

# Prevalence of Social Anxiety Disorder and Impact on School Performance among Secondary School Students in Taif City, KSA

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**Abstract Background:** Social anxiety disorder (SAD) is a prevalent condition in Saudi Arabia, especially in people who are in their adolescent years. However, there is no available data on social anxiety disorder in Taif secondary male schools. **Objectives:** to explore the magnitude and associated factors of social anxiety disorder among secondary school students, Taif, KSA, January, 2019. **Subjects and methods:** A cross-sectional study was carried out at Taif city, including a representative random sample of male secondary schools enrolled in private and governmental schools throughout the academic year 2018-2019. Data were collected using a self-administered questionnaire. It included socio-demographic characteristics of the students as well as the Arabic version of Social Phobia Inventory (SPIN) to assess SAD among them. **Results:** The study included 190 students. The age of about one-third of them (34.7%) was 17 years whereas that of 30.5% was 18 years or above. More than half of the participants (56.3%) were recruited from governmental schools. The prevalence of social phobia was 17.9%; it was mild among 11.6% of them and severe among only 2.1%. Students of lower educated mothers were more likely to have severe forms of the disorder,  $p=0.030$ . There was no difference between students of private and governmental schools regarding prevalence and severity of social phobia. Social anxiety disorder had no impact of school performance of the affected students. **Conclusion:** The prevalence of social anxiety disorder among secondary school students in Taif is within the range of other Saudi studies. However, it is higher than those reported in Western countries and affects a considerable proportion of students.

**Keywords:** social anxiety, school, performance

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## 1. Introduction

"Social anxiety disorder" (also referred to as social phobia) involves the fear of social situations, including situations that involve scrutiny or contact with strangers [1]. Persons with social anxiety disorder are fearful of embarrassing themselves in social situations (i.e., social gatherings, oral presentations, meeting new people) [2]. They may have specific fears about performing specific activities such as eating or speaking in front of others, or they may experience a vague, nonspecific fear of "embarrassing oneself" [1,3].

Various studies have reported a lifetime prevalence ranging from 3 to 13 percent for SAD [2,3,4]. In epidemiological studies, females are affected more often than males, but in clinical samples, the reverse is often true [5]. The peak age of onset for SAD is in the teens, although onset is common as young as 5 years of age and as old as 35 years [4,5].

Several studies have reported that some children possibly have a trait characterized by a consistent pattern of behavioral inhibition [6]. This trait may be particularly common in children of parents who are affected with panic disorder, and it may develop into severe shyness as the children grow older [7]. At least some persons with SAD may have exhibited behavioral inhibition during childhood. Perhaps associated with this trait, which is thought to be biologically based, are the psychologically based data indicating that the parents of persons with SAD, as a group, were less caring, more rejecting, and more overprotective of their children than were other parents [8]. Existing prospective epidemiological findings indicate that SAD is typically chronic, although patients whose symptoms do remit tend to stay well [1,2,3,4]. Both retrospective epidemiological studies and prospective clinical studies suggest that the disorder can profoundly disrupt the life of an individual over many years [9]. This can include disruption in school or academic achievement and interference with job performance and social development [10].

SAD is a prevalent condition in Saudi Arabia, constituting approximately 13% of all neurotic disorders seen in the psychiatric clinic, especially in people who are in their adolescent years [5,6,7,8,9,10].

The study aimed to explore the magnitude of social anxiety disorder among secondary school students, Taif, KSA, January, 2019.

## 2. Specific Objectives

1. Estimate the impact of SAD on school performance among secondary school students, Taif, KSA
2. Compare the prevalence of SAD between governmental and private schools.

## 3. Patients and Methods

This study was a cross-sectional study carried out in Taif city part of Makkah city included all secondary school students, regular attending schools, either private or governmental 2018 present at the period of the study conduction were eligible for study inclusion and excluded all absent participants.

### 3.1. Ethical Approval

This study was approved from regional research center and director of primary health care in Makkah. Each participants gave a verbal consent prior to recruitment and confidentiality was assured for each situation.

### 3.2. Study Sample Size Calculation and Method of Sampling

The minimum number was 182 individual. Sample size was calculated using online Roasoft sample size calculator, setting the confidence level at 95%, the confidence limit at 5% and the expected prevalence of SAD as 14.1%. Each class was considered as a cluster. Approximately 20 students of the chosen governmental classes and 14 from private classes were selected, till required sample size has been reached. Data were collected using a self-administered questionnaire. It included the following sections:

- Socio-demographic characteristics of the students (age, nationality, educational grade, parents' education and job).
- The Arabic version of Social Phobia Inventory (SPIN) was utilized.

SPIN consists of 17-items scale and is rated from 0 (not at all) to 4 (extremely), the total score ranges from 0 to 68. Social phobia is diagnosed when the student has a total score of  $\geq 20$  on SPIN, mild social phobia is considered when the total score ranges from 21 to 30, moderate from 31 to 40, and severe from 41 to 50 while 51 or more is considered very severe form [11]. SPIN is valid and reliable psychometric tool of screening social phobia in adolescents. It's Cronbach alpha value is 0.85, its sensitivity ranging between 73 and 85% while its specificity ranging between 69 and 84% [12,13]. The data were verified by hand then coded and entered to a personal computer.

### 3.3. Pilot Study

A pilot study was conducted in one school, in a class other than those selected for the study to test wording of questionnaire, to estimate the time required to fill the questionnaire as well as feasibility of the study methodology.

### 3.4. Data Analysis

Data entry and analysis was conducted using statistical software package SPSS version 25.0. Data were presented using descriptive statistics in the form of frequencies and percentages as all data were of categorized type. Analytic statistics was done using Chi Square tests ( $\chi^2$ ) to test for the association and/or the difference between two categorical variables. P-value equal or less than 0.05 was considered statistically significant.

## 4. Results

### 4.1. Demographics

One hundred and ninety students were included in the study. The age of about one- third of them (34.7%) was 17 years whereas that of 30.5% was 18 years or above. More than one-quarter of the students were last in birth order whereas 23.2% were first birth order. More than a third of them (35.3%) were recruited from the third scholastic grade. Majority were Saudis (96.8%). Fathers of 33.2% of them were retired whereas mothers of 72.6% were not working. Fathers and mothers of 46.3% and 44.7% of students respectively were at least university graduated. The family income exceeded 15000 SR/month among 37.8% of the students. [Table 1](#)

More than half of the participants (56.3%) were recruited from governmental schools as illustrated in [Figure 1](#).

The prevalence of social phobia was 17.9%; it was mild among 11.6% of them and severe among only 2.1% of the students

### 4.2. School Performance

More than half of the students (52.1%) had school performance ranged between 90 and 100% whereas 29.5% had school performance ranged between 80 and 89% in the last scholastic year. Nearly two-thirds of the students (66.8%) got excellent in the last examination this year whereas 11.1% got good and only one student (0.5%) just passed. History of failure in school throughout all school stages was reported by 10.5% of the students; it was twice among 4.2% of them.

### 4.3. Factors Associated with Social Phobia and Its Severity

Moderate to severe social phobia was reported among 25% of students whose fathers were illiterate compared to none among those whose fathers were postgraduates. However, the association between father's educational

level and severity of social phobia was borderline not significant,  $p=0.055$ . The father's educational level was not significantly associated with social phobia. Moderate to severe social phobia was reported among 15.8% of students whose mothers were primary school graduated compared to none among those whose mothers were

postgraduates. The association between mother's educational level and severity of social phobia was statistically significant,  $p=0.030$ . The mother's educational level was not significantly associated with social phobia. However, other factors were found to be statistically not significance as shown in Table 2.

Table 1. Socio-demographic characteristics of the participants

	Frequency	Percentage
<b>Age (years)</b>		
15	14	7.4
16	52	27.4
17	66	34.7
≥18	58	30.5
<b>Birth order</b>		
First	44	23.2
Second	33	17.4
Third	26	13.7
Fourth	14	7.4
Fifth	21	11.1
Last	52	27.4
<b>School grade</b>		
First	63	33.2
Second	60	31.6
Third	67	35.3
<b>Nationality Saudi</b>	184	96.8
<b>Non-Saudi</b>	6	3.2
<b>Father's job</b>		
Civilian employee	59	31.1
Military employee	51	26.8
Business/trading	17	8.9
Retired	63	33.2
<b>Mother's job status</b>		
Working	52	27.4
Not working	138	72.6
<b>Father's educational level</b>		
Illiterate	12	6.3
Primary school	11	5.8
Intermediate school	30	15.8
Secondary school	49	25.8
University	61	32.1
Postgraduate	27	14.2
<b>Mother's educational level</b>		
Illiterate	26	13.7
Primary school	19	10.0
Intermediate school	26	13.7
Secondary school	34	17.9
University	60	31.5
Postgraduate	25	13.2
<b>Family income (SR/month)</b>		
<3000	22	11.6
3000-5000	29	15.3
5001-10000	34	17.9
10001-15000	33	17.4
>15000	72	37.8

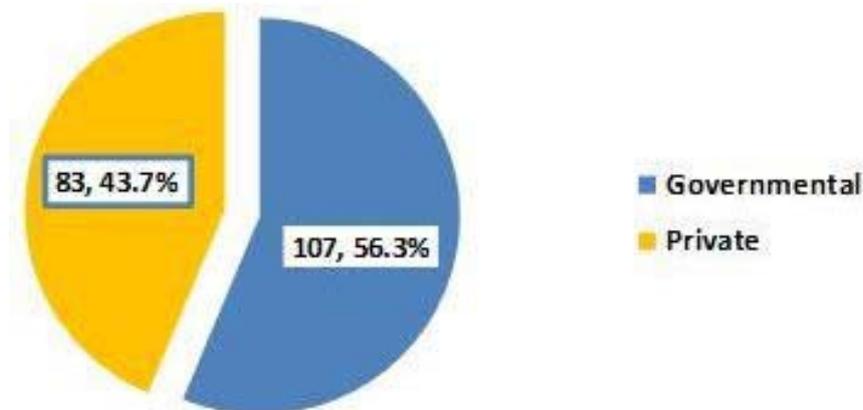


Figure 1. Type of school among male secondary school students, Taif, KSA, January, 2019

Table 2. Factors associated with social phobia and its severity

	Social phobia				P1	P2
	No N=156	Yes				
		Mild N=22	Moderate to severe N=12	Total N=34		
<b>Age (years)</b>						
15 (n=14)	11 (78.6)	2 (14.3)	1 (7.1)	3 (21.4)	0.389	0.478
16 (n=52)	42 (80.8)	7 (13.5)	3 (5.8)	10 (19.2)		
17 (n=66)	58 (87.9)	7 (10.6)	1 (1.5)	8 (12.1)		
≥18 (n=58)	45 (77.6)	6 (10.3)	7 (12.1)	13 (22.4)		
<b>Birth order</b>						
First (n=44)	34 (77.3)	9 (20.5)	1 (2.3)	10 (22.7)	0.122	0.133
Second (n=33)	30 (90.9)	1 (3.0)	2 (6.1)	3 (9.1)		
Third (n=26)	18 (69.2)	6 (23.1)	2 (7.7)	8 (30.8)		
Fourth (n=14)	14 (100)	0 (0.0)	0 (0.0)	0 (0.0)		
Fifth (n=21)	17 (81.0)	2 (9.5)	2 (9.5)	4 (19.0)		
Last (n=52)	43 (82.7)	4 (7.7)	5 (9.6)	9 (17.3)		
<b>Type of school</b>						
Governmental (n=107)	89 (83.2)	11 (10.3)	7 (6.5)	18 (16.8)	0.814	0.662
Private (n=83)	67 (80.7)	11 (13.3)	5 (6.0)	16 (19.3)		
<b>School grade</b>						
First (n=63)	53 (84.1)	7 (11.1)	3 (4.8)	10 (15.9)	0.446	0.265
Second (n=60)	52 (86.7)	6 (10.0)	2 (3.3)	8 (13.3)		
Third (n=67)	51 (76.1)	9 (13.5)	7 (10.4)	16 (23.9)		
<b>Nationality</b>						
Saudi (n=184)	152 (82.6)	21 (11.4)	11 (6.0)	32 (17.4)	0.504	0.292
Non-Saudi (n=6)	4 (66.7)	1 (16.7)	1 (16.7)	2 (33.3)		
<b>Father's job</b>						
Civilian employee (n=59)	49 (83.1)	6 (10.2)	4 (6.8)	10 (16.9)	0.082	0.878
Military employee (n=51)	41 (80.4)	10 (19.6)	0 (0.0)	10 (19.6)		
Business/trading (n=17)	13 (76.5)	1 (5.9)	3 (17.6)	4 (23.5)		
Retired (n=63)	53 (84.1)	5 (7.9)	5 (7.9)	10 (15.9)		
<b>Mother's job status</b>						
Working (n=52)	46 (88.5)	4 (7.7)	2 (3.8)	6 (11.5)	0.372	0.161
Not-working (n=138)	110 (79.7)	18 (13.0)	10 (7.2)	28 (20.3)		
<b>Father's educational level</b>						
Illiterate (n=12)	8 (66.7)	1 (8.3)	3 (25.0)	4 (33.3)	0.055	0.382
Primary school (n=11)	9 (81.8)	1 (9.1)	1 (9.1)	2 (18.2)		
Intermediate school (n=30)	24 (80.0)	5 (16.7)	1 (3.3)	6 (20.0)		
Secondary school (n=49)	44 (89.8)	2 (4.1)	3 (6.1)	5 (10.2)		
University (n=61)	51 (83.6)	6 (9.8)	4 (6.6)	10 (16.4)		
Postgraduate (n=27)	20 (74.1)	7 (25.9)	0 (0.0)	7 (25.9)		
<b>Mother's educational level</b>						
Illiterate (n=26)	22 (84.6)	2 (7.7)	2 (7.7)	4 (15.4)	0.03	0.142
Primary school (n=19)	13 (68.4)	3 (15.8)	3 (15.8)	6 (31.6)		
Intermediate school (n=26)	22 (84.6)	2 (7.7)	2 (7.7)	4 (15.4)		
Secondary school (n=34)	31 (91.2)	3 (8.8)	0 (0.0)	3 (8.8)		
University (n=60)	51 (85.0)	4 (6.7)	5 (8.3)	9 (15.0)		
Postgraduate (n=25)	17 (68.0)	8 (32.0)	0 (0.0)	8 (32.0)		
<b>Family income (SR/month)</b>						
<3000 (n=22)	19 (86.4)	1 (4.5)	2 (9.1)	3 (13.6)	0.895	0.805
3000-5000 (n=29)	24 (82.8)	3 (10.3)	2 (6.9)	5 (17.2)		
5001-10000 (n=34)	27 (79.4)	4 (11.8)	3 (8.8)	7 (20.6)		
10001-15000 (n=33)	29 (87.9)	3 (9.1)	1 (3.0)	4 (12.1)		
>15000 (n=72)	57 (79.2)	11 (15.3)	4 (5.6)	15 (20.8)		

P1 SAD severity, P2 SAD versus no.

**Table 3. Outcome of social phobia and its severity**

	Social phobia				P1	P2
	No N=156	Yes				
		Mild N=22	Moderate to severe N=12	Total N=34		
<i>School performance in the last scholastic year</i>						
90-100% (n=99)	78 (78.8)	15 (15.2)	6 (6.1)	21 (21.2)	0.621	0.368
80-89% (n=56)	49 (87.5)	4 (7.1)	3 (5.4)	7 (12.5)		
70-79% (n=29)	25 (86.2)	2 (6.9)	2 (6.9)	4 (13.8)		
60-69% (n=6)	4 (66.7)	1 (16.7)	1 (16.7)	2 (33.3)		
<i>School performance in the last examination this year</i>						
Excellent (n=127)	103 (81.1)	16 (12.6)	8 (6.3)	24 (18.9)		
Very good (n=41)	34 (82.9)	4 (9.8)	3 (7.3)	7 (17.1)		
Good (n=21)	18 (85.7)	2 (9.5)	1 (4.8)	3 (14.3)		
Pass (n=1)	1 (100)	0 (0.0)	0 (0.0)	0 (0.0)		
<i>Number of failures in school throughout all school stages</i>						
None (n=170)	139 (81.8)	21 (12.4)	10 (5.9)	31 (18.2)	0.684	0.596
Once (n=12)	11 (91.7)	0 (0.0)	1 (8.3)	1 (8.3)		
Twice (n=8)	6 (75.0)	1 (12.5)	1 (12.5)	2 (25.0)		

P1 SAD severity, P2 SAD versus no.

#### 4.4. Outcome of Social Phobia and Its Severity

As shown in Table 3, there was no significant association between social phobia and its severity among students and school performance in the last scholastic year, last examination this year and number of failures ( $p>0.05$ ).

### 5. Discussion

Social phobia is a prevalent anxiety disorders among adolescent group of population with bad effects on overall health and performance of this group. However, it is often under diagnosed as many cases are afraid to seek medical advice and if diagnosed not effectively treated [14]. Despite the importance of the subject, limited studies have been conducted in Saudi Arabia to estimate the prevalence, associated factors and impact of this disorder on school performance. Therefore, this study was carried out to estimate the prevalence and identify some associated factors of social phobia among secondary school students in Taif city.

The prevalence of social phobia in the present study was 17.9%. Very close figure has been reported in other studies carried out among male secondary school students in Tabuk, (18.6%) [18], Khamis Mushayt (14.1%) [19], Abha, KSA (17.3%) [5] and Iran (17.2%) [14]. However, the figure reported in the present study is higher than those reported in USA (3-13%) [20], Sweden (4.4%) [21] and Germany (8%) [22]. The reason of differences observed between various studies could be attributed to the fact of using different tools in diagnosis of social phobia, in addition to the variation in the social-cultural context of populations in different studies.

In agreement with AlQahtani AM et al, [5] the current study revealed that age, and scholastic grade of secondary school students were not associated with social phobia. However, Wittchen HU and Fehm L reported higher rate of social phobia among younger students [23].

In the present study, the lower maternal educational level was associated with more severe social phobia. This finding coincides with that reported in two Iranian studies as severe level of social phobia was more reported among students whose mothers were low educated [14,24].

This study revealed that student's birth order was not associated with social phobia or its severity. However, Al-Qahtani AM et al [5] and Wittchen HU and Fehm L [23] reported that middle-born students were associated with lowest prevalence of social phobia and the only or first birth child was associated with highest prevalence of social phobia. Also, Hettema et al. [25] found that the first child was at higher risk for developing SP. They attributed this to the limited experience of still young parents with dealing with their children who may stay for a period of time the only kid in their family while those who are born after the first child start their life in a more social way.

In the current study, although sever level of social phobia was more observed among students with lower educated fathers, this was not significant. However, another study carried out in Iran reported that low level of father's education was a significant predictor of social phobia and its severity [26].

Family income was not significantly associated with social phobia or its severity in the present work. However, Asgari M et al [14] and Zamani AR et al [26] reported that Social phobia was more prevalent in the students whose family's income was Moderate. Different findings were observed by Stansfield SA et al and Acarturk C et al who reported that social phobia were more observed among students with low family income [30,31].

According to the results of the current study, maternal and paternal jobs were not associated with social phobia among students. In Iran, [14] Asgari M, et al reported higher rate of social phobia among students whose fathers were employed.

There has been some debate on whether SAD impairs the school performance of the affected students or not [29]. In the current study, SAD or its severity were not

associated with school performance. However Mazzone L et al (2007) [30] reported negative impact of SAD on school performance. Further in-depth study might be needed to focus on this important issue.

It is hypothesized that students of government schools belong to not well off economically families usually the parents not that much educated, in addition to poor education and lack of adequate care and attention on the part of teachers in these schools. Therefore, these students have a greater risk of developing social phobia [31]. However, this is not the situation in Saudi Arabia, where there is no such big difference between private and governmental schools. In this study there was no significant difference between private and governmental schools concerning the prevalence of social phobia.

Some limitations of the current study should be mentioned. First, it is conducted only among male students, so we lack the chance of comparison between males and females regarding prevalence and associated factors. Second, the cross-sectional design does not allow the causal inferences to be drawn from our observational. Finally, we recruited population from Taif only, which might limit the generalization of our findings to other Saudi regions. Despite of those limitations, the study explored an important health problem among adolescents in Taif and identified some risk factors that could help decision makers.

In conclusion, the prevalence of social anxiety disorder among secondary school students in Taif is within the range of other Saudi studies. However, it is higher than those reported in Western countries and affects a considerable proportion of students.

## Conflict of Interest

There is no conflict of interest.

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