

# Social Phobia Symptoms, Subtypes, and Severity

## Findings From a Community Survey

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**Objectives:** Our goals were (1) to ascertain the range of functional impairment attributable to social phobia in a community sample, and (2) to verify the existence of social phobia subtypes in the community, and report on their relative prevalence, severity, and levels of impairment.

**Methods:** Community surveys were conducted contemporaneously in Winnipeg, Manitoba, and in Alberta, with a total of 1956 respondents. Instruments included the Comprehensive International Diagnostic Interview—Version 2.1 module for DSM-IV social phobia, enhanced with 6 additional (for a total of 12) social phobic situational probes to provide a more comprehensive assessment of possible subtypes, and additional questions about specific functional impairment due to social phobia.

**Results:** Of those persons in the community surveyed, most had no (60.4%) or few (ie, 1-3) (27.8%) social fears;

few persons (3.4%) had many (ie,  $\geq 7$ ). Among those with DSM-IV social phobia (7.2%), classification based on number (normally distributed with median of 3, mode of 5) or content (eg, speaking-only vs other fears; performance-only vs interactional fears) of social fears failed to yield a defensible subtyping solution. Impairment increased linearly as the number of social fears was increased, with no clear threshold evident.

**Conclusions:** Social phobia is associated with substantial impairment in multiple functional domains. Support for subtyping based on the extent or pattern of social fears was not provided. Rather, social phobia in the community seems to exist on a continuum of severity, with a greater number of feared situations associated with greater disability.

*Arch Gen Psychiatry. 2000;57:1046-1052*

**S**OCIAL PHOBIA (also known as social anxiety disorder), a condition marked by extreme fear and/or avoidance of situations that involve possible scrutiny by others, has emerged from the shadows of research neglect to become a much-inspected entity in recent years. Within the past decade, investigations have shown that social phobia is surprisingly common within community and primary care settings, with point prevalence rates ranging from 2% to 16%.<sup>1-8</sup> Whereas these studies have pushed social phobia into the limelight of the attention of mental health professionals and public health policy planners, they have also raised questions. Some of these questions concern the veracity of social phobia as a diagnostic entity and the proportion of persons in the community who have a serious form of this disorder. Is social phobia, as presently defined, a common but relatively

innocuous disorder, with only a few persons adversely affected, or is it a more pernicious condition, interfering significantly with the lives of a high proportion of those with the condition?

Studies in clinical samples of patients with social phobia provide ample evidence of the seriousness of this disorder.<sup>9-12</sup> However, few persons with social phobia in the community seek treatment,<sup>5</sup> making it unlikely that those who do are representative of most persons with the disorder. To plan a rational public health approach toward social phobia, it would be important to know how many people in the community are impaired by their disorder, not merely how many meet diagnostic criteria.

To address these issues, we conducted a community survey of social phobia. We included a series of questions about the extent to which social phobia results (at least according to the beliefs of respondents) in impairment in important do-

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## SUBJECTS AND METHODS

### SUBJECTS

The data reported herein were collected as a coordinated effort through the Winnipeg Area Study and the Alberta Survey, conducted from December 1996 through February 1997. The goal was to interview approximately 2000 respondents during a 1-month period, with 750 respondents in the city of Winnipeg, Manitoba, and approximately 1250 respondents in the province of Alberta (approximately one third each from Calgary and Edmonton, and the remainder from rural Alberta). Winnipeg is a city of approximately 650 000 inhabitants with a stable economy and population base, located in the Canadian Midwest. Calgary and Edmonton are western Canadian cities with populations of approximately 600 000 and 550 000, respectively. The remainder of Alberta has approximately 1 million residents.

Sampling was conducted independently for the Winnipeg and Alberta surveys. Both surveys used a 2-stage sampling frame to obtain a probability sample of households from Winnipeg and Alberta based on random-digit dialing, and a randomly predesignated selection of an adult respondent within each household to ensure an equal representation of male and female participants. Past experience indicates that women are more likely than men to answer the telephone. If the person answering the phone was of the specified sex, only that person could be interviewed. If the person was not of the specified sex, that person was asked if someone of the appropriate sex was in the household. If there was no one of the specified sex living there, the respondent could only be the person who answered the telephone. If a person of the designated sex was living there, the interviewer asked for this person or the oldest if there was more than 1. If the respondent was not at home or for some other reason was not available, every effort was made

to set up another appointment. No substitution was permitted if the eligible respondent refused. Additional selection criteria were that respondents were aged 18 years or older and that the dwelling unit was their usual place of residence. Calls were made between 9 AM and 9 PM. To reach the designated respondent, up to 10 callbacks were made at varying times and days (modal number of callbacks, 2).

Personnel were professional interviewers who had extensive experience with population surveys, including many who had worked on previous surveys from our research group on obsessive-compulsive disorder and/or posttraumatic stress disorder.<sup>17,18</sup> All interviews were conducted by telephone, either at the respondent's residence or occasionally at another telephone number. The response rates for the survey were 74% of eligible households in Winnipeg and 62% in Alberta. The median and modal lengths of an interview were 30 minutes (range, 12-120 minutes). All respondents gave their informed, verbal consent to participate in this study. The study was approved by the human subjects committees at the University of Manitoba, Winnipeg, and University of Alberta, Edmonton.

### SURVEY FORMAT AND CONTENT

The survey script in its entirety is available from the authors, but is summarized herein. After an introduction describing the nature of the survey, demographic data were obtained, and then the modified Comprehensive International Diagnostic Interview—Version 2.1 (CIDI 2.1) questions for social phobia were posed. A similar version of this CIDI interview has been shown to have excellent reliability and validity for the diagnosis of social phobia.<sup>19</sup> Our interview followed the CIDI 2.1 format verbatim, with the exception of 6 additional situational probes for social phobia that were included. The reference time frame was the

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mains such as jobs and educational and interpersonal functioning. We also asked each respondent to provide objective verification of interference, eg, "Have you actually turned down a job offer or a job promotion because it might involve being the center of attention or interacting with other people?"

An additional aim of our study was to investigate social phobia subtypes in the community. In clinical samples, it is generally accepted that most persons who seek treatment fear and/or avoid a broad array of social situations; these individuals are defined in *DSM-IV*<sup>13</sup> as having the generalized type of social phobia.<sup>14,15</sup> Typically, these persons have difficulty that spans performance (eg, public speaking) and interactional (eg, going to a party) domains. Previous epidemiological studies have lacked sufficient situational probes to search for this subtype, although possible analogs have been posited.<sup>7,16</sup> An important ancillary goal of our study, then, was to evaluate several possible subtyping schemata for social phobia, and to compare the relative merits and deficiencies of these various configurations with regard to delineating a more serious form of the disorder. To achieve this goal, we included 12 different situational probes (se-

lected on the basis of clinical experience), 6 for performance situations and 6 for interactional situations, double the number used in previous surveys.

## RESULTS

### SOCIAL FEARS AND SOCIAL PHOBIA IN THE COMMUNITY

Included in the survey were 750 respondents from Winnipeg and 1206 respondents from Alberta (**Table 1**). The mean number of fears endorsed per respondent was 1.2 (SD, 2.0) (**Figure 1**). Most persons in the community (60.4%) reported no social fears (modal and median values, 0), whereas the 90th, 95th, and 99th percentiles for total number of social fears were 4, 6, and 9, respectively (range, 0-10). Each of the 12 types of social fears was endorsed by 4% to 15% of persons in the general population (**Table 2**), with the fear of eating while being observed as the least common and the fear of giving a speech in public as the most common.

Twelve-month prevalence of *DSM-IV* social phobia in the community was 7.2% (SE, 0.6%) (138/1922

past 12 months, and all questions about social fears were posed as such, eg, "In the past 12 months, have you had an unusually strong fear or avoided...?" Response choices to the social fear questions were yes, no, or don't know. The *DSM-IV* diagnoses of social phobia were assigned according to the CIDI 2.1 algorithm, with the exception that possible medical/organic explanations for social phobia were not assessed and excluded; previous research in community samples has shown this to be a rare occurrence.<sup>7</sup> The *DSM-IV* interference/distress criterion was operationalized by requiring that the respondent report that their social fear(s) interfered with their life or activities a lot and/or that they were very distressed by their fear(s). Persons who reported social fears due to fear of embarrassment or drawing attention to themselves, but otherwise failed to meet *DSM-IV* diagnostic for social phobia, were given the label of "subthreshold social fears" for the purpose of subsequent analyses.

At the end of the diagnostic module, a series of questions were asked focusing on specific functional disability due to social anxiety. These questions were as follows: (1) How much has/have excessive fear(s) of being the center of attention or interacting with other people interfered with your education? (1a) Because of the concerns, have you actually ever dropped out of a class, not taken a particular course, or not taken advanced education? (2) How much has/have excessive fear(s) of being the center of attention or of interacting with other people hindered you in getting the kind of job you want? (2a) Have you actually turned down a job offer or a job promotion because it might involve being the center of attention or interacting with other people? (3) How much does/do excessive fear(s) of being the center of attention or of interacting with other people interfere with your ability to have the kind of personal life you would like to have? and (4) How much does/do this/these concern(s) interfere with other aspects of your life? Response options for

questions 1 through 4 were a lot, some, a little, or none, and for questions 1a and 2a were yes or no.

## DATA ANALYSES

Data were weighted for sex and region (eg, rural vs urban Alberta) to be proportional to the populations they represent. We generated frequency tables of the characteristics of subjects in the relevant response categories; sample sizes vary due to differences in the number of evaluable responses. The likelihood of particular outcomes (eg, educational impairment) was compared across diagnostic categories (eg, social phobia vs subthreshold social fears only) by means of logistic regression analyses. Results are presented as odds ratios (ORs) with 95% confidence intervals (CIs). Where appropriate, the ORs are adjusted for age and sex.

For subtype analyses, we began by looking at a *DSM-IV* generalized subtype, operationalized here as involving 7 or more (ie, most) of the 12 fears surveyed. We reasoned that if subtypes existed, then they should differ from one another in meaningful ways with regard to symptom coherence, (eg, performance-only vs other fears; or speaking-only vs other fears)<sup>16</sup> or number of symptoms.<sup>7</sup> We further reasoned that these subdivisions should not be arbitrary, but should rather be based on evident cut points in the data, and that they should identify groups of persons who differ from one another with respect to their patterns or extent of functional impairment. For these analyses, logistic regression was used to model indicators of interest, controlling for relevant covariates (eg, age and sex). Odds ratios and 95% CIs were calculated for each subtype definition (among persons with *DSM-IV* social phobia) compared with persons with subthreshold social fears. All statistical tests were 2-tailed, and  $P < .05$  was considered statistically significant. Odds ratios where the CI excludes 1 were considered statistically significant.

respondents; data were incomplete in 34). (When the number of social situational probes was limited to the original 6 in the CIDI 2.1, the prevalence of social phobia dropped only slightly to 6.8% [ $n=130$ ]). Persons with social phobia were significantly more likely than those without social phobia to be younger than 40 years (OR, 1.58; 95% CI, 1.11-2.25), significantly less likely to have graduated from high school (OR adjusted for age and sex, 0.37; 95% CI, 0.26-0.55), and significantly less likely to earn more than \$40 000 yearly (OR adjusted for age and sex, 0.45; 95% CI, 0.26-0.77). The likelihood of persons with social phobia to be female (OR adjusted for age, 1.00; 95% CI, 0.71-1.42) or never married (OR adjusted for age and sex, 0.94; 95% CI, 0.58-1.54) was not significant, compared with those without social phobia.

The number of social fears reported by persons meeting *DSM-IV* criteria for social phobia was normally distributed (**Figure 2**). The mean number of social fears experienced was 4.8 (SD, 2.4), the modal number was 3, and the range was 1 to 10. The 25th, 50th, and 75th percentiles for number of social fears were 3, 5, and 7, respectively.

## IMPAIRMENT ATTRIBUTED TO SOCIAL PHOBIA

Persons with *DSM-IV* social phobia reported impairment (that they attributed to their social fears and/or avoidance) across a variety of functional domains (**Table 3**). The odds of interference were significantly greater for persons with *DSM-IV* social phobia than for persons with subthreshold social fears (Table 3). Overall, 52 (37.7%) of 138 persons with social phobia reported substantial (ie, a lot of) interference with at least 1 of these functional domains (ie, education, occupational life, or other) compared with 37 (13.2%) of 281 persons with subthreshold social fears (OR adjusted for age and sex, 4.04; 95% CI, 2.52-6.48).

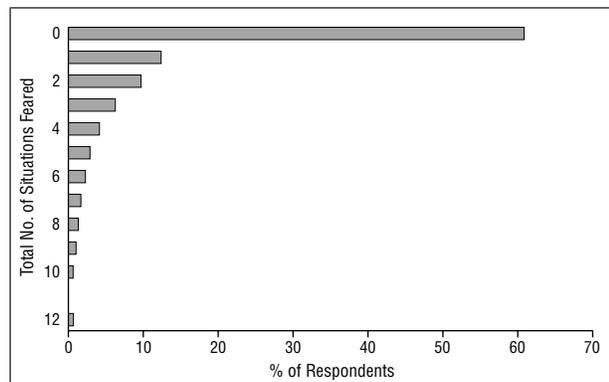
## SOCIAL PHOBIA SUBTYPES

We found that only 37 (26.8%) of the 138 persons with social phobia met our operational criteria for the *DSM-IV* generalized subtype (ie,  $\geq 7$  of 12 social fears). However, these persons were significantly more impaired on most of the indexes examined (ie, those referred to in Table 3) than the remaining 101 persons (73.2%) who

**Table 1. Demographic Characteristics of the Combined Sample\***

	No. (%)
Sex	
Male	906 (46.3)
Female	1050 (53.7)
Age, y	
18-29	461 (23.9)
30-44	721 (37.3)
45-64	525 (27.2)
≥65	225 (11.6)
Marital status	
Married or common-law spouse	1333 (68.6)
Divorced or separated	197 (10.1)
Single, never married	283 (14.6)
Widowed	129 (6.6)
Education level	
Not high school graduate	339 (17.4)
High school graduate	397 (20.4)
Some college or equivalent	836 (42.9)
College graduate	257 (13.2)
Some postgraduate	119 (6.1)
Individual annual income, Can \$	
0-19 999	651 (41.7)
20 000-39 999	501 (32.1)
40 000-59 999	257 (16.5)
60 000-79 999	90 (5.8)
≥80 000	61 (3.9)

\*All data are weighted to be proportionate with respect to sex and population size of the regions they represent, according to Statistics Canada, Ottawa, Ontario. Number of respondents varies for particular questions due to nonresponse. Percentages have been rounded and may not sum 100. N = 1956.



**Figure 1.** Number of social situations feared and/or avoided (from a list of 12) by persons in the community sample (N = 1956).

did not have generalized social phobia (ie, those with the nongeneralized subtype). We also examined the data in this same fashion using a more inclusive definition of generalized social phobia based on a cutoff along the median number (ie, 5) of social fears in persons with social phobia. This approach generated very similar findings (data not shown). However, given the lack of bimodality in the data (Figure 2), the rationale for making the cut at 7 fears or more, 5 fears or more, or anywhere else along the distribution of the number of social fears is weak.

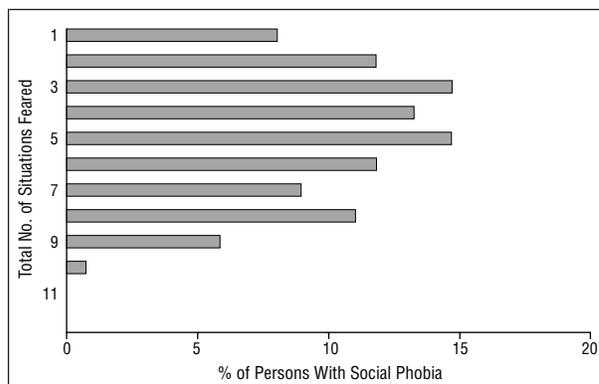
We also tested a model of 2 subtypes of social phobia based on the exclusive presence of speaking fears vs other fears.<sup>16</sup> In the current survey, we included giving

**Table 2. Social Fears of 1956 Persons in the Community\***

Type of Fear	No. (%) Endorsing
Performance situations	
Giving a speech or speaking in public†	292 (15.1)
Taking part or speaking in a meeting or class†	279 (14.4)
Walking into a room when people are already seated	257 (13.1)
Using toilet away from home	178 (9.1)
Writing while someone watches†	135 (6.9)
Eating or drinking where someone could watch†	82 (4.2)
Interactional situations	
Talking to people because might sound foolish†	258 (13.2)
Dealing with authority figures	196 (10.0)
Making eye contact	202 (10.4)
Going to a party or other social outing†	174 (8.9)
Returning items to a store	112 (5.8)
Being introduced to a stranger	111 (5.7)

\*All data are weighted to be proportionate with respect to sex and population size of the regions they represent, according to Statistics Canada. Number of respondents varies for particular questions due to nonresponse.

†These items appear in the standard version of the Comprehensive International Diagnostic Interview—Version 2.1.



**Figure 2.** Number of social situations feared and/or avoided (from a list of 12) by persons with DSM-IV social phobia (n = 138) in the community sample.

a speech in public and taking part or speaking in a meeting or class as speaking fears. Only 4 persons with social phobia (2.9%) had either (or both) of these speaking fears in the absence of other social fears, too small a subset to compare statistically with the larger group with broader social fears. The limited number of respondents with speaking-only fears suggests that, although this may be a useful clinical category, this classification scheme (ie, speaking-only vs other social fears) does not fit the data when a broad range of social fears is surveyed.

Similarly, only 12 persons with social phobia (8.7%) had performance fears only. For the same reasons outlined above, we abandoned this subtyping scheme (ie, performance-only vs other fears) as untenable.

#### EMPIRICALLY BASED SUBTYPING APPROACHES

Significant correlations were observed between the number of social fears and the extent of interference attrib-

**Table 3. Functional Impairment Attributed to Social Fears and/or Avoidance\***

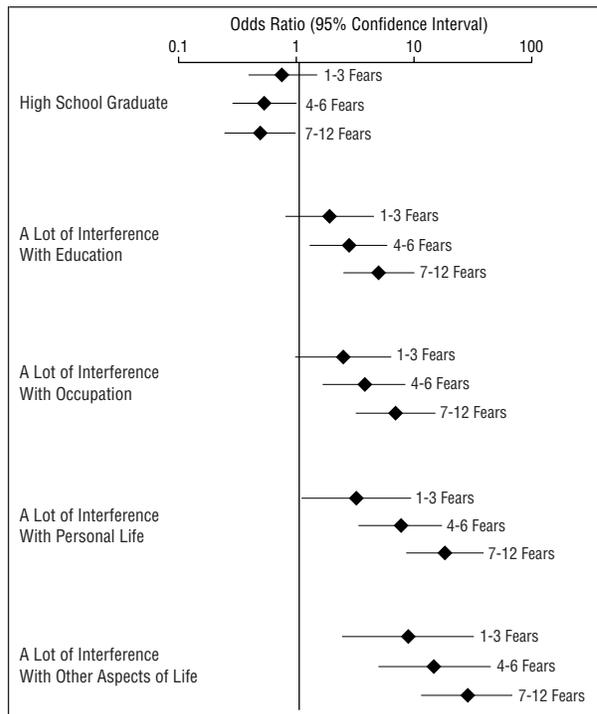
Index of Impairment	No. (%) of Persons With Social Phobia (n = 138)	No. (%) of Persons With Subthreshold Social Fears (n = 281)	OR (95% CI)†
Interfered with education			
A lot	30 (22.1)	26 (9.3)	2.47 (1.62-3.76)
Some	37 (27.2)	56 (20.0)	
A little	34 (25.0)	84 (30.0)	
None	35 (25.7)	114 (40.7)	
Dropped class because of these concerns			
Yes	67 (48.6)	70 (25.0)	2.87 (1.90-4.34)
No	71 (51.4)	210 (75.0)	
Hindered getting a job			
A lot	28 (20.4)	16 (5.8)	3.23 (2.09-5.00)
Some	32 (23.4)	39 (14.1)	
A little	23 (16.8)	60 (21.7)	
None	54 (39.4)	161 (58.3)	
Turned down job or promotion			
Yes	24 (17.4)	29 (10.4)	1.82 (1.02-3.25)
No	114 (82.6)	251 (89.6)	
Interfere with personal life			
A lot	29 (21.0)	9 (3.2)	3.36 (2.19-5.15)
Some	41 (29.7)	58 (20.9)	
A little	47 (34.1)	78 (28.1)	
None	21 (15.2)	133 (47.8)	
Interfere with other aspects of life			
A lot	20 (14.5)	3 (1.1)	4.70 (3.03-7.30)
Some	50 (36.2)	47 (16.8)	
A little	49 (35.5)	104 (37.1)	
None	19 (13.8)	126 (45.0)	

\*OR indicates odds ratio; CI, confidence interval. Sample sizes vary for particular questions due to nonresponse. Percentages have been rounded and may not sum 100.

†Adjusted for age and sex. "A lot" and "some" were collapsed into 1 category, and "a little" or "none" into 1 category. The OR reflects odds for persons with social phobia vs persons with subthreshold social fears.

uted by the respondent to these social fears (interference with education,  $\rho=0.29$  [ $n=766$ ;  $P<.001$ ]; interference with occupation,  $\rho=0.36$  [ $n=759$ ;  $P<.001$ ]; interference with personal life,  $\rho=0.40$  [ $n=766$ ;  $P<.001$ ]; other interference,  $\rho=0.41$  [ $n=768$ ;  $P<.001$ ]). This led us to examine the possibility that social phobia subtypes might be discernible on the basis of the number of social fears endorsed by the individual.

We began by assigning persons with social phobia into 3 groups based on their number of social fears: 1 to 3 social fears ( $n=47$  [34.1%]), 4 to 6 social fears ( $n=54$  [39.1%]), and 7 to 12 social fears ( $n=37$  [26.8%]). (This latter group, as it turns out, also happens to correspond to our operational DSM-IV definition for the generalized subtype, as described above.) Logistic regression analyses (adjusted for age and sex) were conducted wherein subtype was used to predict interference (Figure 3). Extent of functional impairment increased stepwise as one moved from the 1-to-3- to the 4-to-6- to the 7-to-12-fear categories (Figure 3). These data are



**Figure 3.** Likelihood of adverse outcomes (eg, reduced likelihood of graduation from high school) and high illness interference (ie, respondent reports a lot of interference attributed to social fears and/or avoidance) for persons with DSM-IV social phobia ( $n=138$ ) compared with persons with subthreshold social fears ( $n=281$ ). Respondents with social phobia are grouped into those with 1 to 3 ( $n=47$ ), 4 to 6 ( $n=54$ ), and 7 to 12 ( $n=37$ ) social fears. Odds ratios shown are adjusted for age and sex.

consistent with the notion that the distribution of disability as a function of number of social fears is continuous; there are no obvious cut points on which to base a subtyping scheme.

## COMMENT

This study confirms previous reports of the high prevalence of social phobia in the community and extends them by demonstrating that many persons with this disorder report that it has interfered substantially with meaningful aspects of their lives. Whereas previous epidemiological studies had highlighted various aspects of poor functioning associated with social phobia (eg, more frequent dropouts from school),<sup>20</sup> it was not possible to attribute these outcomes specifically to social phobia. In our study, respondents were asked to rate how social fears and/or avoidance had had an impact on their functioning in specific areas (eg, school functioning) and to state whether they had made particular accommodations to their lives as a result (eg, dropping out of school to avoid being the center of attention). To the extent that respondents can be considered accurate judges of this cause-and-effect relationship, our findings show that social anxiety and avoidance have a remarkably negative impact on the functioning of a large sector of the population.

Although we surveyed twice as many social situations as had been surveyed previously using CIDI interviews, the 12-month prevalence rate of social phobia found herein (7.2%) was within the range of rates

found in those previous surveys (5%-8%).<sup>3,5,7,21</sup> When we limited our analysis to the 6 CIDI 2.1 situational probes, the prevalence rate dropped only marginally (to 6.8%). This finding is reassuring because it implies that those previous surveys, despite their more limited sphere of inquiry, still provided a reasonably accurate portrayal of the prevalence of social phobia in the general population. Although more extensive situational probing provides a more detailed perspective on severity and functional impairment, it does not appear to substantially increase the overall detection rate for social phobia.

How serious a public health problem is social phobia? The answer depends on what level of functional impairment one is willing to accept as serious. Our data show that 1 in 5 persons with social phobia believe that their social fears have interfered a lot with their education, and an even greater proportion (almost 1 in 2) report actually having dropped a class because of these concerns. One in 5 persons reports that their social fears have hindered them a lot in getting or keeping a job, and a similar proportion report actually having turned down a job or promotion because of these fears. Overall, our data show that approximately one third (37.7%) of persons with social phobia in the community report a lot of interference—that they attribute to their social anxiety and/or avoidance—with 1 or more areas of functioning. Using even the most conservative prevalence estimates available to us, this translates into somewhat more than 2% of persons in the general population who suffer from an indisputably serious form of social phobia. On their own, these data should be alarming. When coupled with the information that social phobia starts early in life and is frequently complicated by depressive and substance abuse comorbidity,<sup>9,22</sup> they should trigger a careful look at the possible merits of developing a coordinated public health approach to social phobia.

A second major goal of our research was to examine the support for existing (or novel) social phobia subtyping schemata. We found little support for subtyping classifications based on the number or pattern of social fears. Rather, we found that impairment attributed to social phobia increased linearly as the number of social fears increased, with no clear evidence of a threshold. In particular, we were unable to substantiate the existence of a generalized subtype as defined by *DSM-IV*, at least not one that could be delineated clearly from its surroundings. This is not to imply that persons with many social fears were the same as those with few. In fact, we were able to show considerable differences between these groups in terms of socioeconomic indicators and functional impairment. What we could not find, however, was support for making a cut at any point along the continuum of 1 through 12 social fears as a means of delineating subtypes.

Does this mean that we should abandon our current subtyping schemata? We think not. Persons with public speaking anxiety alone are clearly different from persons with multiple social fears and avoidance, and they respond to different kinds of treatments.<sup>15,23,24</sup> From a clinical viewpoint, we should continue to dis-

tinguish between these two forms of the illness, and to explore their possible differential response to various pharmacological and psychological therapies.<sup>24,25</sup> In short, the field has been advanced considerably by adopting the clinical convention of distinguishing persons with multiple social fears (ie, generalized social phobia) from those with few (ie, nongeneralized), and its continued use for the time being is to be encouraged. Our data merely serve as a reminder that this classification system is arbitrary, and that additional research will be required to uncover and validate more authentic subtyping schemata.

From a research perspective, there is some evidence of biological heterogeneity between persons with few and many social fears,<sup>26-28</sup> although a priori notions of subtype constitution may have influenced the design and interpretation of these studies. This topic should be further explored by measuring relevant indexes (eg, psychophysiologic, cognitive, functional neuroanatomical, heritability) across the full spectrum of persons with social anxiety and letting the findings guide the organization and validation of diagnostic subtypes as warranted.

Finally, we must consider limitations of our work. This survey was focused very narrowly on social phobia. A strength of this approach is that it enabled us to ask impairment questions specifically in relation to social fears and avoidance, something that would be difficult to do in a more general mental health survey where more extensive territory pertaining to multiple disorders must be covered. At the same time, this is a weakness of our approach in that we have not looked at comorbidity, family history, longitudinal course, and other indicators that might help validate subtypes and predict impairment. These are areas worthy of further investigation.

Accepted for publication May 15, 2000.

We are grateful to Ronald C. Kessler, PhD, for his assistance with the construction of many of the questions used in this study. We also wish to thank the staffs of the Winnipeg Area Survey and the Alberta Survey for their contributions to the design and implementation of this study.

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