Broadly, social disadvantage is associated with increased stress (Goodman et al., 2005). In studies of adults, socioeconomic status has been found to impact both directly on rates of mental illness and indirectly via the influence of poverty and financial hardship on low and middle income groups (Hudson et al., 2009). While anxiety is known to affect both learning and performance (McDonald, 2001), no empirical research has explored the relationship between adolescent anxiety and school type, school choice, or mode of instruction.

With respect to mothers' employment status, research suggests that maternal employment, by itself, is unlikely to impede a child's social and emotional development (Gottfried & Gottfried, 2006). In fact, the opposite may be true, for children of working mothers, particularly daughters, tend to be more independent, to enjoy higher self-esteem, and to hold higher educational and occupational aspirations and less stereotyped views of men and women than those whose mothers are not employed (Hoffman, 1989; Richards and Duckett, 1994). Moreover, early studies of toddlers (Schachter, 1981), primary school-aged children (Gold and Andres, 1978a), and adolescents (Gold and Andres, 1978b) consistently established that children of employed mothers were as confident in social settings as children whose mothers remained at home and were somewhat more sociable with peers.

In previous empirical research, anxiety has been linked to parenting practices and features of parent-child relationships (Rapee, 1997). In particular, clinical and nonclinical studies have identified parental rejection and control as risk factors for the development of high levels of

anxiety and anxiety disorders (Rapee, 1997). The attributes of time spent with parents and the communication between parent and adolescent are important as measures of parent physical and emotional availability. For example, in terms of attachment, Moore and Hofferth (1979) found that working women spent half as much time caring for their children as did housewives, but their children still developed normal attachments to them. Other studies with young children have shown that the *quality* of the time the parents and children spend together, along with the making of adequate child-care arrangements, outweighs the *quantity* of time spent together (Easterbrooks and Goldberg, 1985). Recent literature on the multiple roles adopted by working parents is mixed with some studies suggesting that multiple roles increase stress levels and diminish parenting capacity (O'Neil & Greenberger, 1994; Repetti, 1993), and yet other studies suggesting that multiple roles bring health-giving benefits such as higher incomes, feelings of competence, increased self esteem and wider social relationships that have follow on effects to family relationships (Barnett, 1999).

Since a very limited number of studies have addressed anxiety among school-aged children and adolescents in India, and because of the seriousness of its adverse consequences, it was considered important to explore this issue further. The aims of the study were two-fold. First, to understand adolescents' anxiety across gender, school type (also referred to as medium of instruction), socio-economic background and mother's employment status in Kolkata city, India. Second to understand the perceptions of the adolescents about the quality time they receive from their parents. The following hypotheses were formulated for verification:

1. The anxiety of adolescent boys and girls, irrespective of medium of instruction, socio-economic background and mother's employment status differs significantly.
2. The anxiety of adolescents studying in Bengali and English medium schools, irrespective of gender, socio-economic background and mother's employment status differs significantly.
3. The anxiety of adolescents belonging to different socio-economic backgrounds, irrespective of gender, medium of instruction and mother's occupational status differs significantly.
4. The anxiety of adolescents having working and non-working mothers, irrespective of gender, medium of instruction and socio-economic background differs significantly.

METHOD

Site:

The city of Kolkata, formerly known as Calcutta, is the capital of the State of West Bengal located in Eastern India with a hinterland of over 220 million residents. Kolkata is also known as the 'City of Joy'. The urban agglomeration of Kolkata itself is home to more than 14 million people, making it India's third-largest metropolitan area after Mumbai and Delhi (Census of India, 2001) and the eighth-largest metropolitan area in the world (United Nations, 2005). People from various neighbouring states move to Kolkata for educational, vocational, and employment purposes. Kolkata's schools are administered by the state government or private, including religious and philanthropic organisations. The medium of instruction in schools is predominantly Bengali or English and, to a lesser extent, Hindi and Urdu. Kolkata has nine universities with numerous affiliated colleges. The literacy rate in West Bengal (69.2%) is slightly higher than that for India overall (65.2%). In the ten-year period from 1991 to 2002, literacy rates for males and females in the State increased by 9.8% and 13.6% respectively (Kingdon, 2007).

Sample:

Participants in the study were a group of 460 adolescents, aged 13-17 years. Adolescents were students studying in class IX th standard to Class XII th standard. Participants were selected using a multi-stage random sampling technique such that the final sample was drawn from five Bengali medium and three English medium schools in Kolkata city.

Materials

The study tools that were used for achieving the objectives of the study were as follows:

(i) *Semi-structured Questionnaire* (Chatterjee, 2007). A semi-structured questionnaire was custom-made for gathering information about the demographic and socio-economic background of the adolescents, the profile of their parents, and the amount of time adolescents spent with their parents. The face validity and socio-cultural admissibility of the semi-structured questionnaire was ascertained. The semi-structured questionnaire consisted of the following three sections:

- *Section I: Demographic and Socio-economic Information:* This section consisted of items covering the participant's age, gender, education and family structure.
- *Section II: Parental Profile:* This section consisted of items relating to parental age, education, income and occupation.
- *Section III: Time Spent with Parents:* This section consisted of four items related to the quality and quantity of time adolescents spend with their parents.

(ii) *State-Trait Anxiety Inventory* (Spielberger, Gorsuch and Lushene, 1970). The State-Trait Anxiety Inventory (STAI) is the most widely-used cross-cultural anxiety measure (Hishinuma et al., 2000). It was originally developed as a research instrument to investigate anxiety in normal adults and has also been successfully used to measure anxiety in junior and senior high school students. The STAI is comprised of separate self-report scales for measuring two distinct anxiety concepts: state anxiety (A-State) and trait anxiety (A-Trait). According to Spielberger and colleagues, *state anxiety* (A-State) reflects a “transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system activity” (Spielberger et al., 1970, p.3) whereas *trait anxiety* denotes “relatively stable individual differences in anxiety proneness and refers to a general tendency to respond with anxiety to perceived threats in the environment” (Spielberger et al., 1970, p.3).’

For this study, trait anxiety was measured. The STAI A-Trait scale consists of 20 statements asking respondents to describe how they *generally* feel along a four-point scale ranging from 1 – Almost never, 2 – Sometimes, 3 – Often and 4 – Almost Always. There is no fixed time limit to complete the inventory. The scale has 7 reverse and 13 direct items that are scored accordingly. Using this measure with an Indian sample required ascertainment of the socio-cultural admissibility of the test. First, inventory items were translated into the local Bengali language and checked by three experienced bilingual researchers. Second, the Bengali version was back-translated into English to ensure the stability of the meaning of each test item (Chatterjee, 2006). The scores of the STAI range from a minimum score of 20 to a maximum score of 80 such that higher scores indicate greater anxiety.

Procedure

A prior appointment was made with school authorities from Bengali and English medium schools in Kolkata to apprise them of the objectives of the study and to obtain their permission for data collection. Afterwards, a tentative schedule for data collection was developed in discussion with the authorities. Data were collected with the voluntary consent of the adolescent participants. Voluntary consent was obtained after sharing the objectives of the study and reassuring the participants about their anonymity and the confidentiality of information they were providing.

Data Analysis

Data collected from the adolescents were cleaned and prepared for analysis. Apart from descriptive statistics (measures of central tendency and dispersions), ‘t’-tests and ‘F’-tests were applied for verification of hypotheses. In the absence of *a priori* evidence in this under researched area, these univariate procedures for assessing group differences were used as a starting point for assessing the extent to which mean differences were associated with group membership. Simple analyses to establish group differences were considered important preliminary steps towards more comprehensive future assessment of the degree or strength of relationships in multivariate approaches. Although measuring multiple variables was one of the aims of this study, the present study was not designed as

a multivariable study. In future, however, it will be necessary to conduct research wherein dependent variables can be considered simultaneously with a view to establishing the precise nature of the effects of these variables on group differences.

RESULTS

Background Information

The sample comprised 460 adolescents: 48.0% were boys and 52.0% were girls. Their ages fell into four clusters: 13-14 years (25.0%), 14-15 years (26.0%), 15-16 years (25.0%) and 16-17 years (23.0%). In terms of their educational background, the adolescents were from class IX (N=117), class X (N=121), class XI (N=115) and class XII (N=107). Two-thirds (67.0%) of the adolescents were from nuclear families and one-third (33.0%) were from joint families where extended family members were living together. Regarding the profile of the adolescents' parents, most were aged 35 - 50 years with the majority of fathers aged 41 – 50 years (64.0%) and the majority of mothers aged 36 – 45 years (67.0%). Around 43.0% of parents were university graduates with 33.0% of fathers and 17.0% of mothers holding postgraduate qualifications. Around 14.0% of fathers and 34.0% mothers no formal university qualifications. In terms of employment, about one-third (33.0%) of the fathers worked in the government service sector, while 62.0% worked in the non-government and/or were self-employed. The majority of mothers (73.0%) did not work. Working mothers were employed almost uniformly across three service sectors in jobs such as working in government organizations, non-government organizations and self-employment. Fathers' monthly income was spread with 30.0% earning more than Rs.15,000/ per month, 46.0% earning Rs. 6,000/ to Rs. 15,000/ per month, while a further 15.0% earned less than Rs.6,000/ per month. Recalling that only a minority of mothers were employed, mothers' monthly income was limited to 5.0% earning more than Rs.15,000/ per month, 16.0% earning Rs.6000/ to Rs.15,000/ per month and 6.0% earning less than Rs.6000/ per month.

Anxiety among Adolescents

To understand the anxiety faced by adolescents, the STAI (A-Trait) was used after local adaptation. Data displayed in Table 1 show that the mean anxiety score in the case of adolescent boys (24.0) was slightly higher than for adolescent girls (22.5). Further analysis of data revealed that 20.1% (45/220) of boys and 17.9% (43/240) of girls were suffering from high anxiety as measured using the STAI².

For verification of the first hypothesis, a 't'-test was applied for comparing the means and standard deviations. At a 0.01 level of significance, the first hypothesis, '*the anxiety of adolescent boys and girls, irrespective of medium of instruction, socio-economic background and mother's employment status differs significantly*' was supported, that is, adolescent boys of Kolkata city suffer from higher anxiety than adolescent girls.

Table 1: Anxiety Scores of Adolescents: A Comparison Between Adolescent Boys and Girls

Sample Group	Central Tendency Measures			Deviations			't'-test and Probability value
	Mean	Median	Mode	S.D.	Skewness	Kurtosis	
Adolescent Boys (N=220)	24.0	25.0	26.8	5.7	-0.4	-0.070	-2.63 and 0.009 *
Adolescent Girls (N=240)	22.5	22.0	21.0	5.6	-0.5	1.34	

* Significant at 0.01 level

Comparison of anxiety between the adolescents attending English and Bengali medium schools revealed that the mean values for the adolescents attending Bengali medium schools (24.6) was slightly higher than that for adolescents attending English medium schools (21.6). The

² A score of 44 is proposed as the clinical cut off for high anxiety in adults (Himmelfarb & Murrell, 1983, 1984).

standard deviations were 5.2 and 5.7 respectively. These data are presented in Table 2. Data show that the adolescents coming from the Bengali medium schools were slightly more anxiety prone than their English medium school counterparts.

To verify the second hypothesis i.e., *'the anxiety of adolescents studying in Bengali and English medium schools, irrespective of gender, socio-economic background and mother's employment status differs significantly'*, a 't'-test was applied. It was observed that the 't'-value was significant at a $p < .01$ level. Hence, the second hypothesis was accepted.

Table 2: Anxiety Scores of Adolescents: Comparison between English and Bengali Medium school Students

Medium of instruction	Central Tendency Measures			S.D.	Deviations		't'-test and Probability value
	Mean	Median	Mode		Skewness	Kurtosis	
English (N= 210)	21.6	22.0	22.	5.7	-0.4	1.3	4.69 and
Bengali (N= 250)	24.6	25.0	25.8	5.2	-0.4	-0.0	0.000 *

* Significant at 0.01 level

Comparing anxiety across socio-economic groups, Table 3 illustrates the central tendency and the standard deviation measures of the anxiety scores of the adolescents from different socio-economic backgrounds. The mean anxiety scores were found to be the highest for the middle socio-economic group (30.0), followed by the low socio-economic group (28.6) and then the high (23.6) socio-economic group. The standard deviations for the high, middle and low socio-economic groups were 5.5, 8.0 and 6.3 respectively.

For confirmation of the third hypothesis, *'the anxiety of adolescents belonging to different socio-economic backgrounds, irrespective of gender and medium of instruction and mother's employment status differs significantly'*, the 'F'-test was applied. It was observed that the 'F' value was significant at ($p < .01$). Hence, the second hypothesis was supported.

Table 3: Anxiety Scores of the Adolescents from Different Socio-economic background

Socio-economic Group	Central Tendency Measures			S.D.	Deviations		'F'-test and Probability value
	Mean	Median	Mode		Skewness	Kurtosis	
High (N=170)	23.6	24.0	24.8	5.5	-0.1	-0.1	42.37* and
Medium (N=210)	30.0	28.0	25.0	8.0	1.2	1.1	0.00
Low (N=80)	28.6	28.	30.0	6.3	1.1	0.8	

* Significant at 0.01 level

To compare the anxiety of adolescents having working and non-working mothers, the central tendency and standard deviation measures are presented in the Table 4. From the table it can be observed that the mean anxiety score for adolescents having working mothers (26.2) was slightly higher than that for adolescents having non-working mothers (23.4). The standard deviations were 6.0 and 5.4 respectively for the two categories. These data are displayed in Table 4.

For verification of the fourth hypothesis i.e., *'the anxiety of adolescents having working and non-working mothers, irrespective of gender, medium of instruction and socio-economic background differs significantly'*, a 't'-test was done to compare the means and standard deviations. Test results were found to be significant at $p = 0.01$ levels and therefore the third hypothesis was also retained.

Table 4: Anxiety Scores of the Adolescents with Working and Non-Working Mothers

Sample Group	Central Tendency Measures				Deviations		't'-test and Probability value
	Mean	Median	Mode	S.D	Skewness	Kurtosis	
Adolescents having Working mothers (N=141)	26.2	25.0	22.4	6.0	0.8	0.7	-3.20 and 0.002 *
Adolescents having Non-Working mothers (N=319)	23.4	24.0	25.2	5.4	-0.4	0.1	

* Significant at 0.01 level

Quality and Quantity of Time Given by Parents

In order to understand the parent-child relationship in general and the quality and quantity of time spent by the parents with their children in particular, four basic questions were put to the adolescent group. The first question was, *do your parents find time to speak to you during weekdays?* Responses revealed that 79.8% of adolescents' fathers and 93.4% of adolescents' mothers find time to speak to them. The second question was, *during holidays do your parents take you out?* Adolescents confirmed that 64.0% of their fathers and 70.0% of their mothers did so. The third question asked *do you think that you get quality time from your parents?* Of the adolescents, 67.9% responded affirmatively that they received quality time from their fathers while 78.7% of them received the same from their mothers. The fourth question in this section asked *do you feel comfortable to share your personal problems?* Only about 40.0% of the adolescents felt free to communicate their personal problems with their fathers while 60.0% of them could do so with their mothers.

Examining gender effects across all four questions revealed a pattern in that adolescents were more comfortable in communicating with their mothers than their fathers. Gender-wise analyses also revealed that females received higher quality interactions and more time from both parents compared to their male counterparts.

Table 5: Time Spent With Parents: Gender-Wise Perception (%)

Parameters	Boys (N=220)		Girls (N=240)	
	Yes Responses		Yes Responses	
	Father	Mother	Father	Mother
Do your parents find time to speak to you during weekdays?	76.8	92.3	82.9	94.6
During holidays do your parents take you out?	61.4	64.5	66.6	76.2
Do you think that you get quality time from your parents?	63.7	73.7	72.1	83.8
Do you feel comfortable to share your personal problems?	31.8	47.2	45.0	71.0

Base: All participants who provided 'Yes' responses

DISCUSSION

This study measured adolescent anxiety across a number of dimensions and explored the nature of parent-child relationships by capturing adolescent perceptions of quality time with their parents.

The mean anxiety score for adolescent boys (24.06) was found to be slightly higher than that for adolescent girls (22.55) with 20.1% of boys and 17.9% of girls also found to be suffering from high anxiety. These findings conflicts with previous research regarding adolescent anxiety in developed countries wherein girls are more likely to develop anxiety symptoms and disorders

(Campbell & Rapee, 1994; Costello, Egger & Angold, 2003; Poulton, Milne, Craske & Menzies, 2001; Weiss & Last, 2001). This difference may be attributed to cultural practices in Indian society. Despite the context of domestic change brought about by globalization, underlying patriarchal structures persist (Da Costa, 2008; Kingdon, 2007) wherein boys continue to face more pressure regarding their proper choice of vocation and future career (Deb, 2001). However, at the same time, it is relevant to highlight that the difference between mean anxiety scores of boys and girls, although statistically significant, is not contextually substantial. Anxiety levels of the adolescent girls, therefore, cannot be dismissed simply because the levels are, on average, lower than those for the adolescent boys. As new consumers in an ever-growing competitive education marketplace (Donner, 2006), families have differential expectations about the likely outcomes of education for boys and girls. Investment in schooling for daughters is seen primarily as a route to attaining better marriage prospects. Investment in sons' education, however, is related to the expectation that their future employment will provide familial security. The weight of this responsibility falls heavily on boys. This is particularly problematic in West Bengal as unemployment and underemployment remain high for both men and women (Da Costa, 2008).

Adolescents from Bengali medium schools (24.6) were slightly more anxious than their English medium counterparts (21.6). In part, this may be explained by the growing trend to view Bengali medium schools as inferior to English medium schools and adolescents' cognizance of this positioning. The mother tongue for most children in Kolkata is Bengali, with English being the most widely-used second language and Hindi being the third (Annamalai, 2004). According to Annamalai (2004), the policy of retaining English as the medium of instruction in universities coupled with its rising use in the sphere of international business has influenced the demand for English instruction in Indian primary and secondary schools. Where English medium schools were once the exclusive reserve of the urban upper and middle classes, they have been growing in popularity across classes and geography such that English medium education has boomed in the past two decades (Donner, 2006). Parents, and indeed, students themselves, may presume that education in Bengali medium schools is a disadvantage in that it segregates them from the English-dominated world of knowledge and future employment opportunities in English-speaking countries (Annamalai, 2004).

The relationship between anxiety and academic performance has been described in a number of findings relevant to the understanding of adolescents (Phillips, 1978; Sarason, 1980; Tobias, 1979). First, anxiety interferes more with academic performance during adolescence than during childhood. In a culture that judges an individual's intellectual abilities and ascribes status on the basis of academic performance, it is perhaps not surprising that students become more anxious over their academic success and failures as they age. Second, the relationship between an adolescent's academic success and anxiety is curvilinear – a minimal amount of anxiety tends to enhance academic performance, but excessive anxiety undermines academic performance (McDonald, 2001). Further, anxiety influences both learning and production in a foreign language classroom (MacIntyre & Gardiner, 1989).

The mean value for anxiety was found to be highest for the adolescents belonging to the middle socio-economic class (30.07), followed by the adolescents belonging to the lower (28.62) and then the higher (23.60) socio-economic class. This finding is not surprising in light of the above discussion about the relationships between the rising middle class, the demand for educational achievement and drive for occupational prestige, this finding is not surprising. Increases in secondary enrollment rates in India reflect emerging middle class parental desires and expectations (Kingdon, 2007). In India economic and social development itself is under great pressure and this is keenly felt by the middle class who are under greater stress to hold their ground, protect their social position and to move ahead (Ganguly-Scrause & Scrause, 2009). The pressure on the lower classes is perhaps better understood from a psychological perspective. For example, in a review of studies from low and middle income countries, Patel and Kleinman (2003) confirmed the association (albeit weak) between indicators of poverty and the risk of common mental disorders. Importantly, exploration of the mechanism of the relationship revealed specific factors such as the experience of insecurity, hopelessness, rapid social change, violence and physical ill-health explained heightened risk. The least anxiety is seen in case of the high socio-economic adolescents, this may be partly attributed to their secured future at least in terms

of material and financial aspects, as Kaplan and Sadock (2000) reported, the prevalence of anxiety disorders tends to decrease with higher socio-economic status.

The mean value of anxiety scores of the adolescents having working mothers (26.27) was slightly higher than that of adolescents having non-working mothers (23.46). This finding appears in contrast to an extensive body of previous research conducted in developed countries revealing neither positive nor negative effects of maternal employment on children's development (Gottfried & Gottfried, 2006). Much of this research has been conducted from a maternal deprivation standpoint which assumes that when the mother is no longer the primary caregiver, deprivation for children results (Gottfried & Gottfried, 2006). When this assumption is suspended, at least in developed countries, research reveals that children of employed mothers often experience favorable (rather than unfavorable) development outcomes and appear to be so socially mature since employed mothers are more inclined than unemployed mothers to grant their children independence and autonomy when their youngsters are ready for it (Hoffman, 1989). And, when mothers have stimulating jobs, receive adequate social support from their husbands and other close associates, and are highly committed to being a parent, they have generally favorable impressions of their children, rely less on power assertion to control their behavior, and are inclined to take an authoritative approach to child rearing – precisely the parenting style so often associated with favorable cognitive, social and emotional outcomes (Crockenberg and Litman, 1991; Greenberger and Goldberg, 1989; Greenberger, O'Neil, and Nagel, 1994). Of course, employed mothers may be less effective parents if they are dissatisfied with their jobs, are not highly committed to being a parent, or receive little support in their parenting role (Greenberger and Goldberg, 1989). Under these circumstances, working mothers can become rather aloof, impatient and restrictive, which makes their children more argumentative and difficult (Lerner and Galambos, 1988). Adolescents with working mothers have not been found to be more delinquent or more academically handicapped than children with unemployed mothers. Moreover, the data suggests that daughters tend to benefit more than sons from their mother's employment, in terms of their academic and vocational achievements (Dellas, Gaier, and Emihovich, 1979). In India, women's employment rates vary substantially across the country. In West Bengal it is estimated that 18.8% of women are employed, but it is not possible to obtain more precise estimates for maternal employment. There are higher rates of employment for women in rural areas where their employment is more likely to be unregulated and in the city of Kolkata, the main employment for women is in the public service and education (Bagchi, 2005). Hence, to better understand the role of maternal employment in adolescent development in a developing country such as India, it is important to examine the interconnected family and contextual factors that impinge on the adolescent, but not by assuming maternal deprivation. Variables to explore may include, but not be limited to maternal attitudes toward parenting and employment, fathers' involvement and parental occupational status (Gottfried & Gottfried, 2006).

In terms of adolescents' perceptions of the quality and quantity of time spent with their parents, the majority (78.7%) felt they received quality time from their mothers, while noticeably less (67.9%) considered they received quality time from their fathers. On the surface this may not seem to be cause for concern, yet one fifth and one third of the adolescents in Kolkata perceive that they *do not* receive quality time from their mothers and fathers respectively. Notably this coexists with over half of the adolescents being unable to talk with their fathers about their personal issues (60%) and over one third (40%) being unable to talk with their mothers about the same. Since the liberalization of the Indian economy in 1991, dual earning families have become more commonplace, yet the specific challenges faced by Indian families in combining paid work and family responsibilities has received little attention (Lewis, Gambles & Rapoport, 2007). Opportunities for economic advancement have intensified work with long and hard working hours, particularly for the "new economy" workers - middle class workers who will travel long distances on public transport for work (Fernandez, 2006, p.88). It is not unexpected, then that parents may struggle to find time with their children and that children may be left alone or in the hands of domestic assistants who are not trained in child care. As a result, some of them feel lonely, even neglected, and become anxious (Chatterjee, 2006). The findings of this study highlight the complexities inherent in the transformation of traditional family relationships and obligations and points to the need for further research into parenting practices from countries such

as India. For example, a recent cross-cultural study of parenting and adolescent attachment in India and Germany (Albert, Trommsdorff & Mishra, 2007) revealed that Indian adolescents reported less anxiety with increasing use of control by their mothers, unlike their German equivalents. That is, maternal control appeared to convey security and acceptance to Indian adolescents whereas for German adolescents this was perceived as overprotection and constraint (Albert, Trommsdorff & Mishra, 2007).

Conclusions

In a nutshell, results of this study of 460 adolescents in Kolkata, India, show that anxiety was prevalent in the sample with one-fifth of the boys and less than one-fifth of the girls registering high anxiety. Statistically significant higher anxiety levels were experienced by more boys, students from Bengali medium schools, adolescents belonging to the middle class, and those having working mothers. Additionally, a substantial proportion of the adolescents perceived they did not receive quality time from fathers (32.1%) and mothers (21.3%), and did not feel comfortable sharing their personal issues with their mothers (40.0%) or fathers (60.0%).

The findings of the study, although modest, speak in favour of both anxiety prevention efforts for adolescents and mental health promotion efforts aimed at adolescents' parents. First, although broader strategies for global adolescent mental health have been well detailed elsewhere (see for example Patel, Flisher, Ketirck & McGarry, 2007; Patel, Flisher, Nikapota & Malhotra, 2008), it is worth reiterating that measures such general and specific prevention education, self-help strategies and resources, and psychosocial support networks and services, and can be embedded in educational settings. Schools offer an ideal setting for universal prevention activities with potential to reach large numbers of children and adolescents (Masia-Warner et al, 2006; Chatterji et al., 2004; Barretta and Pahl, 2006). Additionally, the school environment is likely to facilitate the acquisition of competencies in Indian children as it is viewed as a place of learning (Rambaldo et al., 2001). At school adolescents can be taught how to manage stress and anxiety and can practice skills. As a targeted intervention strategy, there is evidence to suggest that cognitive-behavioral treatment can reduce levels of anxiety among adolescents, for example Hudson et al., (2009) found that cognitive-behavioral skills are more efficacious in the treatment of childhood anxiety than a treatment that includes only nonspecific therapy factors.

Second, mental health promotion with adolescents' parents is essential. Steinberg (2001), one of the world's leading researchers on parent-adolescent relationships has strongly advocated for a "systematic, large-scale, multifaceted, and ongoing public health campaign to educate parents about adolescence" (p.1). Ideally, he suggests such a program would be cross-disciplinary involving resources and expertise from health care, government organizations, community groups, education systems and the mass media and would be directed towards improving parents' knowledge of, and attitudes towards the common issues of adolescents. Parent education is specifically required in the Indian context to deal with the phenomenon of educational pressure and the comparison of the performance of one's own child with the best ranked students. Before such measures are introduced in India, however, further research is required to understand the ways in which culture and anxiety interact and to unpack risk and protective factors for the development of anxiety specifically in Indian adolescents. But time is of the essence.

Limitations

A number of English medium school authorities did not give permission for collection of data since none of the respective class teachers agreed to spare their scheduled classes for the purpose of data collection. Therefore, the investigators were unable to collect data from an equal number of English medium schools and also an equal number of adolescents from the lower socio-economic strata. Secondly, the findings of the study were based on the self report of adolescents.

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