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**The Phenomenon of Stigma in a University
Student Population at the Faculty of
Medicine and Surgery of the University of
Modena and Reggio Emilia: Epidemiological,
Sociological and Personological
Characteristics**

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To my wife Francesca, who teaches me to love life

To my son Federico, who teaches me the beauty of curiosity

To my daughter Matilde, who teaches me the richness of imagination

“The analysis developed does not catch at the differences between the advantaged and disadvantaged classes and can be said to direct attention away from such matters. I think that is true. I can only suggest that he would combat false consciousness to awaken people to their true interests has much to do, because the sleep is very deep. And I do not intend here to provide a lullaby but merely to sneak in and watch the people snore”

Erving Goffman, *Frame Analysis*, 1974, p. 14

TABLE OF CONTENTS

ABSTRACT	7
CHAPTER 1	
INTRODUCTION	11
Definition of stigma and its historical development	11
The psychiatric total institution in Italy and the "Basaglia Law"	17
Stigma and mental illness	19
What is an anti-stigma campaign?	24
Antistigma initiatives conducted in Italy	31
Is it so important to reduce stigma in clinical context?	32
CHAPTER 2	
VALIDATION OF THE ATTRIBUTION QUESTIONNAIRE 27 ITALIAN VERSION (AQ-27-I) IN A COLLEGE POPULATION	
Methods	38
Results	42
Discussion	46
Conclusions	50
CHAPTER 3	
DIFFERENCES IN ATTITUDES TOWARDS PEOPLE WITH A MENTAL DISORDER AMONG THE GENERAL POPULATION AND A POPULATION OF UNIVERSITY STUDENTS OF THE FACULTY OF MEDICINE AND SURGERY	
Methods	51
Results	52
Discussion	58
Conclusions	62
CHAPTER 4	
IDENTIFICATION OF PERSONALITY TRAITS THAT CAN BE CONSIDERED PREDICTORS OF STIGMATIZING ATTITUDES TOWARDS PEOPLE WITH A PSYCHIATRIC DISORDER	
Methods	64
Results	69
Discussion	77
Conclusions	81
REFERENCES	83

ABSTRACT

TITLE. "The phenomenon of stigma in a University student population at the Faculty of Medicine and Surgery of the University of Modena and Reggio Emilia: epidemiological, sociological and personological characteristics."

INTRODUCTION. The phenomenon of stigma in mental health has been recognized as one of the most important factors contrasting recovery, rehabilitation and reintegration into the social context of people suffering from a mental disorder.

AIMS OF THE STUDY. The present study aims to investigate three different areas related to the phenomenon of stigma in the context of the student population of the Faculty of Medicine and Surgery at the University of Modena and Reggio Emilia: 1) Psychometric validation of the Italian version of the Attribution Questionnaire 27 (AQ-27-I), a self-administered questionnaire measuring the presence of stigmatizing attitudes. 2) Comparison of stigmatizing attitudes among the university students vs. a representative sample of general population. 3) Analysis of the personological characteristics of the university students as possible predictors of stigmatizing attitudes.

METHODOLOGY. 1) The internal validity was assessed using Cronbach's Alpha. Confirmatory Factor Analysis was used to test the usefulness of the theoretical construct of the questionnaire. 2) The information obtained from the university college student population were compared with the same information collected from a representative sample of the general population to define the presence of statistically significant differences with regard to the stigmatizing attitudes. 3) The students of the Faculty of Medicine and Surgery (UNIMORE) completed the AQ-27-I, the Temperament and Character Inventory, and a socio-demographic form: results were described and analysed to recognize predictive roles of personological characteristics towards stigmatizing attitudes.

RESULTS. 1) 311 students returned the questionnaire (response rate=32.81%). Internal validity gave satisfactory results ($\alpha=0.68$) and the indicators related to path analysis supported the factorial structure of the questionnaire. 2) With the exception of the subscale "Help", the general population (N=222) obtained significantly higher average scores corresponding to higher tendency to stigma (total score: 111.77 vs. 99.68). 3) In the model of "Dangerousness" the cognitive and the emotional component were defined with greater homogeneity of possible predictors of stigmatizing attitudes ("Harm Avoidance", "Persistence", "Self Directedness" and "Cooperation"). The model of "Personal Responsibility" was characterised by

a significant overlap between the predictors of the factor "Anger" and those of the factor "Segregation" ("Novelty Seeking", "Harm Avoidance", "Self Directedness" and "Cooperation").

CONCLUSIONS AND DISCUSSION. 1) Validity of AQ-27-I was confirmed. 2) The differences as to stigmatizing attitudes between university students and general populations are very informative and can be used to develop effective anti-stigma interventions. 3) The identification of the personological characteristics as predictors of stigmatizing attitudes can be considered an important step for the definition of intrinsic mechanisms that lead an individual to adopt stigmatizing attitudes.

CHAPTER 1

INTRODUCTION

Definition of stigma and its historical development

The word stigma comes from the ancient Greek (500 BC) and was used to denote terms like "puncture" or "brand." In particular, it was used to describe the process by which a person guilty of serious crimes (theft or murder) or belonging to a specific social class (specifically, the state of slavery) was marked by an iron point located at the top of a wooden stick (Pianigiani, 1907). In this way the person could be immediately recognized by the community that was then warned from having any kind of relationship with that person.

Although the term stigma has such ancient origin, it was only in the 20th century that its sociological definition was introduced.

The author who firstly declined the concept of stigma and began an analytic and scientific study of the phenomenon was the Canadian sociologist Erving Goffman (Mannville, 1922 - Philadelphia, 1982) in his two most famous works "Asylums: essays on the social situation of mental patients and other inmates" (Goffman, 1961) and "Stigma: notes on the management of spoiled identity"(Goffman, 1963).

According to the theories of Goffman, stigma is "an attribute" (considered as "not desirable" and "unpleasant") that makes a person different from the other members of the community he/she should be part of. So the person who owns "the attribute" is regarded by "normal" persons as someone "marked and discredited."

The main discrediting attributes that were identified by the author can be divided into three categories:

- physical deformities;
- "questionable aspects of the character" such as the lack of will, dishonesty, the yield to unbridled or unnatural passions. These points are deducted when an individual is associated with mental illness, criminal convictions, habitual use of drugs, alcoholism and homosexuality;
- "tribal stigmas" as belonging to a particular religion (e.g. Jewish), ethnicity (for the color of the skin) or nationality.

However, there is an important difference to point out between "the discredited" and the "discreditable". In the first case, the negative attribute is visible to other members of the community (e.g. the color of the skin) while in the second case, the negative connotation is not immediately perceptible (e.g. being illiterate).

From the "discreditable" to the total institutions

The two different conditions of "discreditable" and "discredited" should not be regarded as isolated from each other: the first is the precursor of the second.

The individual who has an obvious attribute cannot hide it and therefore is a victim of stigmatizing reactions from the community that surrounds him.

The person instead who has a "concealable" attribute tries to maintain it concealed as long as possible, not to lose benefits and respect.

In particular, "the discreditable" devote much of their time checking the information, situations or people that could make public their attribute: this just to avoid the risk of switching category and losing privileges.

When instead no concealment is possible or discredit takes place, these are the possible reactions of stigmatized subjects to cope with their status:

- searching for a direct solution to the problem, by changing the condition leading to stigma (e.g. illiterate going to evening school);
- searching for an indirect solution to the problem, by trying to reach, all the same, the benefit originally foreclosed (e.g. a colored person getting to a management role in a company) ;
- victimization: the stigmatized individual, having no other alternative, seeks to gain maximum benefit from his/her disadvantaged situation (for example, ask for an economic support greater than that due to their disability);

- the last solution is not undertaken by the individual object of stigmatization, but by the community reacting to a feeling of threat by the attribute of the individual; this is "placing" this person in a total institution.

Total institutions

Social institutions are places in which a specific activity takes place regularly and systematically. The institution takes possession of almost all of the time and interests of people who depend on it and ends with "enclosing" them. When the institution exerts its enclosing power in a continuous manner, and completely preventing individuals from exchanges between the inside and the outside, it is defined by Goffman as "total institutions".

The Canadian sociologist, in his work "Asylums: Essays on the social situation of mental patients and other inmates", describes five different types of total institutions:

- Type 1: establishments who take care of subjects that need protection and not dangerous (orphanages, nursing homes for the elderly);
- Type 2: a place of internment and care for those who, even if not intentionally, represent a danger to the community (leper hospitals, hospitals for the mentally ill or tuberculosis sanatoria);
- Type 3: institutions that are meant to protect the community from intentionally dangerous individuals (jails);

- Type 4: institutions created for the sole purpose of carrying out a specific activity and then they find their justification on the instrumental level (the colonial plantations, colleges, military academies);
- Type 5: Institutions "external world" whose purpose is to prepare to consecrated life (monasteries and abbeys).

Despite the different types of total institutions which include extremely heterogeneous modalities some common characteristics can be identified. Firstly, all aspects of the life of the inmates are held in the same place and under the same single authority which holds a formal decision-making power on all the activities and people who live in the institution.

All the daily activities that are carried out inside the total institution are normally carried out by an extremely large number of people who are obliged to perform the same activities in the same manner.

In addition, all the different phases of the daily activities are strictly organized according to a predetermined timetable that puts them all in succession to one another: this is not to let "dead time" to internees and to better manage such a large number of people.

Internees and controllers

One of the main characteristics of total institutions is that inside them there is a total and marked split between the group of persons subsidiaries ("internees") and "controllers" responsible for the supervision and control the performance of the institution's activities.

The main difference between these two groups is the possibility, by the controllers, to have a social life out of the institution. In contrast to the inmates, they can leave the institution and outside it they set up relationships with other people (such as having a family) and may engage in other activities in a free and not predetermined institutional way.

In total institutions, it is also completely impossible for internees to switch their status and become part of the group of controllers. A switch in the opposite direction (from controller to internee) is instead possible, for disciplinary or sanitary purposes, thus creating a further rift between the two categories.

In addition, each group of people tends to create an image of the other group based on hostile stereotypes: controllers, feeling superior and entitled to be always right, judge the inmates as malicious and dangerous. In turn, the inmates, who instead perceive themselves as worthless and weak, judge the other group as despotic and violent.

The psychiatric total institution in Italy and the "Basaglia Law"

On May 13th, 1978 the Law 180 (so-called "Basaglia Law") was promulgated, this marked the closure of psychiatric asylums and the establishment of community psychiatry (Gazzetta Ufficiale, 1978).

The Giolitti Law

From 1904 until the enactment of Law 180 in Italy the issue of mental health was regulated by the Giolitti Law (Gazzetta Ufficiale, 1904). This stated that "people suffering for any cause of mental illness must be interned and treated in asylums when they are dangerous to themselves and to others, or of public scandal or cannot be conveniently interned and cured except in asylums".

Based on these criteria a person suffering from a mental disorder, and that resulted dangerous to himself and others, was admitted, by an order of the magistrate, in a mental hospital.

The medical doctors could decide to discharge him within 29 days from his hospitalization. In case of remission from the disease the person returned to his home where he did not possess any kind of therapy or medical support: it was in fact left to his own family which became responsible for all his actions.

In the unfortunate event that 29 days were insufficient for a recovery, the subject was interned for life in the asylum and finally lost all his rights as a citizen (e.g. the right to vote) and was registered in the criminal records of the

Court. In fact it was possible to proceed, even after admission to life, to an eventual discharge through "resignation experiment" under the condition that the patient's family members had declared their willingness to take care of the patient but the director of the asylum, however, remained responsible for any gestures made by the patient. Naturally, in these conditions, the resignation were inexistent.

The Basaglia Law

With the Law 180 the competence of the psychiatric question is transferred from the Ministry of Justice to the Ministry of Health: there is therefore the passage from the dimension of "custody" to a dimension of "care."

The law also provided the closure of mental hospitals that were replaced by territorial structures called "mental health centers": the place of cure of people with psychiatric disorders is no longer the madhouse, total institution, but structures located within the community which in turn becomes an active part in the rehabilitation of the patient.

A further innovation introduced by this law is the "Compulsory Health Treatment." If in the previous law the patient could be hospitalized for life in an asylum now, the compulsory hospitalization cannot be for more than seven days in facilities located within public hospitals. This treatment may be undertaken only when the patient has no awareness of the illness and needs, so, to receive medical treatment urgently.

Stigma and mental illness

Public stigma, Self-stigma and Courtesy stigma

In order to identify correctly the various processes that characterize the phenomenon of stigmatization in mental illness it is necessary to precisely define three concepts that derive mainly from social cognition: stereotype, prejudice and behaviour (Corrigan and Shapiro, 2010).

Stereotypes are beliefs, false myths, concerning the habits, behaviours and characteristics of people who are perceived as coming from a particular group or community: the general population thinks that these beliefs belong to all the people that come from that group or by that specific community (Corrigan and Kleinlein, 2005, Major, 2005, Major and O'Brien, 2005) .

Stereotypes can relate to the race, ethnicity, age, gender, sexual-orientation, mental illness and almost any characteristic: in the table 1 some of the major stereotypes present in Western culture are described.

Prejudice instead is the automatic emotional response to people of a particular group or a particular community, which possess an attribute that is associated by the general population, a stereotype.

This emotional response (attitude) in turn leads to behaviour, by the individual, who will try to preserve and protect himself from possible consequences that might arise from the stereotype he imagines.

Table 1. Major stereotypes present in Western culture

Race and ethnicity	Age and gender	Sexual orientation	Mental Illness
All Muslims are terrorists.	Women become cheerleaders.	Gay men are all feminine.	Schizophrenia is a character flaw.
All white people don't have rhythm.	Women are more brilliant than men.	Lesbians hate men.	Schizophrenia is purely genetic.
All Blacks are lazy.	Women are always moody.	Homosexuals do not know they are sick.	People with schizophrenia can't lead productive lives.
All Jewish people are greedy, selfish money hungry people.	Women do not drive well.	HIV/AIDS is primarily a disease among gay men.	Cognitive decline is a major symptom of mental illness.
All Italians are stylish and sophisticated. They are usually painters, sculptors or fashion designers.	Only men can be doctors.	Gay men are into fashion, have tidy apartments, and love Madonna.	People with schizophrenia are dangerous, unpredictable and out of control.
The people of Netherlands are all promiscuous and drug addicts.	Men don't get grossed out by scrapes and bruises.	In every lesbian couple, one still has to be the man.	Mental illness is transmitted from the mother to her child.
Russians are violent.	Men usually work in messy places.	Lesbians just haven't been with the right guy.	People with mental illness need to be hospitalized.
Chinese will eat anything.	Men like car or porn magazines.	Heterosexuals are perverts.	Medications make sufferers zombies.
People from the Indian subcontinent are generally portrayed as shopkeepers and motel owners.	All teenagers are rebels.	Gay men are attracted to all men and can't control their desires.	Antipsychotic medications are worse than the illness itself.
Irish are alcoholics.	All children don't enjoy healthy food.	All homosexuals were abused as children.	Individuals with schizophrenia can never regain normal functioning.

Public stigma

Corrigan defined the Public stigma as “the reaction that the general population has to people with mental illness” (Corrigan and Watson, 2002).

The literature describes several stereotypes, identified in the general populations.(Gabbard and Gabbard, 1992, Hyler et al., 1991, Mayer and Barry, 1992, Wahl, 1995).

The following three factors are listed as examples:

- people with a mental disorder are dangerous maniacs of whom we have to be afraid;
- psychiatric patients do not have the maturity and ability to understand what is happening around them;
- psychiatric illness occurs in people who have no character or which are particularly weak or insecure

As described in the previous paragraph to every stereotype follows a behaviour that is adopted by the general population in order to protect themselves from possible causes of the stereotype itself.

A behavioural strategy adopted denies help and aid (e.g. economic subsistence) for persons suffering from a mental disorder because psychiatric patients are deemed as incapable of improvement and healing and they represent a wasted investment for society.

By considering psychiatric patient as a "madman maniac" emerges the demand by other individuals to keep a distance from them: the fear of being

victims of these people involves the removal of persons with psychiatric disorders so that they cannot harm anyone.

Finally, as psychiatric patients deemed unable to care for themselves, it is considered necessary that they be confined to particular structures, outside the community, where they can be taken care of and in which they are obliged to follow therapy that is prescribed to them.

Self-stigma

The phenomenon of self-stigma can be defined as the decrease of self-esteem and self-efficacy, as a result of the internalisation of the stigma of mental illness, by the person suffering from a psychiatric disorder (Watson et al., 2007).

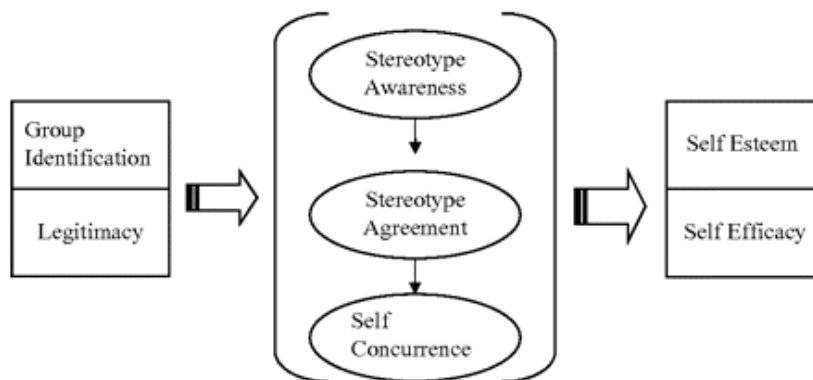
In particular, when a person begins to feel the first disability-related to the onset of a psychiatric disorder he/she tends to give greater importance to the stereotypes with which the general population describes people with a mental disorder (Figure 1).

Thereby affecting the defence mechanism of the person with a psychiatric disorder so that he/she tends to reduce social contacts in order to anticipate and avoid the consequences of stigma against it.

The consequences of this behaviour are extremely serious as well as those of the public stigma: isolation, unemployment, and lowered income.

In addition, people who suffer the effects of public-stigma tend to keep at distance and not to seek help from mental health services: this for fear of being labelled (Wrigley et al., 2005, Markowitz, 1998, Link, 1987).

Figure 1. Theoretical Model of Self-Stigma



Courtesy stigma

Stigma is a phenomenon that involves dramatically even all people close (family and friends) to a person who suffers from a mental disorder: in addition to having to face the consequences of having a loved one suffering from a mental disorder they often undergo prejudice and avoidance of people around them (Birenbaum, 1970).

The prejudice that is formulated more towards the family regards the attribution of blame for the disorder of his own son or daughter. Despite that the new biological models have ruled out this possibility, the general population continues to put the blame on the family.

In the family context, there may also be an additional form of stigmatization:

the son or brother of a person who has a psychiatric disorder is frightened by the possibility that the disease may be transmitted and therefore tries to leave from his family.

The consequences of this attitude lead to a strong reduction of social contacts (e.g., friends or neighbors) or a time-consuming effort to try to hide the illness of their family member (Larson and Corrigan, 2008).

The family undergoes a process which is strongly stressing that often feeds on itself: the increasing isolation of the family in turn becomes a factor of deterioration of the psychiatric illness with the risk that other family members can develop a psychiatric disorders.

What is an anti-stigma campaign?

Many social marketing strategies have proven incredibly effective in promotions of healthy lifestyles (smoking cessation and the fight against obesity) and against the false beliefs related to certain disorders or diseases such as HIV or cancer (Rogers, 1995).

In particular, the effectiveness of these programs increased by audience segmentation: “partitioning a mass audience into sub-audiences that are relatively homogeneous and devising appropriately targeted promotional strategies and messages” (Rogers, 1996).

This strategy was exported even in the context of the fight against stigma and Richard Warner (Warner, 2008) has declined the different steps and methods in the different contexts in which it can be used.

Establishing a local action committee

The action committee should include representatives of all groups that can be considered possible targets of the campaign. In addition, in this committee, is important to include service users and their families: the contribution related to the experience and knowledge of the damage caused by the stigma can be of tremendous help in the definition of an anti-stigma campaign.

Lastly, it can be useful also convene citizens who have particularly important functions of government or legislative: their collaboration can certainly be valuable when it will decline practical actions such as the work application rather than strengthening the rights of people with a psychiatric disorder.

Target group

Before defining the main "target groups" it is necessary to discover where the phenomenon of stigma is more prevalent and after to recognize the possible areas in which work must be attributed to each of its priorities for action.

In addition, the target groups intervention must be homogeneous and accessible: the group of landlords for example is not accessible because they do not recognize themselves as a group or use a common media outlets.

Setting up a consumer speakers' bureau

The involvement of service users is extremely important for two reasons: the audience can personally verify how you can recover from mental illness and also can receive the testimony of people who have suffered the stigma (e.g. at work or school). Among the various forms of awareness to the stigma "contact" was found to be the most effective one rather than "protest" or "education" (Penn et al., 1994).

Setting a media-watch group

The task of this group is to monitor that on local and national media negative portrayals of people with a psychiatric disorder are not transmitted or posted. In addition to a "supervisory" this committee can communicate with the professional orders in order to help in choosing the correct ways to represent mental illness and people who suffer from it.

Most important international antistigma initiatives

a) "Mental Health Education" (1950)

The first example of anti-stigma campaign may be associated with the action that takes place in Indian Head (Saskatchewan - Canada) developed by Elaine, social biologist, and John Cumming, psychiatrist (Kendall, 2011, Cumming and Cumming, 1957).

The goal that the two scientists had set was to determine whether attitudes regarding mental illness could be changed through commonly used educational practices. The strategies adopted in this campaign were very diverse: information leaflets, radio broadcasts, school programmes and engagement with community groups.

The three key concepts on which were set the different strategies undertaken were as follows: 1) “behaviour is caused, and therefore understandable and subject to change”; 2) “there is a continuum between normality and abnormality”; 3) “there is a wider variety of normal behaviour than is generally realised”.

Unfortunately the results were not positive because attitudes remained unchanged. Despite the failure of the goals this first pioneering anti-stigma strategy evidenced those, who will later be, some of the major problems related to anti-stigma campaigns: the difficulty to reach the general population and how to structure actions that bring a significant change in knowledge and behaviour of individuals.

b) “Open the doors” (1996)

"Open the Doors" is a world-wide program developed to fight stigma and discrimination because of schizophrenia promoted by the World Psychiatric Organization in 1996.

The three main objectives of this program can be summarized as: 1) Increase the awareness and knowledge of the nature and treatment of schizophrenia options; 2) improve public attitudes to those who have or have had schizophrenia and their families; 3) generated action to prevent or eliminate stigma and discrimination (WPA, 2005). The diffusion in the world (over 30 countries) has been promoted through the publications of appropriate guides in different languages for the centres involved.

c) "Like Minds, Like Mine" (1997)

"Like Minds, Like Mine" (Ministry of Health, 2007) is a public education program, developed in New Zealand and promoted by the Ministry of Health and the Health Promotion Agency, aimed to reducing the stigma and discrimination faced by people with experience of mental illness. The organization of work resulting from the implementation of this program antistigma is structured on two levels: National Contractors are responsible for providing a variety of national and regional services and activities.

d) "See me" (2002)

"See me" is Scotland's national campaign to defeat stigma and discrimination of mental ill-health. The program started in 2002 and was fully funded by the Scottish Government.

The main objectives of this campaign, which is still in progress, are as follows: 1) to improve public understanding, attitudes and behaviours; 2) organisations treat people with mental health problems, and those who support them, with respect and equality; 3) people with lived experience of mental ill-health have increased capacity to take action against stigma and discrimination (Dunion and Gordon, 2005).

e) “What a difference a friend makes” (2006)

This campaign started in 2006 in United States with the aims to improve the general understanding of mental illness, to promote recovery and wellness and to encourage people to connect and support their friends with a mental illness.

This first step of this program had a specific target population defined by 18-25 year old friends of people living with a mental illness with the following key message: “Be the first step in a friend’s recovery by supporting them if they have mental illness”. The second step of this anti-stigma campaign regarded the objective to succeed in raising awareness and get in touch with the "internet generation" using new media strategy like viral videos, web banners, website discussion forum, social media and outreach.

f) “Time to change campaign” (2009)

The “Time to Change” program started in England in 2007 (the social marketing campaign started in January 2009). The second phase of the campaign was promoted in October 2011, and will run until March 2015. The “Time to Change” program can be considered the largest anti-stigma campaign ever organized and is led by the two most important foundations for mental health present in England, Mind and Rethink Mental Illness, and is funded by the Department of Health and Comic Relief. Numerous and extremely different initiatives have been undertaken on the whole national territory. Below are listed only the major projects undertaken by this program:

- creation of community events to which people with or without mental health problems can participate and meet people;
- £2.7m grants scheme to fund grassroots projects, led by people with mental health problems, that will engage communities in meaningful conversations about mental health led by people with mental health problems;
- connecting work with local organizations to reduce the various forms of discrimination and to improve policy and practice around mental health discrimination
- working with the media to improve the way of discussion of issues related to mental health.

Antistigma initiatives conducted in Italy

In an interesting review of the literature (Zoppei and Lasalvia, 2011) all the anti-stigma campaigns carried out in Italy have been analysed. The results obtained show a situation extremely negative characterized by a strong fragmentation of the events from both a geographical and thematic view.

The anti-stigma programs, identified by the authors, conducted in Italy by searching websites, contacting local health and literature researches were found to be 71. Of these 16 were about depression, schizophrenia 4, 1 suicide prevention, and all the remaining (50) mental health in general.

The first critical issue identified by the study is the lack of a national database that contains all the information related to the actions taken to fight the stigma. The critical issues that ensue are numerous: lack of opportunity for discussion and exchange of information between operators; impossibility of being able to improve using experiences carried out by others health professionals, inability to be able to verify if the work undertaken has been defined and will build on solid scientific grounds.

The last aspect is more significant if associated with the use of public money for the development of these activities: actually there is no possibility to check if the funds provided were spent correctly or if it they were used in projects without effectiveness.

According to the criteria in the literature it is necessary that each project is characterized by a well-defined target population, proposing clear objectives and measurable. The tendency therefore to maintain a certain vagueness could be indicative of a low propensity to measure and assess whether the work was effective or not.

Finally, the authors have pointed out that only 50% of the projects identified have involved people living with, or who have been suffering from a mental disorder.

In conclusion it can be said that in Italy the fight against stigma through the implementation of anti-stigma campaigns did not have a development similar to that of other European countries such as the UK. In particular there appears to be an urgent need to create a shared database of the action taken at the local level and the ability to give more space to the users of services within these projects.

Is it so important to reduce stigma in clinical context?

In literature there is a vibrant and interesting debate about the possibility that people suffering from a psychiatric disorder receive less medical care, both qualitatively and quantitatively, to the rest of the general population.

The scientific data available concerns people with a psychiatric disorder who die prematurely: life expectancy is less than 20 years for the male population

and less than 15 for the female (Thornicroft, 2011) and the highest all-cause mortality risks are associated with substance abuse and eating disorders, moderate risks with functional disorders (Harris and Barraclough, 1998).

As Thornicroft describes these impressive data represent a combination of:

- a higher occurrence of risk factors for many chronic diseases and some types of cancer;
- the iatrogenic effects of some psychiatric medications;
- higher rates of suicide, accidental and violent death;
- poorer access to physical healthcare than for the population as a whole.

The “diagnostic overshadowing”

One of the possible explanations about the possibility that people with a mental disorder are discriminated against access to care concerns the phenomenon of “diagnostic overshadowing” (Desai et al., 2002): general healthcare staff are probably poorly informed or misattribute physical symptoms to a mental disorder.

Another explanation, which in fact constitutes another form of discrimination and stigmatization, concerns the lack of trust that is entrusted to the words of the patient and his disease awareness: the physician and the medical staff cannot rely on the patient's words that are "tagged" as petulant or looking for attention. Or the patient is downgraded from "normal" to people having no

awareness of the disease and also is considered to be incapable of being aware of one's own pain and illness.

Decrease the “care-discrimination” through education of the students of the Faculty of Medicine and Surgery

As described earlier in this thesis three main strategies to combat public stigma in the general population have been defined: education, protest and contact. In this section we will describe the results of the major studies on the stigmatizing attitudes in university students and the main strategies adopted in this context in order to obtain the reduction of stigma attitude.

In several studies it has been shown that the student population between 16 and 19 (Crisp et al., 2005) is often characterized by stigmatizing attitudes towards people with a psychiatric disorder: in particular, they are perceived as dangerous and mostly incapable of being able to have a life of their own.

For example a Nigerian study (Adewuya and Makanjuola, 2005) demonstrated that the 62.50% (1000/1600) of university student had stigmatizing attitudes toward people with mental illness in terms of wanting to maintain social distance.

But what is impressive are the results of studies conducted in medical faculties which have not provided more encouraging results:

- approximately 39% of sixth year medical students in Turkey regarded people with schizophrenia as dangerous (Ay et al., 2006);

- negative attitudes toward people with mental health problems in health care professionals were found to be present when they were students (Thornicroft, 2006).

These are data that certainly make us think: the current medical students will be those who, as leaders, will be able to implement new policies for health care and at the same time they will take care of people suffering from psychiatric disorders.

The lack of knowledge of psychiatric patient, and above all the stereotypes that go with them, makes it clear that it is necessary to act on prevention, already in the classrooms of universities.

In a recent review of the literature Yamaguchi et colleague (Yamaguchi et al., 2013) try to summarize the effectiveness of short-term interventions to reduce mental health-related stigma in university or college students. The sample size was defined by 35 studies published between 1975 and 2010.

From the analysis of the different studies the research group defined the different kind of intervention in 8 categories:

1. Social contact: any interaction between people with mental health problems and participants; for example, people with mental health problems talking about their own experiences in an educational intervention.

2. Video-based social contact: media (e.g., videos or personal computer [PC] programs) showing people (or actors/actresses) with mental health problems talking about their own experiences.
3. Video-based education: media aimed at reducing stigma or providing academic information about mental health issues, including specialists explaining about mental health problems and the lives of people with mental illness. This category also includes media showing people with mental health problems who discuss symptoms but do not disclose that they themselves have a mental illness.
4. Education-lecture: a lecture or session in which specialists or family members discuss mental health problems including symptoms of mental disorders or the lives of people with mental illness.
5. Education-text: any interventions in which participants just read information sheets, relevant books, or articles.
6. Famous film: any videos and films that are primarily aimed at entertainment, but have people with mental health difficulties as their primary or secondary characters.
7. Education-role-play: any intervention in which participants do role play in which they play either people with mental health problems or other people (e.g., family or employer) involved with those with mental health problems.
8. Other: interventions not described in the above mentioned categories.

The results of this complex and detailed study showed, despite the methodological shortcomings of some studies reviewed, that two specific type of interventions, social contact (SC) and video contact (VC), are particularly effective for changing attitudes and reducing desired social distance (SC) and for changing attitudes (VC).

On the other side the author demonstrated that there is very limited evidence that supports that role-playing education and a simulated experience of hallucinations may successfully change students' attitudes toward people with mental illness.

CHAPTER 2

VALIDATION OF THE ATTRIBUTION QUESTIONNAIRE 27 ITALIAN VERSION (AQ-27-I) IN A COLLEGE POPULATION.

Methods

Sample

During the Academic year 2011/2012 a questionnaire was submitted to 948 students of the Faculty of Medicine and Surgery of the University of Modena and Reggio Emilia with an e-mail link of a webpage where they could fill in the AQ-27-I and a socio-demographic schedule.

Instrument description

Italian version of The Attribution Questionnaire 27

The AQ-27 is a self-administered questionnaire in English developed and validated by Professor Patrick William Corrigan of the Illinois Institute of Technology (USA)(Corrigan et al., 2003). This psychometric measure consists of 27 statements that are intended to explain attitudes, affect and behavioural intentions related to a hypothetical person suffering from mental illness. At the compiler is asked to express his level of agreement with each statement using a Likert scale from 1 to 9.

The theoretical concepts used by Corrigan for the development of the AQ-27 are two: attribution theory (Weiner, 1988) and the dangerousness theory (Link and Cullen, 1986). Stereotypes, prejudice and discrimination are the cognitive, emotional and behavioural components of the two models: stereotypes are negative beliefs, addressed to other for public stigma; stereotypes activate the emergence of prejudice as their cognitive and emotional response, subsequently leading to the behavioural reaction of discrimination.

In the first model the person with a psychiatric disorder is considered to be responsible for his/her condition (Stereotype) so that other people will be angry against him/her because, for example, they squanders public money and resources of the community (Emotional response) and therefore these will not be available to provide the assistance requested (Stigmatizing behaviour). In the second model the psychiatric patient is perceived as dangerous because, for example, he/she is able of violent acts (Stereotype) and thus the rest of the community perceives as dangerous (Emotional response) and tries to keep away as far as possible (Stigmatizing behaviour).

The first model is described in the questionnaire through the use of 18 statements divided, in groups of three, in 6 domains: Personal Responsibility, Pity, Help, Anger, Coercion and Segregation. The second model is described by 3 domains (through nine statements): Dangerousness, Fear and Avoidance.

The Italian version of the questionnaire (AQ-27-I) was edited and validated by Dr. Luca Pingani of the University of Modena and Reggio Emilia (Pingani et al., 2012) and provided results comparable to those of the original version (Table 2).

Table 2. Psychometric values of the Italian version of the Attribution Questionnaire 27

		GFI	AGFI	RMSEA	Cronbach's Alpha	Test-retest reliability
Attribution Model	Responsibility	0.89	0.85	0.09	0.62	0.68
	Pity				0.68	0.65
	Anger				0.52	0.51
	Help				0.81	0.80
	Coercion				0.57	0.53
	Segregation				0.80	0.78
Dangerousness Model	Dangerousness	0.92	0.85	0.11	0.76	0.72
	Fear				0.91	0.89
	Avoidance				0.57	0.54
Total					0.82	0.72

Validation process

Cronbach's Alpha (Cronbach, 1951) was used to define the reliability of the questionnaire. Confirmatory Factor Analysis (Kline, 2010) was used to check if the original theoretical construct of the AQ-27-I could be applied to a university student population.

These indices were considered to assess model fit:

- X^2 (chi square) (Sheldon, 2003) for evaluating overall model fit and assess the magnitude of discrepancy between the sample and fitted covariance's matrices. A good model fit would provide an insignificant result at a 0.05 threshold;
- Goodness of Fit Index (GFI) (D'Agostino and Stephens, 1986) calculates the proportion of variance that is accounted for the estimated population covariance. Traditionally an omnibus cut-off point of 0.90 has been recommended however, different studies have demonstrated that when sample sizes are low a higher cut-off of 0.95 is more appropriate;
- Adjusted Goodness of Fit Index (AGFI) adjusts the GFI based upon degrees of freedom and tends to increase with sample size. The values for the AGFI range between 0 and 1 and it is generally accepted that values of 0.90 or greater indicate well-fitting models;
- Root Mean Square Error of Approximation (RMSEA) (Loehlin, 2004) describes how well the model, with unknown but optimally chosen parameter estimates would fit the population's covariance matrix. A cut-off value close to 0.6 or a stringent upper limit of 0.7 seems to be the general consensus amongst authorities in this area.
- Comparative of Fit Index (Bentler and Bonett, 1980) is a revised form of the Normed Fit Index that takes into account sample size (good even

when sample size is small). Values for this statistic range between 0.0 and 1.0 with values closer to 1.0 indicating good fit. Recent studies have shown that a value greater than 0.90 is needed in order to ensure that misspecified models are not accepted

Results

Socio-demographic characteristic

The sample consists of 311 students of the Faculty of Medicine and Surgery, University of Modena and Reggio Emilia. The mean age is 22.78 (SD= \pm 3.80) ranges from 18 to 45 years. The sample consisted of 217 females (69.77%) nearly twice that of men (N=94, 30.23%). The sample can then be defined as representative of the entire student population because the percentage of males and females perfectly overlaps with that of our sample. 143 students were single (45.98%) while 160 (51.45%) have declared to have a stable loving relationship. As for the home, 73.63% (N=229) live with their families while the remaining live in a rented apartment or in a dorm. The demographic characteristics are described in Table 3.

Table 3. Demographic characteristic of the sample

		Mean	SD	m	M
Age		22.78	±3.80	18	45
		N		%	
Sex	<i>Male</i>	94		30.23	
	<i>Female</i>	217		69.77	
Civil Status	<i>Single</i>	143		45.98	
	<i>Engaged</i>	160		51.45	
	<i>Married</i>	7		2.25	
	<i>Divorced</i>	1		0.32	
Living situation	<i>With parents</i>	229		73.63	
	<i>Dorm room</i>	4		1.29	
	<i>In a property house</i>	28		9.00	
	<i>Live in rented accommodation</i>	46		14.79	
	<i>Other</i>	4		1.29	

Confirmatory Factor Analysis

The pathway analysis related to the theory of attribution is described in Figure 2. The 18 items were defined as loading on six different first order latent factors. The X^2 value is significant ($X^2=308.53$; $df=130$; $p<0.01$) and the ratio between X^2 and the degree of freedom (X^2/df) is slightly below the cut-off (2.37). The Goodness of Fit Index is equal to 0.90 (above the cut-off required) while the Adjusted Fit Index (0.86) and of the Comparative Fit Index (0.83) are slightly below (required value >0.90). The value of Root Mean Square Error of Approximation (0.07) is considered as compliant with scientific standards. The estimate of covariance among factors is significant with the exception of the associations “Personal Responsibility – Pity” (-0.02 ; $p=0.78$)

and “Anger – Coercion” (0.17; $p=0.16$). All the items loaded significantly into corresponding factors.

The pathway analysis related to the theory of dangerousness is described in Figure 3. The 9 items are defined as loading in three different first order latent factors: Dangerousness (2, 13, 18), Fear (3, 19, 24) and Avoidance (7, 16, 26). The X^2 value is significant ($X^2=61.96$; $df=24$; $p<0.01$) and the value of the ratio X^2/df (2.58) is above the reference value (2.0). Goodness of Fit Index, Comparative Fit Index and Adjusted Fit Index have very good value (0.96; 0.96; 0.93) while the value of Root Mean Square Error of Approximation is slight above the recommended value (0.07). All the items loaded significantly into corresponding factors and all the estimated covariance between factors was always significant ranging from -0.64 to 0.66.

Internal consistency reliability and test-retest reliability

Cronbach’s Alpha was used to define the internal consistency while the test-retest reliability was tested using the intraclass coefficient: these two parameters, for the subscales and for the entire questionnaire, were described in table 4.

Figure 2. The six-factor measurement of the Responsibility model

(***=p<0.001; **=p<0.01; *=p<0.05)

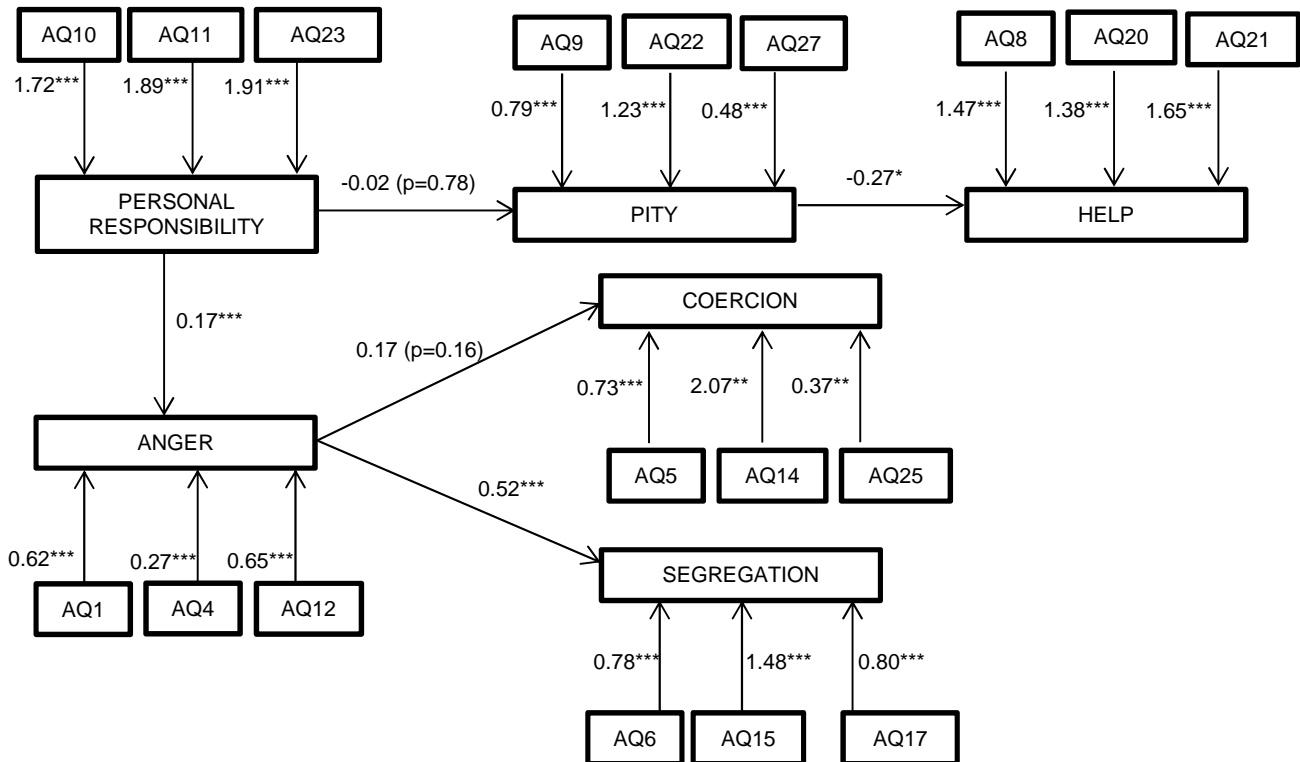


Figure 3. The three-factor measurement of the Dangerousness model

(***=p<0.001; **=p<0.01; *=p<0.05)

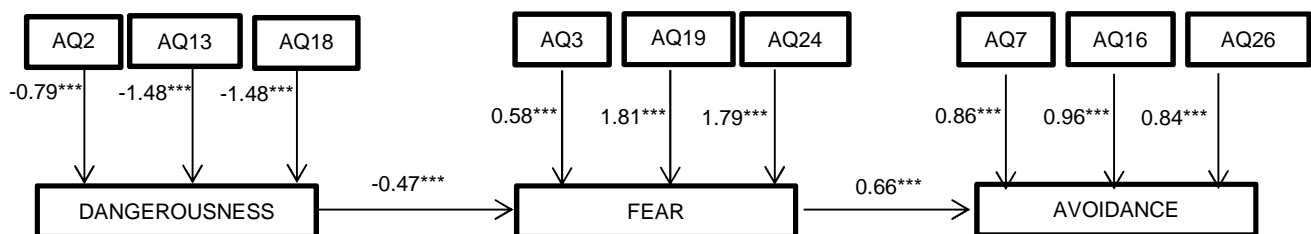


Table 4. Internal consistency reliability and test-retest reliability (F value; ***= $p < 0.001$) for the subscale and for the total score of the Attribution Questionnaire 27

	Internal consistency reliability (Cronbach's Alpha Coefficient)	Test-retest Reliability
Responsibility	0.40	1.66***
Pity	0.63	2.66***
Anger	0.74	3.80***
Dangerousness	0.60	2.00***
Fear	0.42	1.73***
Help	0.65	2.88***
Coercion	0.63	0.91 ($p=0.81$)
Segregation	0.83	5.74***
Avoidance	0.71	3.45***
Total	0.68	3.12***

Discussion

The aim of this first part of the thesis was to verify the structural and psychometric characteristics of the AQ-27 (Italian version) in the context of a university student population of the Faculty of Medicine and Surgery.

Sample

Only 32.81% of the students agreed to be involved in the survey: probably the strategy used (questionnaire sent by mail) failed to attract the attention of a large number of students. In further validation studies of this psychometric instrument we could consider the possibility of creating specific training

events on the stigma within the network training degree courses, during which the questionnaire could be administered to a larger number of students.

Although the sample is of reduced dimensions, however, it is representative of the student population and therefore suitable for the present study for two reasons. Firstly because the proportion of the female and male population is almost the same in the sample (64.49% vs. 35.51%) and in the entire student population (69.77% vs. 30.23%). Furthermore, the average age of the sample object of study (22.78) is slightly less than that of the entire student population (23).

The sample also meets the criteria of sample size necessary to lead to the validation of a questionnaire: it respected the relationship factors/responders of 1:10 (in the present study it is 1:11,52) and also it respects the norm defined in literature to consider 300 as a proper study population for a questionnaire validation (in our study we collected 311 cases).

Validation process

The indices of fit relative to the first model have given divergent outcomes: the value of the Goodness of Fit Index has proven to be above the cut-off defined in the literature while the values of Comparative Fit Index, Adjusted Goodness of Fit Index and Root Mean Square error of approximation (RMSEA), although for a while, it did not meet the criteria sufficiently. The

results obtained indicate the need to further verify this model in the context of the specific population being studied in this research: there are probably other factors, to identify and take into account, which describe the phenomenon of the attribution of responsibility.

There are also other critical issues identified by the analysis of the model: the estimate covariance of the factors.

The non-significance in two different associations in the model can be caused by the cultural context in which the questionnaire was applied. With regard to the first association (“Personal Responsibility” – “Pity”) there is the need to stress that most likely in Italian culture there is the difficulty to differentiate the concepts of “Pity” and “Pietism”. In this case we have probably not identified the “pietism” as a stigmatizing factor that prevents an individual to implement and improve his skills.

The second association not statistically significant (“Anger”- “Coercion”) can be explained considering that the students probably don’t conceive the “Coercion” as an instrument to restrict and affect the freedom of an individual but rather as a tool that the healthcare professional can use in case there is no collaboration by the patient.

However, it should be emphasized that in the first model all the items loaded in their respective factors in a statistically significant way and also the analysis of the reliability proved satisfactory for all factors (>0.60) with the exception of the Personal Responsibility.

The results obtained from the second model are much better. The internal reliability of the factors that constitute the "Dangerousness model" is satisfactory for all factors with the exception of "Fear" which is equal to 0.42. All estimate covariance between the various factors that constitute the model have obtained statistically significant results ("Dangerousness" - "Fear" and "Fear" - "Avoidance") and also all the items loaded in the respective factors.

With regard to the fit indices the results were decidedly satisfactory: only the Root Mean Square Error of Approximation was found to be above the cut-off defined by the literature. All other indicators (GFI, AGFI and CFI) gave results within the cut-off: therefore it is possible to say that this model, unlike the previous one, fits much better to the Italian cultural context and in particular to the target population study.

Finally, the internal reliability of the whole questionnaire gave satisfactory results being 0.68: thus indicating a degree to which the set of items measures the latent construct.

Conclusions

The analysis carried out showed that the validation of the AQ 27 (Italian version) in the student population of the Faculty of Medicine and Surgery is a process that involves different disciplines (sociology, psychiatry and anthropology for example), and that cannot be considered exhausted.

While the questionnaire has demonstrated that it can be used to measure the various factors that characterize the public stigma on the other hand it should be emphasized that the processes underlying these measurements are yet to be only partially adapted to the Italian context.

In particular the model of "Personal Responsibility" needs to be verified evaluating the possibility of introducing new factors that can better explain and articulate the process itself.

Therefore it is necessary, using this questionnaire, to use extreme caution: the AQ-27 has shown discrete psychometric properties but need further studies to be better defined.

CHAPTER 2

DIFFERENCES IN ATTITUDES TOWARDS PEOPLE WITH A MENTAL DISORDER AMONG THE GENERAL POPULATION AND A POPULATION OF UNIVERSITY STUDENTS OF THE FACULTY OF MEDICINE AND SURGERY

Methods

Sample

The representative sample of the general population was made up of 214 people who were relatives of students of the Degree Course in Techniques of Psychiatric Rehabilitation, University of Modena and Reggio Emilia. The exclusion criteria were defined “a priori” as follows: 1) to be older than 18 years, and 2) not having a family of first and / or second degree suffering from a psychiatric disorder. Initially 225 people were contacted but of these 11 (4.89%) did not agree to participate. The representative sample of the university student population was described previously in this thesis. During the Academic year 2011/2012 a questionnaire was submitted to 948 students of the Faculty of Medicine and Surgery of the University of Modena and Reggio Emilia an e-mail link of a webpage where they could fill in the AQ-27-I

and a socio-demographic schedule. 311 student (32.81%) accepted to be involved in the study.

Instruments

A form was distributed to both populations (via web for student and by hands for general population) to collect socio-demographic information (age, sex and social status) and the AQ-27-I.

Analysis of difference between the two populations

Socio-demographics and results of the AQ-27-I were used to understand differences between the two populations. Continuous variables were described using mean and standard deviation; categorical and ordinal variables were described using proportion (in percentage). χ^2 and t-test analysis were used to define statistical difference between the socio-demographic characteristic of the two populations.

Results

Socio-demographic characteristic of the sample

Table 5 describes the socio-demographic characteristic of the two populations. The mean age of the general population was 40.15 (SD= \pm 16.35) while the college student population was 22.78 (SD= \pm 3.80). There is a

statistically significant difference ($t=17.87$; $df=517$; $p<0.001$) between the mean age of the two populations. In both samples the majority was composed of women (general population: 52.34%; college student population: 69.77%). Also for this variable (gender) there is a statistically significant difference ($\chi^2=16.48$; $df=1$; $p<0.001$).

Table 5. Socio-demographic characteristic of the two populations sample.

		GENERAL POPULATIONS				COLLEGE STUDENT POPULATION				ANALYSIS OF STATISTICAL DIFFERENCES
		Mean	SD	m	M	Mean	SD	m	M	t-student
Age		40.15	±16.35	18	89	22.78	±3.80	18	45	$t=17.87$; $df=517$; $p<0.001$
		N		%		N		%		χ^2
Sex	<i>Male</i>	102		47.66		94		30.23		$\chi^2=16.48$; $df=1$; $p<0.001$
	<i>Female</i>	112		52.34		217		69.77		

Scores at the AQ-27-I

Table 6 lists total and subtotal scores obtained by the two populations through the administration of the AQ-27-I. Statistically significant differences are also visible. In five subscales out of seven the general population scored higher than the student population: the only two exceptions were the factors "Dangerousness" and "Help". The total score of the general population was also significantly higher than that of the student population. Differences between mean sub-scores were statistically significant in all cases except "Dangerousness" and "Avoidance".

Table 6. Scores obtained by the two populations in AQ-27-I

	GENERAL POPULATION mean (DS)	COLLEGE STUDENTE POPULATION mean (DS)	ANALYSIS OF STATISTICAL DIFFERENCES
Responsibility	7.75 (±3.95)	6.37 (±2.78)	t=4.06; df=523; p<0.001
Pity	15.86 (±6.15)	13.93 (±5.28)	t=3.83; df=523; p<0.001
Anger	7.52 (±4.12)	6.37 (±6.50)	t=2.30; df=523; p<0.05
Dangerousness	9.34 (±4.79)	9.46 (±2.74)	t=-0.37; df=523; p=0.71
Fear	9.05 (±5.52)	7.29 (±3.92)	t=4.29; df=523; p<0.001
Help	19.69 (±5.70)	21.14 (±4.54)	t=-3.22; df=523; p<0.001
Coercion	17.79 (±4.77)	13.87 (±4.34)	t=9.77; df=523; p<0.001
Segregation	8.86 (±5.35)	7.43 (±4.19)	t=3.42; df=523; p<0.001
Avoidance	15.34 (±5.56)	14.70 (±5.64)	t=1.28; df=523; p=0.2
Total score	111.01 (±24.34)	100.57 (±18.62)	t=5.57; df=523; p<0.001

Definition of stigmatizing attitudes in the subpopulations of men and women

In table 7 and in table 8 the mean scores of male and female subpopulations in the two different samples are described.

The male subpopulation of university students scored higher than the male subpopulation of the general population for only three factors: "Pity", "Dangerousness" and "Help". In addition, differences between the average scoring of the two subpopulations were statistically significant only for three

factors ("Responsibility", "Fear" and "Coercion") and for the total score of the questionnaire.

The female subpopulation of the general population scored higher than the average of the subpopulation of the population of university students for the total score of the questionnaire and for all factors except for the subscale "Help". In addition, statistically significant differences between the averages of the two subpopulations have covered the total score and all other factors except "Responsibility", "Dangerousness" and "Avoidance".

Table 7. Mean score obtained by the male subpopulation of the two different samples

	MALE - GENERAL POPULATION mean (DS)	MALE - COLLEGE STUDENTE POPULATION mean (DS)	ANALYSIS OF STATISTICAL DIFFERENCES
Responsibility	8.71 (\pm 4.25)	6.59 (\pm 3.29)	t=3.88; df=194; p<0.001
Pity	14.56 (\pm 6.05)	14.74 (\pm 5.63)	t=-0.22; df=194; p=0.83
Anger	7.75 (\pm 4.21)	7.38 (\pm 8.73)	t=0.37; df=194; p=0.71
Dangerousness	9.14 (\pm 4.50)	9.95 (\pm 2.72)	t=-1.51; df=194; p=0.13
Fear	8.32 (\pm 5.09)	7.05 (\pm 3.71)	t=1.98; df=194; p<0.05
Help	19.25 (\pm 5.74)	20.01 (\pm 5.10)	t=-0.97; df=194; p=0.33
Coercion	17.53 (\pm 5.24)	13.55 (\pm 4.51)	t=5.67; df=194; p<0.001
Segregation	9.31 (\pm 5.42)	7.94 (\pm 4.48)	t=1.93; df=194; p=0.06
Avoidance	15.62 (\pm 5.96)	15.39 (\pm 5.57)	t=0.27; df=194; p=0.79
Total score	110.19 (\pm 23.67)	102.31 (\pm 21.64)	t=2.33; df=194; p<0.05

Table 8. Mean score obtained by the female subpopulation of the two different samples

	FEMALE - GENERAL POPULATION mean (DS)	FEMALE - COLLEGE STUDENTE POPULATION mean (DS)	ANALYSIS OF STATISTICAL DIFFERENCES
Responsibility	6.53 (3.36)	6.28 (2.54)	t=0.74; df=327; p=0.46
Pity	17.04 (6.02)	13.58 (5.10)	t=5.47; df=327; p<0.001
Anger	7.31 (4.04)	5.93 (5.21)	t=2.46; df=327; p<0.05
Dangerousness	9.52 (5.05)	9.25 (2.73)	t=0.63; df=327; p=0.53
Fear	9.71 (5.82)	7.39 (4.02)	t=; df=327; p<0.001
Help	20.09 (5.65)	21.62 (4.20)	t=4.25; df=327; p<0.01
Coercion	18.04 (4.30)	14.01 (4.27)	t=8.08; df=327; p<0.001
Segregation	8.45 (5.28)	7.22 (4.05)	t=2.35; df=327; p<0.05
Avoidance	15.09 (5.18)	14.41 (5.65)	t=1.07; df=327; p=0.29
Total score	111.77 (25.02)	99.68 (17.13)	t=5.15; df=327; p<0.001

Discussion

Stigma in mental health is an extremely complex phenomenon, resulting from the combination of multiple factors and involving contributions from different sciences: not only psychiatry and psychology, but also sociology, anthropology and even politics and economics.

The understanding of the building up and persistence of stigmatizing attitudes in different contexts is indispensable to program clinical interventions.

The aim of this study was to collect further evidence on factors affecting the presence of stigma, by administering the AQ-27-I to samples of two different populations: general population and university students of the Modena Faculty of Medicine and Surgery.

The role of age

The general population has an average age of 40.15 years: this suggests that these people were raised in a period of profound transition between the “psychiatry of asylums” (during which the psychiatric patients were considered to be hazardous to himself and others and consequently were locked up in asylums where they would have spent their entire life) and the modern concept of “community psychiatry” (the patients reacquires their human rights as free persons and the care process takes place not in a institutionalizing context but in the community where the persons live).

With the exception of the subscales "Dangerousness" and "Help", in all other the general population got higher values indicating greater stigmatizing attitudes towards mental illness.

These results are evidently to be associated just to the variable "age" of which we spoke before: growing in a historical period in which mental illness was considered "a priori" as dangerous and to be avoided had the consequence of establishing some stereotypes in people and probably, over time, these stereotypes have been encysted.

Differences of the score of the AQ-27-I between the general population and the college population.

Only for two subscales the university population scored higher than the general population: in one case, for the factor "Dangerousness", though, the difference was not statistically significant. Nevertheless, this may be due to greater exposure of this population to some mass media such as movies and television, also a very relevant cultural factor related to different age-related exposures. It is well established in literature that the image of mental illness that emerges from these communication media: concepts like danger, crime, instability, poor self-control are associated with people suffering from a psychiatric disorder.

Students also scored higher for the factor "Help": this is the obvious expression of the choice, made by these students, to attend a degree course

of the Faculty of Medicine and Surgery. The students are attending undergraduate seeking a strong propensity to "help" the patient in his care settings: the willingness to help is one of the requirements that generally drives these people to undertake this type of career. No wonder then that young people who have chosen to carry out this type of professions have obtained a higher score on the subscale "help".

Differences of the score of the AQ-27-I between the male subsample of the two populations under study

In this case the most relevant result concerns the small number of statistically significant differences between the scores obtained at AQ-27-I by the males of the two populations being studied.

In fact, only for 3 factors ("Personal Responsibility", "Fear" and "Coercion") and the total score of the questionnaire, the average value obtained is significantly different between the two populations and also the worst score (therefore more stigmatizing) always comes from the general population.

All three factors identified reflect stereotypes that are often associated with people suffering from a psychiatric disorder. These are in fact found guilty of their status of mental suffering, probably because of lack of willpower or because eager to acquire some kind of subsidy that allows them to not work (Factor "Personal Responsibility"). The sense of "Fear" is associated with a vision of the psychiatric patient as dangerous or as a criminal: a stereotype of

this kind has a consequence the adopting of avoidance behaviour in order not to have to deal with this kind of people. Finally, the inability to manage the various components of own's lives oblige the patient to make some actions (for example to take the therapy) under the control of someone ("Coercion"). The reference model of the general population is the asylum psychiatry where the psychiatric patient was considered as incapable of taking care of himself and also potentially dangerous. For this reason they were locked up for life in mental hospitals. Also college student has the opportunity, attending a medical school, to be able to study such clinical aspects (e.g. etiopathology) of psychiatric disorders and therefore, at least potentially, could be facilitated in order to avoid taking stigmatizing attitudes.

Differences of the score of the AQ-27-I between the female subsample of the two populations under study

In this case, a difference between the two subpopulations was found for all factors except "Danger" and "Avoidance" that are both from the "Dangerousness model" and "Personal Responsibility" that comes from "Responsibility model".

Regarding the first two factors it is possible to emphasize that statistical significance should not be misleading. The mean scores obtained by the female subpopulation, however, are higher (by the factor "Danger") or very similar (factor "Avoidance") to those of the two samples of men. It is possible

to hypothesize that the presence of this type of stereotype may be the result of the association that is made from certain types of mass media (cinema, television series) between the dangerousness of psychiatric patients and certain types of crime. In fact is not rare to observe how some crimes such as rapes or murders are committed (in these media) by people with psychiatric disorders.

Finally, we must emphasize that the female portion of the general population has obtained a score much higher than that of male. From this figure it seems to be confirmed that women have a greater sensitivity to mental disability.

Conclusions

The realization of this study was made possible due to previous validation of the AQ-27-I: at present, to the best of our knowledge, in the Italian cultural context other psychometric instruments designed for the measurement of stigmatizing attitudes are not present.

In this particular study, the AQ-27-I has demonstrated its good characteristics: easy to administer, built on a theoretical framework validated (theories of personal responsibility and dangerousness) and sensitive to diverse populations to which it is administered.

This last property has allowed us to see what the different nuances are that characterize the stigmatizing attitudes of two different populations: the

general population and the population of students of the degree courses of the health professions at the University of Modena and Reggio Emilia.

From this analysis has emerged that stigmatizing attitudes in the two populations, and in particular also in the subpopulations male and female, are very different.

The general population, for example, is much less prone to the university population, to help people who suffer from a mental disorder and in particular believe more emphatically that the resort to instruments that may also limit the freedom of an individual (segregation and coercion) can be adopted when dealing with psychiatric patients.

The male portion of the general population has shown a heightened sense of "fear" of people who suffer from a psychiatric disorder, while in the female feelings of pity and desire to help those suffering from a psychiatric disorder emerged.

The results obtained have highlighted the need, if someone undertakes actions to decrease stigmatizing attitudes, to adopt different strategies for different populations who want to raise awareness.

CHAPTER 4

IDENTIFICATION OF PERSONALITY TRAITS THAT CAN BE CONSIDERED PREDICTORS OF STIGMATIZING ATTITUDES TOWARDS PEOPLE WITH A PSYCHIATRIC DISORDER

Methods

Study design

This is a cross-sectional study. At the beginning of the Academic Year 2012/2013 (October 2012) the research protocol of this study was presented to the Presidents of the Undergraduate Course of Health Professions of the University of Modena and Reggio Emilia asking each of them the authorization to engage students of their course.

To students who agreed to participate was explained and described in detail the research protocol and they were also asked to sign the informed consent to study participation.

Each student was then asked to fill in a socio-demographic form and two psychometric questionnaires: the Italian Version of Attribution Questionnaire 27 and the Italian Version of Temperament and Character Inventory (Pingani et al., 2012, Fossati et al., 2007) There were no time limits for data compilation and they were asked to answer all the questions in the questionnaires

The first questionnaire was used to analyse and describe stigmatizing attitudes present in the university student population. In a second step the subscales of the Temperament and Character Inventory were used to identify possible predictors, in the university student population, of stigmatizing attitudes described by the Italian version of Attribution Questionnaire.

Instruments

Socio demographic form

Through this form the following information was collected for each student who joined the study: age (in years), sex, marital status (single, stable relationship, separated/divorced and married/cohabiting partner) and degree course attending.

Italian version of Temperament and Character Inventory

The Temperament and Character Inventory (TCI) is a self-administered questionnaire in English language. The first version was developed by prof. Claude Robert Cloninger of the Washington University (USA) in 1994 as an evolution of the Tridimensional Personality Questionnaire developed also by Prof. Cloninger in 1984 (Cloninger et al., 1993, Svrakic et al., 2002).

The questionnaire has been translated and validated into thirteen different languages and the Italian version was edited and validated by Prof. Fossati of the University "Vita-Salute San Raffaele" in Milan in 2007 (Fossati et al., 2007).

The TCI is composed by 240 questions that allow only two types of response: "True" or "False". The scoring of the scale permits to identify and assess seven dimensions of personality traits: four so-called temperaments (Novelty Seeking, Harm Avoidance, Reward Dependence and Persistence) and three so-called characters (Self-directedness, Cooperativeness and Self-Transcendence).

"Novelty seeking" is the personality trait associated with the exploratory activity, impulsive decision-making and poor resistance to frustration while "Harm Avoidance" is the tendency to inhibition of behaviour. The temperament trait "Reward dependence" describes a personality with a habitual behaviour, tending to sentimentality and dependence approval. The last temperament trait described by the TCI is the "Persistence": the resistance despite the fatigue and frustration.

The three characters scale are: "Self-directedness" means the ability to identify themselves as autonomous individuals, "Cooperativeness" describes the feeling of being an integral part of a system or of a community, and finally "Self-Transcendence" describes the sense of belonging or being part of a larger system such as the universe.

Every single dimension of personality traits is divided into different subscales as described in Table 9.

Italian version of Attribution Questionnaire-27

The Italian version of the Attribution Questionnaire 27 was described in the second chapter of the present thesis.

Statistical analysis

Percentages are provided for categorical variables; means and standard deviation are calculated for continuous variables. The difference between the attitudes about mental illness in the two subpopulations (“male” and “female” college student population) was calculated using t-test for continuous variables and Chi-square test for ordinal or categorical variables. The predictors were identified through the use of a linear regression that is an approach to model the relationship between a scalar dependent variable (generally called “y”) and one or more explanatory variables (usually denoted as “x”) (Hawkins, 1973).

Table 9. Subscale of dimensions of personality traits

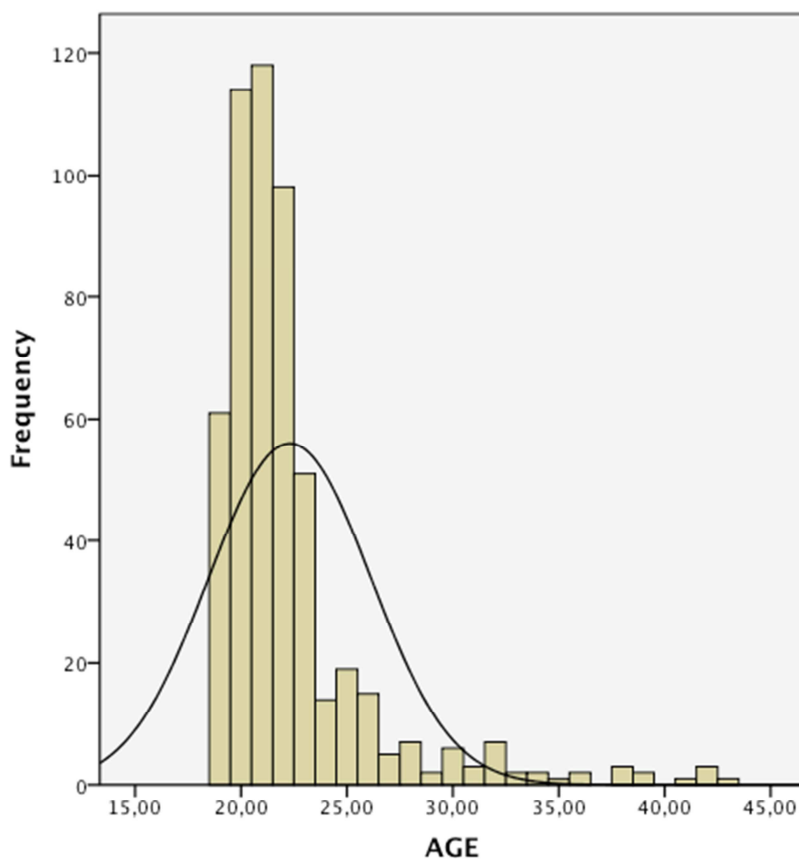
	Novelty Seeking	Harm Avoidance	Reward Dependence	Persistence	Self-directedness	Cooperativeness	Self-Transcendence
1	Exploratory excitability (NS1)	Anticipatory worry (HA1)	Sentimentality (RD1)	Eagerness of effort (PS1)	Responsibility (SD1)	Social acceptance (C1)	Self-forgetful (ST1)
2	Impulsiveness (NS2)	Fear of uncertainty (HA2)	Openness to warm communication (RD2)	Work hardened (PS2)	Purposeful (SD2)	Empathy (C2)	Transpersonal identification (ST2)
3	Extravagance (NS3)	Shyness (HA3)	Attachment (RD3)	Ambitious (PS3)	Resourcefulness (SD3)	Helpfulness (C3)	Spiritual acceptance (ST3)
4	Disorderliness (NS4)	Fatigability (HA4)	Dependence (RD4)	Perfectionist (PS4)	Self-acceptance (SD4)	Compassion (C4)	
5					Enlightened second nature (SD5)	Pure-hearted conscience (C5)	

Results

The sample

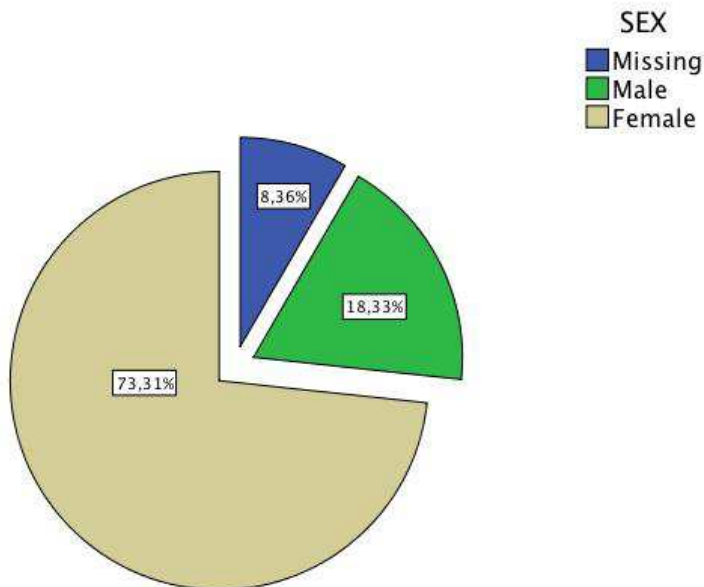
The sample is composed by 562 students (77.41% of the entire population) that in Academic Year 2012/2013 were attending an undergraduate course in Health Profession in University of Modena and Reggio Emilia. The mean age is 22.30 (SD: ± 3.82) with a minimum of 19 and a maximum of 43 years. The frequency of the variable age is described in Figure 4.

Figure 4. Distribution of the frequency of the sample categorized by age



The population is composed by 412 female (73.31%) and by 103 male (18.33%) as described in figure 5. 47 students (8.36%) didn't answer the question about gender but completed the other part of the questionnaire.

Figure 5. Gender percentage



As far as the civil status is concerned 44.42% (N=247) is single while 53.02% (N=295) declare to be in a stable affective relationship. Only one student is divorced (0.18%) and 10 are married (1.78%).

Regarding the housing situation 71.53% of the students (N=402) live with their family, while 13.53% live alone (N=76). 34 students (6.05%) live with their partner and 35 (6.76%) are housed in a student residence.

The students who filled out the questionnaire are attending, during the Academic year 2012/2013 three different levels: 35.23% (N=198) were

enrolled in the first year, 31.67% (N=178) in the second and 177 students (31.49 %) were enrolled in the third year of their degree course.

The stigma attitude in the university student population

Table 10 describes the mean score, standard deviation, minimum and maximum values for each subscale and the total score of the questionnaire AQ-27-I.

Table 10. Minimum, maximum, mean and standard deviation of the subscale and the total score of the AQ-27-I

	Minimum	Maximum	Mean	Standard Deviation
Personal Responsibility	3	23	3.93	±3.52
Pity	3	27	14.86	±5.67
Help	4	27	19.57	±5.67
Anger	3	21	7.20	±3.66
Coercion	3	27	15.45	±5.15
Segregation	3	27	8.93	±4.79
Dangerousness	3	27	9.66	±4.96
Fear	3	27	9.49	±5.66
Avoidance	5	27	15.26	±4.56
TOTAL	52	197	107.46	±22.23

The subscales with the highest average scores are "Help" (19.57), "Coercion" (15.45) and "Avoidance" (15.26), while those with the lowest score are "Personal Responsibility" (3.93), "Anger" (7.20) and "Segregation" (8.93).

Only in two subscales, the minimum score obtained is higher than 3 ("Help" and "Avoidance") while in the other two subscales ("Personal Responsibility" and "Anger"), the maximum score is less than 27.

Stigmatizing attitudes in female and in male population

Table 11 describes the means and standard deviations of each subscale and the total score of the AQ-27-I categorized by gender. Table 12 analyses instead, through the use of the t test for independent samples, statistically significant differences between the two genders for the subscales and the total score.

In four subscales of the two subpopulations (male and female) were found to score statistical and significant differences: "Personal Responsibility" ($t=2.92$, $df=497$, $p=0.004$), "Help" ($t=-2.98$, $df=499$, $p=0.003$), "Anger" ($t=3.25$, $df=499$, $p=0.001$) and "Segregation" ($t=2.73$, $df=498$, $p=0.007$).

With the exception of the subscale "Help" in all others the male population has achieved an average greater score, and therefore indicative of greater stigmatization, compared to the ones of the female population.

Table 11. Mean and Standard deviation of the subscale and total score divided by gender.

	Sex	Mean	Standard Deviation
Personal Responsibility	Male	7.86	3.82
	Female	6.72	3.35
Pity	Male	14.36	6.02
	Female	14.95	5.64
Help	Male	18.09	6.27
	Female	19.99	5.48
Anger	Male	8.21	4.35
	Female	6.87	3.44
Coercion	Male	15.82	4.75
	Female	15.31	5.28
Segregation	Male	10.04	5.05
	Female	8.59	4.66
Dangerousness	Male	10.24	5.06
	Female	9.48	4.94
Fear	Male	9.23	5.65
	Female	9.50	5.76
Avoidance	Male	15.20	4.67
	Female	15.23	4.60
Total	Male	109.87	22.67
	Female	106.62	22.42

Table 12. Analysis of statistically significant differences between the score of the subscales and the total score of the AQ-27-I obtained from the male and the female population (*p<0.05 and **p0<.01)

	t	df	p value	Confidence interval	
				lower limit	upper limit
Personal Responsibility	2.92	497	0.004**	0.37	1.91
Pity	-0.93	499	0.36	-1.86	0.67
Help	-2.98	499	0.003**	-3.15	-0.65
Anger	3.25	499	0.001**	0.53	2.15
Coercion	0.86	499	0.39	-0.64	1.65
Segregation	2.73	498	0.007**	0.41	2.50
Dangerousness	1.35	497	0.18	-0.34	1.86
Fear	-0.41	499	0.68	-1.53	1.01
Avoidance	-0.05	495	0.96	-1.05	0.99
TOTAL	1.25	476	0.21	-1.87	8.37

Personality traits as possible predictors of stigmatizing attitudes in the university population

Through the use of linear regression a number of possible predictors of stigmatizing attitudes in the university population were identified (Table 13).

To this purpose, as the independent variable one of the personality traits was

used to define through the administration of the TCI as the dependent variable and the subscales and the total score obtained by the administration of AQ-27-I.

Table 13. Possible predictors of stigmatizing attitudes in the university population.

	Novelty Seeking		Harm Avoidance		Reward Dependence		Persistence		Self-directedness		Cooperativeness		Self-transcendence	
	β	p	β	p	β	p	β	p	β	p	β	p	β	p
Personal Responsibility	-0.02	0.65	-0.05	0.27	-0.12	<0.01	0.11	<0.05	-0.001	0.99	-0.05	0.28	0.05	0.30
Pity	-0.01	0.81	0.06	0.22	0.13	<0.005	-0.009	0.84	-0.04	0.41	0.008	0.99	0.09	0.07
Help	0.13	<0.01	-0.15	<0.005	0.24	<0.001	0.06	0.18	0.18	<0.001	0.27	<0.001	0.12	<0.05
Anger	-0.11	<0.05	0.14	<0.005	-0.16	<0.005	-0.05	0.30	-0.20	<0.001	-0.24	<0.001	-0.07	0.16
Coercion	0.02	0.67	0.03	0.53	0.004	0.93	-0.05	0.24	-0.04	0.44	-0.06	0.20	-0.09	0.07
Segregation	-0.07	0.12	0.14	<0.05	-0.15	<0.005	-0.06	0.15	-0.17	<0.005	-0.22	<0.001	-0.07	0.16
Dangerousness	-0.04	0.35	0.17	<0.001	-0.07	0.13	-0.10	<0.05	-0.15	<0.005	-0.16	<0.005	-0.06	0.26
Fear	-0.04	0.42	0.21	<0.001	-0.06	0.20	-0.09	<0.05	-0.17	<0.005	-0.16	<0.005	-0.07	0.16
Avoidance	-0.16	<0.005	0.24	<0.001	-0.10	<0.05	-0.05	0.27	-0.08	0.10	-0.11	<0.005	-0.02	0.64
TOTAL	-0.05	0.28	0.17	<0.001	0.04	0.50	-0.07	0.13	-0.14	<0.01	-0.15	<0.005	-0.03	0.60

Discussion

In this study we have analyzed the possible association between the various components of the two models of Attribution Questionnaire 27 with the seven different categories proposed by the Temperament and Character Inventory. In this way it was possible to differentiate for each profile of character and temperament which characteristics of the public stigma are associated more frequently.

One of the scales that describes the temperament is the "Novelty Seeking" which is a strong tendency for the individual to seek novelty due to the inability to endure the boredom. These people have characteristics such as impulsiveness and extravagance. This lack of tolerance of boredom brings the person to seek new activities such as new friends and / or experiences. Associated with this scale ($\beta=0.13$; $p<0.01$) there is a tendency to give "Help", which we interpret as a response to the monotony: these people accepting new and exciting situations avoid negative ones and unpleasant feelings of "Anger" ($\beta=-0.11$; $p<0.05$) and "Avoidance" ($\beta=-0.16$; $p<0.005$).

"Harm avoidance" describes a person who responds to aversive stimuli in an excessive way leading himself to inhibit his behavior and to avoid situations in which he is not able to predict the effects. For these individuals the psychiatric patient is conceived as a possible source of danger and problems, it becomes a trigger of emotional states such as "Anger" ($\beta=0.14$; $p<0.005$)

and "Fear" ($\beta=0.21$; $p<0.001$) and behaviors of "Segregation" ($\beta=0.14$; $p<0.05$) and "Avoidance" ($\beta=0.24$; $p<0.001$): these modalities are activated to prevent that mental illness, or the person who suffers from it, may interfere with them. Avoiding any sort of contact with what might put them in danger and refusing every activity that requires an excessive amount of energy these individuals are not inclined to "Help" ($\beta=-0.15$; $p<0.005$) other people who they believe as potentially dangerous ($\beta=0.17$; $p<0.001$).

Individuals who have high levels of "Reward Dependence" have a strong sensitivity to the approval of others or, more generally, to the gratification and in order to achieve this goal they activate only behaviors that have led to a preceding recompense and to eliminate those that led to reproaches. This feature of temperament is significantly related to feelings of "Pity" ($\beta=0.13$; $p<0.005$) and "Help" ($\beta=0.24$; $p<0.001$): the subject, not to disappoint the expectations of others, implements behaviors and feelings that other people consider positive. These subjects therefore avoid all actions that might make them appear as bad light or that they might lose the desired gratification or recompense: "Anger" ($\beta=-0.16$; $p<0.005$), "Segregation" ($\beta=-0.15$; $p<0.005$) and "Avoidance" ($\beta=-0.10$; $p<0.05$).

The characteristic of "Persistence" is associated significantly with the stereotype to consider psychiatric patients as the cause of their own disorder ("Personal Responsibility" $\beta=0.11$; $p<0.05$). Persistence indicates the ability of a person to continue despite adverse events: for these people every

individual is able to overcome the obstacles in life. If these difficulties are not overcome this is only due to the little willpower that a person uses to cope with his problems.

A statistically significant association, inversely proportional, was also found between "Persistence" and "Dangerousness" ($\beta=-0.10$; $p<0.05$) and between "Persistence" and "Fear" ($\beta=-0.09$; $p<0.05$): to interpret them correctly we have to refer to the theory expressed by Lazarus (Lazarus, 1991). The degree of menace that is attributed to a stressor (in our case the psychiatric patient) depends on the level of the subject's well-being: an individual, with high levels of "Persistence", believed to have the resources and the means to overcome any obstacles and therefore tends to perceive the unknown event as potentially challenging and not dangerous or scary. So a person who has a reasonable state of personal well-being, related to "Persistence", will have a more positive evaluation of external events.

Self-directedness is the scale that defines the levels of willpower of an individual. The awareness of having the ability and the awareness to perform certain actions can explain why this feature is directly proportional with the scores of "Help" ($\beta=0.18$; $p<0.001$): this behavior is not adopted for understanding or compassion but rather than for a simple sense of responsibility. For Self-directedness the motivations are similar to those described for "Persistence": high levels of SD suggest a wellness appropriate for the subject. This state of well-being helps to make a cognitive assessment

without stereotypes or false beliefs and therefore will be less likely to judge the mental illness as dangerous or scary.

The scale of Cooperativeness expresses social tolerance, empathy, helpfulness and compassion, therefore it is clear why here its values are directly proportional to scale "Help" ($\beta=0.27$; $p<0.001$). In contrast, the values are inversely proportional to Cooperativeness with 5 scales: "Anger" ($\beta=-0.24$; $p<0.001$), "Segregation" ($\beta=-0.22$; $p<0.001$), "Dangerousness" ($\beta=-0.16$; $p<0.001$), "Fear" ($\beta=-0.16$; $p<0.001$) and "Avoidance" ($\beta=-0.11$; $p<0.01$).

High levels of Cooperativeness indicate therefore subjects who will do everything possible to improve the situation of other individuals by supporting and helping them in different contexts of life.

Finally with regards to the Self-transcendence the only association, directly proportional, concerns the possibility of giving "Help" ($\beta=0.12$; $p<0.05$) to the psychiatric patient: this is easily motivated by the fact that one of the subscales of this feature concerns spirituality. Hence religious and ethical values should be in fact not only intentionally but also willing to help.

Conclusions

In this study different scales of the TCI were identified which have associations with stais AQ-27-I. The first concerns the avoidance of damage because by the adoption of "Avoidance" behaviors allows the reinforcement of stereotypes, negative feelings and actions towards mental illness. For this reason, we emphasize how the Harm Avoidance is proved one of the most stigmatizing personality characteristics.

The second is the Self-directedness because, as suggested previously, this feature generates a state of well-being in the subject that leads to more positive cognitive evaluations, and less stigmatizing.

Finally, the Cooperativeness that demonstrates that people who are compassionate are not likely to stigmatize mental illness.

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