

SOCIAL ANXIETY IN 18 NATIONS: SEX AND AGE DIFFERENCES

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Abstract

The aim of this study was to examine age and sex differences in 6 dimensions of social anxiety in a sample of 16,940 people over the age of 16 in 18 countries in Ibero-America. Participants completed the «Social Anxiety Questionnaire for Adults» (SAQ-A), which includes the following dimensions: 1. Awkward behavior in socially embarrassing situations; 2. Interactions with the opposite sex; 3. Interactions with strangers; 4. Criticism and embarrassment; 5. Assertive expression of annoyance, disgust or displeasure; and 6. Speaking/performing in public/Talking with people in authority. The results showed that women reported significantly more anxiety than men in 88.67% of the social situations covered by the SAQ-A. All but three countries showed significant sex differences in social anxiety with women reporting greater anxiety than men. With regards to age, the younger age groups (up to the age of 24) showed greater sex differences in social anxiety depending on the specific social

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anxiety dimensions. Finally, anxiety and age was positively associated for some social anxiety dimensions and negatively or U-shaped for others. Although the sample size was very large, some of the results will require future replication.

KEY WORDS: *social anxiety, social phobia, age differences, sex differences, cross-cultural differences, size effect.*

Resumen

El objetivo de este estudio consiste en examinar las diferencias asociadas a la edad y el sexo en 6 dimensiones de la ansiedad social en una muestra de 16.940 sujetos con una edad superior a 16 años en 18 países iberoamericanos. Los participantes rellenaron el «Cuestionario de ansiedad social para adultos» (CASO-A), que consta de las siguientes dimensiones: 1. Quedar en evidencia/Hacer el ridículo, 2. Interacciones con el sexo opuesto, 3. Interacciones con desconocidos, 4. Situaciones de crítica y ridículo, 5. Expresión asertiva de molestia, desagrado o enfado, y 6. Hablar/actuar en público/Interacción con personas de autoridad. Los resultados mostraron que las mujeres informaban de más ansiedad que los hombres en el 88,67% de las situaciones sociales incluidas en el CASO-A. Todos los países, menos tres, mostraron diferencias significativas en ansiedad social asociadas al sexo, siendo las mujeres las que informaban de más ansiedad que los hombres. Con respecto a la edad, los grupos de personas más jóvenes (hasta la edad de 24 años) mostraban diferencias sexuales en ansiedad social más acusadas dependiendo, no obstante, de las dimensiones específicas de la ansiedad social. Finalmente, la ansiedad y la edad estaban asociadas positivamente en algunas dimensiones de ansiedad social y negativamente o en forma de U en otras. Aunque el tamaño de la muestra era bastante grande, es necesario que algunos de los resultados obtenidos en el presente estudio sean replicados en trabajos posteriores.

PALABRAS CLAVE: *ansiedad social, fobia social, diferencias de edad, diferencias de sexo, diferencias transculturales, tamaño del efecto.*

Introduction

Social anxiety disorder, or social phobia, is one of the most frequent mental disorders in the world, after depression and alcohol abuse (Davidson, Hughes, George, & Blazer, 1993, 1994; Kessler, et al., 1994; Kessler, Stang, Wittchen, Stein, & Walters, 1999; Lecrubier, Wittchen, Faravelli, Bobes, Patel, & Knapp, 2000; Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992; Stein, Walker, & Forde, 1994; Weinstock, 1999), with which, in turn, it has high comorbidity (Chartier, Walker, & Stein, 2003; Erwin, Heimberg, Juster, & Mindlin, 2002; Fehm, Beesdo, Jacobi, & Fiedler, 2008; Fogler, 2005; Ham, & Hope, 2005; Lampe, Slade, Issakidis, & Andrews, 2003; Merikangas, & Angst, 1995; Morris, Stewart, & Ham, 2005; Swinson, 2005; Weinstock, 1999; Yonkers, Dyck, & Keller, 2001). Social phobia is highly comorbid with other anxiety disorders (e.g., panic disorder, agoraphobia, specific phobia) or other mental disorders. In most cases (except for specific phobia) social phobia precedes other mental disorders and appears to serve as a risk factor for their onset (Chartier, et al., 2003; Dell'Osso, et al., 2002; Fehm, et al., 2008; Lampe, et al., 2003; Magee, et al., 1996; Merikangas,

Avenevoli, Acharyya, Zhang, & Angst, 2002; Nelson, et al., 2000; Spitzer, Williams, Gibbon, & First, 1992; Turk, et al., 1998; Wittchen, Stein, & Kessler, 1999).

Diagnostic criteria based on the DSM-IV-TR (American Psychiatric Association [APA], 2000) for social phobia include the fear of social or performance situations in which embarrassment may occur, associated with avoidance of these situations or their endurance with intense anxiety or distress. This avoidance or distress interferes significantly with the person's normal routine, occupational and academic performance, social activities and relationships. Social phobia follows a chronic course and has a negative impact on the individual's satisfaction with, and quality of, life (Brunello, et al., 2000; Fehm, et al., 2008; Kessler, et al., 1999; Lecrubier, et al., 2000; Safren, Heimberg, Brown, & Holle, 1997; Schneier, et al., 1994; Weinstock, 1999; Wittchen, Fuetsch, Sonntag, Müller, & Liebowitz, 2000). Only few people seek treatment, and when they do it is often because of the comorbid disorders (Fehm, et al., 2008; Magee, et al., 1996; Merikangas, et al., 2002; Ruscio, Brown, Chiu, Sareen, Stein, & Kessler, 2008; Schneier, et al., 1992; Wittchen, et al., 1999).

Individuals who suffer from social phobia tend to spend more time on their own and avoid personal interaction and contact with others. They tend to be less successful in initiating and upholding romantic and affective relationships and friendships. Furthermore, they often find it difficult to improve their level of education, hold a job, be productive, increase their income, and they have problems finding social support at a difficult time in their lives (Caballo, 1995; Fehm, et al., 2008; Wittchen, et al., 2000). Finally, individuals with social phobia often develop other mental disorders and are exposed to a greater risk of suicide (Caballo, & Turner, 1994; Davidson, et al., 1993; Nelson, et al., 2000; Schneier, et al., 1992; Yonkers, et al., 2001). Consequences of this nature can be observed especially in those who have multiple social fears (Ruscio, et al., 2008; Wittchen, et al., 1999).

In a broader sense, the problems caused by social phobia can even have a bearing on public health, the economy, and a country's development due to the impact the disorder has on work productivity, professional training, and the opportunities for improving the standards of living (Nardi, 2005; Waghorn, Chant, White, & Whiteford, 2005; Wittchen, et al., 2000), as well as increasing the cost of treatment (including drugs).

So far, no causal factors for social phobia have been clearly identified, but correlational studies point to a number of possible etiologies. For example, social fears are heritable, although the estimated degree of heritability ranges between 28 and 51% (Kendler, Karkowski, & Prescott, 1999; Nelson, et al., 2000), and especially in men (Kendler, Jacobson, Myers, & Prescott, 2002). It has further been suggested that individuals with an extreme form of social phobia show a greater lability of their autonomic nervous (Lang, & Stein, 2001; Merikangas, et al., 2002). Other etiological factors related to social phobia include behavioral inhibition (Beidel 1998; Merikangas, et al., 2002; Wittchen, et al., 1999); sensitivity to anxiety (Pollock, et al. 2002); shyness (Furmark, 2000; Kessler, Stein, & Berglund, 1998; Merikangas, et al., 2002; Stein, & Kean, 2000), long periods of separation from one's parents during childhood or early adolescence (Wittchen, et al., 1999); loss of a very close relationship with an adult (Chartier, Walker, & Stein, 2001), especially in males

(DeWit, et al., 2005); a history of psychopathology in one's parents (Chartier, et al., 2001; DeWit, et al., 2005; Wittchen, et al., 1999), particularly of social anxiety (Fyer, Mannuzza, Chapman, Martin, & Klein, 1995; Lieb, et al., 2000; Merikangas, et al., 2002); and having suffered from some kind of bullying or sexual abuse (Chartier, et al., 2001; DeWit, et al., 2005; Erath, Flanagan, & Bierman, 2007).

There are inconsistent findings with regards to the typical socio-demographic characteristics of social phobia. Whereas some studies reported that being a woman with low income and little schooling correlates closely with social phobia (Furmark, 2002; Kessler, et al., 1998; Lang, & Stein, 2001; Stein, & Kean, 2000), other studies (e.g., Eng, Heimberg, Coles, Schneier, & Liebowitz, 2000; Merikangas, et al., 2002) have not found any differences between sexes, level of education, or marital status.

The lifetime prevalence rate of social phobia varies widely between different countries. For example, based on data from the United States the estimated lifetime prevalence rate is 12.1% (Kessler, et al., 2005; Ruscio, et al., 2008). The estimated lifetime prevalence rate in Netherlands is 7.8% (9.7% in women and 5.9% in men) (Bijl, Ravelli, & VanZessen, 1998), in Switzerland 5.6%, (7.3% in women and 3.7% in men) (Merikangas, et al., 2002); and in Italy 3.27% with a ratio of 2:1 between women and men (Faravelli, Zucchi, Viviani, Salmoria, & Perone, 2000). Regarding the 12-months prevalence rate in some countries it has been estimated to be 2.0% (2.7% in women and 1.3% in men) in Germany (Fehm, et al., 2008) or 2.3% in Australia, without a significant difference between women (2.5%) and men (2.1%) (Lampe, et al., 2003). This information is sometimes difficult to compare due to the differences in diagnostic criteria, assessment methods, the number and type of social situations evaluated, the time when the information is gathered, and the actual research method itself.

Sex and age differences in social phobia

Some epidemiological studies on social phobia found significant differences between women and men (Pollard, & Henderson, 1988; Turk, et al., 1998), whereas others did not (Yonkers, et al., 2001). According to Pollard, & Henderson (1988), the ratio between women and men who fulfill the criteria for social phobia, as per DSM-III (APA, 1980), is 3 to 2. The authors reported the prevalence of four kinds of social phobia: public speaking or performing (20.6%), writing in front of others (2.8%), eating in restaurants (1.2%) and the use of public restrooms (0.2%). With regards to sex differences, it was found that the fears of eating in restaurants and of writing in public were greater among men, whereas the fears of using public restrooms and of speaking or performing in public were greater in women.

In a sample of 212 patients with social phobia as defined by DSM-IV (APA, 2000), Turk, et al. (1998) found no significant sex differences in the social phobia history, the diagnostic subtypes, the comorbidity with other anxiety disorders, mood disorders, and avoidant personality disorder. The authors suggested that certain sex differences might be related to the degree of anxiety rather than the type of the feared social situation. It is further possible that women are more fearful than men when talking

with people in authority, acting/performing/giving a talk in front of an audience, working while being observed, entering a room when others are already seated, being the centre of attention, speaking up at a meeting, expressing disagreement or disapproval to people one does not know very well, giving a report to a group and giving a party. In contrast, men reported more anxiety than women when urinating in a public bathroom and returning goods to a store. However, it has also been found that men and women share many social fears, such as informal interaction situations (e.g., participating in small groups, going to a party or being observed by others, such as when using a public telephone or when eating in public).

Yonkers, et al. (2001) found that women (56%) were slightly (but not significantly) more likely to have generalized social phobia than men (47%) in a study of 176 patients with social phobia as defined by DSM-III-R (APA, 1987). Similar results were reported by Stein, Walker, and Forde (1994) who interviewed 526 people over the telephone. The results showed that women (67.1%) reported more anxiety than the men (53.0%) and also reported experiencing it in more than one social situation, including public speaking, speaking in front of a small group of familiar people, speaking to strangers, meeting new people, and dealing with people in authority. However, they did not find differences between men and women in performance situations, such as writing or eating in front of others and attending social meetings. In contrast, Wittchen, et al. (1999) observed significant sex differences in four (out of 6) social situations, including eating or drinking in public (6.4% women and 2.4% men), writing while someone watches (2.8% women and 1.7% men), participating in social events (6.2% women and 3.0% men) and talking with/to others (social talk) (8.5% women and 4.2% men). These results were based on a longitudinal study with 3,021 subjects who were between 14 and 24 years old when the study began.

Dell'Osso, et al. (2002) and Dell'Osso, et al. (2003) analyzed sex differences in social anxiety in 520 high-school students who were on average 18.6 years old. The authors divided the sample into three groups depending to their social anxiety scores. The greatest differences between males and females were reported in the group with the lowest anxiety associated with interpersonal sensitivity, including social fears and feelings of awkwardness or embarrassment when being the centre of attention, when performing in front of others (e.g., writing or speaking), or expressing their feelings to someone. In contrast, the groups with intermediate or high social anxiety recorded no differences between the sexes in the domains that were assessed.

Merikangas, et al. (2002) analyzed the differences between the sexes in 591 people who took part in a 15-year long longitudinal study. The authors found that over the course of their lives women were diagnosed with higher rates of clinical and subclinical social phobia, but there were few sex differences among individuals who had only some symptoms of the disorder. This study did not specify the social fears that differentiated women and men.

Concerning age, a number of studies reported that social phobia was more common in younger individuals (age 15 and 25) and less common in older individuals (Fehm, et al., 2008; Heimberg, Stein, Hiripi, & Kessler, 2000; Magee, et al., 1996; Schneier, et al., 1992). This same conclusion is reached by Furmark (2002), who reviewed large-scale epidemiological studies.

In general, studies examining community samples with adults and clinical samples suggest a greater prevalence of social phobia in women than in men and in younger than in older people (Heimberg, et al., 2000; Magee, et al., 1996; Wittchen, et al., 1999). Given these findings, this study focused on identifying the differences and similarities between men and women in the majority (16) of countries in Latin America, Spain and Portugal. Furthermore, the aim was to examine differences and similarities in social anxiety (in those same countries) between different age groups and between males and females.

Method

Participants

Sixteen Latin American countries, Portugal and Spain participated in this study. Table 1 shows the questionnaire scores of the total sample and of men and women for each country.

Procedure

More than 1,000 people (students and many significant others) were asked to record social situations over a period of 6 years, generating a pool of more than 10,000 situations from which 512 social situations were finally extracted. These situations plus four more control items formed the *Social Anxiety Questionnaire for Adults* (SAQ-A) («Cuestionario de Ansiedad Social para Adultos»; CASO-A) (see Caballo, et al., 2006; Caballo, et al., in press, for a complete description of the entire procedure).

One hundred and twenty-nine research collaborators from 16 Latin American countries, Portugal and Spain agreed to assist in the data collection. The specific countries that participated (and the number of collaborators) were as follows: Argentina (16), Bolivia (6), Brazil (7), Chile (7), Colombia (16), Costa Rica (1), Dominican Republic (2), Ecuador (2), El Salvador (2), Guatemala (3), Mexico (35), Panama (3), Paraguay (3), Peru (8), Portugal (5), Spain (10) Uruguay (2), and Venezuela (1) (see Caballo, et al., in press).

The SAQ-A was administered to people in these 18 countries that participated in the study (Table 1). The study focused on the differences between men and women in the specific items (out of the 512 total items that make up the SAQ-A) and the dimensions (factors) of this questionnaire that were identified after a series of analyses. These dimensions were also used to compare the different age groups.

Moreover, 5 age groups were formed: a) individuals up to and including the age of 18, which are the years prior to entering university, b) individuals between the ages of 19 and 24, which are the university years, c) individuals between the ages of 25 and 30, which are the years of post-university training and finding a job, d)

Table 1
Participants distributed by country in the study with the SAQ-A

Country	Women		Men		All subjects	
	N	Mean age (SD)	N	Mean age (SD)	N	Mean age (SD)
Argentina	496	30.25 (10.89)	378	28.82 (11.42)	874	30.06 (11.11)
Bolivia	412	24.37 (7.68)	403	23.80 (9.09)	815	24.09 (8.40)
Brazil	695	26.07 (9.48)	542	27.55 (10.79)	1237	26.71 (10.09)
Chile	376	26.90 (10.86)	307	27.91 (11.52)	683	27.35 (11.17)
Colombia	849	24.70 (9.60)	764	25.47 (9.81)	1613	25.06 (9.70)
Costa Rica	204	23.23 (9.42)	122	18.86 (5.82)	326	21.60 (8.52)
Dominican Republic	286	20.16 (4.61)	216	19.43 (4.36)	502	19.85 (4.51)
Ecuador	353	21.39 (5.43)	142	21.95 (4.91)	495	21.55 (5.29)
El Salvador	146	21.88 (7.12)	136	22.83 (6.81)	282	22.34 (6.97)
Guatemala	250	27.02 (10.89)	218	28.73 (10.63)	468	27.82 (10.79)
Mexico	2363	25.14 (10.34)	1921	25.29 (9.68)	4284	25.20 (10.05)
Panama	103	29.06 (12.95)	117	29.69 (11.57)	220	29.39 (12.21)
Paraguay	89	24.62 (8.03)	76	21.91 (6.82)	165	23.37 (7.60)
Peru	972	23.08 (8.37)	1000	23.25 (8.00)	1972	23.16 (8.18)
Portugal	240	27.71 (10.01)	278	27.03 (11.16)	518	27.35 (10.64)
Spain	905	22.80 (8.80)	666	27.01 (12.00)	1571	24.58 (10.48)
Uruguay	99	32.39 (12.27)	100	33.43 (10.91)	199	32.91 (11.60)
Venezuela	502	27.17 (10.88)	214	27.34 (11.47)	716	27.20 (11.04)
All the countries	9340	24.99 (9.82)	7600	25.59 (10.15)	16940	25.26 (9.97)

individuals between the ages of 31 to 49, which are years of maturity in terms of a career and of stability in one's affective life, and e) individuals older than 50, which are the years when one enjoys one's achievements.

Instrument

All results were based on the Social Anxiety Questionnaire for Adults (SAQ-A). Each item was answered on a 7-point Likert scale to indicate the level of uneasiness, stress, or nervousness to each situation (0 = Not at all, 1 = Very slight, 2 = Slight, 3 = Moderate, 4 = High, 5 = Very high, and 6 = Extremely high).

The analyses (cluster analysis, exploratory and confirmatory factor analysis) carried out on the *Social Anxiety Questionnaire for Adults (SAQ-A)* with 11 countries revealed a 6-factor structure solution with 12 items loading on each factor (see Caballo, et al., in press): 1. *Awkward behavior in socially embarrassing situations*; 2. *Interactions with the opposite sex*; 3. *Interactions with strangers*; 4. *Criticism and embarrassment*; 5. *Assertive expression of annoyance, disgust or displeasure*; and 6. *Speaking/performing in public/Talking with people in authority*.

Results

Sex differences

A comparison between men and women in the individual items of SAQ-A showed that women scored significantly higher than men in most of the items (454 of the 512 situations). Table 2 shows the 15 items with the largest sex difference in which women scored higher than men. As can be seen, most of the items (10) are related to social interaction situations involving the opposite sex. Some of these situations describe relatively uncommon or unusual social situations, such as item 493 (*sleeping with a person of the opposite sex whom I just met*), item 140 (*someone of the opposite sex seeing me naked*), or item 164 (*watching a pornographic movie in front of someone of the opposite sex*). The other situations are related to strangers (2 items), friends (2 items), and superiors/teachers (1 item). Cohen's *d* is small in most cases.

There were only 17 out of 512 items in which men scored significantly higher than women. The sex differences in these items were relatively small. Table 3 shows 12 of the items with the largest sex difference in which men scored higher than women. It should be noted that the sex differences are very small as suggested by Cohen's *d*. Most of the situations have to do with expressing/receiving positive feelings or specific informal social situations (birthday, wedding). The other five situations involve talking to people on the phone in front of other people, running into the same person many times throughout the day, expressing love to one's parents or other people, and listening to a close family member's love problems.

Table 2

Means (M), standard deviations (SD) and other psychometric data regarding the fifteen situations with the largest sex difference in which women scored higher than men

<i>Items</i>	<i>Women</i>		<i>Men</i>		<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	M (SD)	M (SD)	M (SD)	M (SD)				
45. Being stared at by a group of people of the opposite sex	3.38 (1.94)	2.73 (1.90)	23.90	16929	0.000000	0.34		
96. Going to a porn movie with friends	3.54 (2.00)	2.63 (1.98)	29.33	16890	0.000000	0.47		
140. Someone of the opposite sex seeing me naked	4.33 (1.88)	3.38 (1.97)	31.82	16919	0.000000	0.46		
143. Telling a friend that he/she smells of sweat	3.45 (1.77)	2.76 (1.76)	25.18	16921	0.000000	0.49		
164. Watching a pornographic movie in front of someone of the opposite sex	3.64 (1.93)	2.88 (1.91)	25.77	16902	0.000000	0.39		
175. Being with someone of the opposite sex who is naked	3.66 (1.92)	2.70 (1.92)	32.56	16901	0.000000	0.40		
181. Taking an oral exam or presenting a report out aloud	3.38 (1.83)	2.71 (1.75)	24.19	16936	0.000000	0.50		
200. Going alone to a bar for a drink	2.97 (1.89)	2.14 (1.80)	29.06	16907	0.000000	0.37		
223. Getting in a car with someone I do not know	3.08 (1.78)	2.35 (1.65)	27.32	16908	0.000000	0.45		
254. A person insistently making sexual advances on me	3.65 (1.65)	2.91 (1.65)	28.72	16901	0.000000	0.43		
343. Being openly stared at by someone of the opposite sex	3.14 (1.72)	2.50 (1.08)	24.59	16905	0.000000	0.45		
362. Asking someone attractive of the opposite sex for a date	3.59 (1.89)	2.72 (1.79)	30.65	16929	0.000000	0.45		
377. Going to a bar where there are only people of the opposite sex	3.07 (1.75)	2.43 (1.67)	24.33	16914	0.000000	0.37		
493. Sleeping with a person of the opposite sex whom I just met	4.13 (1.93)	2.90 (1.94)	40.96	16859	0.000000	0.64		
497. Getting caught by my parents in an awkward situation with my boyfriend/ girlfriend	4.33 (1.76)	3.49 (1.84)	30.15	16889	0.000000	0.47		

Note: *Size effect*, Cohen's *d*: $0.2 < d < 0.5$ = small; $0.5 < d < 0.8$ = medium; $0.8 < d$ = large.

More important than the differences in individual items appear to be the differences in the 6 factors of the SAQ-A (see Caballo, et al., in press). The results in these 6 factors were compared by age and sex overall and by sex within each

Table 3

Means (M), standard deviations (SD) and other psychometric data regarding the twelve situations with the largest sex difference in which men scored higher than women

<i>Items</i>	<i>Women</i>	<i>Men</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
	M (SD)	M (SD)				
11. Showing affection and love to my parents	1.61 (1.78)	1.79 (1.79)	-6.60	16914	0.000000	0.10
53. Going to a colleague's birthday party	0.99 (1.42)	1.11 (1.47)	-5.68	16935	0.000000	0.08
72. Going to the hair salon/barber shop	1.08 (1.50)	1.24 (1.56)	-7.00	16909	0.000000	0.10
109. Opening a gift in front of other people	1.53 (1.62)	1.65 (1.57)	-4.67	16927	0.000003	0.08
113. Introducing two people	1.19 (1.44)	1.34 (1.46)	-6.98	16915	0.000000	0.10
125. Being congratulated for my birthday	1.46 (1.68)	1.66 (1.64)	-7.63	16923	0.000000	0.12
138. Congratulating someone	1.20 (1.54)	1.39 (1.56)	-7.88	16927	0.000000	0.12
157. Cheering someone up	1.54 (1.59)	1.65 (1.59)	-4.63	16926	0.000004	0.07
170. My mother entering the bathroom when I am naked	2.47 (2.00)	2.92 (1.93)	-14.87	16907	0.000000	0.23
189. Making a date with someone of the same sex	1.61 (1.68)	1.72 (1.64)	-4.25	16906	0.000021	0.07
322. Going to a wedding	1.49 (1.59)	1.61 (1.56)	-5.00	16903	0.000001	0.08
424. Celebrating my birthday with friends	1.48 (1.65)	1.60 (1.60)	-4.76	16913	0.000002	0.07

Note: Size effect, Cohen's d : $0.2 < d < 0.5$ = small; $0.5 < d < 0.8$ = medium; $0.8 < d$ = large.

country. Initially, the total sample of men was compared with the total sample of women in the 6 factors. Women scored significantly higher than men in all factors (all $p < 0.001$). We used Cohen's d to examine the effect size of these differences. Table 4 shows the results of these differences. As can be seen, all differences were small ($d < 0.40$), particularly in Factor 5: Assertive expression of annoyance, disgust or displeasure ($d = -0.13$).

When comparing men and women in these same 6 factors by country, very similar results were found as in Table 4. Figures 1 to 6 displays the differences in each factor. Figure 7 shows the differences in the total SAQ-A. Differences between men and women are consistent across most countries, although these differences

Table 4

Size effect (Cohen's *d*) of the differences between men and women in the six factors of the SAQ-A

Factors	Sex	N	M (SD)	t	df	p	d
F1	Men	7470	35.27 (13.81)	-20.09	16640	0.000	0.31
	Women	9172	39.64 (14.07)				
F2	Men	7428	29.90 (12.60)	-14.13	16571	0.000	0.22
	Women	9145	32.72 (12.93)				
F3	Men	7441	30.25 (14.72)	-21.99	16615	0.000	0.34
	Women	9176	35.37 (15.07)				
F4	Men	7449	30.14 (13.51)	-22.84	16214	0.000	0.36
	Women	9142	35.07 (14.24)				
F5	Men	7472	25.38 (12.94)	-8.65	16229	0.000	0.13
	Women	9134	27.16 (13.59)				
F6	Men	7434	33.26 (12.53)	-18.02	16571	0.000	0.28
	Women	9139	36.81 (12.69)				
Total	Men	6916	184.18 (68.28)	-20.36	15367	0.000	0.33
	Women	8453	207.00 (69.80)				

Note: F1= Awkward behavior in socially embarrassing situations; F2= Interactions with the opposite sex; F3= Interactions with strangers; F4= Criticism and embarrassment; F5= Assertive expression of annoyance, disgust or displeasure; and F6= Speaking/performing in public/Talking with people in authority

Figure 1

Differences between men and women within each participant country in Factor 1: Awkward behavior in socially embarrassing situations

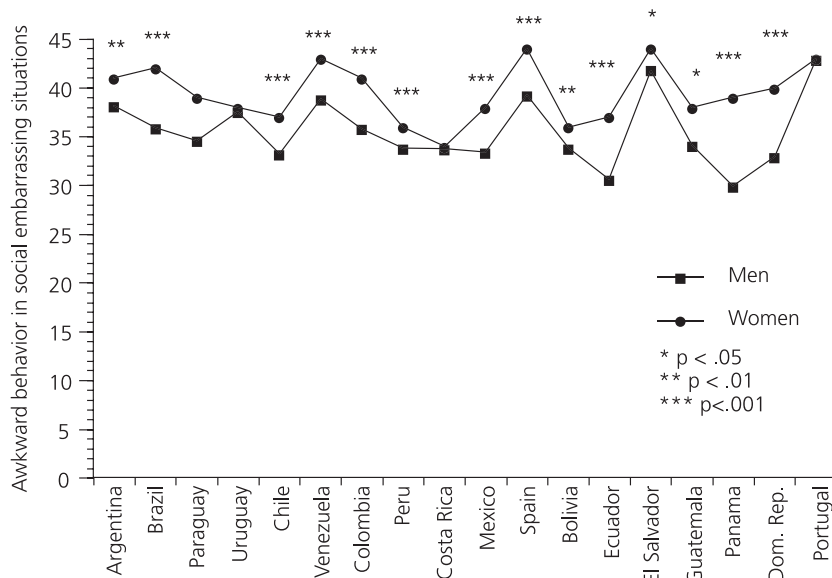


Figure 2

Differences between men and women within each participant country in Factor 2: Interactions with the opposite sex

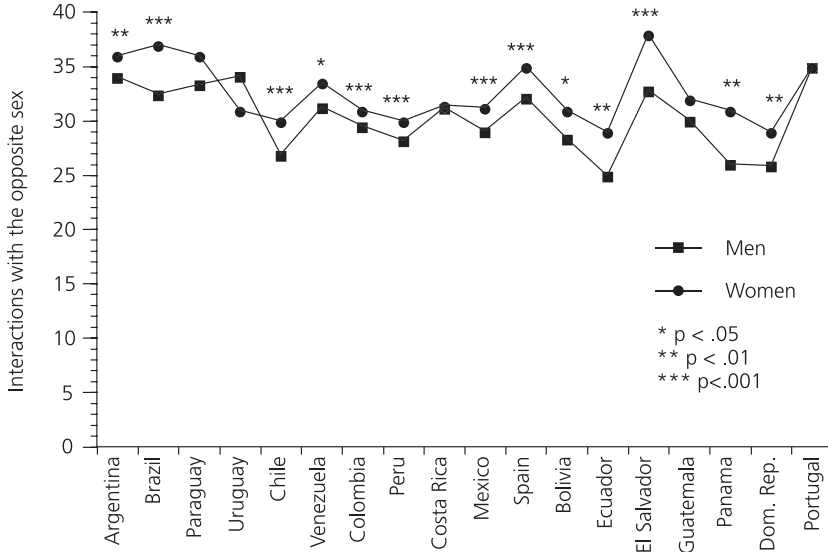


Figure 3

Differences between men and women within each participant country in Factor 3: Interactions with strangers

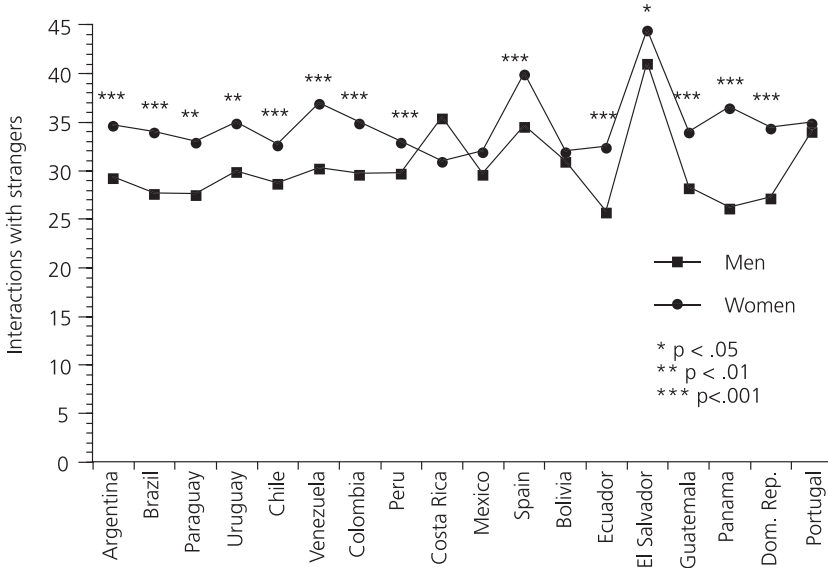


Figure 4

Differences between men and women within each participant country in Factor 4: Criticism and embarrassment

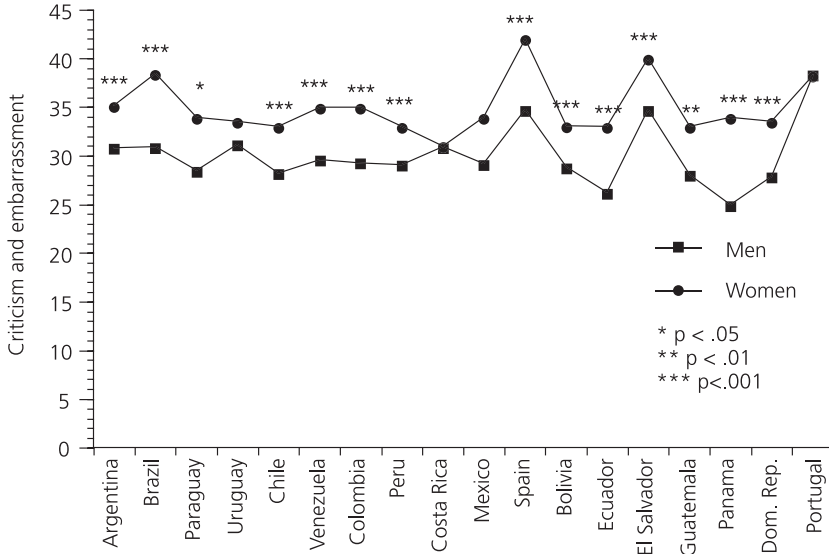


Figure 5

Differences between men and women within each participant country in Factor 5: Assertive expression of annoyance, disgust or displeasure

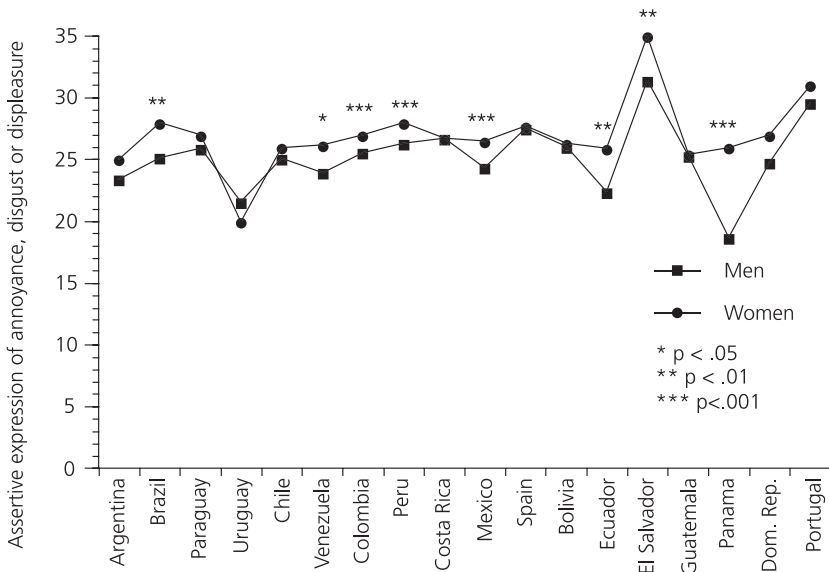


Figure 6

Differences between men and women within each participant country in Factor 6: Speaking/performing in public/Talking with people in authority

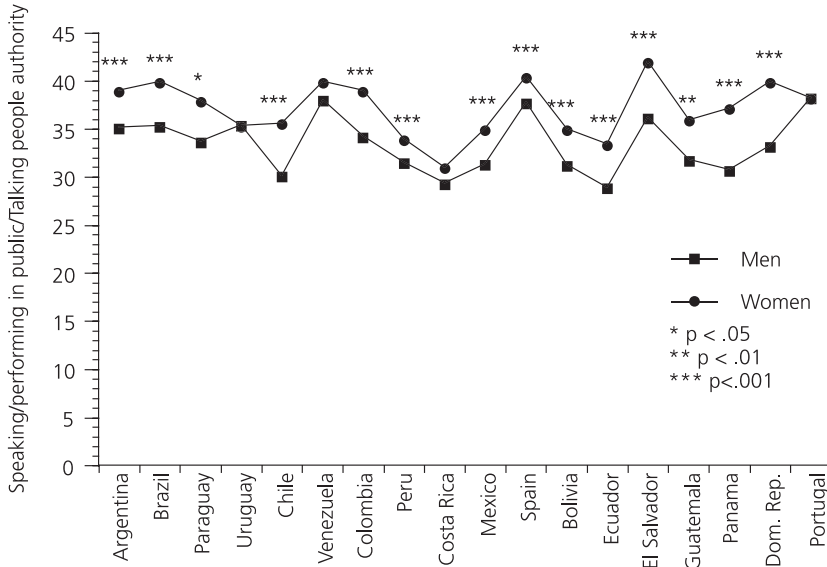
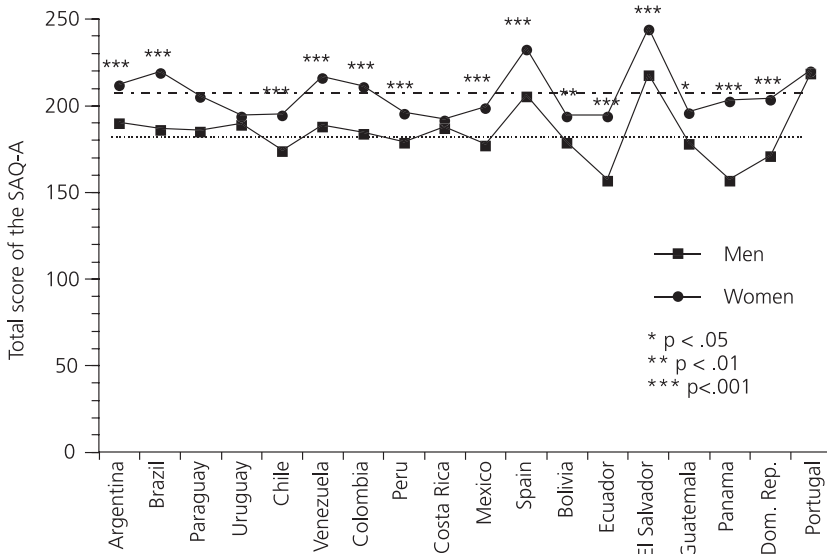


Figure 7

Differences between men and women within each participant country in total score of SAQ-A



are usually small (Cohen's $d < 0.40$). However, there was a considerable degree of variation in the sex differences between the various countries. While the sex differences were moderate (e.g., Brazil, Colombia, Spain, Ecuador, El Salvador, Dominican Republic), or high (e.g., Panama) in some countries, they were non-existent or very small in others (e.g., Uruguay, Costa Rica, Portugal) (see size effects in table 5).

Table 5
Size effect (Cohen's d) of the differences between men and women
in 18 countries

Countries	Factors and total score						Total SAQ-A
	F1. Awkward behavior	F2. Opposite sex	F3. Strangers	F4. Criticism	F5. Assertive expression	F6. Speaking in public	
Argentina	0.23	0.18	0.37	0.37	0.12	0.31	0.33
Bolivia	0.20	0.15	0.13	0.26	0.00	0.36	0.23
Brazil	0.44	0.34	0.44	0.54	0.20	0.37	0.46
Chile	0.33	0.34	0.34	0.38	0.07	0.46	0.37
Colombia	0.41	0.22	0.42	0.44	0.22	0.35	0.41
Costa Rica	0.02	0.06	0.17	0.02	0.05	0.20	0.07
Dominican Republic	0.45	0.26	0.47	0.32	0.16	0.49	0.43
Ecuador	0.44	0.28	0.48	0.37	0.26	0.40	0.49
El Salvador	0.26	0.43	0.25	0.43	0.33	0.47	0.42
Guatemala	0.21	0.13	0.40	0.32	0.03	0.29	0.25
Mexico	0.32	0.24	0.29	0.31	0.16	0.24	0.30
Panama	0.57	0.46	0.72	0.62	0.66	0.51	0.75
Paraguay	0.29	0.23	0.44	0.44	0.07	0.33	0.29
Peru	0.23	0.20	0.37	0.32	0.19	0.21	0.29
Portugal	0.05	0.01	0.10	0.02	0.09	0.04	0.02
Spain	0.45	0.15	0.13	0.26	0.00	0.36	0.23
Uruguay	0.01	0.21	0.39	0.19	0.11	0.05	0.06
Venezuela	0.30	0.17	0.43	0.35	0.17	0.12	0.38

Note: Size effect, Cohen's d : $0.2 < d < 0.5$ = small; $0.5 < d < 0.8$ = medium; $0.8 < d$ = large.

Differences by age

The entire sample was divided into five age groups within men and women. The number of subjects in each age group is shown in Table 6. Figures 8 to 14 show differences between men and women in the 6 factors and the total SAQ-A throughout the 5 age groups. Among individuals at the age of *18 or younger* and also among individuals between *19 to 24 years of age*, women scored significantly higher than men ($p < 0.001$) in all factors. The effect sizes were consistently small. Among individuals between the ages of *25 and 30*, women scored significantly higher than men ($p < 0.001$) in all factors except F5: Assertive expression of annoyance, disgust or displeasure ($p < 0.05$). The effect sizes were consistently small. Of the *31 to 49 year-olds*, women scored significantly higher than men ($p < 0.001$) in all the factors except F5: Assertive expression of annoyance, disgust or displeasure (n.s.). The effect sizes were consistently small. Among individuals at the age *50 or older*, women scored significantly higher than men ($p < 0.001$) in three factors (F1, F3 and F4), but also in F5: Assertive expression of annoyance, disgust or displeasure ($p < 0.01$), F6: Speaking/performing in public/Talking with people in authority ($p < 0.01$) and F2: Interactions with the opposite sex ($p < 0.05$). The size effects were small, except in F3: Interactions with strangers and F4: Criticism and embarrassment, which approached medium ($d > 0.40$). Generally speaking, the sex differences in the SAQ-A decreased with age in all 6 factors and also the overall score on the SAQ-A for individuals between the ages of 18 or younger and 49 years of age. However, the differences between men and women were significant in two factors (F3: Interactions with strangers and F4: Criticism and embarrassment) and in the overall score on the SAQ-A for 50-year old or older individuals.

Table 6
Number of subjects in each age group

	Age groups				
	<i>18 years or under</i>	<i>19-24 years</i>	<i>25-30 years</i>	<i>31-49 years</i>	<i>50 years or older</i>
Number of subjects	Men= 1575 Women= 1898	Men= 3229 Women= 4418	Men= 1030 Women= 1125	Men= 1276 Women= 1327	Men= 371 Women= 430

When comparing the age groups in the 6 factors and in the SAQ-A total score, there were no statistically significant differences between the five groups in F1: *Awkward behavior in socially embarrassing situations*. In other words, this dimension seems to be independent of age. The factor F2: *Interactions with the opposite sex* is stable for individuals age 18 or younger and 30, but the sex difference appears to emerge in individuals at the age of 31. However, the sex difference in F3: *Interactions with strangers* seems was weaker in older than in younger individuals. Similarly, the sex difference in factor F4: *Criticism and embarrassment* was smaller in older

Figure 8

Differences between men and women by age groups in the Factor 1: Awkward behavior in socially embarrassing situations

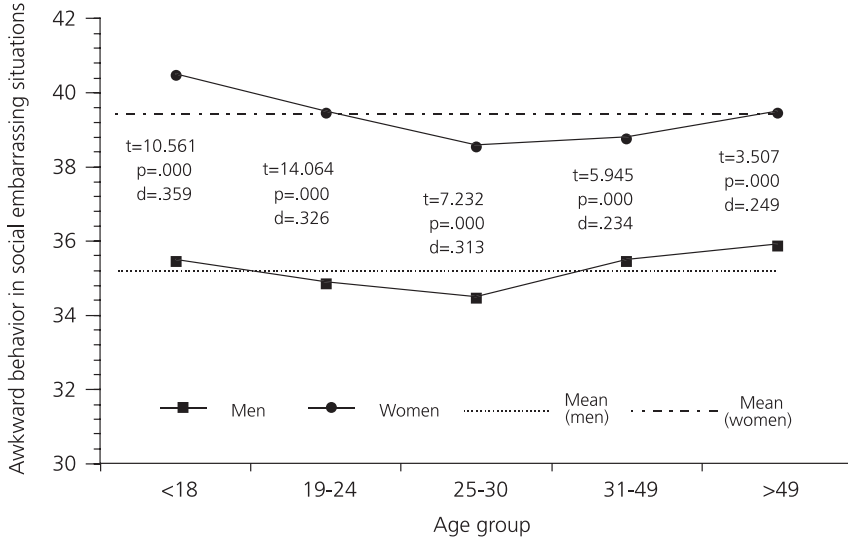


Figure 9

Differences between men and women by age groups in Factor 2: Interactions with the opposite sex

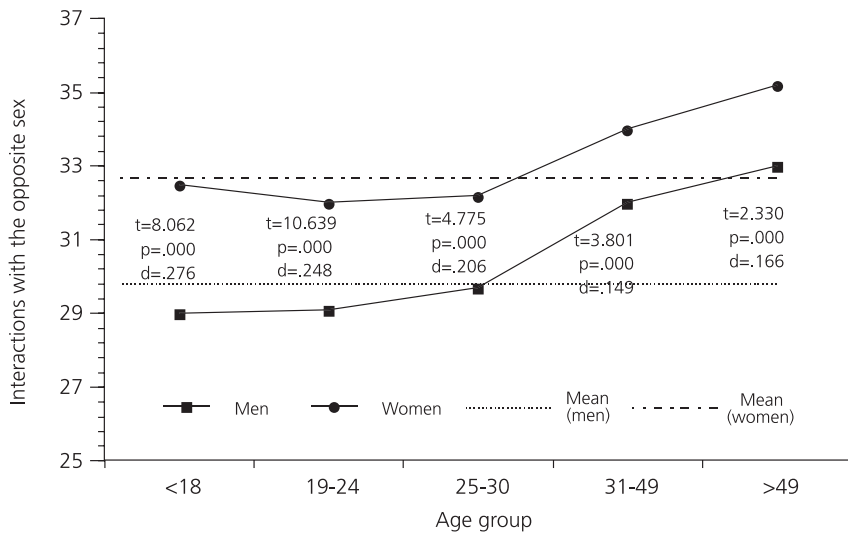


Figure 10

Differences between men and women by age groups in Factor 3: Interactions with strangers

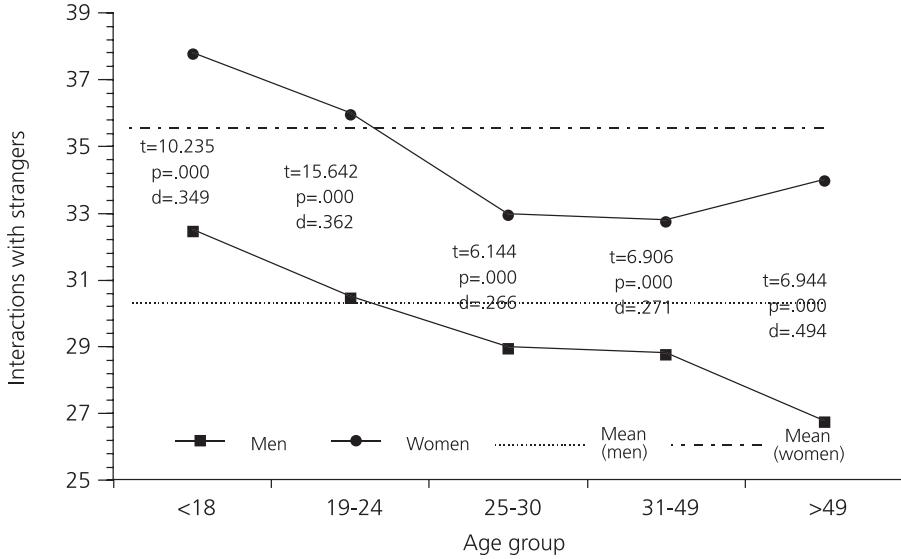


Figure 11

Differences between men and women by age groups in Factor 4: Criticism and embarrassment

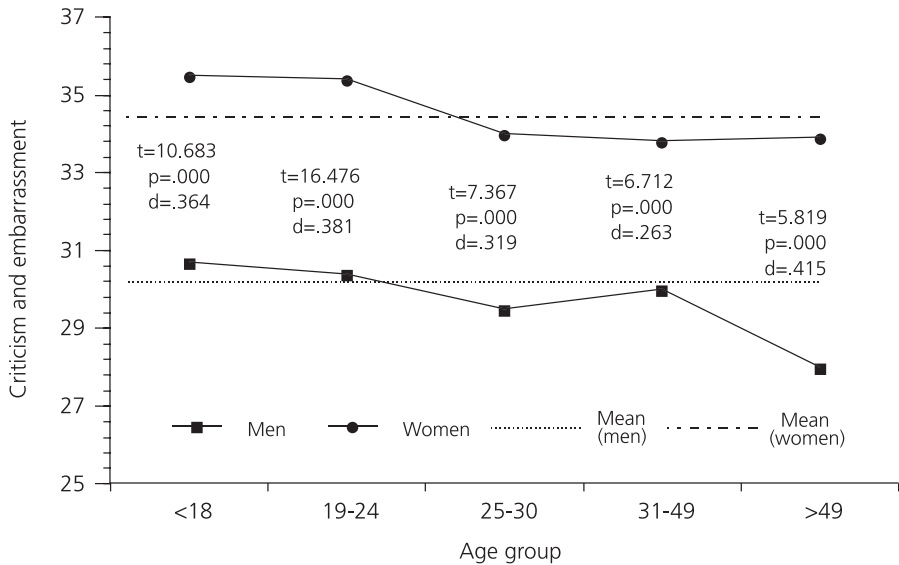


Figure 12

Differences between men and women by age groups in Factor 5: Assertive expression of annoyance, disgust or displeasure

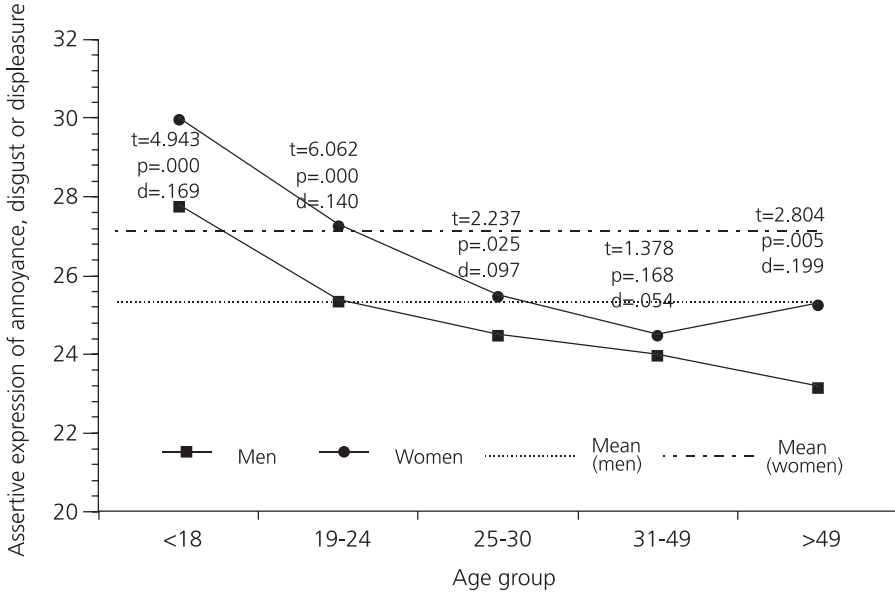


Figure 13

Differences between men and women by age groups in Factor 6: Speaking/performing in public/Talking with people in authority

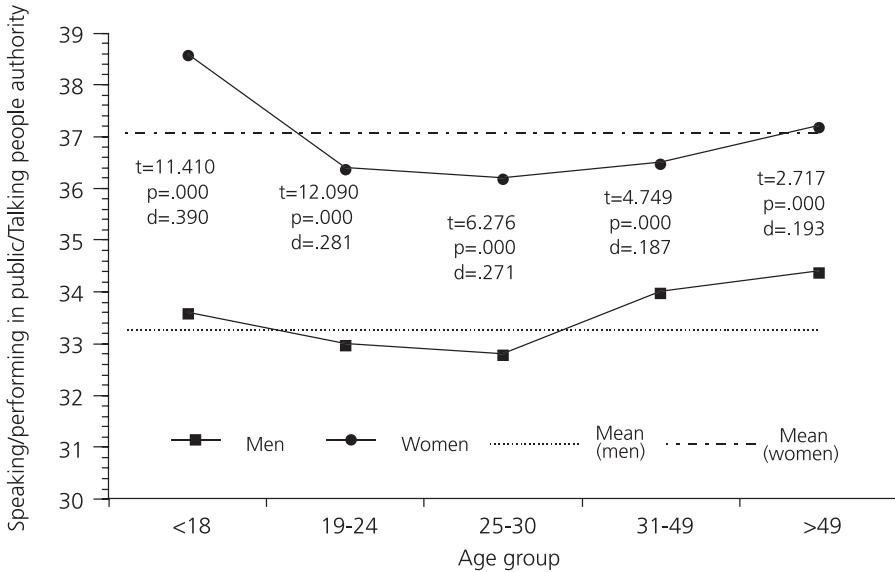
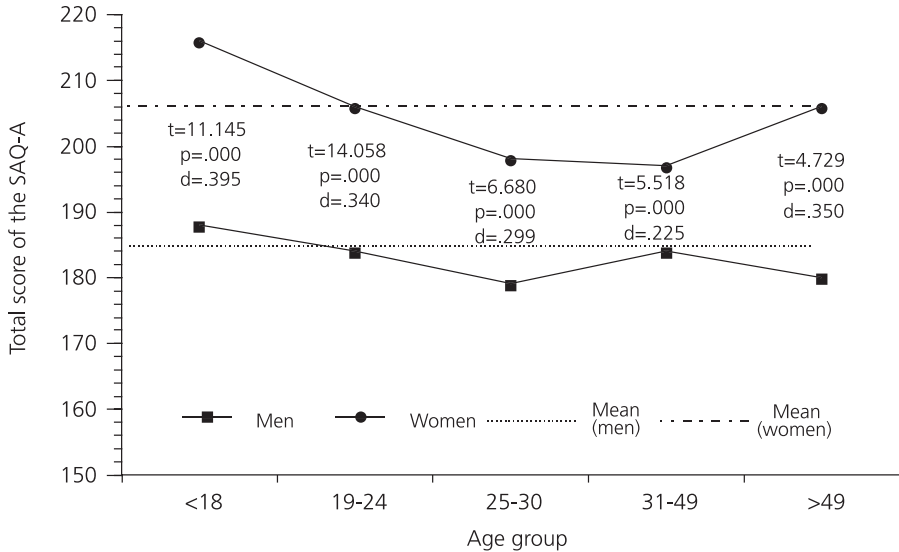


Figure 14

Differences between men and women by age groups in the total score of the SAQ-A



than younger individuals, particularly for people at the age of 25 or older. The sex difference in factor F5: *Assertive expression of annoyance, disgust or displeasure* seems to be negatively associated with age. Finally, the sex difference in factor F6: *Speaking/performing in public/Talking with people in authority* seems to be negatively associated with age from age 18 and younger to 30 years of age, but appears to be positively associated with age for individuals at the age of 31 or older.

Discussion

This study focused on sex and age differences in social anxiety. The sample we chosen was very broad and came from a very diverse sample of countries. The majority of countries shared the same language (Spanish); the language of two of the countries was Portuguese. The items measured a wide variety of social situations (512). These items were generated by a large number of individuals over the course of a long period of time and across different situations, without considering existing literature on the subject. Both the variety of situations and the numerous samples provide a solid foundation for the results that we obtained.

Considering all the countries in the study jointly, the results quite clearly showed that women report greater anxiety than men in just about all the social situations and in all the dimensions that make up the social anxiety construct (Caballo, et al., in press). When considering the specific social situations, women reported significantly

higher scores than men in almost all of the assessed situations (88.67%). The sex differences we observed were considerably greater than those reported by other authors (e.g., Pollard, & Henderson, 1988; Stein, et al., 1994; Turk, et al., 1998; Wittchen, et al., 1999). Our results suggest that women systematically perceive social situations with a greater degree of anxiety than men. Irrespective of whether or not this finding is related to biological and genetic factors, the person's education, culture, other environmental factors, or the interaction between environment and predisposing factors, it appears that women tend to experience greater anxiety in social situations. These differences become more acute when the situations involve awkward or difficult circumstances of interaction with the opposite sex and being exposed to observation (and probably appraisal) by persons of the opposite sex. It is likely that an interaction between biological predispositions linked to sex and a different style of education for women may be the most consistent explanation.

Men reported greater anxiety than women in a few situations (17 items), but the differences were small. However, they have to be taken into account, given the tendency for women to report greater anxiety in general. Interestingly, most of these 17 situations are related to expressing or receiving positive feelings (e.g., affection, love, congratulations, etc) and involve festive or informal social events (e.g., birthdays, weddings). Nonetheless, our results suggest that men did not report more anxiety than women in any of the situations that are normally included in social anxiety questionnaire, except for «Talking on the phone in front of other people.» This finding is contrary to the study by Turk, et al. (1998). It would seem that situations of this nature are related to better socialization, and it may be that women find it easier than men to socialize, perhaps because of differences in the socializing aspects of their upbringing (e.g., sex role).

When comparing men and women in the 6 factors of the SAQ-A (comprising several situations that share similar characteristics), the same pattern was found as in the case of individual items. Women scored more highly than men in the SAQ-A total score and on each one of the factors in the majority of countries. Therefore, the sex differences remained relatively constant. In most countries, the sex differences were generally small, except for the relatively large sex difference in «Assertive expression of annoyance, disgust or displeasure» in Panama. Furthermore, no sex differences in SAQ-A were found in two of the countries (Costa Rica and Portugal) and one in which the data are mixed (Uruguay). Whether these findings reflect real differences in these countries or constitute a sampling problem will require further research. In the case of Costa Rica, for example, men were considerably younger than women, and men in this country were also younger than the men in all of the other countries. This might be a significant methodological issue.

An examination of the sex differences by age groups in the various dimensions of social anxiety suggested that women consistently report more anxiety than men in all age groups and in all factors, as well as in the overall score on SAQ-A. The sex difference was the smallest in the factor «Assertive expression of annoyance, disgust or displeasure». Interestingly, the scores in a number of dimensions was negatively associated with age (*Interactions with strangers, Assertive expression of annoyance, disgust or displeasure, Criticism and embarrassment*), whereas it was

positively associated with others (*Interactions with the opposite sex*). The 5th factor appears to remain relatively similar across the age groups (*Awkward behavior in social embarrassing situation*), whereas the 6th factor seems to have a U-shaped relationship with age (*Speaking/performing in public/Talking with people in authority*). Although social phobia decreases in late life (e.g., APA, 2000), the difficulty in dealing with certain types of situations (e.g., Interactions with the opposite sex, Speaking/performing in public/Talking with people in authority) may not decrease with age. This may explain the findings in our study. Considering the scant research on this subject, we suggest that more research be conducted on this issue. Previous work suggests that women experience a greater level of anxiety than men in most social situations, although these differences are generally small. Our analysis of sex differences in the dimensions of social anxiety supports this notion. Moreover, the differences between males and females in these dimensions appear to be dependent on the age groups.

We suggest that future studies attempt to replicate our study with larger sample sizes in certain countries. Furthermore, including other countries (e.g., English-speaking countries) would provide important information on sex differences across different cultural groups.

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