# Attitudes toward mental illness and psychiatry: Preliminary results

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## Summary

The aim of this study was to investigate the main beliefs, attitudes and behavioral intentions towards the mental illness, the mentally ill and the psychiatrist. A structured questionnaire was applied by professional interviewers to 800 subjects selected from the general adult population in Mexico City. The results obtained show that people's knowledge on such matters is wider than expected and attitudes are more positive than anticipated. The beliefs, attitudes and behavioral intentions reported were more positive the higher the educational level and occupational status, and more negative the higher the age. The responses were also more positive among those who had previous personal experiences with mental illness. Nevertheless, there remains and important lack of information regarding the causes, characteristics and main expressions of mental illness, as well as its treatment options. The need to develop educational programs in this matter is emphasized.

**Key words:** Mental health, mental illness, attitudes, psychiatrist.

## Resumen

En este artículo se presentan los resultados preliminares obtenidos a partir de una investigación diseñada con el propósito de conocer las principales creencias, actitudes e intenciones conductuales de la población general con respecto a las enfermedades mentales, a los sujetos que las padecen y a los principales responsables de su atención: los psiquiatras. Se seleccionó una muestra intencional de 800 sujetos de la población general de la Ciudad de México, estratificada en relación con su nivel socioeconómico, edad y género. Se utilizó un instrumento de medición diseñado específicamente para este estudio, el cual fue aplicado a manera de entrevista estandarizada en el domicilio de los sujetos. Los resultados analizados hasta el momento indican que las creencias, actitudes e intenciones conductuales de los sujetos entrevistados son predominantemente positivas y que esta tendencia se incrementa conforme menor es la edad y mayores la escolaridad y jerarquía ocupacional. Asimismo, se observaron manifestaciones significativamente más positivas por parte de quienes han tenido experiencias directas con la enfermedad mental. La mayoría de los entrevistados reconocieron la importancia de las enfermedades mentales y la necesidad de utilizar servicios especializados para su atención. Sin embargo, aún persisten importantes carencias de información con respecto a sus causas, características y principales manifestaciones, así como en cuanto a sus posibilidades de tratamiento. Los resultados obtenidos constituyen una importante base de información para el diseño de programas eficaces de educación para la salud mental.

**Palabras clave:** Salud mental, enfermedad mental, actitudes, psiquiatra.

## Introduction

Images of the empirical world, including values, beliefs, opinions and attitudes, are acquired, reinforced and modified through basic socialization processes. In this respect, most beliefs and attitudes are generated and determined by the prevailing cultural patterns in the social group to which one belongs, that transmits them to its members through the different agents of socialization, the three most important of which are the family, schools and the mass media.

Thus, a person's beliefs and attitudes form part of his culture. Particularly in the area of mental health, the general public is primarily exposed to mental illness and psychiatrists through myths, stereotypes and traditional beliefs, since only a few members of the community are directly exposed to relevant personal experiences that might modify these (38).

In view of the above and the fact that both the mentally ill and psychiatrists have always been objects of fear and ridicule, presumably the population holds predominantly negative beliefs and attitudes that might act as a considerable barrier to the adequate implementation of programs for the promotion of mental health and the treatment of the mentally ill.

On the basis of these premises, the study of the beliefs and attitudes of the people regarding the mentally ill and those responsible for their treatment is of paramount importance. Discovering and understanding the structure of these conceptions and attitudes is essential for the design and implementation of suitable and effective mental health programs. These programs should include both the optimums utilization of available resources and planning for their development, and the creation of effective educational plans for the general population, aimed to promote its mental health (28, 37, 45, 52, 63).

This field of study is even more important nowadays in view of the tendency to shift the psychiatric attention from the hospitals to the community (5, 8). In Latin America, attention has generally been focused on patients who either make an appointment to see a

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psychiatrist or are taken to see one. A radical change is needed in the strategy for providing services, to shift it towards the community, and enlist the cooperation of various agents, whether from the health sector itself or others such as the education and work sectors and the community itself (34).

Likewise, this type of research should provide basic information that will enhance the success of epidemiological studies on mental health, which are extremely necessary yet somewhat scarce in developing countries. In this respect, it is important to investigate the nature and level of the population's knowledge on mental illness and its treatment options, as well as studying its beliefs and attitudes, in order to he able to design instruments that will provide valid indexes of their prevalence and suitable programs for their detection and management (51).

## Background

The first studies on attitudes towards mental illness and the mentally ill were published in the fifties when isolated research was conducted on this subject in the United States (16, 24, 39, 44, 53).

Since then, the number of researchers interested in the subject has risen noticeably, as a result of two main factors: the establishment of the study of attitudes as the main focus of interest in social psychology (36) and the development of community psychology, highlighting the important of community attitudes towards the mentally ill with regard to the success or failure of their treatment programs (43, 46).

There are several comprehensive bibliographical reviews offering a broad overview of studies carried out on the subject to this date (8, 9, 11, 29, 52). These works show that most of them have been conducted in developed countries, and only very few in developing countries.

In Latin America, the most important studies are those of Adis-Castro and Waisanen (1) in Costa Rica and Colombia; Leon and Micklin (33, 38) in Colombia; Steffani (56, 57, 58, 59) in Argentina; Penayo *et al.* (50) in Nicaragua and Aguirre (2), Casco and Natera (10, 2), De la Serna (17), García (21, 22, 23), González (25), Gutiérrez (26), Heller *et al.* (27), Natera *et al.* (40, 41) and Parra (49) in Mexico.

Studies conducted in the United States on the Mexican-American community constitute a special case (19, 47, 48). They found that sex, age and education are associated with attitudes towards mental illness, in a similar way to that found in Mexican communities.

The main background to this study is the work developed by Casco and Natera in Mexico, on the population's opinions, attitudes and knowledge concerning mental illness. Their first study was carried out between 1981 and 1982, in two communities of different socio-economic class, for comparing their perception of mental illness (40). Afterwards, they compared the general population's perception with that of professionals working in the area (10) and studied the prevailing perception and attitudes of students (12). Those studies found positive attitudes toward mental illness and the mentally ill, as well as limited knowledge of the main pathologies.

The most recent study by Natera and Casco (41) concludes that some socio-demographic variables, such as education level, age and socio-economic class, seem to be linked to attitudes towards mental illness, with more positive attitudes as higher the education and socio-economic levels, and lower age.

Casco y Natera found that both high and low income communities had a positive attitude towards mental illness, probably due to their knowledge concerning the subject. These authors had expected that members from the low income community would show less positive attitudes, but they did not. A possible explanation could be that most of the people in those communities had been exposed to mass media information and were influenced by the local health-care centers, which modified their previous attitudes towards the mentally ill in a positive way.

They also obtained evidence to reject the stereotyped notion that marginal socio-economic populations lack information about emotional disturbances. The authors suggest the importance of carrying out some studies focused on the relationship among attitudes, behavior and information in order to determine whether a positive attitude is acted upon and treatment is sought when required. This suggestion is one of the main basis for the development of the present investigation.

In other socio-cultural contexts, various studies carried out abroad have shown there is more rejection than acceptance of the mentally ill, in relation to the characteristics of aggressiveness, unpredictability and irresponsibility attributed to them, as well as correlation between the degree of rejection and socio-demographic variables such as education, age, occupational hierarchy and previous experiences (14, 18, 28, 30, 31, 45, 62, 63).

In accordance with the above, and based on a review of the Latin American literature, Leon and Michelin (33) posit that there seems to be a negative orientation or rejeptive attitude towards mental illness, the mentally ill, psychiatric treatment and hospitals as well as a slightly positive attitude towards psychiatrists. They conclude that there is considerable ignorance concerning the nature of mental illness, its etiology, treatment options and how to obtain them.

At the same time, Lemkau and Crocetti (32) consider that there is a tendency not to regard mental illness as an illness. This is associated with the rejection of both the mentally ill and those who care for them. The fact that studies carried out in Mexico show that there is not such rejection, and that the population is fairly well-informed and at least verbally, expresses feelings of understanding and tolerance towards the mentally ill, may be due to the fact that the opinions expressed correspond to socially desirable replies that do not necessarily tally with reality and may be concealing deeper negative feelings which lead people not to seek attention in time.

However, Lemkau and Crocetti (32) and Rootman and Lafave (54) also report that popular attitudes towards mental illnes and the mentally ill have been positively modified over the years and this could explain the results obtained so far en Mexico. This apparently contradictory information is the reason for leading the present research.

## Theoretical framework

The study is based on the conceptual framework developed by Fishbein and Ajzen (3, 4, 20) positing the existence of a causal chain among beliefs, attitudes and behavioral intentions. Within this framework, the term "attitude" is strictly limited to the evaluative aspect, while cognition and conation are regarded as antecedent or consequent, respectively, and conceptually different from attitude. Attitudes are, in fact, a function of the individual's most important beliefs, which have causal effects on attitudes. Attitudes, in turn, exert a dynamic or directive influence on intentions, which in turn affect behavior.

Fishbein and Ajzen (20) reserve the term "attitude" for the affective category, "belief" for the cognitive category, "intention" for the conative and "behavior" for the behavioral category. Thus, attitude is a person's position in an affective or evaluative dimension, belief is his position in a probability dimension linking an object and an attribute, intention is also a probability dimension, but one that links the person and an action regarding an object while behavior is a person's observable response. Thus a causal chain is posited in which behavior is determined by a person's intentions to pursue a determined form of behavior, while these intentions depend on a general assessment or evaluation which in turn is a function of a person's main beliefs.

## Method

On the basis of this framework, a transversal, ex post facto and field study was designed to investigate the main beliefs, attitudes and behavioral intentions of the community towards mental illnes, the mentally ill and psychiatrists. The specific objectives were 1) to determine possible correlation's among beliefs, attitudes and behavioral intentions; 2) to determine their association to most important socio-demographic variables; 3) to explore the possible sources of those beliefs and attitudes; 4) to explore the relation of beliefs, attitudes and behavioral intentions with previous experiences with the attitudinal objects: mental illness, the mentally ill and psychiatrists.

## Subjects

The subjects of this study were 800 adults (18 to 60 years old) from the general population of Mexico City, which is considered the largest city in the world, with an estimated population of 15 million inhabitants, according to the last national census data (7).

They were purposively selected to best represent a cross section of the urban population of the metropolitan area of Mexico City. For this aim, 12 political delegations of the Federal District were selected out of the existing 16, as well as 6 counties (municipals) of the state of Mexico, located in the metropolitan area. From these 18 areas, 80 neighborhoods (colonias) were intentionally selected; 40 were classified as medium socio-economic class and 40 as low socio-economic class, according to a city marketing map (BIMSA, 1993).

The selection of respondents was based on the following procedure. All adult inhabitants of the selected neighborhoods were potential subjects; the study included only those who accepted the interview. In each neighborhood 10 interviews were conducted, selecting only one house from each block (manzana). In each house only one subject could be interviewed. A maximum of 5 buildings per unit and 1 apartment per building, were considered in habitational units. Refusals and non-complete questionnaires were substituted by additional interviews in the same categories, until completed the 800 programmed interviews. Refusal rate was not registered because it was substituted by other subjects with same characteristics in the same area.

The sample was not intended to be representative of he Mexico City population, since the procedure involved fixed quotes by age, gender and socio-economic class, for comparison purposes. If time and resources had been more abundant, it would have been preferable to draw a larger random sample, so our findings cannot be generalized to all urban inhabitants. However, the study sample does represent in the best possible way the variety of inhabitants of the city.

## Instrument

The research instrument consisted of: (a) a demographic questionnaire referring to age, gender, education, occupation and income; (b) a questionnaire for measuring beliefs, attitudes and behavioral intentions, based on the most frequently used scales previously constructed for similar purposes; (c) a questionnaire to explore some additional variables of interest, like the possible sources of beliefs and attitudes, and previous experiences with the attitudinal objects: mental illnes, the mentally ill and psychiatrists.

The (b) section consisted of a 120 Likert-type item Scale, classified in 3 sub-scales, corresponding to beliefs, attitudes and behavioral intentions. For each item the respondent may give a score from 1 to 5, ranging from definite agreement to definite disagreement with the statement.

Most items were derived from instruments used previously for similar studies: "Opinions about Mental Illness Scale-OMI" (15), "Escala Sobre Atribución de Enfermedad Mental-ESAEM" (13), "Community Attitudes Toward the Mentally Ill Scale-CAMI" (60), "Cuestionario sobre actitudes hacia la enfermedad mental-AMI" (10), "Community Mental Health Ideology Scale" (6), "Escala de actitudes hacia la enfermedad mental" (56).

From these instruments we selected those items considered adequate for the present purposes and some new ones were elaborated from information obtained from three focus group sessions previously conducted to detect main subjects and opinions about mental health and illnes. The results of an investigation conducted to determine the psychological and social meaning of mental health and illness (23) were also taken into consideration.

From a wide pool of 206 items there were constructed and tested two preliminary instruments in two samples of 150 subjects each (21). By this pilot study items were

tested in terms of clarity, applicability, comprehension and discrimination ability, and the 120 items for the new instrument were selected. The instrument was reviewed by experienced researchers for clarity and readability. Selected items were worded so that half were stated in terms favorable and half were stated in negative form, randomized ordered.

## Procedure

A commercial marketing investigation agency conducted the fieldwork on a contract basis, under supervision of the investigator. The instrument was applied in the form of a structured interview, in the homes of the subjects selected, by previously trained professional interviewers. In their training, all interviewers completed the questionnaire under supervision, using each other as respondents. The interviewers were then given an intensive 2-day session on the use of the protocol, conducted by an experienced field supervisor and the project coordinator. Then they did trial interviews with persons not in the sample and these interviews were evaluated to determine the interviewers' ability.

Respondents were interviewed in their own homes for approximately two hours. All the selected interviewers were supervised; about 25% of the interviews were verified by personal visit and about 50% of those respondents who reported phone number, were partially re-interviewed by phone. As a result of this supervision, 46 questionnaires were eliminated and 80 additional interviews were conducted to substitute the eliminated ones and to have and additional reserve.

## Results

The data obtained were codified and statistically analyzed using the SPSS-PC package (42). The preliminary results obtained, which are the subject of the present article, are presented in sections.

## Reliability and validity

The reliability of the scales was evaluated using the Cronbach's Alpha and the correlation's between them. As can be seen from Table 1, the reliability level was high in the case of the general scale and acceptable for the beliefs, attitudes and behavioral intention sub-scales. Alpha coefficients for all scales are above .60, which can be regarded as a satisfactory (though modest) level of reliability. The coefficients are similar or higher than those obtained for the most used scales (61, 15). As for the correlation's between the sub-scales, the Pearson correlation coefficient was obtained, and all the correlation's proved to be positive and significant ($p < .001$) among themselves and as regards to the general scale.

Concerning validity, one standard approach for assessing the construct validity of scales is to test their empirical reproducibility using factor analysis. A factor analysis based on principal axis factoring with orthogonal rotation by normalized varimax was employed for each scale. This result in the identification of the following factors for each scale:

Beliefs Scale: five main factors were identified: 1) Beliefs about psychiatrists, 2) Beliefs about the characteristics of mental illness, 3) Beliefs about the causes for mental illness, 4) Beliefs about the characteristics of the mentally ill and 5) Beliefs about the social insertion of the mentally ill.

Attitudes Scale: three main factors were found: 1) Attitudes towards the mentally ill, 2) Attitudes towards psychiatrists and 3) Attitudes towards mental illness.

Behavioral Intentions Scale: only one factor was found.

In the light of the findings, it may be concluded that the questionnaire measures up to the criterion of internal validity.

## Descriptive statistics

Basic statistics were obtained for descriptive purposes; the main characteristics of the sample are summarized in Table 2.

**Table 1**
**Instrument's reliability**

| *Scales* | *Alpha Value** | *Correlation General* | *Correlation Beliefs* | *Correlation Attitudes* | *Correlation Intentions* |
|---|---|---|---|---|---|
| General | .8733 | 1.0000** | | | |
| Beliefs | .7222 | .9060** | 1.0000** | | |
| Attitudes | .7396 | .8868** | .6516** | 1.0000** | |
| Intentions | .6327 | .8280** | .6648** | .6807** | 1.0000** |

* Cronbach Alpha

** Pearson's Correlation Coefficient ($p < .001$)

**Table 2**
**Sample description (N = 800)**

| *Variables* | *Levels* | *N* | *%* |
|---|---|---|---|
| Sex | male | 391 | 48.9 |
| | female | 409 | 51.1 |
| Age | 18-24 years | 205 | 25.6 |
| | 25-34 years | 205 | 25.6 |
| | 35-44 years | 200 | 25.0 |
| | 45-60 years | 190 | 23.8 |
| Souci-economic | medium | 400 | 50.0 |
| Class | low | 400 | 50.0 |
| Schooling | none | 37 | 4.6 |
| | elementary school | 106 | 13.3 |
| | junior high school | 211 | 26.4 |
| | senior high school | 280 | 35.0 |
| | university degree | 166 | 20.8 |
| Occupation | housewife | 260 | 32.5 |
| | student | 135 | 16.9 |
| | retired or unemployed | 37 | 4.6 |
| | worker | 23 | 2.9 |
| | office worker | 110 | 13.8 |
| | businessman | 52 | 6.5 |
| | executive or manager | 14 | 1.8 |
| | freelance professional | 79 | 9.9 |
| | others | 90 | 11.3 |

Table 3 includes ranges, means and percentages of positive (>3) and negative (<3) values, showing that the attitudes of the subjects studied were predominantly positive in relation to the attitudinal system as a whole. For measuring the positive and negative perceptions, negative items were recodified in a positive way and ratings above 3 (neutral evaluation) were considered positive.

## Comparisons among subgroups

Student's T and ANOVA tests were applied to compare groups made up of each of the strata in the sample, to detect possible differences associated with socio-demographic characteristics. No significant differences were found in relation to the subject's gender or socio-economic class, leading to the conclusion that these variables did not affect the beliefs, attitudes or behavioral intentions regarding mental illness. As far as age is concerned, significant differences ($p<.001$) were revealed between the four established groups, with more positive beliefs and more favorable intentions found the lower the subjects' age (Table 4).

Significant differences were also found among the five education groups. More positive attitudes were found in the higher grades of education, with the more positive ones in senior high school (Table 5).

The same pattern emerges regarding occupation, which was classified into 9 groups. The differences found indicate that there were more positive beliefs, attitudes and intentions in the higher occupational hierarchies. Less positive values are observed among workers, retired people and housewives, while the most positive were hold by professionals, students and executives (Table 6).

## Previous experiences

Afterwards, answers from the section about previous experiences with attitudinal objects were analyzed. From the total sample, 266 persons (33%) said they had suffered some kind of emotional or nervous problems, and 55% of them said they had asked for help; 53% requested attention from mental health specialists

**Table 3**
**Scale values**

| *Scales* | *Range of obtained scores* | *Mean of obtained scores* | *Positive values* | *Negative values* |
|---|---|---|---|---|
| General scale | 2.43-4.38 | 3.5067 | 98.4% | 1.6% |
| Beliefs sub-scale | 2.43-4.40 | 3.4358 | 97.75% | 2.3% |
| Attitudes sub-scale | 2.50-4.36 | 3.4928 | 95.7% | 4.3% |
| Intentions sub-scale | 2.28-4.83 | 3.6529 | 95.0% | 5.0% |

**Table 4**
**Differences by age groups***

| | ***mean*** | ***mean*** | ***mean*** | ***mean*** | ***F value*** |
|---|---|---|---|---|---|
| **Scales** | **18 to 24 years** | **25 to 34** | **35 to 44** | **45 to 60** | |
| General scale | 3.5504 | 3.5456 | 3.4838 | 3.4416 | F = 9.167 p<.001 |
| Beliefs sub-scale | 3.4764 | 3.4841 | 3.4137 | 3.3632 | F = 11.541 p<.001 |
| Attitudes sub-scale | 3.5374 | 3.5135 | 3.4698 | 3.4466 | F = 4.134 p<.01 |
| Intentions sub-scale | 3.7114 | 3.7049 | 3.6247 | 3.5632 | F = 8.058 p<.001 |

* ANOVA

**Table 5**
**Differences by schooling groups***

| | *mean* | *mean* | *mean* | *mean* | *mean* | *F value* |
|---|---|---|---|---|---|---|
| *Scales* | *None* | *Primary* | *Secondary* | *Preparatory* | *Professional* | |
| General scale | 3.2879 | 3.4075 | 3.5119 | 3.5590 | 3.5047 | F = 5.632 p<.001 |
| Beliefs sub-scale | 3.1941 | 3.3312 | 3.4358 | 3.4966 | 3.4529 | F = 9.040 p<.001 |
| Attitudes sub-scale | 3.3331 | 3.4160 | 3.4964 | 3.5329 | 3.4739 | F = 2.555 p<.01 |
| Intentions sub-scale | 3.3832 | 3.5090 | 3.6696 | 3,7143 | 3.6459 | F = 4.617 p<.001 |

* ANOVA

**Table 6**
**Differences by occupational groups***

| | *mean* | *mean* | *mean* | *mean* |
|---|---|---|---|---|
| *Scales* | *General Scale* | *Beliefs Sub-scale* | *Attitudes Sub-scale* | *Intentions Sub-scale* |
| Worker | 3.4159 | 3.3428 | 3.3923 | 3.5725 |
| Retired | 3.4288 | 3.3779 | 3.4054 | 3.5435 |
| Housewife | 3.4749 | 3.3985 | 3.4690 | 3.6118 |
| Trader | 3.5018 | 3.4125 | 3.5119 | 3.6688 |
| Employee | 3.5323 | 3.4620 | 3.5180 | 3.6859 |
| Professional | 3.5258 | 3.4774 | 3.4910 | 3.6596 |
| Student | 3.5741 | 3.4979 | 3.5573 | 3.7407 |
| Executive | 3.6048 | 3.5357 | 3.5816 | 3.7500 |
| Others | 3.4919 | 3.4274 | 3.4722 | 3.6346 |
| F value | F = 3.274 p<.001 | F = 3.550 p<.001 | F = 2.251 p<.05 | F = 2.405 p<.01 |

* ANOVA

(psychiatrists, psychologists, psychoanalysts); 21% from general practitioners or from other specialized practitioners; 17% from relatives and friends; 3% from self-help groups; 3% had requested support from religion and 2% from other sources (alternative medicine, spiritual leaders).

From the 147 subjects who requested help, 50 did so to cure their nerves; 34 because they needed help and orientation and 15 because of emotional problems, while 15 mentioned having specific mental health problems, 14 wanted to feel better and solve their problems, 4 had done so to unburden their troubles, and the remainder gave other reasons. From the 119 who did not seek help, the main reasons were: they did not regard it as necessary (85), ignorance (4), financial problems (3), distrust (3) and other causes.

Table 7 presents the differences, using ANOVA, among those who had or had not had previous experiences in this respect. Significant differences were found among the subjects who said they had experienced emotional problems and those who had not, with more positive answers in all the scales from those who had had direct experiences. Answers were also more positive among those who said they had requested help to solve their problems than among those who had not.

Likewise, there were significant differences in all scales, between those who had had previous contact with a psychiatrist or psychologist and those who had not. The former had more favorable beliefs, attitudes and intentions. Significant differences were also found among those who said that they had had an acquaintance or relative with mental illness and those who had not. Attitudes were more positive among those with an acquaintance suffering from mental illness (Table 7).

### Their own health and risk perception

According to self-reports, 66% of the sample said their general health was between good and excellent, while 77% said the same of their mental health. In both cases, the percentage of subjects who considered that their health was between bad and terrible was lower than 1%. In both cases, general and mental health, beliefs, attitudes and intentions were more favorable among those who thought that their health was better; these differences were significant in the total scale and in the beliefs scale (Tables 8 and 9).

As for the perceived risk of suffering from mental illness, over half of the sample (465 subjects) considered that they might one day suffer from a mental illness or that a relative of theirs might suffer from it, while 533 thought that they might one day need the help of a

**Table 7**
**Differences between groups by previous experiences***

| *Experiences* | *Scales* | *Yes* | *No* | *T value* | *significance* |
|---|---|---|---|---|---|
| Have you ever had emotion or nervous problems? | General | X = 3.5418 | X = 3.4892 | T = 2.86 | p< .005 |
| | Beliefs | X = 3.4695 | X = 3.4190 | T = 2.82 | p< .005 |
| | Attitudes | X = 3.5175 | X = 3.4805 | T = 1.73 | ns |
| | Intentions | X = 3.7043 | X = 3.6272 | T = 2.92 | p< .005 |
| Have you sought help for this problems? | General | X = 3.5825 | X = 3.4915 | T = 3.20 | p< .005 |
| | Beliefs | X = 3.5037 | X = 3.4272 | T = 2.72 | p< .01 |
| | Attitudes | X = 3.5586 | X = 3.4668 | T = 2.67 | p< .01 |
| | Intentions | X = 3.7517 | X = 3.6457 | T = 2.62 | p< .01 |
| Have you ever been to a psychologist or psychiatrist? | General | X = 3.5875 | X = 3.4921 | T = 3.98 | p< .001 |
| | Beliefs | X = 3.5131 | X = 3.4219 | T = 3.90 | p< .001 |
| | Attitudes | X = 3.5640 | X = 3.4800 | T = 3.00 | p< .005 |
| | Intentions | X = 3.7514 | X = 3.6351 | T = 3.36 | p< .001 |
| Have any relatives of yours ever had a mental illness? | General | X = 3.5631 | X = 3.4924 | T = 3.29 | p< .001 |
| | Beliefs | X = 3.4641 | X = 3.4286 | T = 1.68 | ns |
| | Attitudes | X = 3.5797 | X = 3.4707 | T = 4.37 | p< .001 |
| | Intentions | X = 3.7229 | X = 3.6351 | T = 2.84 | p< .005 |

* T students test

**Table 8**
**Do you consider your general health is***

| *Scales* | *mean* | *mean* | *mean* | *F value* | *Significance* |
|---|---|---|---|---|---|
| | *bad* | *average* | *good* | | |
| General scale | 3.2667 | 3.4721 | 3.5365 | F = 3.581 | p< .01 |
| Beliefs sub-scale | 3.1917 | 3.4034 | 3.4889 | F = 5.500 | p< .001 |
| Attitudes sub-scale | 3.3631 | 3.5188 | 3.5585 | F = 1.711 | ns |
| Intentions sub-scale | 3.2917 | 3.5923 | 3.6443 | F = 2.529 | p< .05 |

* ANOVA

**Table 9**
**Do you consider your mental health is***

| *Scales* | *mean* | *mean* | *mean* | *F value* | *Significance* |
|---|---|---|---|---|---|
| | *bad* | *average* | *good* | | |
| General Scale | 3.3000 | 3.4738 | 3.5186 | F = 2.373 | p< .05 |
| Beliefs Sub-scale | 3.1750 | 3.4098 | 3.4679 | F = 3.763 | p< .05 |
| Attitudes Sub-scale | 3.4107 | 3.5163 | 3.5444 | F = 1.007 | ns |
| Intentions Sub-scale | 3.4583 | 3.5884 | 3.6275 | F = 1.467 | ns |

* ANOVA

**Table 10**
**Risk perception***

| *Questions* | *Scales* | *Yes* | *No* | *T value* | *Significance* |
|---|---|---|---|---|---|
| Do you think you could ever have a mental illness? | General | X = 3.5377 | X = 3.4694 | T = 3.61 | p< .001 |
| | Beliefs | X = 3.4587 | X = 3.4110 | T = 2.56 | p< .01 |
| | Attitudes | X = 3.5266 | X = 3.4497 | T = 3.47 | p< .001 |
| | Intentions | X = 3.6970 | X = 3.5980 | T = 3.64 | p< .001 |
| Do you think you might ever need help from a psychiatrist? | General | X = 3.5451 | X = 3.4434 | T = 5.11 | p< .001 |
| | Beliefs | X = 3.4668 | X = 3.3843 | T = 4.22 | p< .001 |
| | Attitudes | X = 3.5350 | X = 3.4251 | T = 4.70 | p< .001 |
| | Intentions | X = 3.7000 | X = 3.5745 | T = 4.36 | p< .001 |
| If the need arose, would you know where to seek for help? | General | X = 3.5127 | X = 3.4718 | T = 1.67 | ns |
| | Beliefs | X = 3.4410 | X = 3.4061 | T = 1.46 | ns |
| | Attitudes | X = 3.4970 | X = 3.4687 | T = 0.99 | ns |
| | Intentions | X = 3.6642 | X = 3.5871 | T = 2.19 | p< .05 |

* T students test

**Table 11**
**Differences between groups in relation to interpersonal sources of information***

| *Experiences* | *Scales* | *Yes* | *No* | *T value* | *Significance* |
|---|---|---|---|---|---|
| Do you often talk about mental health? | General | X = 3.5299 | X = 3.4891 | T = 2.33 | p< .05 |
| | Beliefs | X = 3.4551 | X = 3.4212 | T = 1.99 | p< .05 |
| | Attitudes | X = 3.5197 | X = 3.4724 | T = 2.32 | p< .05 |
| | Intentions | X = 3.6831 | X = 3.6299 | T = 2.11 | p< .05 |
| Has anyone ever talk to you about mental illness? | General | X = 3.5270 | X = 3.4852 | T = 2.42 | p< .01 |
| | Beliefs | X = 3.4546 | X = 3.4159 | T = 2.29 | p< .05 |
| | Attitudes | X = 3.5100 | X = 3.4746 | T = 1.75 | ns |
| | Intentions | X = 3.6826 | X = 3.6214 | T = 2.46 | p< .01 |
| Were you taught anything about mental illness at school? | General | X = 3.5456 | X = 3.4697 | T = 4.42 | p< .001 |
| | Beliefs | X = 3.4734 | X = 3.4001 | T = 4.37 | p< .001 |
| | Attitudes | X = 3.5294 | X = 3.4580 | T = 3.55 | p< .001 |
| | Intentions | X = 3.7067 | X = 3.6016 | T = 4.25 | p< .001 |
| Are children taught anything about mental illness at school? | General | X = 3.4670 | X = 3.5259 | T = 3.31 | p< .001 |
| | Beliefs | X = 3.3931 | X = 3.4568 | T = 3.68 | p< .001 |
| | Attitudes | X = 3.4691 | X = 3.5030 | T = 1.61 | ns |
| | Intentions | X = 3.5871 | X = 3.6861 | T = 3.88 | p< .001 |

* T students test

mental health professional. In this case, differences were also significant in all the scales, with more favorable responses as far as beliefs, attitudes and behavioral intentions are concerned, among those who thought it was feasible that they might one day suffer from mental illness or require help from a psychiatrist. Finally, a very high percentage (86.1) said they were aware of the existence of mental health treatment services in Mexico, while 85.3% declared they would know where to ask for help if the need arose; among the latter, the intentions scale was significantly more positive (Table 10).

### Information Sources

As for the probable sources of information on health and mental illness, the three main sources in the process of socialization were examined: family and friends, schools and the mass media. Over 40% of the sample

**Table 12**
**Differences between groups in relation to mass media sources***

| *Experiences* | *Scales* | *Yes* | *No* | *T value* | *Significance* |
|---|---|---|---|---|---|
| Have you read something about mental illness in newspaper? | General | X = 3.5115 | X = 3.5092 | T = 0.12 | ns |
| | Beliefs | X = 3.4351 | X = 3.4396 | T = 0.23 | ns |
| | Attitudes | X = 3.5018 | X = 3.4951 | T = 0.28 | ns |
| | Intentions | X = 3.6527 | X = 3.6594 | T = 0.24 | ns |
| Have you read something about mental illness in magazines? | General | X = 3.5329 | X = 3.4614 | T = 3.32 | p< .001 |
| | Beliefs | X = 3.4593 | X = 3.4031 | T = 2.67 | p< .01 |
| | Attitudes | X = 3.5232 | X = 3.4296 | T = 3.73 | p< .001 |
| | Intentions | X = 3.6768 | X = 3.6166 | T = 1.98 | p< .05 |
| Have you listen something about mental illness on the radio? | General | X = 3.5316 | X = 3.4819 | T = 2.74 | p< .01 |
| | Beliefs | X = 3.4482 | X = 3.4167 | T = 1.77 | ns |
| | Attitudes | X = 3.5266 | X = 3.4648 | T = 2.93 | p< .005 |
| | Intentions | X = 3.6914 | X = 3.6197 | T = 2.77 | p< .01 |
| Have you watched something about mental illness in the TV? | General | X = 3.5199 | X = 3.4584 | T = 2.88 | p< .005 |
| | Beliefs | X = 3.4429 | X = 3.3995 | T = 2.08 | p< .05 |
| | Attitudes | X = 3.5092 | X = 3.4434 | T = 2.63 | p< .01 |
| | Intentions | X = 3.6736 | X = 3.5856 | T = 2.89 | p< .005 |
| Have you watched something about mental illness in the cinema? | General | X = 3.5183 | X = 3.4436 | T = 2.59 | p< .01 |
| | Beliefs | X = 3.4475 | X = 3.3797 | T = 2.42 | p< .01 |
| | Attitudes | X = 3.5010 | X = 3.4524 | T = 1.44 | ns |
| | Intentions | X = 3.6733 | X = 3.5149 | T = 0.82 | p< .001 |

* T student test

said that they often talk about mental health, while 51.4% reported having talked to other people about mental illness. The differences between those who used to talk about the topic and those who didn't, was significant (p<.05), with more favorable responses among those who had talked about the subject (Table 11).

With regard to formal education on mental health, 390 subjects (48.8%) said that they had been taught something about health and mental illness at school, while 294 (36.8%) said that information on the subject is currently provided at school. Differences between both groups were significant (p<.001), with more positive responses among those who had received some type of information at school (table 11).

As for the information received from the mass media, between 70% and 95% of the interviewees said that they usually read newspapers and magazines, listen to the radio and watch television and movies, while between 40% and 80% said they had receives information on the subject from these media. As can be seen, in accordance with the well-known levels of penetration of the different types of media, the highest levels correspond to radio, television and movies, with over 90% contact. 74% and 80% of the sample said they had receives information on the subject from the last two.

The differences in terms of the reception of information on mental health through these means are reported in Table 12. Although no differences were found for newspapers, they were found for the other four media examined. It can be observed that these were significant in all cases, except for the belief sub-scale in the case of the radio and the attitude scale for the cinema. In each case, the differences were in the direction of more positive expressions on the part of those who had been exposed to information on the subject through these media.

## Discussion

In accordance with previous studies carried out in Mexico, this study discovered predominantly positive attitudes towards the mentally ill and the psychiatrists. Likewise, the public's level of information was higher than anticipated. The results indicate that most subjects in the sample are aware of the importance of mental illness and have some basic information on this matter; they also seem to have positive behavioral intentions of acceptance towards the mentally ill and the psychiatrists.

However, it is well known that paper-and-pencil attitude questions may not truly reflect behavior, and it is worth considering the possibility that the positive attitudes expressed may be due to the fact that the opinions correspond to socially desirable responses that may mask deeper, negative feelings which would explain why the opinions and attitudes detected do not always

lead to a timely search for treatment. More evidence in these respects is expected to be found following further analysis of the data obtained, in terms of the correlation of real behavior with specific beliefs.

It is important to point out that it is not possible to generalize these research findings to all Mexico City population, and also to consider that data from this sort of research are liable to many problems of reliability, validity and sampling biases. They must, therefore, be interpreted with some caution. However our findings do point out to a number of conclusions and suggestions for further research.

In this respect, the study discovered a tendency to express more objective beliefs, more positive attitudes and more favorable behavioral intentions the lower a person's age and the higher his levels of schooling and occupational hierarchy, which would tend to strengthen the hypothesis that education concerning mental health is the best available tool for improving the public's approach to the problem of mental illness.

At the same time, the preliminary results reported here clearly indicate the presence of more favorable beliefs, attitudes and intentions among those who have had direct experiences with mental illness. In this respect, it is not expected that the number of subjects directly exposed to this type of experiences will increase, but rather that the positive effects of the latter will be multiplied by extensive campaigns on the recent scientific progress achieved by the medical science in the field of mental health.

Likewise, the results regarding the mass media, although very general, confirm their importance in relation to the beliefs and attitudes concerning mental illness and psychiatrists, in accordance with previous studies (21, 22, 23, 35, 44, 45).

Further analysis of the results obtained will provide more accurate knowledge of the prevailing relation between beliefs, attitudes and behavioral intentions, as well as the specific areas where the public's information is inappropriate, inadequate or incorrect. Based on this analysis, more suitable information and public education programs will be designed on this subject.


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