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The impact of adolescent concerns on their academic stress

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The objective of this study was to examine the contributing role of the different aspects of adolescent concerns on the academic stress of youths in Singapore. Data was obtained using two self-report measures: the Adolescent Concerns Measure and the Academic Expectations Stress Inventory. The study examined four different aspects of adolescent concerns namely: family, personal, peer and school concerns. Gender differences were also explored in terms of these predictions as well as the academic stress experienced by the adolescents. Results obtained showed that only the scores on the Personal Concerns subscale were positively associated with the academic stress arising from self and other expectations, in both adolescent boys and girls. For the girls, school-related concerns were also predictive of academic stress arising from other expectations. They also obtained significantly higher scores on the Academic Expectations Stress Inventory than boys did. Possible explanations for the obtained results were suggested and implications of the findings were also discussed.

Keywords: adolescent concerns; academic stress; gender

Introduction

Studies on adolescent concerns have been widely researched in both Western and Asian countries. In Western countries like America, adolescents have identified school, friends, the opposite sex, family, money, substance abuse, lack of interest in education and the future to be their main areas of concerns (Smith 1980; Isralowitz and Singer 1982; Sobal 1987; Stark et al. 1989). In England and Northern Ireland, problems relating to employment, self-confidence and adequacy, and school performance were found to be the main worries of adolescents, while issues of material deprivation, physical inadequacy and relationships with family and friends were regarded as the least of their worries (Porteous 1979; Cherry and Gear 1987; Gillies 1989; Gallagher et al. 1992). For Australian adolescents, although educational adjustment was deemed to be a major area of concern for them, issues relating to their future in terms of vocation and higher education were considerably less important (Collins and Harper 1974; Harper and Collins 1975; Harper and Marshall 1991).

In Asian countries similar trends were observed. In addition, some differences observed appear to centre around concerns relating to school. School adjustment, future and career have often been identified as Asian adolescents' top concerns. Academic grades and failure in finding a satisfying job were the major concerns of youths in China while Chinese adolescents in Hong Kong indicated school performance, proper conduct, and issues in learning and psychological wellbeing as some of their top concerns (Leung, Salili, and Baber 1986; Dodds and Lin 1992).

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In Korea, graduating from a high ranking university was of utmost concern to the Korean adolescent as it is a means of securing a good job, high wages, high social status and even a good marriage (Bae and Lee 1988). Like their Asian counterparts, adolescents in Singapore also ranked issues related to education such as academic achievement and worrying about the future as their top concerns (Isralowitz and Ong 1990).

Based on the studies reviewed, academic-related concerns appear to be relevant to adolescents from both Western and Asian countries (Stark et al. 1989; Isralowitz and Ong 1990). Specifically for the Asian societies, the pressure to perform in school is even more acutely felt (e.g. Korea, Hong Kong, and Singapore). For example, research with adolescents in Korea showed that they devoted large amounts of time to studying and many attended private cram schools after school and on weekends just to do well in the entrance examination in order to be placed in a high ranking university (Chung et al. 1993). Twelfth-grade Koreans were also found to spend twice the time completing homework when compared with their twelfth-grade American counterparts while the latter was found to spend twice as much time socializing and taking part in leisure activities (Lee and Larson 2000).

In Hong Kong for example, the adolescent is socialized to understand that academic excellence enables a young person to enter a well-paid profession (e.g. business or medical professions), which in turn provides the opportunity for upward social mobility (Ho and Kang 1984; Shek and Chan 1999). Students in Hong Kong were found to be highly competitive with strong drives to achieve academic excellence. These students also face strong pressures from their parents and themselves to excel academically (Gow and Kember 1990; Smith 2001). Thus, it is not surprising to find that students in Hong Kong rated school demands as one of their main sources of stress (Hui 2001).

Similarly in Singapore, adolescents also face a highly stressful educational environment. Ang and Huan (2006) found that adolescents experienced academic stress arising from both their own expectations to excel as well as expectations arising from their parents and teachers. In a study which looked at the key issues facing Singapore adolescents, 220 secondary school students in Singapore ranked "being pressured to keep up with schoolwork" as their major concern (Isralowitz and Ong 1990). Ho and Yip (2003) conducted a national survey of youth in Singapore and found that majority of the 1500 adolescents surveyed ranked education to be the most stressful aspect of their lives. Like their Korean counterparts, gaining entrance into good universities has created intense competition among these adolescents. Furthermore, when asked to rank the importance and satisfaction level of seven different aspects of school life, these youths ranked examination grades to be the most important aspect of school life, but indicated being the least satisfied with it. This suggests that while examination grades are considered to be highly important, these adolescents felt that they could not attain standards that were perceived to be satisfactory.

Findings from studies conducted with Asian adolescents (e.g. Korea, Hong Kong, Singapore) indicate that while academic achievement is high in these countries, negative consequences such as excessive stress and mental health problems are also clearly evident (Shek 1995). In Singapore, findings obtained from large scale national youth surveys and interviews indicated that education and schoolwork pressure reflected the stress associated with achieving academic excellence (Isralowitz

and Ong 1990; Ho and Yip 2003). Similarly, in a study on Hong Kong adolescents, Sadler-Smith and Tsang (1998) reported Hong Kong students to be more anxious learners than the British students. They were also more likely to worry about their studies and to be overwhelmed by the amount of work given them. Likewise in Korea, the Korean adolescents reported more negative emotions regarding education than adolescents from nearly all other Western countries (Diener et al. 1995). In their study of Korean adolescents investigating the relationship between academic stress and depression, Lee and Larson (2000) found 36% of the Korean students to be clinically depressed compared to 16% of American students. The same study also reported that the negative affect experienced by these adolescents regarding education may have a negative influence on their feelings towards even activities that are leisure in nature. In summary, these studies all suggest a relationship between school-related concerns of adolescents and their academic stress.

Studies on adolescent concerns from different countries also suggested that the type of concern varied by gender. In England and Northern Ireland, studies showed that adolescent girls reported greater concern in the area of school work, examinations, relationships, family and social issues while adolescent boys tended to be more troubled by finance, future educational plans and career matters. They also showed more concern about authority, self-image, restriction and rules, and behavioral problems. Findings from interviews with these adolescents also indicated that worries such as exam failure, childbirth, unhappy marriage and AIDS were mentioned significantly more frequently by girls than by boys (Porteous 1979, 1985; Gillies 1989). Similarly in Hong Kong, Hui (2000) surveyed 2013 school-going adolescents and found that adolescent girls reported having more concerns relating to education, family, psychological wellbeing and future while the boys were more concerned with problems relating to maladjusted behavior in school, peer influence, and classroom discipline.

Besides having different types of concerns from the boys, studies have also revealed that adolescent girls tended to express higher levels of concern and greater degrees of worry when compared with their male counterparts (Porteous, 1985; Balding 1992; Gallagher et al. 1992). Frydenberg and Lewis (1996) reported that overall, adolescent girls were more concerned about most things than boys were. They also indicated experiencing more stressful events and were more affected by these events than boys were. In their study, Compas, Malcarne, and Fondacaro (1988) indicated that female adolescents reported a greater number of stressful events and tended to struggle more with the different types of stressors when compared with male adolescents. Likewise, de Anda and Bradley (1997) found that girls reported significantly greater levels of stress than boys did in a survey where they were asked to indicate the frequency in which they experienced stress. Also, a significantly greater number of girls reported having negative physiological responses to stress when compared with the boys.

Collectively, the studies reviewed have provided some evidence that the strife for academic excellence could in part, result from major adolescent concerns. In turn, this could contribute to the academic stress experienced by these adolescents and such experiences may differ between genders. This study therefore aims to explore the relationship between adolescent concerns and academic stress, and whether this relationship differs between genders.

Method

Participants

Participants included 430 secondary school students (211 boys, 219 girls) with ages ranging from 13 to 16 (mean=13.53, standard deviation=0.80). The sample consisted of students from Grades 7 and 8 of a secondary school in Singapore. Self-reported ethnic identification for the sample was as follows: 77% of the participants were Chinese, 4.9% were Indian, 13.2% were Malay, 1.9% were Eurasian and 2.3% endorsed others (which include all other ethnic groups not listed), while 0.7% did not provide information on ethnicity.

Measures

Adolescent concerns

The Adolescent Concerns Measure (ACM) was developed and validated by the researchers of this study to measure the concerns of adolescents who participated in this study. A validation study of the structure of the ACM scores using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) revealed a 24 item measure with four subscales: family (nine items); personal (six items); peers (five items); school (four items) (Ang et al. 2005). The Family Concerns subscale examines issues involving the adolescent's relationship with his or her family members (e.g. "I can talk to my parents about my problems"; "My parents trust me"), while the Peer Concerns subscale focuses on issues pertaining to the adolescent's relationship with his or her peers (e.g. "My friends respect me"; "I have a lot of fun with my friends"). The Personal Concerns subscale examines the adolescent's concerns about his or her emotional adjustment and self, looking at the thoughts and emotions commonly found among teenagers (e.g. "I worry about what others think of me"; "I feel hopeless about my situation"). The School Concerns subscale focuses on school-related issues (e.g. "Finishing secondary school is important to me"; "I can follow the lessons in class").

Cronbach alpha estimates for the ACM total and subscale scores obtained from the present study were as follows: total ($\alpha=0.88$); family ($\alpha=0.89$); personal ($\alpha=0.76$); peer ($\alpha=0.68$) and school ($\alpha=0.62$). The ACM used a Likert-type response format with choices ranging from 1 (strongly agree) to 4 (strongly disagree). Subscales and total scores were obtained with higher scores reflecting greater levels of concern. The lower than ideal Cronbach alpha estimates for Peer and School Concern subscales may be a reflection of the relatively fewer items in these two subscales compared with the other subscales.

Academic stress

To assess students' academic stress, the participants were given the Academic Expectations Stress Inventory (AESI). This inventory aims to measure the students' academic stress arising from self-expectations and other-expectations (e.g. parents, teachers). The factor structure of AESI scores have been validated using EFA and CFA approaches, resulting in a nine-item measure with two subscales: personal (four items) and others (five items) (Ang and Huan 2006). The Personal subscale assesses the adolescent's academic stress that arises from his or her own self-expectations (e.g. "I feel stressed when I do not live up to my own standards"; "When I do not do as

well as I could have in an examination or test, I feel stressed") while the Others subscale looks at the adolescent's academic stress arising from expectations placed on him or her by parents and teachers (e.g. "I feel I have disappointed my parents when I do poorly in school"; "I feel lousy when I cannot live up to my teacher's expectations"). The Cronbach alpha estimates obtained for the AESI total yielded a value of 0.87 while the two subscale scores yielded Cronbach alpha values of 0.81 (self) and 0.79 (others) in the present study.

Results

A preliminary analysis was performed on the 24 items of the ACM and the nine items of the AESI. No significant departures from normality were detected and the means, standard deviation, skewness and kurtosis of the mean scores are shown in Table 1.

Relationship between adolescent concerns and academic stress

To investigate the impact of boys' adolescent concerns on their academic stress, two separate multiple regressions were conducted with the four subscales of ACM as independent variables and the AESI (self) and AESI (others) as dependent variables respectively. Table 2 presents the results of the regression analyses.

Likewise for the girls, two separate multiple regressions were conducted with the four subscales of ACM as independent variables and the AESI (self) and AESI (others) as dependent variables respectively, to determine the impact of girls' adolescent concerns on their academic stress. Table 3 presents the results of the regression analyses.

Overall, adolescent concerns accounted for a greater amount of variance in academic stress for girls than for boys. For boys, adolescent concerns accounted for 8.9% of the variance in academic stress (self), $F(1, 206)=5.02, p<0.05$, and 3.9% of the variance in academic stress (others), $F(1, 206)=2.09, p<0.05$. In comparison, for girls, concerns of adolescents accounted for 21.6% of the variance in academic stress (self), $F(1, 214)=14.72, p<0.05$, and 13.7% of the variance in academic stress (others), $F(1, 214)=8.49, p<0.05$.

Among the four aspects of adolescent concerns measured in this study, personal concerns of adolescents seemed to emerge as a significant predictor of academic stress (self) in both boys ($\beta=0.202$), $t(210)=2.832, p<0.05$, and girls ($\beta=0.405$),

Table 1. Descriptive statistics for the ACM (four subscales) and the AESI (two subscales).

	<i>n</i>	Mean	Standard deviation	Skewness	Kurtosis
ACM (family)	431	17.77	4.72	0.69	1.44
ACM (personal)	431	14.24	2.90	0.20	0.67
ACM (peers)	431	9.53	2.07	0.01	1.0
ACM (school)	431	8.32	1.70	0.26	1.73
AESI (self)	431	11.55	3.40	0.13	-0.03
AESI (others)	431	14.07	4.09	-0.02	-0.06

Note: ACM, Adolescent Concerns Measure; AESI, Academic Expectations Stress Inventory.

Table 2. Impact of adolescent concerns on the academic stress in boys.

	B	SEB	β	t
<i>Academic stress (self)</i>				
ACM (family)	-0.002	0.059	-0.003	-0.032
ACM (personal)	0.237	0.084	0.202	2.832*
ACM (peers)	0.041	0.124	0.026	0.328
ACM (school)	0.311	0.164	0.157	1.903
<i>Academic stress (others)</i>				
ACM (family)	-0.050	0.074	-0.057	-0.683
ACM (personal)	0.267	0.105	0.187	2.553*
ACM (peers)	-0.082	0.155	-0.044	-0.531
ACM (school)	0.210	0.204	0.087	1.030

Note: ACM, Adolescent Concerns Measure; AESI, Academic Expectations Stress Inventory.

* $p<0.05$.

Table 3. Impact of the adolescent concerns on the academic stress in girls.

	B	SEB	β	t
<i>Academic stress (self)</i>				
ACM (family)	0.000	0.051	-0.000	-0.002
ACM (personal)	0.467	0.080	0.405	5.834*
ACM (peers)	0.040	0.122	0.023	0.328
ACM (school)	0.190	0.145	0.095	1.313
<i>Academic stress (others)</i>				
ACM (family)	-0.115	0.064	-0.135	-1.784
ACM (personal)	0.371	0.101	0.267	3.660*
ACM (peers)	0.056	0.154	0.027	0.364
ACM (school)	0.487	0.183	0.202	2.655*

Note: ACM, Adolescent Concerns Measure; AESI, Academic Expectations Stress Inventory.

* $p<0.05$.

t (218)=5.834, $p<0.05$. Similarly, personal concerns was also a significant predictor of academic stress (others) in both boys ($\beta=0.187$), t (210)=2.553, $p<0.05$, and girls, ($\beta=0.267$), t (218)=3.66, $p<0.05$.

However, the results also revealed that school-related concerns were only predictive of academic stress (others) in girls ($\beta=0.202$), t (218)=2.655, $p<0.05$, but not in boys ($\beta=0.087$), t (210)=0.531, $p<0.05$. In addition, the girls' academic stress arising from self-expectations was also significantly higher than that of the boys, t (1, 428)=2.379, $p<0.05$.

Discussion

This study aims to examine the impact of adolescent concerns on the academic stress experienced by the adolescent, and if these relationships differed between genders. Results from this study revealed a positive association between personal concerns of

male and female adolescents, and their academic stress arising from self-expectations and other-expectations. Past research in this area has also noted the connection between personal stressors faced by an adolescent and their level of emotional adjustment (Gersten et al. 1977; Johnson and McCutcheon 1980; Dise-Lewis, 1988). Omizo, Omizo, and Suzuki (1988) also identified interpersonal relationships such as what others would think of them, as a daily stressor adolescents face in school.

Similarly, Lee and Larson (2000) discovered a positive association between Korean adolescents experiencing high rates of clinical depression and academic stress. The Korean adolescent's daily experiences of intense academic competition in school were associated with high rates of depressive symptoms such as feelings of hopelessness and loss of interest in life (Lee, Ku, and Lee 1991). Au and Watkins (1997) also indicated that academic failure was found to be a major risk factor for the development of learned hopelessness in Hong Kong adolescents. Chen and Kaplan (2003) reported that adolescent self-devaluation such as feeling hopeless about their situation as reflective of psychological inadequacy and inferiority. These were found to be associated with academic failure, which is a stressor. Other researchers have also reported a positive association between academic stress, such as receiving unacceptable grades and depressive symptoms in adolescents (Hilsman and Garber 1995). To a large extent, these studies support the notion that the adolescent's academic stress is in part, influenced by their personal concerns.

Results of this study also indicated that school-related concerns were predictive of academic stress arising from other expectations in girls but not in boys. Such a finding mirrored the research literature mentioned earlier about the correlation between girls experiencing more stress and having a significantly higher level of concern about academic issues than boys do (Gillies 1989; Hui 2000). Other research has shown that girls generally exhibited greater concern about school and failing exams than boys did (Simon and Ward 1982; Gillies 1989). From her interviews with 152 fourteen-year olds, Gillies (1989) found exam failure was mentioned more significantly by girls than by boys. Gallagher et al. (1992) also found that worries about schoolwork and examinations were reported significantly more frequently by girls than boys. Gallagher and Miller (1998) in their study of Irish adolescents also found that overall, female adolescents worried substantially more than male adolescents, in aspects about school work, exams, and starting college.

Similarly in the Asian context, Hui (2000) found that adolescent girls in Hong Kong reported having greater concerns relating to issues in studies than boys do. Likewise, Lau (1989) also showed that female adolescents in Hong Kong placed greater emphasis on academic ability and performance when compared to their male counterparts. Lau (1989) explained that both academic ability and performance are instrumental in gaining adult approval and praises which would help enhance the female adolescent's self-esteem. In order to enhance their self-esteem via approval and praise from others, school-related concerns, in particular, academic achievement, would be perceived to be of great importance to female adolescents (Gallagher et al. 1992). Research studies with Chinese adolescents have also shown that girls in general tend to score lower on self-esteem measures than boys do. Such a tendency may contribute to girls having higher levels of concern about school and exams as one's status in the Asian context tend to be conveyed through academic achievement and competence (Cheung and Lau 1985; Lau 1989, 1990; Lau and Leung 1992). To a large extent, this could possibly explain why female adolescents in this study

experienced greater academic stress arising from expectations by others in terms of school-related concerns.

Another possible explanation for the gender difference in the levels of concerns expressed is given by Banks et al. (1992). Banks and his colleagues suggested that boys may not tend to disclose their worries as readily as girls. They explained that girls tend to be more willing to acknowledge and disclose their strengths and weaknesses when compared with boys (Banks et al. 1992). Balding (1992) in his study which surveyed over 20,000 youths also indicated that adolescent boys were less likely to share their problems with anyone as compared with the girls. A similar study in America also revealed that adolescent girls tend to report greater levels of emotional disclosure to parents and friends than boys (Papini et al. 1990).

In summary, findings from this study suggested a positive association existed between the personal concerns of adolescents in Singapore and the level of academic stress experienced by them. School-related concerns in particular, were positively associated with academic stress arising from other-expectations, which were found in female adolescents only. However, it is plausible that adolescents who are academically stressed are also more likely to display personal concerns. To establish causal direction of the relation found, longitudinal research is needed. In addition, girls were found to have significantly greater academic stress arising from self-expectations when compared with boys. These findings would have implications for specific intervention programs that could be specially tailored to address the academic concerns in girls.

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